

Deutsche Telekom

THE
2022
FINANCIAL YEAR



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Deutsche Telekom at a glance

billions of €

	Change compared to prior year %	2022	2021	2020	2019	2018	2017	2016	2015	
Revenue and earnings (according to the management approach)^a										
Net revenue ^b	6.1	114.4	107.8	100.1	80.5	75.7	74.9	73.1	69.2	
Of which: domestic	%	22.1	23.0	24.4	30.5	32.2	32.8	33.7	36.2	
Of which: international	%	77.9	77.0	75.6	69.5	67.8	67.2	66.3	63.8	
Service revenue ^{b, c}	10.6	91.9	83.1	78.1	n.a.	n.a.	n.a.	n.a.	n.a.	
EBITDA	8.5	44.0	40.5	38.6	27.1	21.8	24.0	22.5	18.4	
EBITDA (adjusted for special factors)	7.5	46.4	43.2	40.4	28.7	23.3	22.2	21.4	19.9	
EBITDA AL ^d	6.2	36.0	33.9	33.2	23.1	21.6	n.a.	n.a.	n.a.	
EBITDA AL (adjusted for special factors) ^d	7.7	40.2	37.3	35.0	24.7	23.1	n.a.	n.a.	n.a.	
EBITDA AL margin (adjusted for special factors) ^d	%	35.1	34.6	35.0	30.7	30.5	n.a.	n.a.	n.a.	
Profit (loss) from operations (EBIT)	23.8	16.2	13.1	12.8	9.5	8.0	9.4	9.2	7.0	
Revenue and earnings from continuing operations (according to financial statements)^{a, e}										
Net revenue ^b	6.1	114.2	107.6	99.9	n.a.	n.a.	n.a.	n.a.	n.a.	
EBITDA	8.5	43.0	39.7	37.9	n.a.	n.a.	n.a.	n.a.	n.a.	
Profit (loss) from operations (EBIT)	22.5	15.4	12.6	12.4	n.a.	n.a.	n.a.	n.a.	n.a.	
Net profit (loss)	91.6	8.0	4.2	4.2	3.9	2.2	3.5	2.7	3.3	
Net profit (loss) (adjusted for special factors)	54.9	9.1	5.9	5.7	4.9	4.5	6.0	4.1	4.1	
Profitability										
ROCE	%	4.5	4.1	4.6	5.1	4.7	5.8	5.7	4.8	
Statement of financial position										
Total assets	6.0	298.6	281.6	264.9	170.7	145.4	141.3	148.5	143.9	
Shareholders' equity	7.2	87.3	81.5	72.6	46.2	43.4	42.5	38.8	38.2	
Equity ratio	%	29.2	28.9	27.4	27.1	29.9	30.0	26.2	26.5	
Net debt ^f	7.8	142.4	132.1	120.2	76.0	55.4	50.8	50.0	47.6	
Relative debt ^{f, g} (Net debt/EBITDA (adjusted for special factors))		3.07	3.06	2.78	2.65	2.4	2.3	2.3	2.4	
Cash flows										
Net cash from operating activities	11.3	35.8	32.2	23.7	23.1	17.9	17.2	15.5	15.0	
Cash capex	8.5	(24.1)	(26.4)	(18.7)	(14.4)	(12.5)	(19.5)	(13.6)	(14.6)	
Cash capex (before spectrum investment)	(16.9)	(21.0)	(18.0)	(17.0)	(13.1)	(12.2)	(12.1)	(11.0)	(10.8)	
Free cash flow (before dividend payments and spectrum investment) ^h	6.3	15.2	14.3	10.8	10.1	6.2	5.5	4.9	4.5	
Free cash flow AL (before dividend payments and spectrum investment) ^{d, h}	30.2	11.5	8.8	6.3	7.0	6.1	n.a.	n.a.	n.a.	
Net cash used in investing activities	18.6	(22.3)	(27.4)	(22.6)	(14.2)	(14.3)	(16.8)	(13.6)	(15.0)	
Net cash (used in) from financing activities	(43.2)	(15.4)	(10.8)	7.6	(7.1)	(3.3)	(4.6)	(1.3)	(0.9)	
Employees										
Average number of employees (full-time equivalents, without trainees)	thousands	(4.3)	211	224	213	216	216	221	226	
T-Share – key figures										
Earnings per share	€	85.1	1.61	0.87	0.88	0.82	0.46	0.74	0.58	0.71
Adjusted earnings per share	€	50.0	1.83	1.22	1.20	1.04	0.96	1.28	0.89	0.90
Dividend per share ⁱ	€	9.4	0.70	0.64	0.60	0.60	0.70	0.65	0.60	0.55
Dividend payout ^j	billions of €	9.4	3.5	3.2	2.8	2.8	3.3	3.1	2.8	2.5
Adjusted weighted average number of ordinary shares outstanding	millions	3.3	4,972	4,813	4,743	4,743	4,742	4,703	4,625	4,553
ESG KPIs										
Energy consumption ^k	GWh	(0.5)	13,253	13,323	12,843	9,324	9,224	8,943	8,531	8,845
CO ₂ emissions (Scope 1 and 2) ^l	kt CO ₂ e	(5.7)	233	247	2,512	1,797	2,354	2,896	4,169	4,364

^a Since the third quarter of 2022, the GD Towers business entity, which operates the cell tower business in Germany and Austria, assigned to the Group Development operating segment, has been recognized in the consolidated financial statements as a discontinued operation. However, in the combined management report we continue to include the contributions by GD Towers in the results of operations according to the management approach. For information on the agreement with DigitalBridge and Brookfield on GD Towers, please refer to the section "Group organization" in the combined management report and to the section "Summary of accounting policies" in the consolidated financial statements.

^b The prior-year comparatives up to and including 2020 were adjusted retrospectively to take account of changes to the principal/agent policy regarding the recognition of gross and net revenues as of the third quarter of 2022. For further information, please refer to the section "Development of business in the Group" in the combined management report and the section "Summary of accounting policies" in the consolidated financial statements.

^c The definition of "service revenue" was not applied consistently Group-wide for the years prior to 2020.

^d Comparatives for 2018 were calculated on a pro forma basis for the key performance indicators redefined as of January 1, 2019 following the introduction of the IFRS 16 accounting standard.

^e As a result of the agreement concluded on July 13, 2022, since the third quarter of 2022, the GD tower companies have been recognized in the consolidated financial statements as a discontinued operation. The prior-year comparatives up to and including 2020 were adjusted retrospectively. For further information, please refer to the section "Summary of accounting policies" in the consolidated financial statements.

^f Including net debt included under liabilities directly associated with non-current assets and disposal groups held for sale.

^g Calculated using EBITDA (adjusted for special factors) according to the management approach, i.e., including the contributions by GD Towers.

^h And before interest payments for zero-coupon bonds and before termination of forward-payer swaps at T-Mobile US (both in 2020).

ⁱ Subject to approval by the relevant bodies and the fulfillment of other legal requirements.

^j Subject to approval by the 2023 shareholders' meeting concerning the dividend payments for the 2022 financial year. For further information, please refer to Note 35 "Dividend per share" in the notes to the consolidated financial statements.

^k Energy consumption, mainly: electricity, fuel, other fossil fuels, district heating for buildings.

^l Calculated according to the market-based method of the Greenhouse Gas Protocol.

millions

	Change compared to prior year %	2022	2021	2020	2019	2018	2017	2016	2015
Fixed-network and mobile customers									
Mobile customers ^a	(1.2)	245.4	248.2	241.5	184.0	168.4	165.0	156.4	150.5
Fixed-network lines	(3.1)	25.3	26.1	27.4	27.5	27.9	28.5	29.0	29.8
Broadband customers ^b	(0.8)	21.4	21.6	21.7	21.0	18.9	18.4	17.8	17.4

^a Including T-Mobile US wholesale customers (2022: 30.2 million; 2021: 33.6 million; 2020: 38.8 million).

^b Excluding wholesale.

The figures shown in this report were rounded in accordance with standard business rounding principles. As a result, the total indicated may not be equal to the precise sum of the individual figures. Changes were calculated on the basis of millions for greater precision.

Sprint has been included in Deutsche Telekom's consolidated financial statements as a fully consolidated subsidiary since April 1, 2020, which means comparability with prior-year figures is partially limited.

To our shareholders

Letter from the Chairman of the Board of Management

**Dear shareholders,
Dear friends of Deutsche Telekom,**

2022 was a watershed year. What many of us considered impossible finally came to pass: war in Europe. Even now, around a year after Russia launched its attack on Ukraine, nothing has changed – much to the sorrow of those affected. We all hope that this terrible conflict will be brought to an end as soon as possible.

The impacts of this war can be felt the world over. Energy costs have truly exploded since then and inflation has reached unfathomable heights. And all the while, people's faith in political institutions and established systems is dwindling. Anyone just relying on tried-and-tested methods and refusing to let go risks getting left behind in future. The word "crisis" is truly omnipresent. It's hardly possible to focus exclusively on business matters under these circumstances. Milton Friedman's famous statement, "The business of the business is business," has perhaps never seemed as outdated as in 2022.

For us as a company, all of this throws up some very complex questions: How are we to act when the world has been turned upside down? What role can Deutsche Telekom assume when the conditions for companies and households have changed so drastically in such a short space of time? There are no easy answers. Even so, I am convinced that we have a special responsibility in times like these – and we are rising to this responsibility.

We are guaranteeing stability by staying on track and making sure our business continues to operate reliably. We are not allowing ourselves to get carried away by overblown forecasts or pipe dreams, and we are not taking any undue risks. We keep our word. We consistently deliver on what we have promised. We are conscious of our strengths, but stay humble. It is our aim to reduce uncertainty and build trust. To provide a firm footing and be an anchor of stability. We keep looking forward, even in times of difficulty. That is what Deutsche Telekom stands for.

Dear shareholders,

I am convinced that it is more important now than ever that businesses do not let themselves be paralyzed when faced with these developments. We will not be deterred and will instead continue working according to a long-term strategy. This is the right course of action for Deutsche Telekom. We want to keep growing, and that's the focus of our business. We are resolutely driving forward the digital transformation of Deutsche Telekom. We are navigating the way carefully through these stormy times, while remaining calm.

A glance at our 2022 financial figures shows this has been a success: in the United States, in our European national companies, and in our home market of Germany, we have increased revenues and generated higher earnings on a like-for-like basis. Net revenue increased once again, up 6.1% to EUR 114.4 billion as of the end of the financial year – a result which, just a few years ago, seemed far out of our grasp. It is particularly pleasing to see how on a like-for-like basis we achieved growth in service revenues on both sides of the Atlantic, a key factor for the Company's results. This has helped us secure our spot in the league of the world's largest telecommunications companies. In organic terms, i.e., based on constant exchange rates and comparable corporate structure, we are staying on track for our medium-term growth targets.

The excellent development of business on both sides of the Atlantic has been crucial to this. In other words, Deutsche Telekom is the sole telecommunications provider in the Western world with a successful business in both the United States and Europe. Adjusted EBITDA AL, i.e., adjusted EBITDA taking account of depreciation of right-of-use assets and interest expenses on lease liabilities, increased by 7.7%, coming in at EUR 40.2 billion. In organic terms, we grew by 1.7%. Free cash flow AL increased by 30.2% to EUR 11.5 billion and was thus well into the double-digit growth range.

There are numerous reasons for these positive developments: In the United States, T-Mobile US keeps growing and breaking records. Across the entire year, our colleagues managed to win over more than 6.4 million new customers for mobile communications contracts. This helped our U.S. subsidiary top the industry's leaderboard and exceed the guidance which had already been raised over the course of the year. We are seeing a similar picture with convergent fixed-mobile offerings (high-speed internet): T-Mobile US has reached 2.0 million new customers in this market, gaining a strong foothold in this competitive business area. We see great potential here for the future, particularly in more rural areas of the United States.

CEO Mike Sievert and his team received their well-deserved reward for years of outstanding performance in August when T-Mobile US became the world's most valuable telecommunications company. The new number one, ahead of long-time incumbents Verizon and AT&T. No other German company has ever achieved this kind of success on the highly important U.S. market. Thanks to its 5G network, the best by far, and current popularity among young people, we see further opportunities for growth for our Un-carrier. All this shows it was worth T-Mobile US also investing in network leadership in the United States. It's also a great success for Deutsche Telekom since we have been treading the path toward the merger with Sprint together with the T-Mobile US team. Deutsche Telekom already owns 49 % of the shares in T-Mobile US by now, taking the treasury shares held by T-Mobile US into account. We are also still pursuing a defined plan which will secure the majority stake for us in the medium term.

Our activities on our home continent form the second pillar of our business. We have been at the forefront of our industry for years in Germany and Europe and are a clear market leader. The current perception of our brand is also in keeping with all of these developments. In January 2023, Deutsche Telekom received the accolade of most valuable brand in Europe for the very first time. The ranking was based on the Brand Finance Global 500 report. With a brand value of USD 62.9 billion, we took the eleventh spot in the worldwide ranking. This reflects our success in terms of customer perception. It also confirms that we are on course to becoming the Leading Digital Telco.

For this to happen, we need to keep delighting people with our Company and products and services. This can only happen if our customers are able to experience our best network and use it to go online and make calls. The best connectivity and the best service – that's what the people expect from Deutsche Telekom, and in 2022 we made another record investment to achieve just that. Around EUR 21 billion was largely spent on the build-out of our global infrastructure, more than EUR 5.7 billion of which was invested in Germany alone.

We have more than just purely economic considerations in mind here. We consider the build-out of our networks to be an integral part of our responsibility to society. That is our aspiration as the leading telecommunications provider in the Western world. It's clear that digitalization won't be successful in the long run without investing in infrastructure. However, it's just as clear that these investments must also pay off for the companies involved. We're doing very well in this area in Europe. We have seen organic earnings growth in this segment for the past five years – that's twenty successive quarters. That's an outstanding result.

Our technicians and engineers have made an incredible effort over the past year to push ahead with the digitalization goal in Germany. We have set another record in the rollout of fiber-to-the-home (FTTH) lines. We reached our goal of 2 million new lines in 2022, thus nearly doubling the rollout volume of the previous year of around 1.2 million lines. In the current year we plan to vastly increase the pace of the build-out once again and enable up to 3 million additional households to connect to our high-speed fiber-optic network.

We will continue to base our strategy on three pillars. In addition to our own build-out and the subsidized projects, joint ventures and partnerships are becoming more and more important. This is increasing the speed of the network build-out. Over the past year, our second joint venture GlasfaserPlus got itself up and running and has been working to speed up the FTTH rollout ever since: the company added around 90,000 FTTH lines in its first year, making it the fastest growing fiber-optic start-up in the country. At the same time, we've found additional partners for collaborative build-out projects in places like Bochum, Garbsen, Bietigheim-Bissingen, and Coburg, to mention just a few. Build-out partnerships also send a signal to the industry and policy makers: future-proof digitalization truly begins to take shape whenever two partners are able to agree on fair, normal market conditions and build an open fiber-optic network together.

Nationwide fiber-optic coverage will continue to be a priority for us in the long term, which also means strengthening Germany as a location for business in general. Our goal remains unchanged: by 2030, all households in Germany should have access to a fiber-optic line with gigabit speeds. This is, and will remain, a gargantuan task which we cannot achieve on our own. That's why our competitors will also have to do their bit, as we have always underlined in the past.

The achievements of the past year are reflected in the T-Share price: in January 2023, it passed the EUR 20 mark for the first time in 20 years. That means Deutsche Telekom is worth more than EUR 100 billion. We've left the other European telcos far behind us – as of the end of 2022, Deutsche Telekom was worth more than Vodafone, Telefónica, Orange, and British Telecom put together. I'm very proud of Deutsche Telekom's development.

We're also way ahead of our biggest European competitors when it comes to the performance of the T-Share and total shareholder return, the sum of the share price performance and reinvested dividends. The total shareholder return for the T-Share amounted to 18.6 % over the past year. Just to compare: the DAX 40 fell by 12.4 % over this period, while the index for the European telecommunications sector declined by 14.1 %.

We want as many people as possible to participate in this success: our customers, our employees, and naturally those who invest in our Company too: our shareholders. Many of you have stuck with us through thick and thin. Without you, our investors, there would be no Deutsche Telekom. That's why we intend to increase the dividends for the 2022 financial year to 70 eurocents per share. Provided we get the approval of the shareholders' meeting, of course. That's an increase of almost 10 %. We have based this proposal on long-term adjusted earnings per share and, to this end, excluded numerous positive one-time effects which occurred in 2022, particularly from the measurement of derivatives and as a result of the increased capital market interest rates. With this proposal, we are setting an example of reliability in these difficult times.

We create the necessary investment leeway for implementing our strategy by restructuring our portfolio and making it viable for the future. In July 2022, for example, we agreed to sell a 51.0 % stake in our cell tower business in Germany and Austria to DigitalBridge and Brookfield. Deutsche Telekom's remaining stake of 49.0 % enables us to keep benefiting from future increases in the business' value. At the same time, we fine-tuned the focus of our T-Systems business – as a digitalization partner to major companies, T-Systems is on the right path for achieving sustainable growth.

Dear shareholders,

Despite the difficult circumstances, our results for 2022 are excellent. This is not something we take for granted. For this reason, I am truly delighted about this outstanding performance. Another record-breaking year in which we have taken important steps for Deutsche Telekom's digital transformation and modernized our networks. Over 200,000 Deutsche Telekom employees all over the world have played their part in this. They help make our Company the anchor of stability that our society so urgently needs in difficult times.

Best regards,

Tim Höttges

Supervisory Board's report to the 2023 shareholders' meeting

Dear shareholders,

The 2022 financial year was characterized by the systematic implementation of the Group strategy and the Group's ongoing transformation in an age of digitalization and technological change. With its updated strategy to transform Deutsche Telekom into the leading digital telco (Leading Digital Telco – Vision 2030), the Company is well-positioned to leverage future opportunities and face challenges head on. In the financial year just ended, the Board of Management closed numerous transactions serving to further optimize and protect the Company's investment portfolio. In the 2022 financial year, business developed well overall. Deutsche Telekom successfully managed the challenges caused by geopolitical tensions, increased energy prices, and high inflation, as well as the coronavirus pandemic with the requisite discipline. The network build-out was ramped up further and the Company again underscored its ability to perform at the top level with special offerings for customers and its strong commitment to service. The Group held its own in the challenging environment despite the rising intensity of competition. Strong results brought the 2022 financial year to a successful close. The Group continues on its course for growth while maintaining its industry-leading position. This financial year, Deutsche Telekom continued to live up to its responsibility to society, for instance by supporting refugees fleeing Ukraine, its clear stance against online hate speech, and its ambitious sustainability targets. The Supervisory Board exercised its functions as an advisory and supervisory body and gave the Board of Management its full support.

Supervisory Board activities in the 2022 financial year

We continually supervised and supported the Board of Management in its management of the Company by providing advice. Specifically, this consisted of ensuring that the Board of Management's activities were lawful, compliant, appropriate, strategically relevant, sustainable, and efficient.

The Board of Management's written and oral reports formed the essential basis for the fulfillment of the Supervisory Board's tasks and duties under the law, the Articles of Incorporation, and the Rules of Procedure. The Board of Management kept us regularly informed in good time on corporate strategy, planning, business development of the Company and its different segments, the risk situation, risk and opportunity management, compliance, innovation focuses, and any deviations in the business development from original plans, as well as significant business transactions involving the Company and its major subsidiaries and associates.

The Board of Management fulfilled its duties to inform quickly and in full. The Board of Management's reports met all statutory requirements, the standards of good corporate governance, and the criteria imposed on them by us with regard to both content and scope. In addition to the reports, we requested and received supplementary information. We reviewed, critically analyzed, and verified the plausibility of these reports and other information.

The Rules of Procedure of the Board of Management and Supervisory Board include a list of transactions and measures for which the Board of Management has to obtain approval from the Supervisory Board. We met with the Board of Management to discuss and thoroughly review the business transactions and measures presented to us in the 2022 financial year for approval in line with this document. We approved the transactions and measures submitted for resolution.

The frequency of plenary and committee meetings means that we are in close contact with the Board of Management. The Board of Management also reports on individual issues in writing or in discussions between the meetings. In addition, the Chairman of the Supervisory Board is in contact with the Board of Management, especially the Chairman of the Board of Management, at regular appointments at which current business transactions, strategy issues, planning, business development, sustainability, regulation, the risk situation, risk and opportunity management, and compliance, as well as other significant events, are discussed.

In the 2022 financial year, seven Supervisory Board plenary meetings were held as well as one off-site conference, and 23 meetings of the Supervisory Board committees took place. Detailed information concerning the form in which these meetings were carried out is provided below. The overall attendance rate was around 98 %. In total, each of the Supervisory Board members attended more than 75 % of the plenary meetings and the meetings of the respective committees on which they sit. Those members who were unable to attend meetings were generally able to participate nonetheless by submitting their votes in writing or by way of prior briefings on resolutions for decision.

The meetings were either held face to face or virtually:

Committee	Face-to-face meetings ^a	Virtual meetings
Plenary meeting/off-site conference	4	4
General Committee	4	3
Audit Committee	4	1
Finance Committee	1	4
Staff Committee	2	0
Nomination Committee	0	2
Technology and Innovation Committee	2	0
The Mediation Committee did not meet in 2022.		

^a Option to participate via video/audioconference in certain cases where the participant could not be physically present.

Five resolutions were additionally adopted outside of the meetings by means of a written procedure: three by the Supervisory Board as a whole and two by the Audit Committee.

Members of the Board of Management attended the plenary meetings and the committee meetings of the Supervisory Board. The Supervisory Board also came together in plenary meetings without the Board of Management on a regular basis.

In the **Supervisory Board meeting on February 23, 2022**, in the presence of the external auditor, we primarily dealt with the Company's 2021 annual financial statements and consolidated financial statements, the Group management report, which is combined with the management report of Deutsche Telekom AG (combined management report), and the combined non-financial statement contained in the combined management report as a separate section. Our approval of the 2021 annual financial statements was based on the recommendation of the Audit Committee. The same applies to the review of the combined non-financial statement. We agreed to the Board of Management's proposal on the appropriation of net income. In addition, we adopted a resolution on the preparation of the 2021 remuneration report and approved the agenda for the 2022 shareholders' meeting, including the selection of Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Munich, as the independent auditor of the annual financial statements and consolidated financial statements for the 2022 financial year based on the recommendation of the Audit Committee. Beyond this, we dealt with various remuneration-related matters. We approved the reappointment of Adel Al-Saleh as the Member of the Board of Management responsible for T-Systems. The Board of Management reported comprehensively on the current situation and the most important financial and operational KPIs for the Company and its segments. In this meeting, we also addressed the worldwide semiconductor and supply chain crises. In addition, we discussed the findings of the Supervisory Board's self-assessment from 2021. We also dealt with the Company's venture capital and private equity activities and approved the investment in a new growth equity fund. Furthermore, we approved a real estate disposal.

In the **meeting on May 19, 2022**, the Board of Management informed us comprehensively of the current situation and the financial and operational KPIs for the Company and its segments in the first quarter of 2022. We also addressed the impact of the war in Ukraine. We approved the reappointment of Dr. Christian P. Illek as the Member of the Board of Management responsible for Finance. The Board of Management gave us an overview of the development and strategic alignment of the cell tower business in Germany. Within the framework of sustainability, we also dealt with Deutsche Telekom's climate protection strategy.

In our **meeting on July 13, 2022**, we approved the sale of a 51% stake in the cell tower business GD Towers in Germany and Austria to a consortium of investors.

In the **meeting on July 26, 2022**, we adopted a resolution on an acquisition of spectrum by T-Mobile US as well as the foundation of a joint venture with a French investor for the fiber-optic build-out in Austria.

In the **meeting on September 8, 2022**, the Board of Management reported on the current situation and the financial and operational KPIs for the Company and its segments in the second quarter of 2022. We also adopted a resolution on a remuneration-related matter as well as the capital allocation of T-Mobile US. Furthermore, the Board of Management gave us an overview of the strategic priorities for HR.

At the **joint off-site conference with the Board of Management on September 8 and 9, 2022**, we dealt in particular with Deutsche Telekom's strategy and the trends affecting its business and the capital market perspective. We discussed the implementation of the strategy (Leading Digital Telco – Vision 2030) and conferred on individual strategic focal topics and scenarios as well as on the competitive situation. This entailed an in-depth look at matters such as the B2C business, the B2B approach, and platform business models.

In our **meeting on October 24, 2022**, we dealt with the realignment of the B2B business within T-Systems and Telekom Deutschland. Against this background, we approved the transfer of T-Systems Multimedia Solutions to a new Group company under the operational management of Telekom Deutschland.

In our **meeting on December 14, 2022**, we dealt with various matters pertaining to the Board of Management and the Supervisory Board, including target achievement for the 2022 financial year. We approved the reappointment of Dominique Leroy as the Member of the Board of Management responsible for Europe. We also resolved on the Supervisory Board nominations to be submitted to the 2023 shareholders' meeting. Furthermore, the Board of Management reported on the current situation and the financial and operational KPIs in the Company and its segments in the third quarter of 2022. We also dealt with regulation in Germany and the supply chain crisis. One focus of the meeting was the resolution on the budget and on the annual financing plan for the 2023 financial year. In addition, we acknowledged the medium-term planning for 2023 through 2026. Finally, we adopted resolutions on the German Corporate Governance Code (including resolutions on the Declaration of Conformity and the qualification matrix concerning the implementation status of the skills profile for the Supervisory Board).

In our plenary meetings and in the Audit Committee in particular, we also regularly supervised the management of the Company by the Board of Management. As part of this, we made sure that the Board of Management ensured compliance with legal provisions and internal standards and policies supported by the Group-wide compliance organization. We also regularly met with the Board of Management to discuss the internal control system it had introduced and the risk and opportunity management system. Based on our own reviews and on the audit reports from the external auditors, we came to the conclusion that there are no factors which contradict the appropriateness and effectiveness of these systems in their entirety.

Outside of its meetings, the Supervisory Board attended information events to keep up to date on the latest topics and developments.

Organization of the Supervisory Board's activities

To increase the efficiency of our work, and in consideration of the specific requirements we have to fulfill, we have set up the committees listed below, all of which have an equal number of shareholders' and employees' representatives, with the exception of the Nomination Committee. In regard to committee membership, our aim is to achieve regular rotation among the Supervisory Board members. The committee chairpersons regularly reported to us at our plenary meetings on the content and results of committee meetings.

Supervisory Board committees

Committee	Supervisory Board member	Committee	Supervisory Board member
General Committee	Dr. Frank Appel (Chairman), since April 7, 2022	Nomination Committee	Dr. Frank Appel (Chairman), since April 7, 2022
	Prof. Dr. Ulrich Lehner (Chairman), until April 7, 2022		Prof. Dr. Ulrich Lehner (Chairman), until April 7, 2022
	Dr. Rolf Bösing, until April 7, 2022		Dr. Rolf Bösing, until April 7, 2022
	Katja Hessel, since April 7, 2022		Katja Hessel, since April 7, 2022
	Kerstin Marx		Dagmar P. Kollmann
	Frank Sauerland		
Finance Committee		Mediation Committee	Dr. Frank Appel (Chairman), since April 7, 2022
	Karl-Heinz Streibich (Chairman)		Prof. Dr. Ulrich Lehner (Chairman), until April 7, 2022
	Dr. Günther Bräunig, until April 7, 2022		Dr. Rolf Bösing, until April 7, 2022
	Constantin Greve		Katja Hessel, since April 7, 2022
	Nicole Koch		Kerstin Marx
	Dagmar P. Kollmann		Frank Sauerland
	Karin Topel		
	Stefan B. Wintels, since April 7, 2022	Technology and Innovation Committee	Lothar Schröder (Chairman)
Audit Committee			Odyseus D. Chatzidis
	Dagmar P. Kollmann (Chairwoman)		Lars Hinrichs
	Dr. Rolf Bösing, until April 7, 2022		Nicole Seelemann-Wandtke
	Dr. Günther Bräunig, since April 7, 2022		
	Dr. Helga Jung, since April 7, 2022		Karl-Heinz Streibich
	Prof. Dr. Michael Kaschke, until April 7, 2022		Margret Suckale
	Petra Steffi Kreusel		
	Kerstin Marx		
	Susanne Schöttke, since April 7, 2022		
	Sibylle Spoo, until April 7, 2022		
Staff Committee			
	Frank Sauerland (Chairman)		
	Dr. Frank Appel, since April 7, 2022		
	Odyseus D. Chatzidis		
	Harald Krüger		
	Prof. Dr. Ulrich Lehner, until April 7, 2022		
	Kerstin Marx		
	Margret Suckale		

The **General Committee** met seven times in 2022, one meeting of which was held jointly with the Finance Committee. The committee focused mainly on preparing the recommendations for resolution for the plenary meetings in regard to all of the decisions on Board of Management and Supervisory Board matters. Board of Management remuneration matters and the reappointment of members to the Board of Management were particular focal points of the committee's activities. The committee reviewed the appropriateness of the Board of Management remuneration as scheduled. In the joint meeting with the Finance Committee, the General Committee addressed the budget for 2023 in particular and made a recommendation for resolution in this regard to the Supervisory Board. The medium-term planning for 2023 to 2026 was also addressed in this meeting.

The **Finance Committee** met five times, of which one meeting was together with the General Committee. Investment planning and focuses were the subject of the meetings. Other general topics included interest and foreign currency management, pension obligations and capital investments, net debt and ratings, and a particular focus on budgeting and medium-term planning at T-Mobile US. The committee also dealt with issues in order to prepare items for discussion in the subsequent Supervisory Board plenary meetings (sale of shares in the cell tower business GD Towers in Germany and Austria, T-Systems/realignment of the B2B business). In the joint meeting with the General Committee, the Finance Committee discussed the 2023 annual financing plan in particular and made a recommendation for resolution in this regard to the Supervisory Board.

The **Audit Committee** met five times in 2022. The external auditor was present at all five meetings. The Audit Committee also consulted with the external auditor without the Board of Management in each of these meetings. The Audit Committee's area of responsibility is defined by German and European legislation, the German Corporate Governance Code, and its own Rules of Procedure. It includes, in particular, the review and monitoring of accounting, the monitoring of the accounting process, the effectiveness of the internal control system, the risk and opportunity management system, the internal auditing system, compliance, including the compliance management system, and data privacy and data security. The Audit Committee also handled matters relating to the audit of the Company's financial statements, in particular selecting and ensuring the independence of the external auditor, and of the additional services provided by the external auditor, the commissioning of the external auditor for the audit of the annual financial statements and consolidated financial statements, including the obligations to provide information as recommended by the German Corporate Governance Code, the agreement on fees, as well as the stipulation of the main focuses of the audit and the discussion on the assessment of the audit risk, on the audit strategy and audit plan, and the audit results together with the external auditor. The Chairwoman of the Audit Committee also reported on the regular exchanges held with the external auditor outside of the meetings concerning the progress of the audit. Furthermore, the Audit Committee commissioned Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Munich, with a limited assurance engagement on the combined non-financial statement contained as a separate section in the combined management report. In the 2022 financial year, the Audit Committee again held one extraordinary meeting on fundamental issues affecting the Group. At this meeting, the committee dealt in particular with the effectiveness of the reporting system on the internal control, risk and opportunity management, and internal auditing system, and on the compliance management system, including the ongoing development of the reporting structure. The Audit Committee discussed information on new requirements and developments in German law, such as the Act on Corporate Due Diligence in Supply Chains, as well as EU law and accounting standards. Moreover, the Audit Committee's work in the reporting year once again centered heavily on the integration of Sprint following the business combination with T-Mobile US and the latest developments in data privacy and data security, as well as the development of the risk profile, particularly against the backdrop of the geopolitical situation and development in energy prices, and sustainability reporting and its implementation.

The **Staff Committee** held two meetings in 2022 and mainly discussed matters relating to headcount planning and qualitative and quantitative staff-requirements planning for the purpose of preparing Supervisory Board resolutions on the 2023 budget. In addition, the committee dealt with topics such as the people strategy, talent management, diversity, and the results of the employee survey. The committee also looked at the demand for skilled employees in the future, the impact of the war in Ukraine, the proportion of women in positions of leadership, and various current topics, such as the ongoing management of the coronavirus situation and New Work.

The **Nomination Committee** met twice in 2022, and dealt in its meetings with succession planning for the Supervisory Board.

The **Mediation Committee** to be formed in accordance with § 27 (3) of the Codetermination Act did not meet in 2022.

The **Technology and Innovation Committee** held two meetings in 2022 and dealt with a very broad range of topics from a variety of areas. For example, the committee discussed the competitive situation, sustainability and the energy efficiency of the networks, Magenta Advantage, supply chain management, and the impact of the war in Ukraine. The committee supports and promotes innovation and technological developments at infrastructure and product level; it supports the Board of Management with advice on how to tap new growth areas.

Number of meetings attended by the individual members

Supervisory Board member	Meeting	Attendance	Attendance rate
Dr. Appel, Frank			
since April 7, 2022	Supervisory Board plenary meeting/off-site conference	7/7	
	General Committee	5/5	
	Nomination Committee	1/1	
	Staff Committee	2/2	
	Audit Committee (as guest)	(4)	
	Finance Committee (as guest)	(3)	
	Technology and Innovation Committee (as guest)	(1)	
	Total	15/15	100 %
Prof. Dr. Lehner, Ulrich			
until April 7, 2022	Supervisory Board plenary meeting/off-site conference	1/1	
	General Committee	2/2	
	Nomination Committee	1/1	
	Staff Committee	0/0	
	Total	4/4	100 %
Sauerland, Frank			
	Supervisory Board plenary meeting/off-site conference	8/8	
	General Committee	7/7	
	Staff Committee	2/2	
	Total	17/17	100 %
Dr. Bösing, Rolf			
until April 7, 2022	Supervisory Board plenary meeting/off-site conference	1/1	
	General Committee	2/2	
	Nomination Committee	1/1	
	Audit Committee	0/1	
	Total	4/5	80 %
Dr. Bräunig, Günther			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Audit Committee since April 7, 2022	4/4	
	Finance Committee until April 7, 2022	0/0	
	Total	12/12	100 %
Chatzidis, Odysseus D.			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Staff Committee	2/2	
	Technology and Innovation Committee	2/2	
	Total	12/12	100 %
Greve, Constantin			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Finance Committee	5/5	
	Total	13/13	100 %
Hessel, Katja			
since April 7, 2022	Supervisory Board plenary meeting/off-site conference	7/7	
	General Committee	4/5	
	Nomination Committee	1/1	
	Total	12/13	92 %
Hinrichs, Lars			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Technology and Innovation Committee	2/2	
	Total	10/10	100 %
Dr. Jung, Helga			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Audit Committee since April 7, 2022	4/4	
	Total	12/12	100 %
Prof. Dr. Kaschke, Michael			
until April 7, 2022	Supervisory Board plenary meeting/off-site conference	1/1	
	Audit Committee	1/1	
	Total	2/2	100 %

Supervisory Board member	Meeting	Attendance	Attendance rate
Koch, Nicole			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Finance Committee	5/5	
	Total	13/13	100 %
Kollmann, Dagmar P.			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Nomination Committee	2/2	
	Audit Committee	5/5	
	Finance Committee	5/5	
	Total	20/20	100 %
Kreusel, Petra Steffi			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Audit Committee	5/5	
	Total	13/13	100 %
Krüger, Harald			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Staff Committee	2/2	
	Total	10/10	100 %
Marx, Kerstin			
	Supervisory Board plenary meeting/off-site conference	7/8	
	General Committee	7/7	
	Audit Committee	5/5	
	Staff Committee	2/2	
	Total	21/22	95 %
Schöttke, Susanne			
since April 7, 2022	Supervisory Board plenary meeting/off-site conference	7/7	
	Audit Committee	3/4	
	Total	10/11	91 %
Schröder, Lothar			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Technology and Innovation Committee	2/2	
	Total	10/10	100 %
Seelemann-Wandtke, Nicole			
	Supervisory Board plenary meeting/off-site conference	6/8	
	Technology and Innovation Committee	2/2	
	Total	8/10	80 %
Spoos, Sibylle			
until April 7, 2022	Supervisory Board plenary meeting/off-site conference	1/1	
	Audit Committee	1/1	
	Total	2/2	100 %
Streibich, Karl-Heinz			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Finance Committee	5/5	
	Technology and Innovation Committee	2/2	
	Total	15/15	100 %
Suckale, Margret			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Staff Committee	2/2	
	Technology and Innovation Committee	2/2	
	Total	12/12	100 %
Topel, Karin			
	Supervisory Board plenary meeting/off-site conference	8/8	
	Finance Committee	5/5	
	Total	13/13	100 %
Wintels, Stefan B.			
since April 7, 2022	Supervisory Board plenary meeting/off-site conference	7/7	
	Finance Committee	5/5	
	Total	12/12	100 %

Conflicts of interest on the Supervisory Board

No conflicts of interest have arisen among the Supervisory Board members in the reporting year. Should a conflict of interest arise, the Supervisory Board members will discuss how to proceed with the Chairman of the Supervisory Board.

Corporate governance

The Supervisory Board and Board of Management are aware that good corporate governance is an important foundation for corporate success. The provisions of the German Corporate Governance Code are hence reflected in the Company's statutes. The Board of Management and the Supervisory Board last issued their Declaration of Conformity with the German Corporate Governance Code on December 30, 2022.

This Declaration of Conformity can be found on the Deutsche Telekom AG [website](#). It also provides access to the declarations of conformity from previous years.

Apart from the exceptions disclosed therein, Deutsche Telekom complied, and continues to comply, with all recommendations of the Code. For detailed information on corporate governance at Deutsche Telekom, please refer to the Corporate Governance Statement.

The Corporate Governance Statement can be found on the Deutsche Telekom AG [website](#).

Training and development

The members of the Supervisory Board generally take on the necessary training and development measures required for their tasks at their own initiative and are supported by Deutsche Telekom AG in doing so, e.g., by offering and organizing informational events and workshops – in 2022 these covered subjects such as “The amendment to the Telecommunications Act,” “The geopolitical situation,” and “The development of sustainability reporting” – with internal and external experts as well as by offering company visits/the presentation of product innovations in order to enhance the Supervisory Board members' understanding of the Company. The Company offers new Supervisory Board members a customized program to introduce them to the industry and the situation of the Company. Furthermore, an annual special meeting is held to continually inform the members of the Audit Committee in depth about the latest changes in the law, new accounting and auditing standards, and any changes in corporate governance issues. The members of the Supervisory Board are also kept up to date about any new requirements for work on the Supervisory Board at the regular Board and committee meetings.

Changes in the composition of the Board of Management

By resolution of February 23, 2022, Adel Al-Saleh was reappointed as the Board member responsible for T-Systems from January 1, 2023 to December 31, 2027. Furthermore, in the meeting on May 19, 2022, Dr. Christian P. Illek was reappointed as the Board member responsible for Finance from April 1, 2023 to March 31, 2028. By resolution of December 14, 2022, Dominique Leroy was reappointed as the Board member responsible for Europe from November 1, 2023 to October 31, 2028.

Changes in the composition of the Supervisory Board

Shareholders' representatives

Dr. Rolf Böisinger resigned from his position as a member of the Supervisory Board effective the end of the shareholders' meeting on April 7, 2022. He was succeeded by Katja Hessel, who was elected to the Supervisory Board by resolution of the shareholders' meeting on April 7, 2022, for a term of office until the end of the 2026 shareholders' meeting.

Prof. Dr. Michael Kaschke resigned from his position as a member of the Supervisory Board effective the end of the shareholders' meeting on April 7, 2022. At the shareholders' meeting on April 7, 2022, Stefan B. Wintels was elected for a term of office as a member of the Supervisory Board until the end of the 2026 shareholders' meeting.

At the shareholders' meeting on April 7, 2022, Dagmar P. Kollmann was elected for a further term of office as a member of the Supervisory Board until the end of the 2026 shareholders' meeting.

Prof. Dr. Ulrich Lehner left the Supervisory Board effective the end of the shareholders' meeting on April 7, 2022. In his place, Dr. Frank Appel was elected by the shareholders' meeting on April 7, 2022 as a member of the Supervisory Board until the end of the 2026 shareholders' meeting. He was then elected as the Chairman of the Supervisory Board by resolution of the Supervisory Board.

Employees' representatives

Sibylle Spoo resigned from her position as a member of the Supervisory Board effective the end of the shareholders' meeting on April 7, 2022. Susanne Schöttke was previously appointed as a replacement candidate by the 2018 Assembly of Delegates and became a member of the Supervisory Board upon Ms. Spoo's resignation.

We would like to thank all members of the Supervisory Board who have left in the past financial year for their successful long-term, constructive collaboration.

Review of the annual and consolidated financial statements, the non-financial statement, and the 2022 remuneration report

The Board of Management submitted the annual financial statements, the consolidated financial statements, and the Group management report, which is combined with the management report of Deutsche Telekom AG (combined management report), together with its proposal for the appropriation of net income and the Corporate Governance Statement, to us in good time. The combined management report also included a separate section containing the combined non-financial statement for Deutsche Telekom AG and for the Group (combined non-financial statement) for the 2022 financial year.

Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Munich, (Deloitte) which was appointed as auditor of the single-entity financial statements and auditor of the consolidated financial statements (external auditor) for the 2022 financial year by the shareholders' meeting, audited the annual financial statements as of December 31, 2022, which were prepared by the Board of Management in accordance with the provisions of the German Commercial Code (Handelsgesetzbuch – HGB), and the combined management report, as well as the consolidated financial statements as of December 31, 2022, which were prepared in accordance with IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e (1) HGB, and the combined management report (documentation on the financial statements). The external auditor issued an unqualified audit opinion for each document. Moreover, Deloitte performed a limited assurance engagement on the combined non-financial statement for the 2022 financial year prepared by the Board of Management in respect of the disclosures required by law as well as in relation to the two management-relevant performance indicators (CO₂ emissions (Scope 1 and 2) and energy consumption) in order to obtain reasonable assurance and issued a combined report without any reservations in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (revised).

The external auditor confirmed its independence in writing to the Audit Committee and the Supervisory Board together with the submission of the audit reports. There are no circumstances that may give rise to doubts about the external auditor's impartiality. In the Supervisory Board meeting on February 22, 2023, the Audit Committee informed us about its monitoring of the external auditor's independence while taking account of the non-audit services provided, and of its conclusion that the auditor continues to meet the independence requirements.

The external auditor submitted its reports on the nature and extent as well as the result of its audits (audit reports) to us. The aforementioned documentation on the financial statements, the external auditor's preliminary audit reports, and the Board of Management's proposal for the appropriation of net income were made available to the members of the Supervisory Board in good time. The same applies to the combined non-financial statement and the Corporate Governance Statement.

We conducted our own in-depth review of the documents submitted by the Board of Management and the external auditor's audit reports. In preparation, the Audit Committee had conducted a thorough review of the aforementioned documents. The documentation on the financial statements and the Board of Management's proposal for the appropriation of net income were explained in detail by the Board of Management to the members of the Audit Committee at its meeting on February 21, 2023. The members of the Board of Management also answered the committee members' questions. Moreover, the external auditor also attended this meeting and reported on its audit, in particular the focal points of the audit defined in agreement with the Audit Committee and the Supervisory Board, and the main findings of its audit, and explained its preliminary audit reports. The members of the Audit Committee acknowledged and critically reviewed the preliminary audit reports and preliminary audit opinions, and discussed them, as well as the audit itself, with the external auditor. The review included questions about the nature and extent of the audit and about the audit findings. The Audit Committee satisfied itself that the audit and the audit reports were compliant. In particular, its members had assured themselves that the audit reports and the audit conducted by the external auditor met the legal requirements. The external auditor then issued its final audit reports without any changes and issued an unqualified audit opinion for each of the financial statements. Furthermore, the Audit Committee adopted the aforementioned approach with respect to the audit report and audit opinion on the combined non-financial statement and conducted a review of both. Deloitte then issued this report along with an unqualified audit opinion. The Audit Committee recommended that we approve the results of the audit conducted by the external auditor and, since it had no objections to the documents submitted by the Board of Management, that we approve the annual financial statements and the consolidated financial statements; it also recommended that we not raise any objections against the combined management report or the combined non-financial statement, and that we support the Board of Management's proposal for the appropriation of net income.

We performed the final review of the documentation on the financial statements, as well as the Board of Management's proposal for the appropriation of net income, on February 22, 2023, taking into account the report and recommendations of the Audit Committee and the external auditor's final audit reports. The Board of Management attended this meeting, explained the documents they had submitted, and answered our questions. The external auditor also attended this meeting and reported on its audit and the main findings of its audit, explained its audit reports, and answered our questions, in particular relating to the nature and extent of the audit and the audit findings. Based on this and the report presented by the Audit Committee, we were satisfied that the audit and the audit report were compliant. Hence, we approved the findings of the audit by the external auditor. The same applies to the combined non-financial statement contained in the combined management report.

Based on the final outcome of our review of the annual financial statements, the consolidated financial statements, the combined management report, and the combined non-financial statement, as well as the Board of Management's proposal for the appropriation of net income, no objections need be raised. The same applies to the Corporate Governance Statement even insofar as it has not been audited by the external auditor. We followed the Audit Committee's recommendation and approved the annual financial statements and the consolidated financial statements for 2022. The 2022 annual financial statements are therefore formally adopted.

The Supervisory Board's assessment of the position of the Company and the Group is the same as that which the Board of Management presented in its combined management report. It followed the Audit Committee's recommendation and approved these documents. The same applies to the combined non-financial statement.

When dealing with the budget and medium-term planning on December 14, 2022, we conducted an in-depth examination of financial and investment plans, discussing in particular the development of earnings, free cash flow, the equity ratio, and balance sheet ratios. The Board of Management's proposal concerning the appropriation of net income was examined by the Audit Committee on February 21, 2023, and by the Supervisory Board on February 22, 2023. The external auditor was present at both meetings. We approved and supported the Board of Management's proposal to pay out shareholder remuneration of around EUR 3,481 million and to carry forward around EUR 3,219 million to unappropriated net income.

The remuneration report for the 2022 financial year was prepared by the Board of Management and Supervisory Board in accordance with § 162 (1) sentence 1 of the German Stock Corporation Act (Aktiengesetz – AktG) and formally reviewed by the external auditor to ensure the information pursuant to § 162 (1) and (2) AktG had been provided. No shortcomings were found and the external auditor issued an unqualified opinion.

We would like to thank the members of the Board of Management, all employees, and the works committees for their commitment and dedication in the 2022 financial year.

Bonn, February 22, 2023
The Supervisory Board

Dr. Frank Appel
Chairman

Members of the Board of Management of Deutsche Telekom AG in 2022

Timotheus Höttges

Chairman of the Board of Management since January 1, 2014

Seats on the supervisory boards of other companies:

- Mercedes-Benz Group AG, Stuttgart (since 7/2020)^a
- Mercedes-Benz AG, Stuttgart (since 10/2021)

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- T-Mobile US, Inc., Bellevue, United States, Chairman of the Board of Directors (since 4/2013)^a

Adel Al-Saleh

Board member responsible for T-Systems since January 1, 2018

Member of comparable supervisory bodies of business enterprises in Germany or abroad:

- BT Group plc, London, United Kingdom, Member of the Board of Directors (since 5/2020)^a

Birgit Bohle

Board member responsible for Human Resources and Legal Affairs, and Labor Director since January 1, 2020

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom Services Europe SE, Bonn (since 10/2019)
- Telekom Deutschland GmbH, Bonn (since 1/2019)
- T-Systems International GmbH, Frankfurt/Main (since 6/2021)

Srini Gopalan

Board member responsible for Germany since November 1, 2020

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom Service GmbH, Bonn, Chairman of the Supervisory Board (since 11/2020)
- Deutsche Telekom Technik GmbH, Bonn, Chairman of the Supervisory Board (since 11/2020)
- T-Mobile US, Inc., Bellevue, United States, Member of the Board of Directors (since 8/2022)^a

Dr. Christian P. Illek

Board member responsible for Finance since January 1, 2019

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- BuyIn SA/NV, Brussels, Belgium (since 12/2018), Chairman of the Supervisory Board (since 1/2023)
- Deutsche Telekom Services Europe SE, Bonn (since 8/2019), Chairman of the Supervisory Board (since 11/2019)
- Telekom Deutschland GmbH, Bonn (since 6/2021), Chairman of the Supervisory Board (since 6/2021)
- T-Mobile US, Inc., Bellevue, United States, Member of the Board of Directors (since 1/2019)^a

Thorsten Langheim

Board member responsible for USA and Group Development since January 1, 2019

Seats on the supervisory boards of other companies:

- FC Bayern München AG, Munich (since 9/2021)

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom Capital Partners Management GmbH, Hamburg, Chairman of the Investment Committee (since 6/2015)
- Digital Infrastructure Vehicle II SCSp SICAV-RAIF, Luxembourg, Member of the Limited Partner Advisory Committee (since 7/2022)
- DTCP Growth Equity III SICAV-RAIF, Luxembourg, Member of the Limited Partner Advisory Committee (since 11/2022)
- T-Mobile US, Inc., Bellevue, United States, Member of the Board of Directors (since 6/2014)^a

Dominique Leroy

Board member responsible for Europe since November 1, 2020

Member of comparable supervisory bodies of business enterprises in Germany or abroad:

- Compagnie de Saint-Gobain, Courbevoie, France, Member of the Board of Directors (since 11/2017)^a

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Hellenic Telecommunications Organization S.A. (OTE S.A.), Marousi, Athens, Greece (since 11/2020)^a
- T-Mobile US, Inc., Bellevue, United States, Member of the Board of Directors (since 11/2020)^a
- T-Mobile Polska S.A., Warsaw, Poland (since 11/2020), Chairwoman of the Supervisory Board (since 11/2020)

^a Listed on the stock exchange

Claudia Nemat

Board member responsible for Technology and Innovation since January 1, 2017

Seats on the supervisory boards of other companies:

- Airbus Defence and Space GmbH, Ottobrunn (since 5/2016)

Member of comparable supervisory bodies of business enterprises in Germany or abroad:

- Airbus SE, Leiden, Netherlands, Member of the Board of Directors (since 5/2016)^a

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom IT GmbH, Bonn, Chairwoman of the Supervisory Board (since 6/2017)
- Deutsche Telekom Security GmbH, Bonn (since 8/2020), Deputy Chairwoman of the Supervisory Board (since 9/2020)
- T-Systems International GmbH, Frankfurt/Main (since 4/2020), Chairwoman of the Supervisory Board (since 6/2021)

^a Listed on the stock exchange

Members of the Supervisory Board of Deutsche Telekom AG in 2022

Dr. Frank Appel

Member of the Supervisory Board since April 7, 2022
Chairman of the Supervisory Board since April 7, 2022
Chairman of the Board of Management of Deutsche Post AG, Bonn

Seats on the supervisory boards of other companies:

- Fresenius Management SE, Bad Homburg (since 5/2021)

Dr. Günther Bräunig

Member of the Supervisory Board since March 21, 2018
Former CEO of the Executive Board of KfW, Frankfurt/Main

Seats on the supervisory boards of other companies:

- Deutsche Pfandbriefbank AG, Unterschleißheim (since 8/2009), Chairman of the Supervisory Board (since 8/2014)^a
- Deutsche Post AG, Bonn (3/2018 to 5/2022)^a

Odysseus D. Chatzidis

Member of the Supervisory Board since January 3, 2018
Chairman of the European Works Council of Deutsche Telekom AG, Bonn
– No other seats –

Constantin Greve

Member of the Supervisory Board since November 20, 2018
Chairman of the Central Works Council of Deutsche Telekom AG, Bonn
– No other seats –

Katja Hessel

Member of the Supervisory Board since April 7, 2022
Parliamentary State Secretary at the Federal Ministry of Finance, Berlin
– No other seats –

Lars Hinrichs

Member of the Supervisory Board since October 1, 2013
CEO of Cinco Capital GmbH, Hamburg

Seats on the supervisory boards of other companies:

- Xempus AG, Munich, Chairman of the Supervisory Board (since 1/2016)

Dr. Helga Jung

Member of the Supervisory Board since May 25, 2016
Former Member of the Board of Management of Allianz SE, Munich

Seats on the supervisory boards of other companies:

- Allianz Deutschland AG, Munich (3/2016 to 3/2022)
- Allianz Global Corporate & Specialty SE, Munich, Deputy Chairwoman of the Supervisory Board (since 5/2013)
- Allianz Lebensversicherungs-AG, Stuttgart (since 4/2020)
- Allianz Versicherungs-AG, Munich (since 11/2019)

Nicole Koch

Member of the Supervisory Board since January 1, 2016
Chairwoman of the Works Council of Deutsche Telekom Privatkunden-Vertrieb GmbH, Bonn

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom Privatkunden-Vertrieb GmbH, Bonn (since 6/2004)

Dagmar P. Kollmann

Member of the Supervisory Board since May 24, 2012
Entrepreneur, member of several supervisory boards and advisory boards as well as the Monopolies Commission
Former CEO of Morgan Stanley Bank, Frankfurt/Main
Former Member of the Board of Directors of Morgan Stanley Bank International Limited, London, United Kingdom

^a Listed on the stock exchange

Seats on the supervisory boards of other companies:

- Citigroup Global Markets Europe AG, Frankfurt/Main, Chairwoman of the Supervisory Board (since 11/2021)

Member of comparable supervisory bodies of business enterprises in Germany or abroad:

- Coca Cola European Partners plc, London, United Kingdom (since 5/2019)^a
- Paysafe Holdings UK Limited, London, United Kingdom (since 3/2021)^a
- Unibail-Rodamco SE, Paris, France, Member of the Supervisory Board (since 5/2014)^a

Petra Steffi Kreusel

Member of the Supervisory Board since January 1, 2013

Senior Vice President, Customer & Public Relations at Deutsche Telekom Business Solutions GmbH, Bonn

Group Officer for Digital Education and School at Deutsche Telekom AG, Bonn

Chairwoman of the Executive Staff Representation Committee of Deutsche Telekom Business Solutions GmbH, Bonn

Deputy Chairwoman of the Group Executive Staff Representation Committee of Deutsche Telekom AG, Bonn

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom Business Solutions GmbH, Bonn (8/2020 to 12/2022)

Harald Krüger

Member of the Supervisory Board since May 17, 2018

Managing partner of KC&C GmbH, Gräfelting

Former Chairman of the Board of Management of Bayerische Motoren Werke Aktiengesellschaft, Munich

Seats on the supervisory boards of other companies:

- Deutsche Lufthansa AG, Cologne (since 5/2020)^a

Kerstin Marx

Member of the Supervisory Board since May 1, 2020

Chairwoman of the Group Works Council at Deutsche Telekom AG, Bonn

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Deutsche Telekom Business Solutions GmbH, Bonn (8/2020 to 12/2022)

Frank Sauerland

Member of the Supervisory Board since November 20, 2018

Deputy Chairman of the Supervisory Board since March 27, 2020

Head of the Collective Bargaining Policy Committee, TC/IT National Committee at the ver.di National Executive Board, Berlin

Member of the supervisory boards of subsidiaries, associates, and joint ventures:

- Telekom Deutschland GmbH, Bonn (since 12/2016), Deputy Chairman of the Supervisory Board (since 1/2017)

Susanne Schöttke

Member of the Supervisory Board since April 7, 2022

Head of the North state district of ver.di, Lübeck

Seats on the supervisory boards of other companies:

- MVV Energie AG, Mannheim (since 2/2021)^a

Lothar Schröder

Member of the Supervisory Board since June 22, 2006

Trade Union Secretary, former member of the ver.di National Executive Board, Berlin

Seats on the supervisory boards of other companies:

- Vereinigte Postversicherung VVaG, Stuttgart (since 6/2008)
- VPV Holding AG, Stuttgart (since 6/2018)
- VPV Lebensversicherungs-AG, Stuttgart (since 10/2015)

Nicole Seelemann-Wandtke

Member of the Supervisory Board since July 5, 2018

Deputy Chairwoman of the Works Council of the Consumers unit of Telekom Deutschland GmbH, Bonn

– No other seats –

Karl-Heinz Streibich

Member of the Supervisory Board since October 1, 2013

President of acatech – Deutsche Akademie der Technikwissenschaften (National Academy of Science and Engineering), Berlin, until March 14, 2022

Honorary chairman of the acatech senate – Deutsche Akademie der Technikwissenschaften (National Academy of Science and Engineering), Berlin, since March 15, 2022

^a Listed on the stock exchange

Seats on the supervisory boards of other companies:

- Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft in München, Munich (since 4/2019)^a
- Siemens Healthineers AG, Erlangen (since 3/2018)^a
- Software AG, Darmstadt, Chairman of the Supervisory Board (6/2020 to 1/2022)^a

Margret Suckale

Member of the Supervisory Board since September 28, 2017

Member of several supervisory boards and former Member of the Board of Executive Directors of BASF SE, Ludwigshafen am Rhein

Seats on the supervisory boards of other companies:

- DWS Group GmbH & Co. KGaA, Frankfurt/Main (since 3/2018)^a
- HeidelbergCement AG, Heidelberg (since 8/2017)^a
- Infineon Technologies AG, Neubiberg (since 2/2020)^a

Karin Topel

Member of the Supervisory Board since July 1, 2017

Chairwoman of the Works Council of Deutsche Telekom Technik GmbH, Bonn, Technical Branch Office, Eastern District
– No other seats –

Stefan B. Wintels

Member of the Supervisory Board since April 7, 2022

CEO of the Executive Board of KfW, Frankfurt/Main

Seats on the supervisory boards of other companies:

- Deutsche Post AG, Bonn (since 5/2022)^a
- KfW Capital GmbH & Co. KG, Frankfurt/Main, Chairman of the Supervisory Board (since 11/2021)

Supervisory Board members who left in the 2022 financial year**Dr. Rolf Bösing**

Member of the Supervisory Board from June 1, 2018 to April 7, 2022

State Secretary at the Federal Ministry for Housing, Urban Development and Building, Berlin

Seats on the supervisory boards of other companies:

- PD – Berater der öffentlichen Hand GmbH, Berlin (since 5/2022)

Prof. Dr. Dr. h. c. Michael Kaschke

Member of the Supervisory Board from April 22, 2015 to April 7, 2022

Former CEO & President of Carl Zeiss AG, Oberkochen, and Chairman of the Supervisory Board of the Karlsruhe Institute of Technology (KIT), Karlsruhe

Seats on the supervisory boards of other companies:

- Henkel AG & Co. KGaA, Düsseldorf (since 4/2008)^a
- Ottobock SE & Co. KGaA, Duderstadt (6/2021 to 12/2022), Deputy Chairman of the Supervisory Board (9/2021 to 12/2022)
- Robert Bosch GmbH, Stuttgart (since 4/2016)

Member of supervisory boards in Germany required to be formed by law outside of business enterprises:

- Karlsruhe Institute of Technology (KIT), Karlsruhe, corporation under public law (not a commercial enterprise within the meaning of § 100 (2) sentence 1 no. 1 AktG), Chairman (since 12/2019)

Prof. Dr. Ulrich Lehner

Member of the Supervisory Board from April 17, 2008 to April 7, 2022

Chairman of the Supervisory Board from April 25, 2008 to April 7, 2022

Seats on the supervisory boards of other companies:

- Porsche Automobil Holding SE, Stuttgart (since 11/2007)^a

Sibylle Spoo

Member of the Supervisory Board from May 4, 2010 to April 7, 2022

Lawyer, Trade Union Secretary at the ver.di Federal Administration, Berlin, until December 30, 2021

– No other seats –

^a Listed on the stock exchange

The T-Share

		2022	2021	2020
XETRA closing prices				
Share price on the last trading day	€	18.64	16.30	14.96
Year high	€	19.77	18.92	16.63
Year low	€	15.10	14.70	10.83
Trading volume				
German exchanges	billions of shares	2.4	2.3	3.4
Market capitalization on the last trading day	billions of €	92.9	81.3	71.2
Weighting of the T-Share in major stock indexes on the last trading day				
DAX 40	%	5.5	4.0	4.5
Dow Jones EURO STOXX 50®	%	2.3	1.7	1.9
T-Share – key figures				
Earnings per share	€	1.61	0.87	0.88
Dividend per share ^a	€	0.70	0.64	0.60
Total number of ordinary shares at the reporting date ^b	millions	4,986	4,986	4,761

^a Subject to approval by the relevant bodies and the fulfillment of other legal requirements.

^b Including treasury shares held by Deutsche Telekom AG.

Development of international indexes

Following a very strong year in 2021, the stock markets showed a much weaker performance in 2022. Ultimately, all relevant indexes worldwide recorded substantial losses in value. The stock markets were beset by inflation and the raising of interest rates by central banks, the war in Ukraine, and the sharp rise in energy prices.

The most important barometer of the German stock market, the DAX 40, fell by 12.4 % over the course of the trading year. The Dow Jones closed out the year with a loss of 4.1 % on a total return basis, i.e., including reinvested dividends.

The Dow Jones EURO STOXX 50® likewise ended 2022 on a low, down 9.5 %. The Japanese Nikkei also fell substantially, closing out the year with a loss of 16.0 %.

T-Share performance

The European telecommunications sector was also hit by the general downturn: The industry's barometer, the Dow Jones STOXX® Europe 600 Telecommunications, had decreased 14.1 % by the end of the year.

In contrast to this weak environment, the T-Share closed 2022 at EUR 18.64, up by 14.0 %. The lowest price recorded during the year was EUR 15.10 on March 8, 2022, while the highest price of EUR 19.77 was recorded on November 25, 2022.

On a total return basis – and thus comparable with the DAX – our share ended the year 2022 up 18.6 %.

For an overview of the performance of the T-Share in recent years, please visit our [Investor Relations website](#).

Dividend

The Board of Management and Supervisory Board of Deutsche Telekom AG will propose to the shareholders' meeting on April 5, 2023 the distribution of a dividend of EUR 0.70 per dividend-bearing share.

Capital markets communication

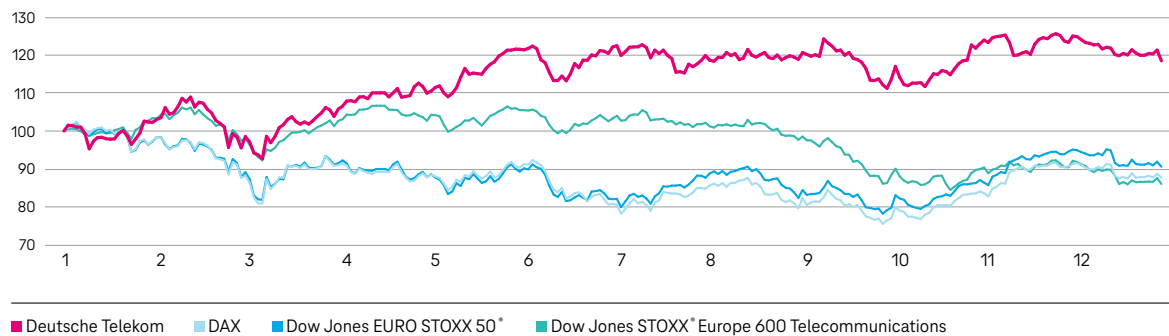
Deutsche Telekom maintains a close dialog with participants on the capital market and is monitored and analyzed by a number of German and international analysts (coverage). As of December 31, 2022, we recorded 23 analyst recommendations, 95 % of these with a buy recommendation and 5 % with a hold recommendation.

For a current overview of analyst coverage, please visit our [Investor Relations website](#).

As direct dialog with our shareholders is extremely important to us, we also held our shareholders' meeting on April 7, 2022, as an in-person event.

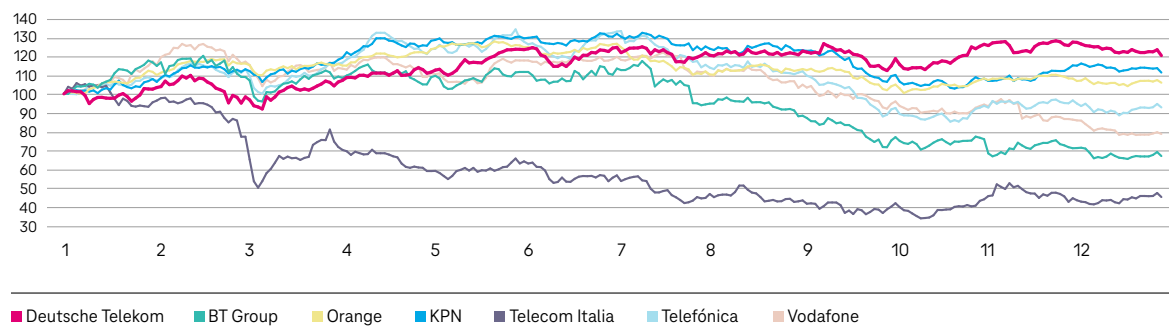
T-Share as compared to DAX, Dow Jones EURO STOXX 50®, and Dow Jones STOXX® Europe 600 Telecommunications

January 1 to December 31, 2022 (based on total shareholder return^a)



T-Share as compared to other European telecommunications companies

January 1 to December 31, 2022 (based on total shareholder return^a)



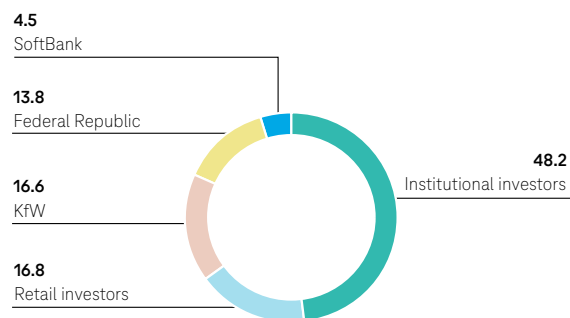
^a Total shareholder return measures the development in the value of a shareholding over a specific period. It takes into account dividends paid during the investment period along with any changes in share price.

Shareholder structure

The Federal Republic's shareholding, including that of Kreditanstalt für Wiederaufbau (KfW), remained stable at 30.5 % in 2022. The proportion of institutional investors increased slightly in 2022 from 47.7 % to 48.2 %, while the share of retail investors fell slightly from 17.4 % to 16.8 %. As a result, the percentage of shares in free float stands at around 65 % of the share capital.

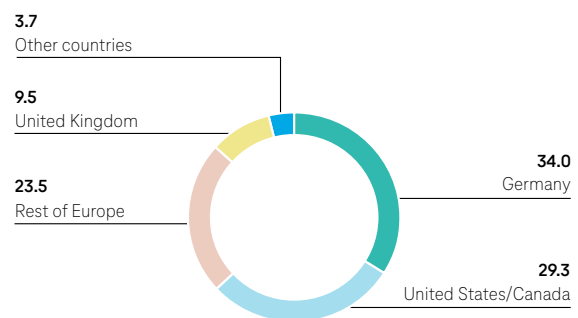
Shareholder structure

% (as of December 31, 2022)



Geographical distribution of free float

% (as of December 31, 2022)

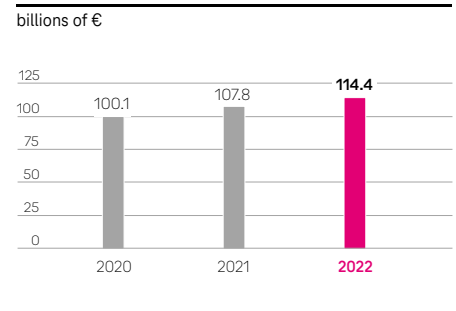


For further information relevant to shareholders, please refer to our [Investor Relations website](#).

Development of selected financial data

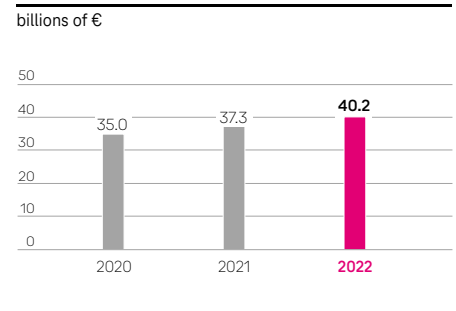
Net revenue^{a, b}

- Net revenue increased by EUR 6.6 billion or 6.1 % to EUR 114.4 billion. In organic terms, it was on a par with the prior-year level. Service revenue increased by EUR 8.8 billion or 10.6 % to EUR 91.9 billion. In organic terms, it increased by EUR 3.3 billion or 3.7 %.
- Our United States segment recorded revenue growth of 11.3 %, mainly due to exchange rate effects. In organic terms, revenue declined by 1.3 % year-on-year due to lower terminal equipment revenues, partially offset by higher service revenues.
- Revenue in our Germany segment was up 1.9 % year-on-year, mainly due to the positive trend in service revenues.
- In our Systems Solutions segment, revenue increased by 1.4 % year-on-year, mainly driven by growth in the Digital Solutions, Road Charging, and Advisory portfolio units.
- In our Europe segment, revenue decreased by 1.2 % year-on-year, mainly due to the sale of the Romanian fixed-network business. In organic terms, however, revenue increased by 3.9 %, primarily as a result of the strong performance in mobile business.
- Revenue in our Group Development segment declined by 46.0 % due to the sale of T-Mobile Netherlands. In organic terms, revenue increased by 6.5 % on the back of operationally and structurally driven growth at the GD Towers business entity.



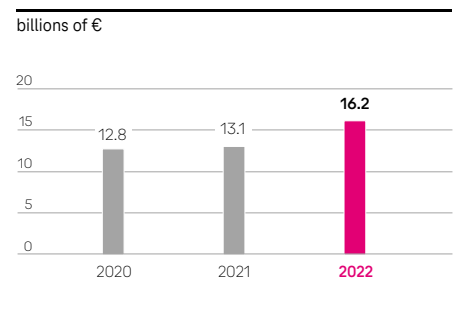
EBITDA AL (adjusted for special factors)^a

- Adjusted EBITDA AL increased by EUR 2.9 billion or 7.7 % to EUR 40.2 billion. In organic terms, it increased by EUR 0.7 billion or 1.7 %.
- In our United States segment, adjusted EBITDA AL increased by 12.9 %, essentially due to exchange rate effects. In organic terms, it increased slightly year-on-year by 0.1 %. Adjusted core EBITDA AL increased by EUR 4.4 billion or 21.9 % to EUR 24.3 billion.
- In the Systems Solutions segment, adjusted EBITDA AL grew by 4.8 % and by 0.9 % in organic terms. Efficiency effects and increased revenue in the growth areas contributed to this trend.
- In the Germany segment, adjusted EBITDA AL was up 3.2 %, driven by high-value revenue growth and enhanced cost efficiency.
- Adjusted EBITDA AL in the Europe segment decreased by 1.1 %, but increased by 3.1 % in organic terms, mainly due to a positive net margin.
- Adjusted EBITDA AL in the Group Development segment declined by 26.2 %, but increased by 26.4 % in organic terms driven by the consistent positive development of the GD Towers business entity.
- At 35.1 %, the Group's adjusted EBITDA AL margin was above the prior-year level. The margin was 40.1 % in Germany, 35.5 % in Europe, and 34.0 % in the United States.



Profit/loss from operations (EBIT)^a

- EBIT increased by EUR 3.1 billion or 23.8 % to EUR 16.2 billion.
- Special factors had a negative effect of EUR 4.2 billion on EBITDA AL (2021: EUR -3.4 billion). Deconsolidations, acquisitions, and disposals resulted in expenses totaling EUR 2.3 billion. Expenses for staff-related measures amounted to EUR 1.2 billion. In addition, impairment losses of EUR 0.3 billion were recognized on right-of-use assets, and other special factors affecting EBITDA AL were recognized in the same amount.
- Impairment losses increased by EUR 0.9 billion to EUR 1.2 billion and primarily related to the United States, Systems Solutions, and Europe segments. In the United States, the impairment losses mainly related to the former Sprint's fiber-optic-based wireline assets and were attributable to the sale of the business.
- Depreciation and amortization decreased by EUR 0.5 billion, due in part to the suspension of depreciation and amortization as a result of the business entities T-Mobile Netherlands and GD Towers being held for sale on account of corresponding sales agreements.

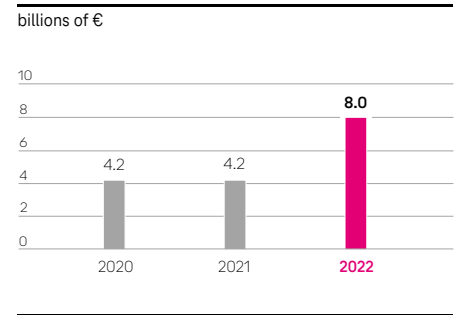


^a Since the third quarter of 2022, the GD Towers business entity, which operates the cell tower business in Germany and Austria, assigned to the Group Development operating segment, has been recognized in the consolidated financial statements as a discontinued operation. However, both here and in the combined management report we continue to include the contributions by GD Towers in the results of operations according to the management approach. For information on the agreement with DigitalBridge and Brookfield on GD Towers, please refer to the section "Group organization" in the combined management report and to the section "Summary of accounting policies" in the consolidated financial statements.

^b The prior-year comparatives were adjusted retrospectively to take account of changes to the principal/agent policy regarding the recognition of gross and net revenues as of the third quarter of 2022. For further information, please refer to the section "Development of business in the Group" in the combined management report and to the section "Changes in accounting policies and changes in the reporting structure" in the consolidated financial statements.

Net profit

- Net profit increased by EUR 3.8 billion or 91.6 % to EUR 8.0 billion.
- Our loss from financial activities decreased from EUR 5.1 billion to EUR 4.5 billion, with other financial income/expense improving in particular due to the measurement of derivatives, in particular as a result of the forward transaction to hedge the price of acquiring shares in T-Mobile US shares, and the stock options to buy shares in T-Mobile US. The interest component from the measurement of provisions and liabilities also increased due to the higher interest rate level. By contrast, finance costs increased and the share of profit/loss of associates and joint ventures accounted for using the equity method decreased.
- Tax expense came to EUR 2.2 billion compared with EUR 1.8 billion in the prior year.
- Profit attributable to non-controlling interests decreased from EUR 1.9 billion to EUR 1.5 billion.
- Adjusted earnings per share amounted to EUR 1.83 compared with EUR 1.22 in the prior year.

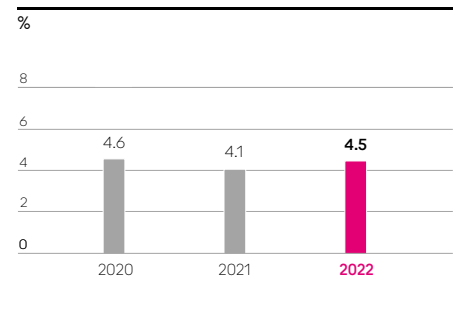


For a reconciliation for the organic development of key figures for the prior year, please refer to the section [“Additional information.”](#)

For further information on the financial data of our segments, please refer to the section [“Development of business in the operating segments”](#) in the combined management report and to the IR back-up on our [Investor Relations website](#).

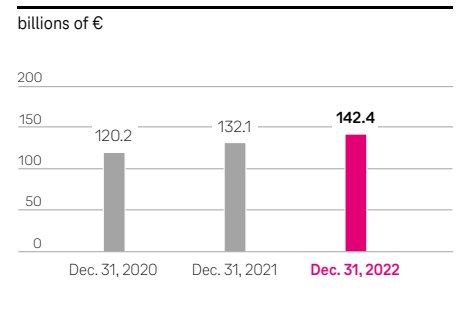
ROCE

- ROCE (return on capital employed) increased by 0.4 percentage points to 4.5%. This was due to stronger percentage growth in net operating profit after taxes (NOPAT) than in the average amount of net operating assets (NOA) over the year.
- The positive development in NOPAT is mainly due to the increase in adjusted EBITDA AL. Higher total expenses classified as special factors had an offsetting effect.
- The increase in NOA is due in part to the acquisition of additional spectrum licenses by T-Mobile US and the associated increase in intangible assets. In addition, the development of NOA reflects our consistently high investment volume.



Net debt^c

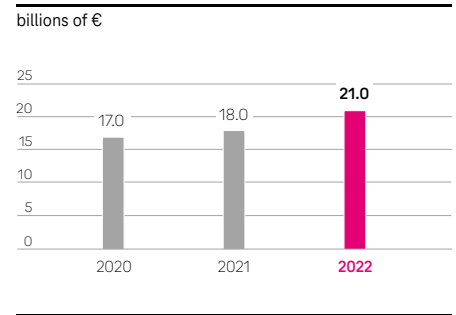
- Net debt increased by EUR 10.3 billion from EUR 132.1 billion to EUR 142.4 billion.
- The increase was attributable in particular to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase of EUR 6.6 billion in right-of-use assets and of EUR 0.8 billion in property, plant and equipment. This effect is mirrored by growth in net debt of EUR 7.4 billion. Exchange rate effects (EUR 5.9 billion), additions of lease liabilities and right-of-use assets (EUR 4.6 billion), the dividend payment – including to non-controlling interests – (EUR 3.4 billion), spectrum acquisitions primarily in the United States (EUR 3.2 billion), the share buy-back program at T-Mobile US (EUR 3.0 billion), and the increase of the stake in T-Mobile US (EUR 2.2 billion) also had an increasing effect.
- The main factors reducing net debt were free cash flow (before dividend payments and spectrum investment) of EUR 15.2 billion and the corporate transactions involving T-Mobile Netherlands and GlasfaserPlus totaling EUR 4.7 billion.



^c Including net debt included under liabilities directly associated with non-current assets and disposal groups held for sale.

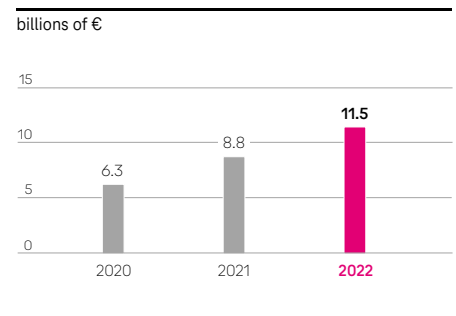
Cash capex (before spectrum investment)

- Cash capex (before spectrum investment) increased by EUR 3.0 billion to EUR 21.0 billion.
- The increase is largely attributable to the accelerated 5G network build-out in the United States, the integration of Sprint, and to exchange rate effects. In the Germany segment, too, our capital expenditures for the fiber-optic and 5G build-out were higher compared with the prior year.
- By contrast, cash capex (including spectrum investment) decreased by EUR 2.3 billion to EUR 24.1 billion. Spectrum licenses were purchased for EUR 3.1 billion in the reporting year, in particular mobile licenses in the United States segment. Another EUR 0.1 billion was paid for spectrum in the Europe segment. In the prior year, cash capex had included the cash outflows for mobile licenses – primarily at the C-band auction in the United States segment – totaling EUR 8.4 billion.



Free cash flow AL (before dividend payments and spectrum investment)^d

- Free cash flow AL (before dividend payments and spectrum investment) increased by EUR 2.7 billion to EUR 11.5 billion.
- The basis for this increase was the strong business performance in the operating segments. Exchange rate effects also had an increasing effect. Net cash from operating activities increased by EUR 3.6 billion. The decrease of EUR 1.8 billion in the principal portion of repayment of lease liabilities, primarily in the United States, also had a positive effect.
- By contrast, EUR 3.0 billion higher cash capex (before spectrum investment), higher cash outflows in connection with the integration of Sprint, and an increase of EUR 0.4 billion in net interest payments had a decreasing effect.



For further information, please refer to the section [“Development of business in the Group”](#) in the combined management report.

For further information on the level of achievement of our main financial and non-financial key performance indicators, please refer to the relevant section [“Development of business in the Group – Comparison of the Group’s expectations with actual figures”](#) in the combined management report.

^d Before interest payments for zero-coupon bonds and before termination of forward-payer swaps at T-Mobile US (both in 2020).

Highlights in the 2022 financial year

For further information on these and other events, please refer to our [media information](#).

Developments at senior management level

The shareholders' meeting held on April 7, 2022 elected Dr. Frank Appel as a member of Deutsche Telekom AG's Supervisory Board. The Supervisory Board then elected Dr. Appel as the new **Chairman of the Supervisory Board**, as successor to Prof. Ulrich Lehner, who left the Supervisory Board with effect from the end of the shareholders' meeting.

For further information, please refer to our [media report](#).

On December 15, 2021, the Supervisory Board of Deutsche Telekom AG resolved to reappoint Timotheus Höttges as **Chairman of the Board of Management** for the period from January 1, 2022 through December 31, 2026.

Business and other transactions

Agreement with DigitalBridge and Brookfield on GD Towers. On July 13, 2022, Deutsche Telekom agreed to sell a 51.0 % stake in GD Towers, comprising its tower assets in Germany and Austria, assigned to the Group Development operating segment, to DigitalBridge and Brookfield. Deutsche Telekom will retain a 49.0 % stake, benefiting from future value upside at GD Towers. The transaction was consummated on February 1, 2023. All necessary regulatory approvals had been duly granted and all other closing conditions met.

New limited partners admitted to infrastructure fund DIV II. In August and September 2022, Digital Transformation Capital Partners admitted new investors to the investment company Digital Infrastructure Vehicle II (DIV II). As a result, Deutsche Telekom's share in DIV II decreased from 66.67 % to 41.25 % and the entity was deconsolidated in the third quarter of 2022.

Agreement with Cogent to sell the U.S. wireline business. On September 6, 2022, T-Mobile US reached an agreement with Cogent Infrastructure (Cogent) on the sale of the fiber-optic-based wireline business of the former Sprint. The transaction is subject to approval by the authorities as well as other closing conditions. The transaction is expected to be completed by mid-2023.

Share buy-back program at T-Mobile US. On September 8, 2022, T-Mobile US announced that its Board of Directors has authorized a share buy-back program for up to USD 14.0 billion of the company's common stock through September 30, 2023. Repurchases are expected to be made from available cash on hand and proceeds of one or more debt issuances or other borrowings, based on the company's evaluation of market conditions and other factors. By December 31, 2022, T-Mobile US had bought back approximately 21.4 million own shares with a total volume of USD 3.0 billion (EUR 3.0 billion) under this program. On September 15, 2022, T-Mobile US issued senior notes with a total volume of USD 3.0 billion (EUR 3.0 billion) and intends to use the cash proceeds for general business purposes, which may include, among other things, the financing of the share buy-back program and the early repayment of higher-interest bonds.

Increase of the stake in T-Mobile US. On April 12, 2022, Deutsche Telekom exercised a further portion of its stock options to acquire a total of around 21.2 million shares in T-Mobile US from SoftBank for a purchase price of USD 2.4 billion (EUR 2.2 billion). Upon its completion, the transaction increased Deutsche Telekom's stake in T-Mobile US by 1.7 percentage points.

Sale of T-Mobile Netherlands. On September 6, 2021, Deutsche Telekom and Tele2 signed an agreement with WP/AP Telecom Holdings IV on the sale of our subsidiary T-Mobile Netherlands. The transaction was consummated on March 31, 2022. The sale price is based on an enterprise value of EUR 5.1 billion. The cash proceeds amounted to EUR 3.6 billion.

Joint venture GlasfaserPlus with IFM. On November 5, 2021, Deutsche Telekom announced that IFM Global Infrastructure Fund would acquire a stake of 50 % in GlasfaserPlus, a fiber-optic build-out entity. The transaction was consummated on February 28, 2022. The sale price was EUR 0.9 billion.

Extension of agreement between T-Mobile US and Crown Castle. In January 2022, T-Mobile US and Crown Castle agreed a modification of existing arrangements, mainly concerning the lease of Crown Castle's cell sites. This agreement includes a modification of the monthly lease payments for existing cell sites and an extension of the non-cancelable lease term until December 31, 2033 (with additional extension options). The modification of the arrangements results in a USD 7.3 billion (EUR 6.6 billion) increase in right-of-use assets and a USD 0.9 billion (EUR 0.8 billion) increase in property, plant and equipment. Net debt increases accordingly. The extension will give T-Mobile US increased planning reliability and greater flexibility for building out the network as well as integrating and merging the existing mobile networks.

Reassignment of the security business. Effective July 1, 2022, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment.

For further information on these corporate transactions and others, please refer to the section "Group organization" in the combined management report and the sections "Other transactions that had no effect on the composition of the Group," "Changes in the composition of the Group and other transactions," and Note 38 "Segment reporting" in the notes to the consolidated financial statements.

Rating

On April 22, 2022, the rating agency Standard & Poor's (S&P) raised its rating outlook for **Deutsche Telekom AG** from "stable" to "positive" and also confirmed its long-term rating of BBB. S&P considers an upgrade in the long-term rating within the next two years to be possible.

In July 2022, the rating agency Moody's upgraded the rating for our subsidiary **T-Mobile US** from Ba2 to Baa3 with a stable outlook. Standard & Poor's raised their rating for T-Mobile US in August 2022, from BB+ to BBB- with a positive outlook. Together with the existing BBB- rating with a positive outlook from Fitch, our U.S. subsidiary has now secured its first-ever full investment grade rating at all three major rating agencies.

Investments in networks

Awarding of 5G spectrum. In the United States and the countries of our Europe operating segment, a number of 5G spectrum award proceedings were held in the reporting year, at which T-Mobile US and our national companies in Greece and Slovakia were each able to successfully secure spectrum. T-Mobile US was awarded a further 7,000 2.5 GHz licenses at the FCC Auction 108 for which it paid a total of around USD 0.3 billion (EUR 0.3 billion). This is in addition to the 199 mobile licenses in mid-band spectrum from 3,450 to 3,550 MHz that were awarded to T-Mobile US in January 2022 for a purchase price of USD 2.9 billion (EUR 2.6 billion) at the FCC Auction 110. On August 8, 2022, T-Mobile US reached agreements with Channel 51 License and LB License on the acquisition of licenses in the 600 MHz spectrum for an aggregate purchase price of USD 3.5 billion (EUR 3.4 billion). The transactions are expected to be completed between mid and late 2023. With these spectrum acquisitions we can now forge ahead with the rapid build-out of our network infrastructure and bring more services, including 5G, to our customers.

For further information on spectrum awards, please refer to the section "The economic environment" in the combined management report.

Network build-out in Germany. We continued to build out our network infrastructure in Germany throughout the reporting year. At the end of 2022, our 5G network covered 94.8 % of the population. More than 80,000 antennas at around 24,000 sites are transmitting 5G. In around 620 cities, 5G is available in the powerful 3.6 GHz band on some 7,700 antennas at 2,600 sites. In addition, we began using the 700 MHz spectrum for 5G in June 2022, with over 8,800 antennas transmitting on this frequency in Germany. The resulting improvements in mobile coverage mainly benefit rural areas.

In the fixed network, the fiber-optic build-out took center stage. Since the start of 2022, we have rolled out fiber-optic lines (FTTH) to around 2.0 million more households/companies. A total of around 5.4 million households/companies thus had the option of a direct connection to our fiber-optic network as of the end of 2022. In the reporting year, we announced further plans to roll out FTTH in Bavaria and Baden-Württemberg and other parts of the country. We are set to maintain our rapid FTTH build-out pace over the coming two years by building out on our own, but also through partnerships, with the addition of up to 3 million households/companies per year. Our goal is to roll out fiber-optic lines to more than 10 million households/companies by the end of 2024.

Network build-out in the United States. T-Mobile US' 5G network covered large swaths of the United States as of the end of 2022. Our U.S. subsidiary now reaches 325 million people or 98 % of the U.S. population via the 600 MHz band and 263 million people with Ultra Capacity 5G in the 2.5 GHz band and millimeter-wave spectrum, and, beginning in December 2022, T-Mobile US started deploying an additional new layer of 1,900 MHz Ultra Capacity 5G spectrum to deliver greater speed and performance. As planned, T-Mobile US completed the decommissioning of its 3G CDMA network on June 30, 2022 and of former Sprint's 4G LTE network in the third quarter of 2022, respectively.

Leveraging its extensive 5G network, in the reporting year T-Mobile US additionally hooked up California, Colorado, Iowa, Kansas, Missouri, Oklahoma, Illinois, Michigan, Wisconsin, along with six further states in the Northeastern United States, to its high-speed internet service. By the end of 2022, a total of more than 50 million households across the United States were eligible for T-Mobile US' 5G high-speed internet.



Network build-out in Europe. In the countries of our Europe segment, too, we continued to press ahead with the network build-out in the reporting year. As of the end of 2022, our national companies covered 47.4 % of the population in our European footprint with 5G. In Greece, Montenegro, North Macedonia, Austria, and Croatia, as much as 50 to 92 % of the population already enjoy the benefits of 5G – keeping in mind that Makedonski Telekom only launched its first commercial 5G network in North Macedonia in February 2022. This means we can offer our customers 5G in almost all the countries of our European footprint. As of June 30, 2022, Magyar Telekom in Hungary shut down its 3G network to reform the released spectrum for the better performing 4G and 5G services.

We also made good progress with the build-out of our fixed network in 2022. Since the start of 2022, we have rolled out fiber-optic lines (FTTH) to around 1.1 million more households/companies in our Europe segment. A total of 32.0 % or around 8.1 million households/companies thus had the option of a direct connection to our fiber-optic network as of the end of 2022. In the reporting year we announced further plans to roll out more FTTH in countries such as Austria and Croatia. By 2024, we are set to increase fiber-optic coverage in our Europe operating segment to 40 %, or by more than 3 million additional households/companies.


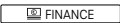
Corporate responsibility

Sustainability Day 2022.   At the Group's first-ever Sustainability Day on October 12, 2022, we highlighted our targets and measures that we will implement on our journey to becoming a sustainable telecommunications company. With sustainability as a top priority for Deutsche Telekom, each member of the Board of Management threw light on the subject from their own particular perspective. Sustainability is firmly anchored in both our Group strategy and the remuneration system for Board of Management members and other managers. Among other steps, we want to double our energy efficiency by 2024 and further decouple energy consumption from ever-rising online data volumes. The Group's goal is to achieve climate neutrality for its own business operations (Scope 1–2) by 2025, and along its entire value chain (Scope 3) by 2040. This means an end to new orders of combustion engine vehicles in Germany, which is a first step in converting our entire fleet to electric vehicles. Additionally, from 2025 all devices marketed by Deutsche Telekom will be sold only in sustainable packaging. This is already the case with our new branded products.

For further information on the Sustainability Day, please refer to the topic special on our [website](#).

GreenTech Festival.   "Rethink. Reuse. Repeat." was the motto at the world's largest sustainability festival, held in Berlin from June 22 to 24, 2022, where we showcased how we combine ecological sustainability and smart concepts. Designed around a holistic approach to sustainability, our trade fair booth presented products such as the refurbished phone for consumers and business customers. Buying discarded smartphones at a fair price, refurbishing them, and recycling the components is in line with our vision of a circular economy.



For further information, please refer to our [media report](#).

Corporate digital responsibility.   Since 2017, Deutsche Telekom has been taking a close look at the topic of responsible digitalization from different perspectives. In early June 2022, we presented our newly drafted definition of digital responsibility: Corporate Digital Responsibility@Deutsche Telekom offers guidance on how to actively deal with the various impacts of digitalization and tackle the challenges they pose.

For further information, please refer to our [media report](#).

For further information on our corporate responsibility activities, please refer to the section "[Combined non-financial statement](#)" in the combined management report.

Employees

Collective agreements.   A total of 90 collective agreements were concluded with the trade unions in the reporting year for the Group entities in Germany covered by collective agreements. The “big” collective bargaining round for nine entities was successfully concluded in May 2022, with salary increases negotiated for a total of 55,000 employees. The agreements mainly include a two-phase salary increase for employees covered by collective agreements of between 2.7 and 3.1% in 2022, and by a further 2.1% in 2023. Furthermore, one-time payments were additionally agreed for the lower and middle pay groups to cushion the effects of inflation.

For further information on our HR activities, please refer to the section “[Employees](#)” in the combined management report.

Innovations

6G NeXt research consortium. In October 2022, we took over the lead for the 6G NeXt (Native Extensions for XR Technologies) research project, part of the “6G industry projects for research into integrated systems and sub-technologies for 6th generation mobile communications” program funded by Germany’s Federal Ministry of Education and Research. Under the project, nine partners from industry and science are working together to develop infrastructure for a high-speed software layer.

For further information, please refer to our [media report](#).

World exhibition of digitalization: Digital X 2022. On September 13 and 14, 2022, the Digital X exhibition took place in Cologne. Together with more than 300 partners, over 200 brand houses, and around 60 start-ups, Europe’s leading digitalization initiative presented trends and technical innovations covering topics from 5G, IoT, and autonomous driving, to the metaverse and robotics. Around 70,000 visitors experienced the megatrends around mobility, security, new work, urbanization, and sustainability live and up close on dedicated routes through Cologne.

For further information on Digital X, please refer to the topic special on our [website](#).

Hannover Messe 2022. We have transformed Hannover Messe into a 5G innovation campus. The trade fair, which took place this year from May 30 to June 2, offers a private campus network available exclusively to the trade fair company and exhibitors for their applications, while visitors to Hannover Messe can use the public 5G network on the grounds. The campus network is a 5G testing ground in which technology leaders from different sectors can operate and showcase industry solutions, such as autonomous forklift trucks, live for visitors.



For further information, please refer to our [media report](#).

Mobile World Congress (MWC) 2022. At MWC in Barcelona from February 28 to March 3, 2022, we presented innovations and solutions for digital living, sustainable action, and social cohesion. The central theme was “Connecting Meaningful Technology.” The focus was on technologies that connect people with each other and make life and work easier for them: with self-parking cars (in cooperation with BMW and Valeo), mobile TV productions (together with RTL in the 5G standalone network), and borderless connections for the Internet of Things (for example, T IoT, the solution presented together with T-Mobile US).

For further information, please refer to our [media report](#).



For further information on our innovations, please refer to the section “[Technology and innovation](#)” in the combined management report.

Cooperations, partnerships, and major deals

Europe-wide fiber-optic cooperations.   To make fiber-optic lines available to households and commercial units in Europe, we rely on fiber-optic cooperations for shared use of networks as a key cornerstone of our strategy. In June 2022, we announced a long-term cooperation with **Glasfaser Ruhr** in Germany. The common goal is to bring full fiber-optic coverage to Bochum, with over 134,000 direct FTTH lines to be laid by 2032. An FTTH product agreement was signed with **Vodafone** in June 2022. This strategic partnership, on the basis of open access, safeguards the utilization of our networks and accelerates the fiber-optic build-out in Germany. An FTTH product agreement was signed with **1&1** in February 2022, which enables 1&1 to offer fiber-optic services over our network. In 2022, we also reached and signed an agreement with the regional telecommunications provider **wilhelm.tel**, which primarily operates in Hamburg, on the general conditions for a long-term cooperation based on open access. We also cooperate with **cities and municipal utility companies**: For example, in early December 2022 we signed a cooperation agreement with the city of Sindelfingen on comprehensive fiber-optic coverage. The common goal is to roll out FTTH lines to all buildings in the metropolitan area by 2030. In June 2022, we presented the details of our cooperation in Bietigheim-Bissingen, which aims to bring fiber-optic lines to 90% of all households by 2030.

Our European subsidiaries are also engaging in collaborations to drive forward the fiber-optic build-out. In August 2022, Magenta Telekom agreed a strategic partnership with French investor **Meridiam** for the fiber-optic build-out in Austria. The goal is to roll out over 650,000 new FTTH lines, predominantly in rural areas, by 2030. In the Czech Republic, T-Mobile Czech Republic and **Vodafone Czech Republic** agreed in March 2022 to build out almost one million new fiber-optic lines together. The agreement also includes mutual network access to part of the existing infrastructure in a number of cities, including Prague and Brno.

Major deals for T-Systems. In August 2022, T-Systems signed a deal to migrate **MAN Energy Solutions'** entire IT infrastructure to the cloud, including its SAP system and all further applications. This migration to the public and private clouds will create a flexible and scalable IT organization for more than 100 locations internationally. In September 2022 it was announced that T-Systems will transfer **Continental AG's** over 450 SAP systems, thus making it one of Germany's largest SAP system landscapes, to the private cloud in Frankfurt/Main, where the IT service provider will continue to deliver support services for the SAP system until at least the end of 2027. The contract covers all services related to operation. In late June 2022, it was announced that T-Systems will provide and manage digital identities for members of the **Barmer** health insurance provider via ID services. T-Systems delivers this solution using the Verimi ID Wallet, which has already been approved as a secure digital procedure by the Federal Office for Information Security. T-Systems will operate the service in its Open Sovereign Cloud in accordance with gematik standards. The **World Health Organization (WHO)** is making it easier for member states to introduce digital vaccination certificates in the future. To this end, it is setting up a gateway that enables QR codes on electronic vaccination certificates to be checked across national borders. T-Systems has been selected as the industry partner to develop the verification service. After Covid-19, this service is also to be used as a standard procedure for other vaccinations, such as polio or yellow fever.



Partnership with SpaceX in the United States.   In August 2022, T-Mobile US and SpaceX announced joint plans that will enable our U.S. subsidiary to bring cell phone connectivity to its customers in parts of the United States previously without cell tower coverage using SpaceX's Starlink satellites. To provide this service, the two companies will create a new network, broadcast from Starlink's satellites using T-Mobile US' mid-band spectrum nationwide. With this technology, T-Mobile US is planning to give customers text message coverage, including MMS and participating messaging apps, practically everywhere in the United States, Puerto Rico, and territorial waters. As a next step, the companies plan to pursue the addition of voice and data coverage.

Partnerships with Google expanded. In partnership with Google, we plan to define a joint roadmap for the telecommunications industry bringing the power of the cloud closer to mobile and connected devices. Telecommunications service providers are reimagining their network infrastructures and creating new cloud-based models for network deployment. Partnering with companies like Google Cloud enables us to create more secure, reliable, and scalable networks. As early as in January 2022, we announced an expanded partnership with Google in three key areas: enhanced mobile messaging services for businesses through Telekom RCS Business Messaging powered by Google and Jibe Cloud; the new Sovereign Cloud for Germany will be available to German cloud customers ahead of schedule; and MagentaTV One powered by Android TV OS is now available in Germany and expanding to additional European markets.

T-Mobile US and DISH extend partnership. On June 21, 2022, our U.S. subsidiary and the mobile provider DISH signed an amendment to the 2020 Master Network Service Agreement. The 2020 Master Agreement gives customers of DISH, including prepaid customers, access to T-Mobile US' national 5G network. Among other changes, the amendment incorporates modified pricing and enhanced roaming solutions for DISH's 5G customers.

Partnership with Zoom strengthened. At the end of February 2022, we announced the strengthening of our partnership with Zoom Video Communications. The solution Zoom X powered by Telekom developed jointly for the German market, combines Zoom's video communication platform with our network. The new platform is aimed at business, corporate, and public sector customers. In addition to a secure network, we are responsible for contracting, order processing, nationwide support, and billing services. Zoom X has been available exclusively from us since mid-2022.

Products, rate plans, and services

Market launch of the T Phone.   On October 5, 2022, we launched the brand-new 5G-capable T Phone in nine European countries. The T Phone was developed in collaboration with Google and builds on the successful REVVL line available in the United States. Our goal is to open up access for all to fast connected technology by offering low-cost handsets and additional rate plan bundles. The T Phone has been available in Germany since the start of 2023.

For further information, please refer to our [media report](#).

New MagentaTV plan. We launched our new MegaStream TV plan on October 5, 2022. For EUR 26 a month, subscribers can enjoy content from Disney+, Netflix Standard, and RTL+ Premium. The plan also includes more than 100 HD TV channels, access to the MagentaTV Megathek media library, 50 hours of cloud storage, and much more besides. MegaStream can be used on five devices and up to three users can stream content simultaneously.

For further information, please refer to our [media report](#).

IT made easy for small U.S. businesses. T-Mobile US is joining forces with Apple to introduce a plan especially for small businesses. Available since July 21, 2022, Business Unlimited Ultimate+ for iPhone is the first and only wireless plan that makes IT easy for small businesses, pairing Apple Business Essentials with AppleCare+ for Business Essentials.

New smartphone from Nothing exclusive to Deutsche Telekom. The innovative Phone (1) by British manufacturer Nothing hit the market on July 21, 2022 with Deutsche Telekom being the sole network provider in Germany to offer the device. The Phone (1) is impressive with its innovative design and use of the latest technology, and comes delivered with the new Nothing OS based on Android.

For further information, please refer to our [media report](#).

New MagentaMobil rate plans. We launched a new rate plan for mobile customers starting July 1, 2022, offering more data volume and extra price advantages thanks to additional SIM cards: the MagentaMobil PlusKarte. The main card determines how much data volume each additional card gets. The second card generally costs only EUR 19.95 per month and the monthly price for each card on top of that is EUR 9.95. What's new is that all MagentaMobil PlusKarte SIM cards added to the rate plan are automatically given the same data volume as the main card.

For further information, please refer to our [media report](#).

Voice over 5G for Portland and Salt Lake City. T-Mobile US launched Voice over 5G (Voice over New Radio, VoNR) in the two U.S. cities in June 2022. VoNR services are routed via a standalone 5G network not anchored to LTE, which means it will be capable of delivering a new level of performance with fast speeds, real-time responsiveness, and full connectivity. Devices can now stay always connected to 5G, supporting future applications that require a seamless 5G connection.

Extension of dial around and preselection. Consumers in Germany can continue to make use of dial around access codes and carrier preselect services offering lower-cost call rates. Telekom Deutschland and VATM, an association representing telecommunications and multimedia companies active in the German market, have agreed to continue enabling these services through the end of 2024. The partners have extended the existing voluntary agreement for a further two years.

New IoT solution. In partnership with T-Mobile US, we presented T IoT in the first quarter of 2022. We have combined our network expertise with that of our U.S. subsidiary to offer customers seamless connectivity in over 380 networks in 180 countries and regions worldwide. On top of this, IoT applications are easy to manage, since T IoT provides direct access to major platforms, services, and to customer support.

For further information, please refer to our [media report](#).

Awards

In the reporting year we once again received numerous accolades for our networks, our products and service, our HR work and CR reporting, and our innovations. The illustration below shows a selection of the awards received.

<p>Brand Finance Global 500 Brand Finance lists Deutsche Telekom as the most valuable telecommunications brand in Europe. With a brand value of USD 60.2 billion, Deutsche Telekom is one of the world's top 20 brands.</p> <p>Corporate Equality Index 2022 T-Mobile US scores 100 % in the Human Rights Campaign Corporate Equality Index, making it one of the best employers for members of the LGBTQ+ community.</p> <p>Kurier seal of quality "Sustainable Company 2022" For the second time in a row, Magenta Telekom in Austria wins the award for extraordinary activities in the areas of climate protection and social and economic responsibility.</p> <p>BAGSO Digital Pact for Old Age BAGSO, the German Association of Senior Citizens' Organizations, singles out Deutsche Telekom's Digital Home Service as an innovative service that provides exemplary support to older citizens on their path to digitalization.</p> <p>TOP employer in 2022 T-Mobile Czech Republic takes the #1 spot in the national study to find the telecommunications sector's best employer.</p> <p>Top Supplier Retail Award 2022 For the fourth time in succession, T-Systems was named Top Supplier Retail by EHI Retail Institute in the Best Enterprise Solution category. The prize is awarded for an innovative mixed reality solution.</p>	<p>Connect hotline test of mobile providers 2022 Deutsche Telekom and Magenta Telekom once again win the hotline test of mobile providers. We are the only network operator in Germany and Austria to receive an overall verdict of "very good."</p> <p>Connect B2B customer barometer 2022 Connect magazine confirms: Magenta Telekom has the happiest business customers. Our Austrian subsidiary takes the #1 spot in the B2B customer barometer.</p> <p>Connect readers' choice 2022 Connect readers vote Deutsche Telekom #1 in four categories: Mobile Network Operator, Network Operator Prepaid Cards, Fixed-Network Operator, and IPTV Services.</p> <p>European Climate Leaders 2022 The Financial Times includes our Croatian subsidiary Hrvatski Telekom on its list of climate leaders in Europe.</p> <p>Chip fixed-network comparative test 2022 Chip magazine rates Deutsche Telekom's fixed network Germany's best based on tests of download/upload speeds, latency, and more.</p> <p>Top100 Most Valuable Global Brands The BrandZ study once again names Deutsche Telekom as the second most valuable German brand worldwide with a value of USD 64.6 billion.</p>	<p>Connect fixed-network test 2022 Deutsche Telekom wins connect magazine's fixed-network test for the seventh time with an overall verdict of "very good." Magenta Telekom wins in Austria for its "outstanding" internet services.</p> <p>Ookla® Speedtest & Umlaut Audit Report Tests by the two market analysts show that T-Mobile US has the U.S.'s fastest and most reliable 5G mobile network with the most stable speeds and highest availability.</p> <p>2022 Inclusion Awards Disability:IN recognizes T-Mobile US as Employer of the Year for its exemplary policies, strategies, and initiatives to promote inclusiveness for people with disabilities in the workplace, marketplace, and supply chain.</p> <p>AWS Security Competency Partner T-Systems achieves an Identity and Access management distinction in the Amazon Web Services (AWS) Security Competency.</p> <p>J.D. Power Customer Care Study 2022 T-Mobile US takes the top spot in customer care among mobile network operators in the United States for the 10th consecutive time in the study by the analysts at J.D. Power.</p> <p>Rated "best in test" by Ookla® Speedtest & Umlaut Our subsidiary Cosmote's mobile network is once again rated Greece's fastest. Cosmote's mobile internet and voice telephony is certified as "best in test" for the eighth time in succession.</p>	<p>Ookla® Speedtest Award™ Hrvatski Telekom wins for the fourth time in succession and has Croatia's fastest mobile network with the best Speed Score™.</p> <p>Imtest network test 2022 Deutsche Telekom's mobile network is the best in Germany according to consumer magazine Imtest. Ours was the only network on test to be rated "very good."</p> <p>Germany's best training provider 2022 Capital magazine awards 5 stars to Deutsche Telekom as a leading training provider for trainee courses and dual study programs.</p> <p>Tier III certification T-Systems receives Uptime Institute's Tier III Certification of Design Documents for the data center in Bliere.</p> <p>Connect mobile-network test 2022 T-Systems achieves an Identity and Access management distinction in the Amazon Web Services (AWS) Security Competency.</p> <p>BBGM Practice Benchmark Award 2022 Federal Occupational Health Association (Bundesverband Betriebliches Gesundheitsmanagement – BBGM) recognizes T-Systems for its #ausruhezeichen campaign.</p> <p>HR Awards 2022 Our Greek subsidiary OTE wins the award in five categories, including Learning & Development, Best Change Management Strategy/Initiative, and Most Effective Talent Retention Initiatives.</p>
Q1	Q2	Q3	Q4
<p>Chip mobile network test 2022 The Chip magazine test of Austria's mobile networks rates Magenta Telekom best in test in the categories Internet, Telephony, and 5G, once again with a top rating of "very good."</p> <p>Stiftung Warentest mobile network test Deutsche Telekom is rated best in test. The network leads the field both in cities and in rural areas and performs well with LTE and 5G alike. The results show faster speeds, lower latency, and better voice quality.</p>	<p>Umlaut's best in test The independent consulting company rates Hrvatski Telekom's Croatian mobile and fixed networks as best in test.</p> <p>Leading Employer 2022 The award puts Magenta Telekom in the top 1 % of employers in Austria.</p> <p>Microsoft Azure Expert Managed Service Provider (MSP) T-Systems is a recognized Microsoft Azure Expert MSP. Key criteria for the recognition are global experience, high-quality customer solutions, security, reliable operation, infrastructure, and employees.</p> <p>Employer Branding Excellence Awards 2022 The Employer Branding Summit in Poland awards first prize for the best employer branding strategy to T-Mobile Polska.</p> <p>California Diversity Award 2022 T-Mobile US is recognized for its support of underserved diverse communities with the California Diversity Award 2022.</p>	<p>Investors' Darling 2022 Manager Magazin votes Deutsche Telekom best for financial communication with the #1 spot in its overall ranking of DAX, MDAX, and SDAX companies.</p> <p>AV-Test certificate Following security testing by the independent IT experts at AV-Test, the Magenta Zuhause app and the Magenta SmartHome solution are awarded the Tested Smart Home Product certificate.</p> <p>Computer Bild "Der Goldene Computer" Readers of Computer Bild magazine rate Deutsche Telekom's 5G network #1 among the network operators in the 2022 readers' choice awards.</p> <p>PC Magazin's broadband benchmark test 2022 PC Magazin tested the speed, data rates, latency, and stability of internet access. The trade magazine ranks Magenta Telekom best in class in Austria for the fourth time in succession.</p> <p>Connect mobile shop test 2022 Connect magazine has tested the quality in shops across the DACH (Germany, Austria, Switzerland) region and rates Deutsche Telekom best in test with an overall verdict of "very good." Six shops receive an individual verdict of "outstanding."</p> <p>Top 25 IT service providers AutomotiveIT magazine ranks T-Systems Germany's largest IT service provider in the automotive industry for the 13th time in a row.</p> <p>Health & Safety Awards 2022 OTE in Greece wins the Health & Safety Award in three categories: Health & Wellness Initiatives, Telecommunications, and Action Plan/Behavioral Risk Initiative.</p>	<p>Chip mobile network test 2023 Deutsche Telekom wins overall for the 13th time in succession and ranks #1 in all four test categories with a verdict of "very good."</p> <p>PwC Most Attractive Employer 2022 PwC ranks Magyar Telekom Hungary's most attractive employer in the telecommunications and media sector.</p> <p>HR Excellence Award 2022 Deutsche Telekom wins the prize several times over, e.g., for its initiatives DiscoverMINT and WeGrow in the categories Training and Performance Management.</p> <p>Best Employer Brand Awards Adria 2022 Our Croatian subsidiary Hrvatski Telekom receives the award in the categories Telecom Sector, Student Program, Event, and CSR Activity. It is also awarded the Grand Prix Adria and the Grand Prix Croatia.</p> <p>Leading Employer 2023 The award puts Deutsche Telekom in the top 1 % of employers in Germany.</p> <p>Ookla® Speedtest Award™ 2022 Magenta Telekom wins for the second time in succession, and has Austria's fastest fixed-network internet with the best Speed Score™.</p>

Further information on awards can be found using the following links:

[Brand Finance Global 500](#)

[Corporate Equality Index 2022](#)

[Kurier seal of quality "Sustainable Company 2022" \(German only\)](#)

[BAGSO Digital Pact for Old Age \(German only\)](#)

[TOP Employer 2022 \(Czech only\)](#)

[Top Supplier Retail Award 2022 \(German only\)](#)

[Chip mobile network test 2022 \(German only\)](#)

[Stiftung Warentest mobile network test \(German only\)](#)

[Connect hotline test of mobile providers 2022 GER and AT \(German only\)](#)

[Connect B2B customer barometer 2022 \(German only\)](#)

[Connect readers' choice 2022](#)

[European Climate Leaders 2022](#)

[Chip fixed-network comparative test 2022 \(German only\)](#)

[Top100 Most Valuable Global Brands](#)

[Umlaut „Best in test“](#)

[Leading Employer 2022 \(German only\)](#)

[Microsoft Azure Expert Managed Service Provider](#)

[Employer Branding Excellence Awards 2022 \(Polish only\)](#)

[California Diversity Award 2022](#)

[Connect fixed-network test 2022 GER and AT \(German only\)](#)

[Ookla® Speedtest and Umlaut Audit Report](#)

[2022 Inclusion Awards](#)

[AWS Security Competency Partner](#)

[J.D. Power Customer Care Study 2022](#)

[Ookla® Speedtest and Umlaut's "Best in test"](#)

[Investors' Darling 2022 \(German only\)](#)

[AV-Test certificate](#)

[Computer Bild "Der Goldene Computer" \(German only\)](#)

[PC Magazin's broadband benchmark test 2022 \(German only\)](#)

[Connect mobile shop test 2022 \(German only\)](#)

[Top 25 IT service providers](#)

[Health & Safety Awards 2022 \(Greek only\)](#)

[Ookla® Speedtest Award™](#)

[Imtest network test 2022 \(German only\)](#)

[Germany's best training provider 2022 \(German only\)](#)

[Tier III certification](#)

[Connect mobile network test 2023 GER and AT \(German only\)](#)

[BBGM Practice Benchmark Award 2022 \(German only\)](#)

[HR Awards 2022 \(Greek only\)](#)

[Chip Mobilfunk-Netztest 2023 \(German only\)](#)

[PwC Most Attractive Employer 2022 \(Hungarian only\)](#)

[HR Excellence Award 2022 \(German only\)](#)

[Best Employer Brand Awards Adria 2022](#)

[Leading Employer 2023 \(German only\)](#)

[Ookla® Speedtest Award™ 2022](#)

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Introductory remarks



This report combines the management report of the Deutsche Telekom Group, comprising Deutsche Telekom AG and its consolidated subsidiaries, and the management report of Deutsche Telekom AG.

The structure and content of the report follow the internal **management approach** of Deutsche Telekom AG. Since the third quarter of 2022, the GD Towers business entity, which operates the cell tower business in Germany and Austria, assigned to the Group Development operating segment, has been recognized in the consolidated financial statements as a discontinued operation. However, in the combined management report we continue to include the contributions by GD Towers in the results of operations according to the management approach.

For information on the agreement with DigitalBridge and Brookfield on GD Towers, please refer to the section "[Group organization](#)."

The recommendations of the German Corporate Governance Code (GCGC) in the amended version published in the Federal Gazette on June 27, 2022 require information on the **internal control system** and the **risk and opportunity management system** that go beyond the legal requirements for the management report and are therefore excluded from the substantive audit of the management report by the independent auditor (information extraneous to the management report). This information is included in paragraphs clearly separated from the information that has to be audited, and is designated with a footnote.

For further information, please refer to the section "[Governance and other disclosures](#)."

In the reporting on our corporate responsibility activities, we also explain the ways in which we contribute to achieving the UN Sustainability Development Goals (SDGs), which have been set as part of the 2030 Agenda. To clearly highlight the contribution our products, services, and activities make towards the individual sustainability development goals and our value chain, we have marked the relevant passages with the respective **SDG** and **value contribution symbols** (illustrative example:  ). This is also information extraneous to the management report and is excluded from the auditor's substantive audit.

For further information on the SDGs and our value contributions, please refer to the section "[Combined non-financial statement](#)."

In addition, our Annual Report (PDF and online) includes **references** and **links** to websites with additional information not contained in the Annual Report. These references and links are purely of a supplementary nature and are only intended to simplify access to this information. Please note that this information is not part of the Annual Report and is therefore also excluded from the auditor's substantive audit.

Group organization


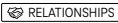
Business activities

With 245 million mobile customers, 25 million fixed-network lines, and 21 million broadband customers, we are one of the leading integrated telecommunications companies worldwide. We provide fixed-network/broadband, mobile, internet, and internet-based TV products and services for consumers, and information and communication technology (ICT) solutions for business and corporate customers. We have an international focus and are represented in more than 50 countries. With 206,759 employees worldwide (as of December 31, 2022), we generated revenue of EUR 114.4 billion in the 2022 financial year. 77.9 % of the Group's net revenue is generated outside of Germany.


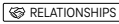

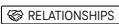

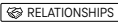
Our ambition is to become the Leading Digital Telco. Only if Deutsche Telekom is digitalized in all areas, can the success of the last few years continue. With our footprint in Europe and the United States, we are ideally positioned for this. Our core business, i.e., the operation and sale of networks and lines, remains the basis.

For further information on our Leading Digital Telco vision, please refer to the section "[Group strategy](#)."

Our mobile communications business offers mobile voice and data services to consumers and business customers; in addition, we sell mobile devices and other hardware. We also sell mobile services to resellers and to companies that buy network services and market them to third parties (mobile virtual network operators, or MVNOs). Our fixed-network business includes all voice and data communications activities based on fixed-network and broadband technology. This includes the sale of terminal equipment and other hardware, as well as the sale of services to resellers. Drawing on a global infrastructure of data centers and networks, we operate ICT systems for multinational corporations and public-sector institutions.

Our responsible corporate governance and business success are based on our shared corporate values and our **Guiding Principles**.  

For further information about our Guiding Principles, please refer to the section “[Employees](#).”

Our **identity** defines our corporate purpose and describes what we at Deutsche Telekom stand for: We want to be a sustainably growing company that not only delights its customers, creates value for its investors, and in which employees enjoy their work, but also one that is environmentally friendly and fosters a democratic and inclusive society. Our network is fast, reliable, secure, and should be easily accessible for everyone. In addition, it has been operated throughout the Group with electricity from 100 % renewable sources since 2021.   But, we are more than just another company that provides society with infrastructure. We want to connect people and make their lives permanently easier and more enriched. With our No Hate Speech campaign, we are actively pushing for greater digital democracy.   This is our mission. We are a close and trusted companion to the customer; transparent, fair, and open to dialog. We identify innovative products at an early stage and develop them in collaboration with our partners. It is our contribution to social togetherness. Our identity reflects all of this. We want everyone to #TAKEPART as is summarized in one short purpose statement: We won't stop until everyone is connected.  

Segment structure

Our financial reporting aligns with our Group strategy and is divided into five operating segments plus the Group Headquarters & Group Services segment, each of which we describe in detail below.

Our **Germany** operating segment comprises all fixed-network and mobile business activities for consumers and business customers, including separate sales entities in Germany to allow a customer-centric sales approach. As a pioneer of digitalization, the segment offers its customers a tailored service and product portfolio that is designed to be innovative while at the same time secure and simple. Furthermore, the security business in Germany, Austria, Switzerland, Hungary, and Slovakia has been merged in this segment since the reporting year. Another focus is on the wholesale business to provide telecommunications services for carriers. The bundling of customer service activities places a further focus on customer satisfaction and quality assurance. Build-out of the mobile and fixed networks is managed by the Technology business unit in this segment.

Our **United States** operating segment combines all mobile activities in the U.S. market. T-Mobile US provides service, devices and accessories across our flagship brands. In addition, we sell devices to dealers and other third-party distributors for resale. The positive business development has been built on the back of the Un-carrier strategy, disrupting the wireless communications services industry. They provide wireless communications services through a variety of service plan options to U.S. domestic customers, including plans marketed to businesses. T-Mobile US also offers a wide selection of wireless devices, including smartphones, wearables, tablets, home broadband routers and other mobile communication devices that are manufactured by various suppliers. In addition to their wireless communications services, they offer High Speed Internet utilizing their nationwide 5G network. They also provide products that are complementary to our wireless communications services, including device protection and wireline communication services. In September 2022, T-Mobile US entered into an agreement for the sale of the Wireline Business.

Our **Europe** operating segment comprises all fixed-network and mobile operations of the national companies in Greece, Hungary, Poland, the Czech Republic, Croatia, Slovakia, Austria, North Macedonia, and Montenegro. In these countries, we are an integrated provider of telecommunications services. In Romania, we are focused on mobile activities since the sale of OTE's 54 % stake in Telekom Romania Communications in the prior year. Besides traditional B2C fixed-network and mobile business, most of our national companies also offer ICT solutions for business customers.

As a leading provider of IT services to businesses in German-speaking countries, our **Systems Solutions** operating segment offers a focused B2B product and solution portfolio under the T-Systems brand. With its horizontal offerings for advisory, cloud services, and digitalization solutions, T-Systems addresses the most attractive growth areas in the information technology market. Data sovereignty and security solutions are at the core of the product options, supplemented with strategic partnerships. Focused vertical offerings penetrate deep into the value chains of selected industries (automotive, healthcare, public sector, and transportation). We have been implementing a comprehensive transformation program since 2018, part of which has been to realign both our organization and our workflows, and make adjustments to our capacities. We now have four portfolio units: Cloud Services (Public Cloud, SAP AO, Managed Infrastructure Services & Private Cloud), Digital Solutions (including SAP SI), Security (in close cooperation with Deutsche Telekom Security), and Advisory (with Detecon as an integrated consulting provider). In addition, our Road User Services business unit offers road toll systems.

Our **Group Development** operating segment actively manages entities, subsidiaries, and equity investments to grow their value while giving them the entrepreneurial freedom they need to promote their continued strategic development. In this context, we sold our subsidiary T-Mobile Netherlands on March 31, 2022. Within the segment, the GD Towers business entity comprises the German and Austrian cell tower businesses. On July 13, 2022, we signed an agreement for the sale of 51.0 % of the shares in this entity. The transaction was consummated on February 1, 2023. The investment management group Deutsche Telekom Capital Partners; Comfort Charge, which is a provider of e-mobility charging infrastructure; and the Group functions of Mergers & Acquisitions and strategic Portfolio Management are also assigned to Group Development.

Group Headquarters & Group Services comprises all Group units that cannot be allocated directly to one of the operating segments, and also reports on our Board of Management department for Technology and Innovation. As the organization that sets the direction and provides impetus, it defines strategic aims for the Group, ensures they are met, and becomes directly involved in selected Group projects. Group Services provides services to the entire Group; in addition to typical services provided by Deutsche Telekom Services Europe, such as financial accounting, human resources services, and operational procurement, Group Services also includes placement services provided by our personnel service provider, Vivento. Vivento is in charge of securing external employment opportunities for employees, predominantly in the public sector. Further units are Group Supply Services (GSUS) for our real estate management and our strategic procurement, and Telekom MobilitySolutions, which is a full-service provider for fleet management and mobility services.

Our Technology and Innovation Board of Management department unites the cross-segment technology, innovation, IT, and security functions of our Germany, Europe, and Systems Solutions operating segments. These include Deutsche Telekom IT, which focuses on the Group's internal IT projects, and our central innovation unit, Product Innovation and Customer Experience (PIC), which works closely with our operating segments to drive topics such as digitalization, big data, software-defined networks, voicification, virtualization, and cloud services. Our Innovation Hub (IHUB) pools all of the expertise required for future innovation projects to ensure we stay flexible and innovative. In the Technology Delivery International (TDI) unit, we pool expertise to position ourselves as a strong partner to the technology units in our national companies and develop, produce, operate, and scale platforms and services across borders from a single source. TDI also harmonizes the planning, development, and operation of products, services, and platforms at the national companies in Europe, taking technological and commercial aspects into account. Strategy & Technology Innovation (S&TI) ensures efficient and customer-centric research and innovation with a focus on mobile and fixed-network communications. Group Security (GSC) is responsible for developing and transforming the Group-wide security strategy.

Changes to the segment and organizational structure in 2022

New limited partners admitted to infrastructure fund DIV II. In August and September 2022, Digital Transformation Capital Partners admitted new investors to the investment company Digital Infrastructure Vehicle II (DIV II). As a result, Deutsche Telekom's share in DIV II decreased from 66.67 % to 41.25 % and the entity was deconsolidated in the third quarter of 2022. Since the deconsolidation, the stake retained by the Group has been included in the consolidated financial statements as an associate using the equity method.

Sale of T-Mobile Netherlands. On September 6, 2021, Deutsche Telekom and Tele2 signed an agreement with WP/AP Telecom Holdings IV, a private equity consortium advised by Apax Partners and Warburg Pincus, on the sale of our subsidiary T-Mobile Netherlands. The transaction was consummated on March 31, 2022 after obtaining the necessary approvals from the authorities and satisfying the other closing conditions. The sale price is based on an enterprise value of EUR 5.1 billion. The cash proceeds – based on our shareholding of 75 % – amounted to EUR 3.6 billion. In financial terms, excluding the partial settlement of intragroup shareholder loans and other intragroup transactions, the transaction resulted in value added of EUR 4.0 billion. The gain on deconsolidation resulting from the sale amounted to EUR 0.9 billion. Until the transaction was closed, the entity had been assigned to the Group Development operating segment.

Increase of the stake in T-Mobile US. As announced, Deutsche Telekom used part of the cash proceeds from the sale of T-Mobile Netherlands to further increase its stake in T-Mobile US and, on April 12, 2022, acquired around 21.2 million shares in T-Mobile US from SoftBank for a purchase price of USD 2.4 billion (EUR 2.2 billion). To this end, Deutsche Telekom exercised a further portion of the stock options it had received from SoftBank in June 2020 to purchase shares in T-Mobile US. This gives a weighted average price of around USD 113 per T-Mobile US share. Upon its completion, the transaction increased Deutsche Telekom's stake in T-Mobile US by 1.7 percentage points.

Share buy-back program at T-Mobile US. On September 8, 2022, T-Mobile US announced that its Board of Directors has authorized a share buy-back program for up to USD 14.0 billion of the company's common stock through September 30, 2023. Repurchases are expected to be made from available cash on hand and proceeds of one or more debt issuances or other borrowings, based on the company's evaluation of market conditions and other factors. The specific timing, price, and size of repurchases will depend on prevailing stock prices, general economic and market conditions, and other considerations. By December 31, 2022, T-Mobile US had bought back approximately 21.4 million own shares with a total volume of USD 3.0 billion (EUR 3.0 billion) under this program.

Joint venture GlasfaserPlus with IFM. On November 5, 2021, Deutsche Telekom had announced that IFM Global Infrastructure Fund – advised by IFM Investors – would acquire a stake of 50 % in GlasfaserPlus, a fiber-optic build-out entity. The sale of a 50 % stake in GlasfaserPlus was consummated on February 28, 2022, after the EU Commission had approved the transaction on January 25, 2022 and the other closing conditions had been satisfied. The sale price came to EUR 0.9 billion, half of which was paid upon completion of the transaction and the other half of which will follow in stages upon achieving certain build-out milestones. The resulting joint venture is to build out an additional 4 million gigabit-capable FTTH lines in rural and development areas by 2028. Following the loss of control pursuant to the IFRSs as a result of the transaction, the GlasfaserPlus entities were deconsolidated as of February 28, 2022. The resulting gain on deconsolidation amounted to EUR 1.7 billion. Until the transaction was closed, the entities had been assigned to the Germany operating segment. The stakes in the joint venture are included in the consolidated financial statements under the Germany operating segment using the equity method.

Reassignment of the security business. Effective July 1, 2022, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment in order to maintain a consistent focus on implementing our Group strategy pillar “Lead in business productivity.” Prior-year comparatives in both of the segments affected concerning the development of operations, customer development, headcount development, and order entry were adjusted retrospectively.

(Expected) changes to the segment and organizational structure in 2023

Agreement with DigitalBridge and Brookfield on GD Towers. On July 13, 2022, Deutsche Telekom agreed to sell a 51.0 % stake in GD Towers, comprising its tower assets in Germany and Austria, assigned to the Group Development operating segment, to DigitalBridge and Brookfield. The preliminary sale price is based on an enterprise value of EUR 17.5 billion. The estimated cash proceeds from the transaction are expected to be EUR 10.7 billion. Deutsche Telekom will retain a 49.0 % stake, benefiting from future value upside at GD Towers. Assets and the directly associated liabilities are shown as “held for sale” in the consolidated statement of financial position. The transaction was consummated on February 1, 2023. All necessary regulatory approvals had been duly granted and all other closing conditions met. Deutsche Telekom has largely leased back the sold passive network infrastructure in Germany and Austria, enabling Telekom Deutschland and T-Mobile Austria to continue improving their network leadership.

For further information on the agreement with DigitalBridge and Brookfield on the Group’s cell tower business in Germany and Austria, and on the disclosure of GD Towers as a discontinued operation, please refer to the section “Changes in the composition of the Group and other transactions” in the consolidated financial statements.

Agreement with Cogent to sell the U.S. wireline business. On September 6, 2022, T-Mobile US reached an agreement with Cogent Infrastructure (Cogent) on the sale of T-Mobile US’ fiber-optic-based wireline business. Under the agreement, Cogent will take over all shares in the entity that holds all of the assets and liabilities related to the former Sprint’s fiber-optic-based wireline network. The sale price is USD 1 and is subject to customary adjustments laid down in the purchase agreement. In addition, upon completion of the transaction, T-Mobile US undertakes to enter into a separate agreement on IP transit services, according to which T-Mobile US will pay a total of USD 700 million to Cogent. The transaction is subject to regulatory approval as well as other closing conditions. The assets and liabilities of the wireline business have been reported in the consolidated statement of financial position as “held for sale” since September 30, 2022. The transaction is expected to be completed by mid-2023.

Group strategy

Our vision: Leading Digital Telco

In 2021, we adjusted our Group strategy after seven years and set ourselves a new ambition: **Leading Digital Telco**. And we remain very successful on the market: Deutsche Telekom is by far the leading telecommunications company in Europe in terms of market capitalization, revenue, and earnings (adjusted EBITDA AL) (as of December 31, 2022). Our Group continues to grow, as confirmed by our most important financial performance indicators. We raised our full-year guidance for 2022 as many as three times in the course of the year (in terms of adjusted EBITDA AL, free cash flow AL (before spectrum), and adjusted earnings per share). Understanding of the strategy and support for it among the workforce remain at a record high level of 81 % (pulse survey in November 2022) and in fact increased by another 2 percentage points compared with the prior year. However, few if any industries face change on the same scale as the telecommunications industry. And digitalization is the central catalyst for the key trends that have a long-term impact on our ecosystem:

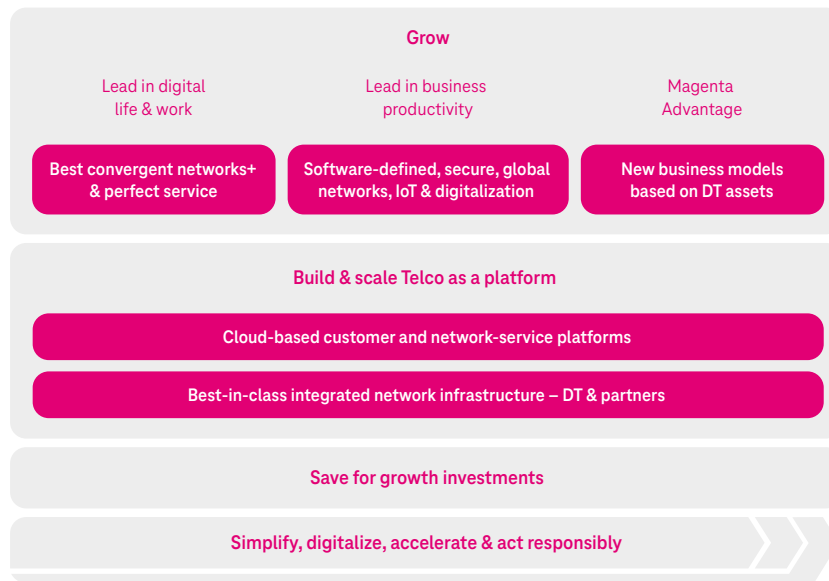
- Data traffic continues to grow worldwide, driven by the quickening pace of digitalization in many aspects of personal and professional life. Correspondingly, demand for high-speed broadband – over the fixed and mobile networks – is also on the rise. According to forecasts by Ericsson, average data use worldwide per smartphone will increase from 9.1 GB per month in 2020 to more than 19 GB per month in 2023, while the number of fixed wireless access connections to the internet will increase globally from 72 million in 2020 to more than 131 million in 2023.
- Digitalization is shaping demand among consumers and business customers alike: Consumers want their product and service experiences to be fully customized to their personal needs, context-sensitive, and to work seamlessly. For business customers, requirements are driven by the new way of working: digital, hybrid, and app-centric. They expect secure connectivity as well as flexible service and product models that integrate easily and securely into workflows – and all from a single source and “as a service.”
- We are seeing companies from other industries pushing onto the market with lean, software-defined production models. Providers such as Google, Microsoft, and Amazon Web Services are expanding into the global connectivity field and increasingly providing network functions in their cloud environments. More and more, they are positioning themselves as vendors of connectivity services not only to telcos, but also as partners for business customers.
- CPaaS (communications platform as a service) companies offer user-friendly communications services on their own communications platform – without having their own networks. They provide developers and business customers with standard telecommunications services (calls, text messages) and new network functions through standardized application programming interfaces (APIs). Network connectivity for this is guaranteed through wholesale agreements with telecommunications companies. This shifts access to end customers from telcos to the CPaaS companies.
- Alternative network providers and technologies (e.g., satellite connectivity) are gaining in relevance and can be an opportunity to extend terrestrial telecommunications networks (e.g., network coverage in sparsely populated areas). But continued fragmentation in the connectivity market also brings ever-greater complexity. Especially among business customers with international footprints, demand is growing for a one-stop shop offering global network orchestration and a network customized to individual business cases.
- At the same time, the parallel build-out of broadband and mobile infrastructure (optical fiber, 5G) calls for telecommunications companies to commit to high investments and find innovative approaches to implementation, for instance by using third-party infrastructure or partnering with investors.
- Sustained global population growth, and growing resource consumption are putting a strain on available resources. It is thus imperative that we find a sustainable, more ecological way of doing business and act with a greater focus on social responsibility. At the same time, geopolitical tensions in consideration of the globalized world economy and the increasing use of digital technologies are creating supply chain bottlenecks and putting guaranteed access to network components and energy supply at risk.
- The acquisition of new skills and expertise is another vital aspect of digital transformation. The challenge here lies in quickly building up a critical mass of digital talent. Flexible work models, global recruitment processes, and responsible corporate action are gaining relevance.

In the Western tech-sphere, we are well positioned to implement our **Leading Digital Telco** strategy. No other telecommunications company has a comparable footprint with its own networks on both sides of the Atlantic: in Europe and the United States. We are a global enterprise with a considerable presence in Europe, European roots and values, and an extremely strong business in the United States. Our goal is clear: we want to align ourselves long-term with the needs of our customers and transform ourselves into a digital company to hold our own against new competitors and continue our growth course. Our future growth is based on three pillars: “Lead in digital life & work,” “Lead in business productivity,” and “Magenta Advantage.” Building and operating the best convergent networks remains at the core of our strategy and is an important driver for our growth areas. We want to “build and scale the telco as a platform” and we are investing both in our network infrastructure and in establishing cloud-based service platforms. We leverage our international footprint to generate synergies across the Group and to carry weight alongside the global tech giants.

The two areas of operation, “Save for growth investments” and “Simplify, digitalize, accelerate & act responsibly,” support our growth target and provide the guidelines for our actions. Our Group strategy does not aim to micromanage all local units, but to provide a strategic framework and to utilize local strengths (networks, competitive standing). We measure the success of our strategy on the one hand by means of specific digitalization targets: by 2024, for example, we want to increase the first time right rate in the provision of broadband lines in Germany and Europe to at least 95 % and reduce the time to market in IT to two months in Germany and to one month in Europe. On the other hand, success can be seen in our long-term competitiveness and as such is reflected in the established key financial figures: Recently, at the 2021 Capital Markets Day, we set an annual growth target (Group CAGR) of 1 to 2 % for revenue and 3 to 5 % for adjusted EBITDA AL by 2024.

For further information on our ambition levels, please refer to the section “[Finance strategy](#).”

Group strategy: Leading Digital Telco



Strategic areas of operation

Lead in digital life & work: Best convergent networks+ & perfect service

Our aspiration is to offer customers the best network experience, anytime, anyplace – whether at home or at work, our network should work seamlessly and across all technologies. That’s why we market fixed-network and mobile communications in **convergent products** (fixed-mobile convergence (FMC)). By the end of the reporting year, some 5.6 million customers in Germany had opted for MagentaEins; that is around 300 thousand more than in the prior year. The national companies of our Europe operating segment won over 790 thousand new customers for MagentaOne and similar FMC offerings in 2022. To continue on this path of growth, we work continuously to improve our convergent portfolio. A key component for this in the 2022 financial year was also the further enhancement of our mobile offering to additionally provide mobile communications to customers who have previously only had a fixed-network product with us. The new MagentaMobil portfolio offers larger data volumes as well as attractive price benefits through an offer of additional cards (MagentaMobil PlusKarte). The more SIM cards are added onto the main contract, e.g., for family members or friends, the lower the average price per person. But it is not just in Europe, but also in the United States that we are offering more broadband products for the home, based on our mobile network. In the 2022 financial year, we won 2.0 million new customers with our high-speed internet offering.

In pursuit of our goal to become the Leading Digital Telco, we want to offer more than simply the best connectivity: what really counts for us is the **network experience**. For this reason we offer our customers additional services that turn our network leadership aspiration into a first-hand experience. We reached some key milestones in this regard in the reporting year. Our MagentaTV product has been repositioned throughout our entire European footprint to aggregate linear television, including extensive features, with access to content from the biggest video-on-demand providers, and exclusive content. In 2022, we further enhanced the TV experience: In Germany, for example, we were the only provider with the broadcast rights to all the matches of the 2022 Soccer World Cup. In addition, we brought a new rate plan to market with MagentaTV MegaStream, which integrates linear television and the Megathek library with Disney+, Netflix, and RTL+. Our national companies in Europe further rolled out the Android-based TV platform with a Deutsche Telekom-specific user interface to deliver an even more personalized user experience (2022: Austria, Croatia, and Poland). The addition of 121 thousand TV customers in Germany and around 112 thousand in our European subsidiaries shows that we are on the right track.

Of equally high priority for us is ensuring **seamless product integration** across our portfolio. To this end we launched our own operating system HomeOS in 2021, as a “linking element” for the digital household. In the reporting year alone, we developed 12 new use cases (e.g., integration of weather and news applets, the digital voice assistant Frag Magenta, or the configuration of smart-home routines via MagentaTV).

Perfect **customer service**, supported by digitalization, continues to be another powerful lever to help set us apart from the competition. That is why we offer our customers a huge array of service tools, such as a digital home service (phone or on-site advice on all home network issues), our callback service, or switching advice. In addition, we place great importance on finding a quick solution to our customers' issues. In 2022, we increased our first-call resolution rate again, that is the customer issues we resolve directly at the first point of contact (56.1%, up +0.1 percentage points against 2021). In addition, we further developed the OneApp platform for a digital sales and service experience in our European national companies and in Germany. The OneApp platform not only improves the customer experience (e.g., by setting up and managing the router or monitoring internet usage behavior in the home network via the app), it also enables us to monetize our offerings (e.g., Magenta Moments as a new section for our loyalty program and in-app coupons, upselling of fixed-network/fiber-optic contracts). Our ratings validate our efforts in this regard, including the Connect service tests (overall score of "very good" in the hotline and service app tests in Germany and Austria, issue 10/2022). What's more, according to Computer Bild (issue 24/2022), with Frag Magenta we "employ" the best digital assistant in Germany – not just in the telecommunications industry, but across all industries. In the United States, too, we are reaping the rewards of our focus on customer-centricity: numerous surveys rank T-Mobile US ahead of its competitors for service quality (e.g., the J.D. Power study "Wireless Customer Care Mobile Network Operator Performance" rated T-Mobile US the mobile carrier with the best customer service in the United States for the 10th time in succession).

We measure **customer satisfaction** using the globally recognized TRI*M method. We use the results of this performance indicator to improve our customer contact processes, and our products and services. At the same time, we determine the loyalty of our customers towards Deutsche Telekom. The results are presented as a performance indicator, the TRI*M index, which ranges between minus 66 and plus 134 points. At the end of the reporting year, this indicator (excluding T-Mobile US) came in at 76.0 points versus an adjusted value of 72.6 points at the start of the year (both determined on a comparable basis). For the Germany and Systems Solutions operating segments in particular, the values achieved put us in a leading position compared to the relevant benchmark and we intend to maintain this position in 2023. We are aiming for a slight improvement in the Europe operating segment.

Lead in business productivity: Software-defined, secure, global networks, IoT & digitalization

In the reporting year, we maintained our market-leading position (in terms of revenue) as a provider of telecommunications services for **business customers** in the Germany operating segment and posted growth slightly above the prior-year level. As a trusted partner, we drive forward the digitalization of our customers based on global, secure connectivity, flexible software-based networks, and end-to-end security solutions. And in future, these activities will increasingly be based on integrated offerings (combining fixed network, mobile communications, and IT) and further strengthen our portfolio in the IT environment. The MagentaBusiness Collaboration product family, for example, already combines flexible communications solutions and tools for collaborative work in a seamless overall solution. In 2022, we introduced, among other products, the Microsoft Teams | X solution and we will further enhance our offering going forward. However, integrated offerings also require digitalization expertise beyond connectivity (e.g., presales, integration), since small and medium-sized enterprises in particular are increasingly looking for solutions from a single source. In the reporting year, we continued to post organic growth in IT revenue from business customers in our Germany operating segment. In our national companies in Europe, too, revenue with business customers remained stable, primarily on the back of a stable development in mobile communications. The IT business, which had declined in the prior year, recorded growth in 2022. Demand for our productivity, cloud, smart cities, and security solution portfolio continued to grow again in 2022.

Going forward, we want to remain the partner of choice for multinational corporations with cross-border **connectivity needs**, and to this end are investing in robust, global fixed-network and mobile connectivity and providing a one-stop shop for connectivity through the orchestration of our own networks and those of our partners. In 2022, we entered into a strategic partnership with the software company Teridion, which enables us to offer our business customers secure connectivity to network their locations across the globe. The partnership and related investment in Teridion by Deutsche Telekom underlines how important the issue of software-based networks is for us. In the medium term, we want to respond to changing customer needs with fully cloud-based, modular network services and dynamically adapt our networks. APIs will even make it possible in future to automatically manage individual network parameters in real time. To this end, over the coming years we plan to radically overhaul our own network and IT landscape, transforming it into a modular, software-defined production environment with integration capabilities for customized app and IT landscapes.

As major topics like the **Internet of Things (IoT)** and **cybersecurity** become more relevant, security and network solutions (network, IT, and cloud computing) are beginning to merge into highly secure, end-to-end solutions. Security functions which were once purchased separately are increasingly becoming part of the connectivity product or of security solutions, like new-generation firewalls that are already integrated into some SD-WAN solutions, and Secure Access Service Edge (SASE) suites that deliver SD-WAN in combination with cloud and application security from a single source. We will continue to develop the core elements of our B2B portfolio, comprising our Multiprotocol Label Switching (MPLS) solutions and SD-WAN products, holistically, taking account of network and security aspects. Security is an integral component of every one of our products and services (e.g., campus networks, IoT) – and that goes for every link in the communication chain: from the user via the terminal equipment, Wi-Fi/mobile communications/LAN, through to access and corporate networks, transport networks, and data centers. "Security by Design" is our goal here – from development and operation to management of the network services by us and our customers. In order to implement this consistently, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment effective July 1, 2022.

SDG 16 STRUCTURE


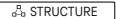
The business with “traditional” IT outsourcing services for **corporate customers** has been in decline for the last few years now, mainly due to intense competition on the market driven by new cloud-based services and providers. The strategy of our Systems Solutions operating segment is to become the “leading European vertical full-service IT player.” The strategy concentrates in particular on the DACH region, where we already lead the markets (in terms of revenue). We focus on the core customer requirements of digitalization: advisory, cloud services, and digital solutions. For selected industries (automotive, healthcare, public sector, and public transport), we additionally offer vertical, industry-specific solutions. The newly established entrepreneurial set-up for the portfolio units aims to make the business scalable in an even shorter time frame and to accelerate growth. We are also relying more and more on partnerships. In particular, we plan to build up near- and offshore capacities.

Magenta Advantage: New business models based on DT capabilities

In our core business, we create special assets and capabilities, including, for example, more than 245 million mobile customers, more than 8 million TV customers, and access to the largest companies in the world across industries. We call the edge we can achieve through these assets and capabilities Magenta Advantage. Going forward, we want to use this advantage in a targeted way to develop new, digital business models to complement our core business. For example, we would like to harness our “digital reach” to make exclusive offers from partners available to our customers, to reward their loyalty and – where possible – to generate additional revenue. We laid the foundations for this in 2022. We built up our network of partner companies, incorporated them into our new app section Magenta Moments, and so far, we have released 37 exclusive partner offers (e.g., Disney+, GetYourGuide, Rituals) for our app users. In the future, we want to build up further capabilities for data analysis and segmentation and continuously improve the personalization of our offers. The core of our brand promise, “Reliability, security, and trust,” remains the same and protecting our customers’ data and privacy is our top priority. On top of this, we also use our Magenta Advantage to invest locally in digital business models. Examples of these are the online delivery service Box and the payment service Payzyz in Greece.

Build and scale telco as a platform

Our growth areas are based on our networks and our technology, which together form the core of our value creation. That is why we are systematically building out and interlinking our fixed and mobile networks because we want to offer our customers the fastest possible connection at top quality, anytime, anyplace. Group-wide, in 2022, we invested EUR 21 billion (not including spectrum investment) primarily in building and operating networks, with EUR 5.7 billion of this figure spent in Germany alone. This makes us the biggest single investor among all of our German competitors. In pursuit of outstanding quality and an even quicker and more efficient network build-out, we are also striking out in new directions, for example, with the use of artificial intelligence (AI) to ensure infrastructure is built out in line with demand. Integrated management improves the capacity utilization of our infrastructure and increases efficiency in operations and maintenance.

Fiber optic-based **fixed networks** are the basis for integrated network experiences. We are working flat out to build our fixed-network infrastructure with state-of-the-art optical fiber. As a consequence, we increased the number of broadband customers in the Europe operating segment by 4.8 % compared with the end of 2022 to 6.7 million. A total of around 8.1 million households (coverage of 32.0 %) were provided with the option by our national companies to subscribe to a direct connection to our fiber-optic network with speeds reaching up to 1 Gbit/s. In Germany, we made fiber-optic lines (FTTH) available to around 2 million more households and companies by the end of 2022. Looking ahead, we are set to substantially increase the pace of the fiber-optic build-out further. By 2030, every household and every business in Germany is to have a fiber-optic line. Our aspiration is for Telekom Deutschland to build the majority of these. By the end of 2024, we are set to make more than 10 million fiber-optic lines available. To this end we will strengthen our team, employing 1,000 additional fiber-optic experts and fitters. In addition, we have agreed partnerships with other companies that will contribute to our objectives (e.g., collaboration with Glasfaser Ruhr, with the city of Münster’s public utility company Stadtwerke Münster, and with 175 municipalities in the gigabit region of Stuttgart). But urban centers are not the only ones to benefit from the network build-out: we also plan to cover a total of 8 million households in rural areas with optical fiber by 2030. Together with the Australian investor IFM, the fiber-optic build-out company GlasfaserPlus is to add a further 4 million households in rural areas to this target by 2028.  

But our competitors also need to play their part. Deutsche Telekom is building out the network on the basis of open access. The new networks are open for use by competitors.  

The positive response shows that our efforts are paying off. In Germany, we took the #1 spot again in 2022 for the best fixed-network offering (Connect, issue 08/2022) and the best fixed-network internet provider (Chip, issue 06/2022). In addition, Magenta Telekom won best in test in Austria for its “outstanding” internet services (Connect, issue 10/2022).

In **mobile communications**, we set ourselves apart from our competitors with the multi-network-test-winning quality of our network. We operate over 100,000 mobile communications antennas across Germany with LTE coverage of 99 %. Our national companies in Europe cover 98.2 % of the population, or around 110 million people, with LTE. With the **fifth-generation mobile communications standard (5G)**, we are creating a highly reliable mobile network with extremely low latency and high data throughput. Over 80,000 antennas now transmit 5G across Germany. As of the end of 2022, around 7,700 of these antennas were using the fast 5G spectrum in the 3.6 GHz band. By the end of 2022, 94.8 % of the population of Germany was already covered by our 5G network. By the end of 2025, 5G is set to cover 90 % of Germany, reaching 99 % of the population. As of the end of 2022, our national companies covered 47.4 % of the population in our European footprint with 5G. In the United States, at year-end we covered 325 million people via the 600 MHz band, 263 million of whom can use Ultra Capacity 5G in the 2.5 GHz band and millimeter wave spectrum.

For this reason, we regularly come out on top in independent network tests: Our German network once again won the “big three” network tests in 2022: by Connect (issue 01/2023 – winner for 12th time in succession), Chip (issue 01/2023), and Computer Bild (issue 25/2022). Magenta Telekom (Austria) won the Connect mobile network test for the fifth time in succession (issue 1/2023), receiving the top rating of “outstanding” for the fourth time in succession. In the Chip mobile network test, Magenta Telekom won again, gaining the top rating of “very good” in the categories Internet, Telephony, and 5G. We also won awards for the mobile networks of our national companies in Greece (Ookla® Speedtest and Umlaut “Best in Test”) and once again in Croatia (Umlaut). In the United States, we have the fastest and most reliable 5G network with the most constant speed and greatest availability (Ookla® Speedtest, Umlaut 5G Network Performance Audit Report, Umlaut 5G network test).

Our goal is to use the **best-in-class integrated network infrastructure** for our products and services. That is why we are complementing our own infrastructure with that of strategic partners, while also considering alternative access networks (e.g., satellites or high-altitude platform systems, HAPS). In August 2022, for instance, T-Mobile US and SpaceX announced joint plans that will enable our U.S. subsidiary in future to bring cell phone connectivity to its customers in parts of the United States previously without cell tower coverage using SpaceX’s Starlink satellites. With this technology, T-Mobile US is planning to provide coverage for text messages and participating messaging apps, practically everywhere in the United States, Puerto Rico, and territorial waters. The next step for the two companies will be to drive forward the build-out of voice and data coverage.

The delivery of connectivity and services based on our own and our partners’ infrastructure is reliant on technology- and domain-agnostic orchestration capabilities. These are found in a separate technical control layer above the actual infrastructure, which allows us to manage the “network of networks.” We are modernizing our NT/IT architecture to ensure the necessary orchestration capabilities are in place. Our focus is on leveraging the full potential of network automation, cloudification, and disaggregation to make our production considerably faster, more flexible, and more cost-efficient. Disaggregation, or the separation of hardware and software, makes it possible to add new suppliers. Today, around 80 to 90 % of all suppliers in our infrastructure are large, traditional companies. Going forward, we want to take into consideration even more smaller, innovative suppliers, enabling us to integrate innovations into our networks more quickly and flexibly and thus also making them available to our customers.

We are adapting our production platform to meet the customer needs of the future, by building **cloud-based, scalable, modular platforms** and opening up access to selected parts of these platforms to third parties (e.g., service providers and app developers) via open interfaces (APIs). Our goal is to make connectivity, services, and data (e.g., location data, connection conditions, and user behavior) combinable with new applications as needed. The benefits of this architecture include shorter development cycles, faster exploitation of revenue potential, more automated and significantly more cost-effective production, scalability across business units and borders, and a substantially better customer experience by virtue of personalized digital interactions.

Supporting areas of operation

Save for growth investments

Future growth requires adequate investment. To this end, we are investing in our own innovativeness as well as integrating successful new developments from outside our Company. Thanks to our cost discipline, we generate the funds we need to finance this investment and safeguard our competitiveness. For us, the goal of becoming Leading Digital Telco also means being the leading telecommunications provider in terms of efficiency. The digital transformation is key to further enhancing cost efficiency throughout our entire value chain: from the customer interface, to our production processes, through to the management of our own infrastructure and supply chains. We will therefore systematically continue on this path of cost transformation.



We manage our **investment portfolio** with the aim of enhancing value. Value orientation for us also means realizing value when the time is right and the conditions attractive. In this context, the sale of T-Mobile Netherlands was completed in 2022. We used part of the resulting cash inflow of EUR 3.6 billion to further increase our stake in T-Mobile US (by 1.7 percentage points). After examining strategic options, we also signed an agreement with DigitalBridge and Brookfield in the reporting year to sell a 51% stake in the GD Towers business entity, which operates the cell tower business in Germany and Austria in the Group Development operating segment. Deutsche Telekom will retain a 49.0% stake, benefiting from future value upside at GD Towers. The transaction was consummated on February 1, 2023. We are also weighing plans to invest a portion of the funds received to further increase our stake in T-Mobile US. This is in line with our strategic decision to increase our stake in T-Mobile US to more than 50% and secure the existing control over the U.S. subsidiary in the long term.

Simplify, digitalize, accelerate & act responsibly




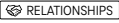
Simplicity in our offers and in our organization makes the digital transformation of our core business easier. In this way, we increase our **implementation speed** – both in the interaction with customers and in the implementation of new, strategic initiatives. This is why we want to become simpler, more digital, and ultimately more agile.

There are two main thrusts to our pursuit of **simplicity**. First, we want to offer our customers intuitive products and simple rate plans, like MagentaTV MegaStream. Going forward, we want to significantly further reduce product complexity. Our ambition is for our services to be available around the clock via a single click. Thanks to an IP migration which has been successfully concluded, we can now remotely perform setup and maintenance work to the line in increasingly more households – depending on the router. The technical provisioning of nine out of ten broadband lines is already successful on the first attempt. Second, we want our internal operation to be as efficient as possible, i.e., in terms of time and costs. We are making promising progress with the introduction of greater agility into our IT activities. For example, since 2020 we have increased the development speed for new software or software-driven products in Germany and Europe by around 30%. Today, our average time to release for purely software-based adaptations is around 2.4 months in Germany (e.g., personal customer dialog for consumers, digital order management for business customers) and around 1.4 months in Europe. We want to cut these times even further and achieve a time-to-market of 1 month in Europe and 2 months in Germany by 2024. Above and beyond this, we will continue to scrutinize our organization, processes, and decision-making procedures and further optimize them in future, wherever possible.

The **digitalization** of our core business is helping us to improve customer experience and increase our efficiency. Our sales and service apps are now firmly established in Germany and Europe as key digital customer interfaces and we have worked to continually add more services. Our European national companies interact with around 67% of customers digitally via the service apps. In Germany, the figure stands at 42% following migration to the OneApp platform. In connection with the migration, the collection of app-specific metrics (e.g., app penetration) was harmonized in Germany to ensure Europe-wide comparability within the Group. We are optimistic that penetration will return to its former strength as we further expand the functionalities of the MeinMagenta app. Another factor that plays into an outstanding and, above all, personalized experience is a 360° view of our customers across all channels, both online and offline. Magenta View is our front-end platform for all employees with direct customer contact, delivering all necessary customer data from a single source. At the end of the reporting year, almost 25,000 colleagues in Germany were benefiting from Magenta View. Long term, our plan is to digitalize virtually all value creation stages in their entirety. To this end, we are systematically expanding our expertise in innovative technologies like artificial intelligence. Data-based analyses are already helping us to maintain our hardware more proactively, understand customer needs better, and manage our networks more efficiently.





However, simplicity and digitalization also call for new **skills and a cultural change**. In 2022, we continued our specific offering of programs focused on future issues, the Explorer Journeys. With these programs, we want to prepare as many employees as possible for the skills that will be required in the future. Since its launch in 2020, more than 10,000 employees have registered for courses in areas such as software development, AI, data analytics, digital marketing, and user experience (UX). With our “youlearn” initiative – aimed at entrenching self-paced learning in our everyday working life – we continued to drive forward our employees’ options for upgrading their skills. What is more, we provide our employees with a high-quality training service in the form of Percipio (an intelligent learning platform also dubbed the “Netflix of learning”) and Coursera (a provider of digital training courses offered by prestigious universities), from which more than 178,000 employees benefit. Since 2021, we have been enabling our employees to increase their participation in the Company’s success through the share program Shares2You. In the reporting year, 37,911 employees took advantage of the program. That our efforts are paying off is validated by our employee satisfaction levels: The question on Mood, as before, remains at the very high level of 81%.  

For further information about our people strategy, please refer to the section “Employees.”

In parallel, we fulfill our **responsibility** to society by systematically aligning our core business processes with the principle of sustainability. We revised and further refined our sustainability strategy in the reporting year: climate protection, circular economy, diversity and team performance, as well as digital responsibility and participation are our four key action areas. As well as our target of making our entire value chain climate-neutral by 2040 at the latest, we want to achieve a 100 % circular economy for terminal equipment by 2030. We have taken back over 4.5 million devices in Germany and Europe either to refurbish or to send them directly for recycling, so that we and our customers actively help conserve resources and protect the climate. Deutsche Telekom's suppliers, too, are to achieve a fully circular economy for technologies, devices, and network technology by 2030. Moreover, in 2020 we introduced a sustainability standard for our packaging, removing single-use plastics in favor of recyclable materials and environmentally friendly colorings. All new Telekom-branded (or "T-branded") devices and more than two thirds of the new packaging for smartphones that we source from our suppliers meet these criteria. Since 2021, 100 % of our electricity requirements for all Group units have been met from renewable sources. We plan to become twice as energy efficient by 2024, based on the data volume in the network in relation to the power consumed in this context. To help us achieve this goal, we are decommissioning legacy platforms – including PSTN, migrating to more efficient technology – such as the switch from 3G to 5G, using highly efficient data centers, and deploying AI. From a long-term perspective, we will also achieve savings from the migration from copper to fiber-optic technology. These measures will enable us to maintain stable power consumption in Germany and Europe through 2024, despite rapidly rising data volumes, growing numbers of active network components, and the further densification of our networks. Above and beyond this, we are supporting a responsible approach to digitalization. Under the motto "No hate speech," Deutsche Telekom is supporting, for example, projects for media literacy in society and against cyberbullying. Deutsche Telekom has taken its social responsibility seriously through various crises: whether with technical support at the start of the coronavirus pandemic or with free SIM cards for refugees from the war in Ukraine.    

For further information on our sustainability strategy, please refer to the section "[Combined non-financial statement](#)."

Our strategy is expressed succinctly in our ambition to become the **Leading Digital Telco**:

- We want to be a **leader** in terms of digital living and working, and in the implementation of advances in productivity for our business customers. Because only when we lead can we grow and meet the demands of our investors in the long term.
- We want to better utilize our existing assets and skills not only in our core business, but also to develop new, **digital business models (Magenta Advantage)**.
- The key technical driver for our growth areas is "Telco as a platform": the **best integrated network infrastructure** – provided by us and by partners – as well as cloud-based customer and network-service platforms. The basis for this is and remains our ongoing commitment to building out the fiber-optic and 5G networks.  
- We promote continued growth by carefully managing our **financial resources** and **systematically transforming** the Company to be simple, digital, and agile in every sense.
- We play a responsible and active role in **society**. We are a partner, not just at a societal level, but also at a political one, and we work in the interests of ensuring the open, forward-looking development of all countries in which we are active.  

Finance strategy

We announced our finance strategy for the years 2021 through 2024 at the [Capital Markets Day](#) in May 2021. Deutsche Telekom continues to pursue an attractive and reliable finance strategy. Through 2024, we want to further raise our forecast for growth from the past few years.

For further information on the expected business development up to 2024, please refer to the section "[Forecast](#)."

At the Capital Markets Day in 2021, we communicated the following ambition levels for the period through 2024:



^a Before dividend payments and spectrum investment.

^b Our ambition level was determined in the 2020 financial year based on the average U.S. dollar exchange rate at the time of USD 1.14.

^c Compound annual growth rate.

We also expect revenue to increase by an average of 1 to 2 % per year and adjusted EBITDA AL by an average of 3 to 5 %. Based on the results generated in 2021 and 2022, as well as our forecast for 2023, we believe we are on the right path to achieve these targets.

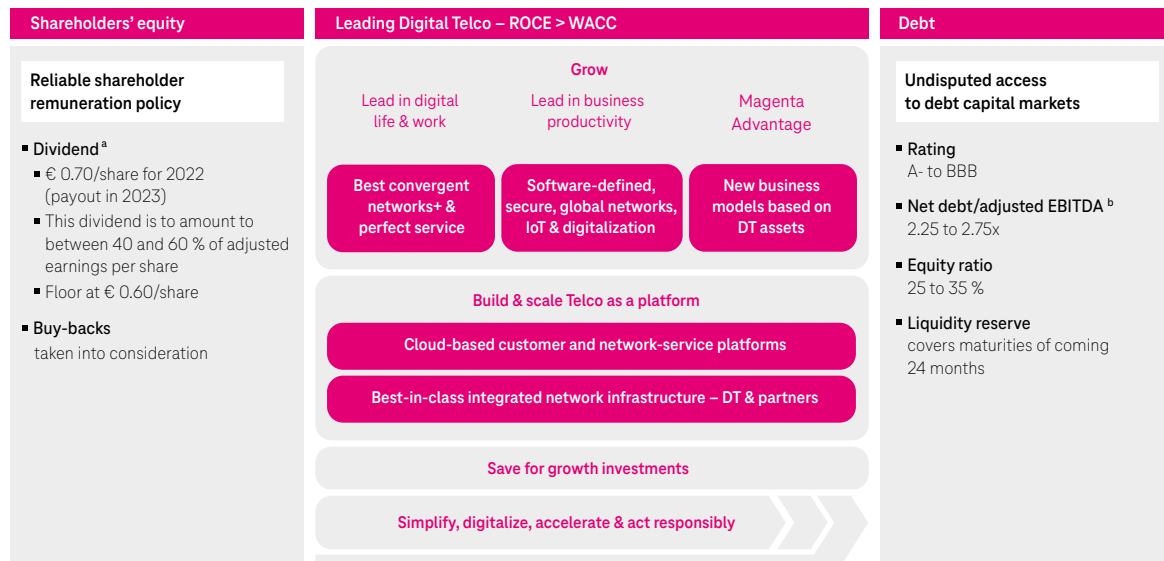
Another part of our finance strategy is to achieve our target financial ratios – relative debt (ratio of net debt to adjusted EBITDA) and equity ratio – along with a liquidity reserve that covers our maturities of the coming 24 months at least. With these clear statements we intend to maintain our rating in a corridor from A- to BBB and safeguard undisputed access to the capital market.

There is a sustainable dividend policy for shareholders, which is subject to approval by the relevant bodies and the fulfillment of other legal requirements. Starting from the 2021 financial year, the amount of the dividend is based on a dividend payout ratio of 40 to 60 % of adjusted earnings per share, with a lower limit fixed at EUR 0.60 per dividend-bearing share. For the 2022 financial year, as announced in November 2022, we intend to propose a dividend of EUR 0.70 for each dividend-bearing share. This equates to 38 % of adjusted earnings per share. As adjusted earnings per share benefited from a large number of positive one-time effects in the reporting year in connection with the measurement of derivatives – in particular from the forward transaction to hedge the price of acquiring shares in T-Mobile US in the future, and the stock options to purchase shares in T-Mobile US – as well as income from the measurement of provisions as a result of the sharp rise in interest rates, we consider our proposed dividend to be consistent with our dividend policy, which is based on the long-term sustainable earnings trend. We thus offer our shareholders both an attractive return and planning reliability. As in previous years the dividend for the 2022 financial year will once again be paid out without deduction of capital gains tax.

We will also take share buy-backs into consideration.

Total capital expenditure is also to remain high in the next few years. The scope for investment is to be used to further roll out our broadband infrastructure and to accelerate the transformation of the Company. In mobile communications, the infrastructure build-out will focus on the LTE and 5G standards and, in the fixed network, mainly on our accelerated fiber-optic build-out. The finance strategy supports the transformation of our Group into the Leading Digital Telco. In order to generate a sustainable increase in value, we intend to earn at least our cost of capital. We plan to meet this target by optimizing the utilization of our non-current assets on the one hand, and pursuing strict cost discipline and profitable revenue growth on a sustainable basis, on the other.

Our finance strategy through 2024



^a Subject to approval by the relevant bodies and the fulfillment of other legal requirements.
^b Deviation from the target range for a short period as a result of the business combination of T-Mobile US and Sprint until year-end 2024.

In order to set and achieve our strategic goals more effectively, we pursue a Group-wide, value-oriented performance management approach, which we explain in the following section.

Management of the Group

We are committed to the concept of value-oriented corporate governance. We want to strike a balance between the contrasting expectations of our stakeholders so that sufficient funding is available for an attractive dividend, deleveraging, responsible staff restructuring, and new investment in a positive and sustainable customer experience.

- **Shareholders** expect an appropriate, reliable return on their capital employed.
- **Providers of debt capital** expect an appropriate return and that Deutsche Telekom is able to repay its debts.
- **Employees** expect jobs that are secure, prospects for the future, and that any necessary staff restructuring will be done in a responsible manner.
- **“Entrepreneurs within the enterprise”** expect sufficient investment funding to be able to shape Deutsche Telekom’s future business and develop products, innovations, and services for the customer.
- **Society** expects us to do everything within our power to protect the environment, encourage a fair and democratic co-existence, and shape the digital transformation in a responsible manner. SDG 17 RELATIONSHIPS

Performance management system

We use a specific set of performance indicators to reliably and transparently measure success. The following tables and information provide an overview of our key financial and non-financial performance indicators.

Financial performance indicators

		2022	2021	2020	2019	2018
Net revenue	billions of €	114.4	107.8	100.1	80.5	75.7
Service revenue ^a	billions of €	91.9	83.1	78.1	n.a.	n.a.
EBITDA AL (adjusted for special factors) ^b	billions of €	40.2	37.3	35.0	24.7	23.1
Profit (loss) from operations (EBIT)	billions of €	16.2	13.1	12.8	9.5	8.0
Earnings per share (adjusted for special factors)	€	1.83	1.22	1.20	1.04	0.96
ROCE	%	4.5	4.1	4.6	5.1	4.7
Free cash flow AL (before dividend payments and spectrum investment) ^{b, c}	billions of €	11.5	8.8	6.3	7.0	6.1
Cash capex (before spectrum investment)	billions of €	(21.0)	(18.0)	(17.0)	(13.1)	(12.2)
Rating (Standard & Poor's, Fitch)		BBB, BBB+	BBB, BBB+	BBB, BBB+	BBB+	BBB+
Rating (Moody's)		Baa1	Baa1	Baa1	Baa1	Baa1

^a The definition of “service revenue” was not applied consistently Group-wide for the years prior to 2020.
^b Comparatives for 2018 were calculated on a pro forma basis for the key performance indicators redefined as of January 1, 2019 following the introduction of the IFRS 16 accounting standard.
^c Before interest payments for zero-coupon bonds and before termination of forward-payer swaps at T-Mobile US (both in 2020).

Broader definition of service revenue. Since January 1, 2022, our service revenue additionally includes certain customer charges in the United States operating segment – primarily in order to create better comparability with T-Mobile US’ service revenue as determined in accordance with U.S. GAAP – and other revenue of lesser significance, mainly in the United States and Systems Solutions operating segments. This increases service revenue by EUR 1.5 billion in the reporting year. The prior-year comparatives were not adjusted retrospectively.

Presentation of GD Towers according to the management approach. On July 13, 2022, Deutsche Telekom reached an agreement with DigitalBridge and Brookfield on the sale of a 51.0 % stake in GD Towers. This transaction was consummated on February 1, 2023. As a result, the GD Towers business entity has been recognized in the consolidated financial statements as a discontinued operation since the third quarter of 2022. However, in the combined management report we continue to include the contributions by GD Towers in the results of operations according to the management approach. The following table provides a reconciliation of the amounts recognized in the consolidated income statement to the financial performance indicators relevant for the management approach:

millions of €									
	2022	Of which: continuing operations	Of which: discontinued operation	2021	Of which: continuing operations	Of which: discontinued operation	2020	Of which: continuing operations	Of which: discontinued operation
Net revenue^a	114,413	114,197	216	107,811	107,610	201	100,139	99,946	192
Service revenue^a	91,947	91,947	0	83,130	83,130	0	78,107	78,107	0
EBITDA	43,986	43,049	937	40,539	39,671	868	38,633	37,900	733
Depreciation of right-of-use assets	(6,507)	(6,406)	(101)	(5,547)	(5,348)	(199)	(4,530)	(4,375)	(156)
Interest expenses on recognized lease liabilities	(1,489)	(1,452)	(37)	(1,099)	(1,074)	(25)	(925)	(904)	(20)
EBITDA AL	35,989	35,191	798	33,893	33,249	644	33,178	32,621	557
Special factors affecting EBITDA AL	(4,219)	(4,213)	(6)	(3,437)	(3,432)	(5)	(1,839)	(1,838)	(1)
EBITDA AL (adjusted for special factors)	40,208	39,404	804	37,330	36,681	649	35,017	34,459	558
Depreciation, amortization and impairment losses	(27,827)	(27,635)	(192)	(27,482)	(27,091)	(391)	(25,829)	(25,534)	(295)
Profit (loss) from operations (EBIT)	16,159	15,414	745	13,057	12,580	477	12,804	12,366	438
Profit (loss) from financial activities	(4,455)	(4,437)	(18)	(5,139)	(4,953)	(186)	(4,128)	(3,908)	(220)
Profit before income taxes	11,703	10,977	727	7,918	7,628	290	8,677	8,458	218
Earnings per share (basic/diluted)	€ 1.61	1.52	0.09	0.87	0.82	0.04	0.88	0.85	0.03
Adjusted earnings per share (basic/diluted)	€ 1.83	1.72	0.10	1.22	1.17	0.04	1.20	1.17	0.03

^a The prior-year comparatives were adjusted retrospectively to take account of changes to the principal/agent policy regarding the recognition of gross and net revenues as of the third quarter of 2022. For further information, please refer to the section “Development of business in the Group” and “Changes in accounting policies and changes in the reporting structure” in the consolidated financial statements.

For further information on the agreement with DigitalBridge and Brookfield on GD Towers, please refer to the section “Group organization.”

Revenue and earnings

Revenue corresponds to the value of our operating activities. Absolute revenue depends on how well we are able to sell our products and services on the market. The development of our revenue is an essential indicator for measuring the Company’s success. New products and services as well as additional sales activities are only successful if they increase revenue. **Service revenue** is the revenue that is generated by services (i.e., revenue from fixed-network and mobile voice calls – incoming and outgoing calls – as well as data services) plus roaming revenue, monthly basic charges and visitor revenue, as well as revenue generated from the ICT business. Service revenue is an important indicator for the successful implementation of the growth strategy of the Group and essentially comprises high-value – i.e., predictable and/or recurring – revenues from Deutsche Telekom’s core activities.

The reconciliation of revenue disclosed in the consolidated financial statements to the “service revenue” financial performance indicator can be found in the section “Development of business in the Group.”

We measure our operating earnings performance on the basis of **adjusted EBITDA AL**, i.e., EBITDA adjusted for depreciation of right-of-use assets, for interest expenses on recognized lease liabilities, and for special factors. And EBITDA is calculated as **EBIT** (profit/loss from operations) before depreciation, amortization and impairment losses on intangible assets, property, plant and equipment, and right-of-use assets. Both metrics indicate the short-term operational performance and the success of individual business areas. Special factors have an impact on the presentation of operations, making it more difficult to compare performance indicators with corresponding figures for prior periods. For this reason, we adjust our performance indicators to provide transparency. Without this adjustment, statements about the future development of earnings are only possible to a limited extent. The further inclusion of unadjusted EBIT/EBITDA AL as performance indicators means special factors are also taken into account. This promotes a holistic view of our expenses. In addition to these absolute indicators, we also use the EBIT and EBITDA AL margins to show how these indicators develop in relation to revenue. This makes it possible to compare the earnings performance of profit-oriented units of different sizes.

For the calculation of EBITDA AL, EBIT, and net profit/loss adjusted for special factors, please refer to the section [“Development of business in the Group.”](#)

Adjusted earnings per share is calculated as adjusted net profit divided by the time-weighted number of all ordinary shares outstanding, which is determined by deducting the weighted average number of treasury shares held by Deutsche Telekom AG.

Profitability

We have incorporated sustainable growth in enterprise value into our medium-term aims and implemented it as a separate key performance indicator (KPI) for the entire Group. Return on capital employed (**ROCE**) is a key performance indicator at Group level. ROCE is the ratio of operating result after depreciation, amortization and impairment losses plus imputed taxes (net operating profit after taxes, NOPAT) to the average value of the assets tied up in the course of the year (net operating assets, NOA).

Our goal is to achieve or exceed the return targets imposed on us by providers of debt capital and equity on the basis of capital market requirements. We measure return targets using the weighted average cost of capital (WACC).

NOPAT is an earnings indicator derived from the consolidated income statement, taking an imputed tax expense into consideration. It does not include cost of capital.

NOA includes all assets that make a direct contribution to revenue generation. These include all elements on the asset side of the consolidated statement of financial position that are essential to the rendering of services. To this is added operating working capital, calculated from trade receivables, inventories, and trade and other payables. The figure for “other provisions” is deducted as no return target exists for this.

Financial flexibility

Free cash flow AL (before dividend payments and spectrum investment) is calculated as net cash from operating activities less net cash outflows for investments in intangible assets (excluding goodwill) and property, plant and equipment, as well as the principal portion of repayment of lease liabilities – excluding finance leases at T-Mobile US. Free cash flow AL is a key yardstick for providers of debt capital and equity. It measures the potential for further developing our Company, for generating organic growth, and for the ability to pay dividends and repay debt.

Cash capex (before spectrum investment) relates to cash outflows for investments in intangible assets (excluding goodwill) and property, plant and equipment, which are relevant for cash outflows as a component of free cash flow.

A **rating** is an assessment or classification of the creditworthiness of debt securities and their issuer according to uniform criteria. The assessment of creditworthiness by ratings agencies affects access to the capital markets and to the international finance markets, and refinancing costs. As part of our finance policy, we have defined a target range for our ratings. We believe that with a rating between A- and BBB (Standard & Poor’s, Fitch) or between A3 and Baa2 (Moody’s) we essentially have the necessary entry to the capital markets to generate the required financing.

Non-financial performance indicators

	2022	2021	2020	2019	2018	
Customer satisfaction (TRI*M index) ^a	76.0	73.4	72.2	67.3	67.7	
Employee satisfaction (engagement score) ^b	78	77	4.0	4.0	4.1	
Energy consumption ^{c, d}	GWh	13,253	13,323	12,843	9,324	9,224
CO ₂ emissions (Scope 1 and 2) ^{d, e}	kt CO ₂ e	233	247	2,512	1,797	2,354
Fixed-network and mobile customers						
Mobile customers ^f	millions	245.4	248.2	241.5	184.0	178.4
Fixed-network lines	millions	25.3	26.1	27.4	27.5	27.9
Broadband customers ^g	millions	21.4	21.6	21.7	21.0	20.2
Systems Solutions						
Order entry ^{h, i}	millions of €	3,952	3,876	4,564	4,740	6,776

^a Excluding T-Mobile US.

^b In 2021, we changed from a scale of 1 to 5 for the engagement score (previously the "commitment index") to a scale of 0 to 100.

^c Energy consumption, mainly: electricity, fuel, other fossil fuels, district heating for buildings.

^d Information for the previous years (2018 to 2020) was taken from the non-financial statements for the years in question, which were reviewed in the form of a limited assurance engagement. At the time, this information was not part of the statutory audit of Deutsche Telekom's combined management report and consolidated financial statements.

^e Calculated according to the market-based method of the Greenhouse Gas Protocol.

^f Including T-Mobile US wholesale customers.



^g Excluding wholesale.

^h Order entry for the 2019 financial year was adjusted retrospectively in connection with the realignment of the B2B telecommunications business.

ⁱ Order entry for the 2021 financial year was adjusted retrospectively in connection with the reassignment of the security business.

We believe that satisfied customers act as multipliers for our Company's success. As a responsible, service-oriented company, the needs and opinions of our customers are of great importance to us, and we want them to stay with our Company in the long term. For this reason we measure **customer satisfaction** in our companies using the globally recognized TRI*M method. The results of systematic surveys are expressed by an indicator known as the **TRI*M index**. To underscore the significance of customer retention/satisfaction for our operating business, the performance of Board of Management members and eligible managers is now also being tracked and incentivized by means of the long-term variable remuneration (Long-Term Incentive Plan). This KPI, as one of four target parameters, has been relevant for Variable II since 2010, as well as for the Long-Term Incentive Plan which was launched in 2015, and in which the Board of Management has participated since 2021. We take the TRI*M indexes calculated for the operating entities (excluding T-Mobile US) as an approximation of the respective entities' percentage of total revenue to create an aggregate TRI*M value. This allows Board members and eligible managers to benefit from the development of customer retention/satisfaction.

For further information on customer satisfaction, please refer to the section "[Group strategy.](#)"

Our employees want to contribute to the further development of the Company and identify with it. We want to pursue open dialog and productive exchange with our employees. New working models and state-of-the-art communication options, as well as regular employee surveys, help us to accomplish this. The main feedback tools which the Group uses to assess **employee satisfaction** are the employee survey, carried out every two years, and the half-yearly pulse survey (excluding T-Mobile US). In our Company, we measure the employee satisfaction performance indicator using the **engagement score** – derived from the results of the last survey.   In view of the major significance of employee satisfaction for the success of the Company, the performance of Board of Management members and eligible managers is now also being tracked and incentivized by means of the long-term variable remuneration (Long-Term Incentive Plan). Employee feedback, as one of four target parameters, has been relevant for Variable II since 2010, as well as for the Long-Term Incentive Plan which was launched in 2015, and in which the Board of Management has participated since 2021. This allows Board of Management members and eligible managers to benefit from the development of employee satisfaction.

For further information about employee satisfaction, please refer to the section "[Employees.](#)"

SDG 13 **ENVIRONMENT** Climate change and the destruction of the environment are existential threats to the world. Companies must therefore significantly increase their energy and resource efficiency and restrict their absolute energy consumption. This issue is ever more relevant for providers of information and communications technology (ICT). There is a general expectation on the ICT sector to continue building out the telecommunications network while, at the very least, keeping basic consumption stable in the medium term or even reducing it going forward. Deutsche Telekom records environmental, social, and governance (ESG) data and performance indicators, which are used first and foremost to calculate our Group-wide ESG KPIs, on the basis of which we measure and manage our CR performance. Given the major significance of two ESG targets, the performance of Board of Management members has also been tracked and incentivized by means of the annual variable remuneration since 2021. Since 2022, this has also applied for our managers (excluding T-Mobile US). The non-financial performance indicator **energy consumption** is a record of the energy consumed in connection with the operation of our actual business model. We constantly monitor progress regarding our medium-term goal to reduce energy consumption (by 2024 compared with 2020, excluding T-Mobile US), and can make adjustments where necessary. To this end, we invest in measures and programs to conserve energy from all sources. At the same time, this goal plays into how we optimize and innovate for our future infrastructure, and calls for the use of innovative technology components. In living up to our responsibility to conserve resources and protect the climate, we also run various initiatives that aim to reduce the CO₂ emissions generated as part of our business activities. These initiatives include the sustained use of 100 % green electricity since 2021, optimizing power consumption in our buildings, and gradually transitioning our Group fleet vehicles from fossil fuels to zero- or low-emission power sources. In 2022, the decision was taken to gradually transition all company cars in Germany to these power sources starting in 2023. We measure our progress in this regard on the basis of the **CO₂ emissions** (Scope 1 and 2) non-financial performance indicator. In the United States, we are forging ahead with the highly intensive build-out of our 5G network, in particular in rural areas. This initially drives up power consumption. T-Mobile US, like the Group as a whole, has covered 100 % of its electricity requirements from renewable energy sources since 2021. There are strong fluctuations in T-Mobile US' carbon footprint owing to unforeseeable natural disasters and the associated temporary use of equipment such as diesel generators to restore and back up damaged network infrastructure. Consideration must be given to the special national situation in this key market, which is why the decision was taken, in respect of short-term variable remuneration in 2023, not to include T-Mobile US in these two non-financial performance indicators. This step ensures that the right incentives are set for the Board of Management toward the sustainable development of the business, while at the same time safeguarding the stability of network operations. This applies equally to our executives and managers. The annual ambition for the performance indicators "energy consumption" and "CO₂ emissions" will continue to be set, managed, and reported for the entire Group as before, including a target value for T-Mobile US.

For further information on these and other ESG KPIs, please refer to the section "[Combined non-financial statement.](#)"

As one of the leading providers of telecommunications and information technology worldwide, the development of our Group – and thus also our financial performance indicators – is closely linked to the development of **customer figures**. Acquiring and retaining customers is thus essential to the success of our Company. We have different ways of measuring the development of our customer figures according to the business activity in our operating segments: Depending on the activities of each segment, we measure the number of mobile customers and/or the number of broadband customers and fixed-network lines.

In our Systems Solutions operating segment, we use **order entry** as a non-financial performance indicator. We define and calculate order entry as the total of all amounts resulting from customer orders received in the financial year. Order entry in the form of long-term contracts is of great significance to the Group in order to estimate revenue potential. In other words, order entry is an indicator that provides a high degree of planning reliability.

Performance indicators at Deutsche Telekom AG

Net income is the financial performance indicator of greatest relevance for Deutsche Telekom AG and is used to pay out the dividend to shareholders.

Development of the economic environment and its impact on our business activities and performance indicators

War in Ukraine. Our business activities and key performance indicators have not so far been directly affected by the war in Ukraine. Deutsche Telekom does not own and operate mobile or voice networks in Russia or Ukraine. Neither does a stop on gas deliveries from Russia directly impact on our network operations. Deutsche Telekom is discontinuing its developer activities in Russia. Thanks to our active business continuity management including relocation, the impact on IT operations in particular remained minimal. Indirect effects on Deutsche Telekom arise primarily from increased energy prices in the Europe operating segment. The Group's main energy costs are secured by long-term hedging transactions, especially in the United States and Germany operating segments. We have also secured the main financing requirements there with long-term fixed interest rates. We cannot assess with certainty the medium- and long-term effects on global economic development. But the overall economic outlook has deteriorated significantly, in part as a result of the extensive sanctions imposed on Russia, the limitations on trade in goods, the increased energy prices, and the general energy supply shortage.

Coronavirus pandemic. The pandemic continues to have implications for the global economy in the reporting year. Although it has only had a limited negative impact on the telecommunications sector so far, if the pandemic were to re-escalate, it could lead to further supply-side shortages. Based on experience so far, we expect the coronavirus pandemic to only impact our business activities and performance indicators to a limited extent going forward.

For further information on economic situation overall, please refer to the section [“The economic environment.”](#) For more information on global economic developments and the associated business risks, please refer to the section [“Risk and opportunity management.”](#)

The economic environment

Macroeconomic development

Russia's war against Ukraine slowed growth in all regions, drove up inflation, and intensified shortages in individual markets right from the start of 2022. Extensive sanctions were imposed on Russia in response to its aggression. Dwindling gas deliveries from Russia pushed up energy prices. High inflation has prompted the U.S. Federal Reserve, the European Central Bank, and other central banks to take determined action to tighten monetary policy. Consumer confidence fell significantly over the course of the reporting year. The manufacturing industry suffered supply chain disruptions and rising wholesale costs in 2022. Repeated lockdowns in China until December 2022 as a consequence of the nation's strict Covid strategy continued to impact on economic activity.

The International Monetary Fund (IMF) projects a 3.4 % increase in world economic output for 2022, 1 percentage point less than forecast in the prior year. Economic growth also slowed substantially in our core markets in 2022. In Germany, although gross domestic product (GDP) increased by 1.8 % year-on-year, it was down 0.2 % in the fourth quarter of 2022 against the previous quarter. A technical recession is expected for the latter part of 2022/early part of 2023. The harmonized index of consumer prices increased by 8.7 % in 2022, with energy and food prices recording particularly notable increases. The European Central Bank countered this development by raising its benchmark interest rates four times in 2022.

The Bitkom-ifo-Digitalindex, calculated on the basis of the business situation and expectations, declined over the course of the reporting year but recovered towards the year-end. The current business situation of IT and telecommunications companies was clearly positive in January 2023 at 36.4 points, demonstrating the high resilience of the digital economy in the current crisis. In the digital sector, too, the business outlook brightened in January 2023 for the first time since summer 2022.

The U.S. economy also cooled off noticeably over the course of 2022. Growth sank from 5.9 % in 2021 to 2.0 % in 2022. The shrinking disposable income of private households pushed down consumer demand. Higher interest rates also had a considerable impact on spending, especially on real estate investments. The U.S. Federal Reserve raised its federal funds rate in seven steps in 2022. Inflation calculated on the basis of the consumer price index peaked in June 2022 at 9.1 %, falling back to 6.5 % in December 2022.

The majority of the economies of our Europe operating segment recorded higher growth in 2022 than the EU area as a whole, which recorded growth of 3.3 %. GDP growth in Greece, Poland, and Hungary stood between 4 % and 6 % in the reporting year. However, due to high inflation rates and some more restrictive financing conditions, this growth slowed markedly in the second half of 2022.

The following table shows the GDP growth rate trends and the change in harmonized consumer prices in our most important markets.

	GDP for 2020 compared with 2019	GDP for 2021 compared with 2020	GDP estimate for 2022 compared with 2021	Consumer prices for 2020 compared with 2019	Consumer prices for 2021 compared with 2020	Consumer prices estimate for 2022 compared with 2021
Germany	(3.7)	2.6	1.8	0.4	3.2	8.7
United States	(2.8)	5.9	2.0	0.8	5.3	8.7
Greece	(9.0)	8.4	6.0	(1.3)	0.6	9.3
Romania	(3.7)	5.1	5.8	2.3	4.1	12.0
Hungary	(4.5)	7.1	5.5	3.4	5.2	15.3
Poland	(2.0)	6.8	4.0	3.7	5.2	13.2
Czech Republic	(5.5)	3.5	2.5	3.3	3.3	14.8
Croatia	(8.6)	13.1	6.0	0.0	2.7	10.7
Netherlands	(3.9)	4.9	4.6	1.1	2.8	11.6
Slovakia	(3.4)	3.0	1.9	2.0	2.8	12.1
Austria	(6.5)	4.6	4.6	1.4	2.8	8.6

Sources: Eurostat, European Commission, IMF, national authorities. Last revised: January 31, 2023.

Telecommunications market

Demand for high-speed broadband – over the fixed and mobile networks – remains high. According to estimates by Analysys Mason, data traffic over the fixed network grew by 21 % worldwide in 2022 and mobile data traffic by 34 %. The coronavirus pandemic as well as the war in Ukraine and its consequences have brought into sharp relief that resilient, high-performance broadband infrastructure is of central importance to the economy and society.

Numerous countries have announced ambitious build-out targets for their digital infrastructure. The European Commission published new connectivity targets under which all households in the European Union (EU) should have a gigabit-capable line and all populated areas should be covered by 5G by 2030. At least 20 % of the funds flowing to member states from the Recovery and Resilience Facility are earmarked for digital transition projects. In November 2022, the EU institutions agreed on the “declaration on European digital rights and principles for the digital decade,” which provides among other things for all players benefiting from the digital transition to make an appropriate contribution to the costs of the network infrastructure. Further numerous initiatives at national level were launched to support the broadband build-out and the digital transformation. In Germany, the Federal Government’s Gigabit and Digital Strategy was adopted in 2022. The Gigabit Strategy aims among other things to improve framework conditions in order to accelerate and facilitate the network build-out.

The telecommunications industry continues to be characterized by intense competition. Consumers benefit from a greater range of products to choose from. In the fixed network, established telecommunications companies are competing intensively with cable network operators, city network operators, and resellers, who predominantly make use of regulated wholesale products. Financial investors are increasingly providing money for the build-out of regional and supra-regional fiber-optic networks. In addition, internet companies with over-the-top (OTT) communication services are also further intensifying the competitive pressure. Moreover, three or four mobile network operators operate in each of our markets using their own network infrastructure. On top of this, we are seeing mobile virtual network operators (MVNOs) becoming established in many markets using the network infrastructure of traditional mobile network operators. Against this backdrop, we no longer see a justification for the continued intense regulation of the EU’s telecommunications markets. Many analysts also feel there is a need for regulatory realignment in the telecommunications sector.

Germany

In January 2023, the industry association Bitkom estimated that total revenue in the telecommunications industry in Germany had increased by 1.3 % year-on-year to EUR 68.9 billion in the reporting year. This was largely due to the abatement of the coronavirus pandemic, such that the telecommunications industry recorded growth despite the war in Ukraine. The increase in revenue was mainly attributable to growth in telecommunications infrastructure (7.3 %) and telecommunications terminal equipment (1.8 %), but also to a lesser extent to growth in telecommunications services (0.3 %).

According to market research company Analysys Mason, the number of broadband lines in Germany increased by 1.1 % year-on-year by the end of the first half of 2022 to 38.0 million lines. High-bandwidth lines are increasingly marketed in cable and VDSL/vectoring networks. The drive to build out modern fiber-optic networks continues: in addition to established telecommunications companies, smaller and regional companies are increasingly active. The growing availability of high bandwidths in Germany and the large choice of HD content and video-on-demand services are stimulating sustained customer growth in IPTV business. Providers are recording growth in broadband revenue driven by rising customer numbers in addition to higher revenues per customer for broadband products and triple-play bundles comprising telephony, a broadband line, and TV service. Furthermore, the trend towards using convergent product bundles comprising fixed-network and mobile offerings (FMC) continued, although growth was much weaker than in previous years.

According to the industry association VATM, service revenue in the German mobile communications market increased by 3.4 % compared with 2021, driven mainly by the uninterrupted upswing in data usage, which grew by 47.4 %. As well as the additional demand for higher-value rate plans and devices, revenues from international roaming traffic also increased owing to the rising levels of international travel once again. Regulatory effects as well as sustained high price pressure and intense competition offset this increase in revenue. Mobile data usage continues to increase strongly on the back of growing use of products such as mobile video apps. The availability of 5G mobile technology also expanded rapidly in 2022. The percentage of voice and data rate plans is rising steadily. Traditional voice and text messaging services are increasingly being replaced by free IP messaging services like WhatsApp and social networks like Facebook. Connected products such as smartphones and tablets, as well as other connected wearables such as watches and fitness trackers, are growing ever more popular, pushing up demand for high-speed mobile broadband, large data volumes, and extra SIM cards in the rate plan portfolios.

Digitalization is continuing apace, and as a result there is also growing demand by the industry for more connectivity to allow machines and production sites to be networked and to tap efficiencies in value chains. Extensive IT and cloud solutions, as well as intelligent approaches to M2M communication (machine-to-machine), are needed in order to meet these demands.

United States

In the United States, consumers continued to show strong demand for telecommunications services. In the third quarter 2022, residential broadband market growth was stronger than in the third quarters preceding the coronavirus pandemic, adding approximately 625 thousand subscribers compared to between 515 and 540 thousand before the pandemic. Wireless broadband services, too, rose, with the largest three wireless operators and Comcast and Charter adding 2.3 million postpaid phone subscribers in the third quarter 2022, continuing the upward trends of recent quarters. Wireless demand was driven, among other things, by strong business demand, desires for more second devices, stronger demand by younger and older consumers and an ongoing shift from prepaid to postpaid.

To meet consumer demand, U.S. operators have continued to invest in infrastructure and network upgrades. T-Mobile US has expanded its 5G wireless network to cover 325 million people across the United States. Verizon now provides 5G service in over 2,700 markets and AT&T's 5G network reaches over 285 million people nationwide. Apart from meeting consumer demand, carriers see 5G networks as enabling enterprise opportunities given the lower latency and network slicing capability.

Wireless carriers in 2022 also invested significantly in fixed wireless broadband services in the United States. T-Mobile US and Verizon, in particular, saw significant growth in consumer uptake in 2022, after having launched their 5G fixed wireless services in 2021. T-Mobile US said it had 2.6 million High Speed Internet customers at year end 2022, whereas Verizon says it passed 1 million fixed wireless subscribers in the third quarter of 2022 and reported 379,000 fixed wireless net additions for the fourth quarter of 2022. As of January 2023, T-Mobile US's 5G fixed wireless home Internet service was available to more than 50 million homes. In November 2022, Verizon's fixed wireless service was available to 40 million homes.

Competition from fixed wireless broadband as well as general demand for broadband services is prompting cable providers to invest in their networks. Cable companies continue to perform broadband capacity upgrades, deploy small cell antennas and expand in rural markets to capture new broadband customers. In addition, cable operators have been promoting wireless-broadband bundles as fixed-mobile convergence is gaining traction in the U.S. consumer marketplace due to demand.

Operators are also showing strong interest in fiber buildouts. Fiber is seen by many as an effective long-term solution to satisfy broadband demands. Fiber penetration in the U.S. is currently put around 36 % and estimated to rise to 55 % by 2025. Deployment could be slowed, however by cost inflation, supply chain factors and a rise in interest rates. On the other hand, fiber deployment is expected to benefit from U.S. federal government subsidies. The Infrastructure Investment and Jobs Act passed by Congress in 2021 allocates USD 65 billion to broadband buildout and adoption and foresees around USD 42 billion for infrastructure buildout, with a focus on fiber technology.

In 2022, the U.S. Federal Communications Commission allocated additional frequencies for commercial wireless use to further support the buildout of 5G networks. This included 100 MHz of spectrum in the 3,450 to 3,550 MHz band as well as 117.5 MHz of spectrum in the 2.5 GHz band. No further auctions are planned at this stage.

Europe

The telecommunications markets of our segment were heavily affected by global events in the reporting year: The war in Ukraine had a major negative impact on economic development. The associated extensive sanctions against Russia had a knock-on effect on energy and producer prices. This resulted in sharp rises in inflation rates in these countries, leading to customers making economies in their selection of telecommunications products. Nevertheless, demand for broadband and TV services remained high. This is also reflected in Analysys Mason's figures for the fixed-network business (excluding systems solutions) for the first half of 2022: The business is growing, driven in particular by the increase in broadband business. This offset the decline in revenues from voice telephony. Mobile business also performed better than in the prior year.

The market players in our European footprint focused their acquisition activities in the reporting year on becoming providers of convergent product bundles comprising fixed-network and mobile services (FMC). In Greece, for example, a new convergent competitor emerged from the United Group's takeover of Nova and Wind. In Poland, the Iliad Group strengthened its convergent position by taking over Play and UPC Poland. In Hungary, the ICT group 4iG made a number of acquisitions, including that of Digi, Invitel, Antenna Hungary, and Vodafone/UPC Hungary, so as to establish itself as the second largest convergent company in Hungary. In Croatia, Telemach acquired Tele2 and Optima, making it the third strongest company with convergent services. In terms of the acquisition of spectrum licenses, there was only limited activity on the markets in the reporting year. However, the activities of the cell tower businesses picked up pace.

Convergent product bundles are now established in our markets and consistently post high growth rates. According to Analysys Mason, the number of FMC customers and revenues continued to grow year-on-year in the first half of 2022. The further development of existing retail offerings will allow specific target groups to be addressed, as well as innovative bundle bonuses to be obtained, such as the Telefónica Relaunch with the inclusion of non-traditional services in Mi Movistar or MagentaOne in our national companies. These integrated bonus packages are enjoying sustained strong growth in our national companies and frequently address the majority of consumers, which is having a positive impact on customer satisfaction, churn rates, and revenue growth.

In the markets of our Europe operating segment, subscription-based streaming services are now also on the rise. In addition to Netflix and Disney+, Warner Bros. Discovery has brought another retail product to market with HBOmax. In addition, SkyShowtime – a joint venture of Paramount Global and Comcast – has also been active in our markets since the end of 2022 or the start of 2023. The substitution potential for traditional pay TV is (still) manageable, although rising, since localization and local content are both on the increase. This trend is being delayed in part by the development of the macroeconomic situation. The unusually high inflation rates have led customers to reallocate or prioritize their disposable income. As a result, consumers are showing restraint in subscribing to additional premium entertainment services. Likewise, the parallel use of multiple on-demand services (stacking) is less widespread in these markets than, for example, in the United States or in Western Europe. Despite this, the appeal of this business model is evidenced by the year-on-year growth: according to Analysys Mason, revenues with streaming services in Europe and the customer base both posted strong growth as of the end of the first half of 2022.

In the reporting year, B2B operations kept pace with changing circumstances as the coronavirus pandemic abated. After an economically strong first half of 2022, Europe has now entered a much more challenging phase. The war in Ukraine and its consequences as well as increased inflationary pressures have had a negative impact on all industries. Owing to their geographic proximity to the war and their heavy dependence on gas imports from Russia, the countries of our segment are among the most heavily affected economies. Given that Europe is on the verge of tackling the challenge of transforming its economic model to a circular economy on the basis of a digital and green transition, the telecommunications sector will become a strategic and important partner to enable Europe to emerge in a stronger position. Since 2021, the European markets have adopted new networks, digital services and applications such as 5G, increasingly competition-centric broadband markets, and cybersecurity as the basis for the digital and green transformation. More reliable 5G connectivity, cloud computing, edge computing, and artificial intelligence have resulted in growing interest from companies in secure multi-access edge computing and private networks in order to strengthen their competitiveness and strategic autonomy.

Systems Solutions

In the IT industry in our core market of Western Europe, the volume that can be addressed by our Systems Solutions operating segment and the T-Systems brand increased by 5.6 % in the reporting year to EUR 172 billion. Companies continue to invest in digital solutions.

In Germany, in terms of IT services, demand has grown further for public cloud services and cybersecurity services, as has the importance of digitalization (including Industry 4.0). The security market in Western Europe addressed by T-Systems grew by 10.7 % in 2022. The health sector also developed positively, posting double-digit growth rates in areas including telehealth and the healthcare cloud in Germany. By contrast, growth in demand slowed in the market segments for traditional infrastructure, project business, and SAP services.

Competitive and price pressure persisted in all submarkets of our Systems Solutions operating segment. This was due on the one hand to competitors from traditional IT services business, such as IBM, Atos, and Capgemini, and on the other to cloud providers such as Amazon Web Services, Microsoft Azure, and Google Cloud. Prices were eroded further by providers of services that are delivered primarily offshore (e.g., Tata Consultancy Services, Infosys, and Wipro). In addition, the effects of the war in Ukraine had an impact on business, for example due to increased raw material prices and high levels of inflation.

Group Development

The sale of T-Mobile Netherlands was consummated on March 31, 2022. The environment of our Group Development operating segment is therefore dominated by the markets served by our companies Deutsche Funkturm (DFMG) and Magenta Telekom Infra (MTI) in Austria.

DFMG is the biggest provider of passive wireless infrastructure for mobile communications and broadcasting in Germany. The market also saw increased demand for cell sites in the 2022 financial year, due on the one hand to the fact that network operators plan to close gaps in coverage, and on the other to the fact that demand for mobile data services is growing, which calls for a further increase in the density of mobile networks.

MTI is the second-largest provider of passive wireless infrastructure for mobile communications and broadcasting in Austria. The densification of the Austrian market continued throughout 2022, driven by rising demand for mobile data services and the fulfillment of coverage obligations by the network providers.

Major regulatory decisions

Our business activities are largely subject to national, European, and U.S. regulation, which is associated with extensive powers to intervene in our product design and pricing, particularly in Europe. We were still subject to extensive regulation in our mobile and fixed-network businesses in 2022.

Regulation

European roaming regulation. July 1, 2022 marked the entry into force of the new Roaming Regulation for the European Union, which expands and extends the existing Roaming Regulation until 2032. The Roam like at Home principle introduced in 2017, initially for a period of five years, which allows consumers to make calls at domestic terms and conditions and use data volumes within the European Union, will now apply for a further ten years. New rules were also added on transparency, and the new regulation will ensure that the quality of roaming services is not lower than mobile services at home. New, lower price caps through 2031 were set for inter-operator tariffs for corresponding wholesale services, to be re-examined in 2024/2025. Steps to tighten regulation on voice calling and text messaging (SMS) between EU member states that had been discussed earlier were not included in the final regulation.

Approval of rates for copper-based wholesale services in Germany for 10 years. The Bundesnetzagentur published its final ruling on June 28, 2022, setting out the rates for unbundled local loop lines (ULLs) for the period from July 2022 to June 2032, for the first time for a period of 10 years. Starting July 1, 2022, a rate of EUR 10.65/month applies for the (longer) copper line section between the end customer and the main distribution frame in the Telekom building and of EUR 6.92/month for the (shorter) copper line section between the end customer and the cable distribution box on the street. These rates are to increase by 4 % as of July 1, 2027 to EUR 11.08/month and EUR 7.20/month, respectively.

Bundesnetzagentur's decision on access regulation including FTTH/H network access. On July 21, 2022, the Bundesnetzagentur published its decision on the future regulation of access to Deutsche Telekom's copper and fiber-optic network. The decision was preceded by consultations held at national and international level. Existing regulation of FTTH/H networks will be eased, by putting an end to "ex ante" and access regulation in the future. Non-discriminatory access will instead be secured under the Equivalence of Input (EoI) principle enshrined in the new Telecommunications Act (Telekommunikationsgesetz – TKG). Under the new system, wholesalers would have access to the same material and human resources as Deutsche Telekom's sales teams. The Bundesnetzagentur will further abolish the traditional "ex ante" regulation of layer 2 (VDSL) products and tie charges to a notification obligation. The commitment agreements agreed through the end of 2031 have been examined in more detail and have passed the replicability test. The decision also includes the requirement for Deutsche Telekom to grant access to ducts and poles. The specific access conditions will be determined in subsequent proceedings.

Adoption of the Federal Government's Digital Strategy. On August 31, 2022, the Federal Cabinet of Germany adopted the Federal Government's Digital Strategy 2025. The strategy brings together the key policy areas for the cross-cutting topic of digitalization and prioritizes the implementation of projects that are expected to unlock the greatest potential when it comes to advancing digitalization. One of its goals is to digitalize all public and healthcare services by 2025. A modern legal framework is also planned, which will support the development of the data economy and improve the use of data through connected virtual data rooms. The Gigabit Strategy adopted on July 13, 2022 plays a central role, promising greater speeds and improved framework conditions for building out the networks. The aim is to achieve nationwide coverage with fiber to the home (FTTH) and the latest-generation mobile communications standard by 2030. Specific action includes the introduction of expedited approval processes, the more widespread use of alternative cable-laying technologies, and the creation of a central information database (Gigabit-Grundbuch) that will improve transparency on the availability of infrastructure that can be shared. The federal states and municipalities play a key role in the implementation of these measures. A new Advisory Board for the Digital Strategy of Germany has been set up to provide monitoring and support. With the expertise of the Advisory Board and with the help of a database, the 135 targets of the Digital Strategy are to be continuously assessed in terms of progress and the need for change. The Federal Government has also announced an international digitalization strategy, which is expected in the next year.

Ongoing court case on the approval under merger control law for the joint venture Glasfaser NordWest. Telekom Deutschland and EWE founded the joint venture Glasfaser NordWest in 2020. The aim of the joint venture is to provide up to 1.5 million households and business locations with fast internet. On September 22, 2021, Düsseldorf Higher Regional Court overturned the approval granted by the Federal Cartel Office (Bundeskartellamt) under merger control law. The Bundeskartellamt, EWE, and Telekom Deutschland have each lodged a complaint against the decision of the Düsseldorf Higher Regional Court to not allow an appeal. The Federal Court of Justice has not yet ruled on these complaints. If the Düsseldorf Higher Regional Court's decision becomes final, the case will be referred back to the Bundeskartellamt for a new decision on approval and any further conditions. The joint venture can continue building out FTTH until the Bundeskartellamt decides otherwise.

Spectrum

In the United States, the assignment phase of Auction 110 ended on January 4, 2022. In this auction, the U.S. Federal Communications Commission (FCC) allocated a total of 100 MHz in the 3,450 to 3,550 MHz band. T-Mobile US paid USD 2.9 billion (EUR 2.6 billion) to secure itself a total of 199 licenses. The bidding phase of FCC Auction 108 in the United States ended on August 29, 2022, whereupon T-Mobile US was awarded a further 7,000 2.5 GHz licenses for which it paid a total of around USD 0.3 billion (EUR 0.3 billion). The U.S. Federal Communications Commission has not yet granted the licenses acquired at the auction. In the first quarter of 2022, OTE successfully participated in the auction for frequencies in the 430 MHz band in Greece, securing spectrum for around EUR 1.2 million. In Slovakia, the 3.x GHz auction was brought to a successful conclusion in May 2022, with Slovak Telekom securing 100 MHz for EUR 16 million. The four established mobile network operators agreed to a reshuffling of the 1,800 MHz band, which means they can each now use 2 x 20 MHz blocks of contiguous spectrum. In connection with the reshuffle, the spectrum licenses were extended for 15 years for a fee of EUR 8.9 million per network operator. In Poland, the extension of the 2,100 MHz licenses has been completed and the new licenses were sent out on October 11, 2022. In November 2022, Romania awarded 5G spectrum in the 700 MHz, 1,500 MHz, 2,600 MHz, and 3,400 to 3,800 MHz bands. Telekom Romania Mobile Communications did not participate in the auction. The usage rights in the 2,100 MHz band were also extended in the Czech Republic in December 2022.

The regulatory authority in Croatia opened the bidding phase of the multi-band auction on January 17, 2023. On December 20, 2022, the Polish regulatory authority UKE published a draft award procedure for the 3,400 to 3,800 MHz band, kicking off the procedure, which had hitherto been held up by an ongoing legislative process, and which is now expected to be completed in the first half of 2023. Awards for the 700/800 MHz and 26,000 MHz bands could follow in 2023. In the Czech Republic, the procedure to extend the 900/1,800 MHz GSM license, which expires in 2024, is expected to begin in the course of 2023. Meanwhile, in Slovakia, a procedure to extend or award spectrum in the 900 MHz and 2,100 MHz bands is expected for 2023. In Austria and Hungary, the millimeter wave spectrum in the 26,000 MHz band is also expected to come up for award in 2023. No further details are available at present.

In Germany, the usage rights for 800 MHz, 1,800 MHz (partial), and 2,600 MHz are due to expire at the end of 2025. The Bundesnetzagentur still sees a considerable need for clarification on a range of issues and in September 2022 launched a consultation on a position paper containing a proposed award concept. A final decision on this has not yet been made.

In the United States, on August 8, 2022, T-Mobile US reached agreements with Channel 51 License and LB License on the acquisition of licenses in the 600 MHz spectrum for an aggregate purchase price of USD 3.5 billion (EUR 3.4 billion). The agreements are subject to approvals by the regulatory authorities and certain other customary closing conditions. The transactions are expected to be completed between mid and late 2023.

The following table provides an overview of the main ongoing and planned spectrum awards and auctions as well as license extensions. It also indicates spectrum to be awarded in the near future in various countries.

Main spectrum awards

	Expected start of award procedure	Expected end of award procedure	Frequency ranges (MHz)	Planned award procedures	Updated information
Croatia	Started	Q2 2023	800/900/1,800/ 2,100/2,600	Auction (SMRA ^a)	Unsold residual spectrum in the 3,400 to 3,800 MHz and 26,000 MHz bands will not be included in the award for nationwide use.
Austria	Q3 2023	Q4 2023	26,000	Details tbd	
Poland	Q1 2023	Q2 2023	3,400 – 3,800	Auction (SMRA ^a), 4 blocks of 80 MHz, cap expected at 80 MHz	Start of procedure with consultation in December 2022. Bidding process expected in H1 2023.
Poland	Q3 2023	Q4 2023	700/800	Auction or tender procedure ^b , details and timeline tbd	Plans for all bands still unclear due to discussions on award models, dependency on the adoption of the Cyber Security Act, and standstill in 700 MHz border coordination talks with Russia.
Poland	Q3 2023	Q4 2023	26,000	Details tbd	Regulatory authority announced plans for award procedures in 2023 without giving details.
Slovakia	Q1 2023	Q2 2023	900/2,100	Extension or award procedures	
Czech Republic	Q2 2023	Q4 2023	900/1,800	Extension procedure	900/1,800 MHz GSM license of T-Mobile Czech Republic expires in 2024. Extension procedure expected in 2023.
Hungary	Q3 2023	Q4 2023	26,000	Details tbd	Regulatory authority announced plans for award procedures in 2023 without giving details.

^a SMRA: simultaneous (electronic) multi-round auction with ascending, parallel bids for all available frequency bands.

^b Tender procedure (beauty contest auction) offering a competitive selection process for assigning scarce frequencies.

Development of business in the Group

Statement of the Board of Management on business development in 2022

Bonn, February 14, 2023

Deutsche Telekom is an anchor of stability in uncertain times: We can look back on a successful financial year in which we continued our growth course in a challenging macroeconomic environment. Independent tests confirm that we have the best network and the best service in many of our markets. We achieved our annual build-out targets and were therefore also able to delight our customers. It is not by accident that Brand Finance ranks us as the most valuable brand in Europe in its brand ranking. And our strategy of sustainable corporate governance is also paying off on the capital market: our share price rose to more than EUR 20 at the start of 2023.

It is and remains important to us to fulfill our social responsibility – especially with offers of help and specific support for those affected by the war in Ukraine. We also keep an eye on our ambitious climate goals. Since 2021, our customers have been surfing on Deutsche Telekom's green network, and our own energy consumption for all Group units has been covered entirely by electricity from renewable energy sources. At the Group's first Sustainability Day in October 2022, we announced further measures, such as the decision not to order any new company vehicles with combustion engines in Germany, and the exclusive use of sustainable packaging from 2025.

We met our key corporate targets in 2022. We closed significant transactions, completed reorganizations, and took further steps to secure control of T-Mobile US. In the United States, we once again recorded strong growth in customer numbers, especially in postpaid. But the high-speed internet offering was also very well received. In Europe and Germany, our integrated offers continue to enjoy strong demand. This is also reflected in our key financials: We raised our guidance for adjusted EBITDA AL, free cash flow AL (before spectrum), and adjusted earnings per share for the 2022 financial year several times over the course of the year. Net revenue increased by 6.1 % to EUR 114.4 billion, mainly due to exchange rate effects. Service revenue was up 10.6 % to EUR 91.9 billion.

Adjusted EBITDA AL grew by 7.7 % to EUR 40.2 billion. The main reason for this increase is a sound operational development, driven by revenue growth and further enhanced cost efficiency. EBIT increased by 23.8 % to EUR 16.2 billion, despite significant negative special factors that affected it. These primarily comprised integration costs incurred in connection with the business combination of T-Mobile US and Sprint as well as impairment losses recorded in the United States, mainly in connection with the agreed sale of the former Sprint's fiber-optic-based wireline business. By contrast, income from the deconsolidation of GlasfaserPlus and T-Mobile Netherlands had a positive effect. The suspension of depreciation and amortization as a result of the business entities T-Mobile Netherlands and GD Towers being held for sale on account of the sales agreements also increased EBIT.

Loss from financial activities decreased thanks in part to a large number of positive effects from the measurement of derivatives – in particular from the forward transaction to hedge the price of acquiring shares in T-Mobile US in the future, and the stock options to purchase shares in T-Mobile US – as well as income from the measurement of provisions resulting from the sharp rise in interest rates. By contrast, negative trends were recorded for finance costs and the share of profit/loss of associates and joint ventures included in the consolidated financial statements using the equity method, the latter on account of an impairment loss recognized on our stake in GlasfaserPlus. Ultimately, net profit increased significantly to EUR 8.0 billion. Adjusted net profit increased to as much as EUR 9.1 billion. As a consequence, adjusted earnings per share increased to EUR 1.83.

ROCE increased by 0.4 percentage points year-on-year to 4.5 %, driven in particular by the increase in adjusted EBITDA AL.

Net debt increased from EUR 132.1 billion to EUR 142.4 billion. This increase is largely attributable to the modification of the arrangements between T-Mobile US and Crown Castle. The resulting increase in right-of-use assets and property, plant and equipment was reflected in the increase in net debt by EUR 7.4 billion in total. But exchange rate effects and further additions of lease liabilities and right-of-use assets also had an increasing effect. In the United States, the acquisition of spectrum, the share buy-back program, and our increase of the stake in T-Mobile US contributed to the increase.

The trends in the industry, in particular on the European telecommunications markets, remain challenging due to ongoing competitive pressure and strict regulatory requirements. In order to succeed in the future, we continue to invest heavily in the key to our success: our network infrastructure and our technology. In 2022, we made Group-wide investments (before spectrum) of EUR 21.0 billion, EUR 3.0 billion more than in the prior year, with a focus on the parallel build-out of our broadband and mobile infrastructure (optical fiber and 5G). Including the spectrum payments, this figure was EUR 24.1 billion in the reporting year. Our free cash flow AL (before dividend payments and spectrum investment) increased by 30.2 % to EUR 11.5 billion. We are therefore a solid investment-grade company with access to the international capital markets. The rating agency Standard & Poor's even raised our rating outlook in April 2022, and, for the first time, our U.S. subsidiary has also had a full investment-grade rating from all three major rating agencies since August 2022.

As communicated at our [Capital Markets Day](#) in May 2021, we want to underpin our strong starting position going forwards with solid financial growth rates. We pursue a sustainable dividend policy for our shareholders. For the 2022 financial year, we will propose a dividend of EUR 0.70 for each dividend-bearing share. This year, the dividend will once again be paid out without any deduction of capital gains tax, and we expect this to be also the case in the years to come. Following a very strong year in 2021, the stock markets showed a much weaker performance in 2022. By contrast, the T-Share closed 2022 up 14.0 %. On a total return basis, it was up by as much as 18.6 %.

Our goal is clear: We want to become the Leading Digital Telco. To this end, we will align ourselves long-term with the needs of our customers and systematically transform ourselves into a simple, digital, and in every way agile company to hold our own against the competition and continue our growth course. The aim of building and operating the best convergent networks remains at the core of our strategy and is an important driver for our growth areas. Deutsche Telekom will not rest on its laurels, we will remain ready and willing to change. And we will not waver: we remain an anchor of stability.

Notes on the management approach

Presentation of GD Towers. On July 13, 2022, Deutsche Telekom reached an agreement with DigitalBridge and Brookfield on the sale of a 51.0 % stake in GD Towers, comprising its tower assets in Germany and Austria, assigned to the Group Development operating segment. This transaction was consummated on February 1, 2023. As a result, the GD Towers business entity has been recognized in the consolidated financial statements as a discontinued operation since the third quarter of 2022. However, in the combined management report we continue to include the contributions by GD Towers in the results of operations according to the management approach.

For further information on the agreement with DigitalBridge and Brookfield on GD Towers, and the presentation of GD Towers according to the management approach, please refer to the sections "[Group organization](#)" and "[Management of the Group](#)."

Gross vs. net recognition of revenues – change in the principal/agent consideration. In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented changes to its accounting practices with respect to the recognition of gross vs. net revenues, effective the start of the third quarter of 2022. For Deutsche Telekom, the question arises particularly in the case of branded digital products (e.g., streaming services, software licenses, cloud-based software as a service) provided by and purchased from third parties and sold to customers as part of Deutsche Telekom's product portfolio. In considering the change in policy, Deutsche Telekom determines that it only acts as a principal and thus must recognize revenues on a gross basis if the customer does not enter into any contractual relationship with the third-party supplier, Deutsche Telekom bears primary responsibility for product acceptance and customer support, and is in a position to set the price for the customer. In contrast to its previous accounting practice, the application of the new policy results in a decline both in revenues and in goods and services purchased of EUR 1.3 billion in each case for 2022, and of EUR 1.0 billion in each case for 2021. The prior-year comparatives for revenue and order entry were adjusted with retrospective effect.

Reassignment of the security business. Effective July 1, 2022, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment in order to maintain a consistent focus on implementing our Group strategy pillar "Lead in business productivity." Prior-year comparatives in both of the segments affected concerning the development of operations, customer development, headcount development, and order entry were adjusted retrospectively.

Comparison of the Group's expectations with actual figures

In the 2021 Annual Report, we outlined expectations for the 2022 financial year for our financial and non-financial key performance indicators anchored in our management system. The following tables summarize the pro forma figures for 2021, the results expected for the reporting year, and the actual results achieved in 2022. The performance indicators that we also forecast in the 2021 Annual Report and their development are presented in the individual sections.

Comparison of the expected financial key performance indicators with actual figures

		Pro forma figures for 2021	Original expectations for 2022 ^a	Expectations revised during 2022 ^a	Results in 2022
Net revenue	billions of €	106.5	stable trend		114.4
Service revenue	billions of €	82.1	slight increase		91.9
EBITDA AL (adjusted for special factors) ^b	billions of €	36.5	around 36.5	more than 37.0	40.2
Profit (loss) from operations (EBIT)	billions of €	12.5	strong increase		16.2
Earnings per share (adjusted for special factors) ^{b, c}	€	1.22	slight increase	more than 1.50	1.83
ROCE ^c	%	4.1	slight increase		4.5
Free cash flow AL (before dividend payments and spectrum investment) ^b	billions of €	8.4	around 10.0	more than 10.0	11.5
Cash capex (before spectrum investment)	billions of €	17.7	19.3		21.0
Rating (Standard & Poor's, Fitch)		BBB, BBB+	from A- to BBB		BBB, BBB+
Rating (Moody's)		Baa1	from A3 to Baa2		Baa1

^a Our 2022 guidance was determined based on a U.S. dollar exchange rate of USD 1.18.

^b Contrary to the forecasts published in the 2021 combined management report (2021 Annual Report), we adjusted the guidance for 2022 for EBITDA AL (adjusted for special factors), free cash flow AL (before dividend payments and spectrum investment), and earnings per share (adjusted for special factors) during the course of the year (Interim Group Reports as of March 31, 2022, June 30, 2022, and September 30, 2022).

^c Pro forma figures were not provided for these performance indicators in the 2021 Annual Report. Instead, we include here the actual figures for 2021.

The comparison shown in the table of the pro forma figures for 2021 and the expectations formulated on this basis for 2022 with the results actually generated for 2022 is not like for like, i.e., these figures are not based on comparable exchange rates. Below we describe the results achieved on a like-for-like basis, i.e., at comparable exchange rates and excluding the results of T-Mobile Netherlands for the first quarter of 2022. Similarly, for the purposes of this comparison, we have not included any positive effects from the suspension of depreciation and amortization for GD Towers due to it being recognized as a discontinued operation.

Once again we look back on a successful financial year. We met or significantly exceeded our expectations. As expected, our revenue trended stably in organic terms, i.e., adjusted for exchange rate effects and changes to the composition of the Group, while service revenue grew substantially on an organic basis by 3.7%. Adjusted EBITDA AL increased in organic terms by 1.7%, despite the strategic withdrawal from the terminal equipment lease business model in the United States. Even under the premises we formulated for our guidance, i.e., excluding the results of T-Mobile Netherlands and the positive effects from suspending depreciation and amortization for GD Towers, we still outperformed our most recently communicated guidance of over EUR 37.0 billion. At EUR 1.83, adjusted earnings per share were significantly higher than our revised guidance of more than EUR 1.50, due to the positive development of operations and a number of positive one-time effects. ROCE increased to 4.5%. At EUR 11.5 billion, free cash flow AL (before dividend payments and spectrum investment) clearly exceeded our latest guidance of over EUR 10.0 billion, even taking positive exchange rate effects into account. Cash capex (before spectrum investment), taking the increases from exchange rate effects into account, was slightly higher than expected.

Comparison of the expected non-financial key performance indicators with actual figures

		Pro forma figures for 2021	Expectations for 2022	Results in 2022
Group				
Customer satisfaction (TRI*M index)		72.6	slight increase	76.0
Employee satisfaction (engagement score) ^a		77	stable trend	78
Energy consumption ^{a, b}	GWh	13,323	stable trend	13,253
CO ₂ emissions (Scope 1 and 2) ^{a, c}	kt CO ₂ e	247	slight decrease	233
Fixed-network and mobile customers				
Germany				
Mobile customers	millions	53.2	increase	54.2
Fixed-network lines	millions	17.5	stable trend	17.4
Retail broadband lines	millions	14.5	slight increase	14.7
United States				
Postpaid customers	millions	87.7	increase	92.2
Prepaid customers	millions	21.1	slight increase	21.4
Europe				
Mobile customers	millions	45.8	slight increase	47.3
Fixed-network lines	millions	7.8	slight decrease	7.9
Broadband customers	millions	6.4	increase	6.7
Systems Solutions				
Order entry	billions of €	4.2	slight increase	4.0

^a Pro forma figures were not provided for these performance indicators in the 2021 Annual Report. Instead, we include here the actual figures for 2021.

^b Energy consumption, mainly: electricity, fuel, other fossil fuels, district heating for buildings.

^c Calculated according to the market-based method of the Greenhouse Gas Protocol.

We are also on track with our non-financial performance indicators. In our domestic market of Germany, we recorded an increase both for mobile communications and for broadband. In the United States operating segment, we once again recorded strong growth in postpaid customers: the number of customers increased by a record 6.4 million, thereby exceeding our already high expectations. Customer numbers in our Europe operating segment trended positively and above our expectations in some areas, in particular the number of fixed-network lines and mobile customers.

Order entry in our Systems Solutions operating segment was below the figure forecast, due to the reassignment of the security business to the Germany operating segment, which had not been accounted for in the original planning. On a like-for-like basis with the prior year, order entry was up slightly, in line with our expectations.

Employee satisfaction remained high in 2022 at 78 points. At the end of the reporting year, customer satisfaction came in at 76.0 points compared with an adjusted baseline figure of 72.6 points at the start of the year. Following changes to the revenue shares contributed by each country and in order to create an equivalent basis for comparing the Group's expectations with actual figures, we recalculated the baseline figure for 2022 on the basis of the new structures these changes entailed. The new baseline thus diverges from the figure of 73.4 reported as of December 31, 2021. The Germany, Europe, and Systems Solutions operating segments contributed to the very positive development with clear improvements in customer loyalty. The Group's energy consumption remained stable while CO₂ emissions declined slightly, both of which were in line with our expectations.

For further information on the trends in our main financial and non-financial performance indicators, please refer to the relevant passages in this section as well as in the section "Development of business in the operating segments."

Results of operations of the Group

The GD Towers business entity has been recognized in the consolidated financial statements as a discontinued operation since the third quarter of 2022. According to the management approach, however, we continue to include the contributions by GD Towers in the Group Development operating segment in the management-relevant financial performance indicators explained here. For the reconciliation to the consolidated income statement, please refer to the relevant table in the section "Management of the Group."

millions of €

	2022	2021	Change	Change %	2020
Net revenue	114,413	107,811	6,602	6.1	100,139
Service revenue	91,947	83,130	8,817	10.6	78,107
EBITDA AL (adjusted for special factors)	40,208	37,330	2,878	7.7	35,017
EBITDA AL	35,989	33,893	2,096	6.2	33,178
Depreciation, amortization and impairment losses	(27,827)	(27,482)	(345)	(1.3)	(25,829)
Profit (loss) from operations (EBIT)	16,159	13,057	3,102	23.8	12,804
Profit (loss) from financial activities	(4,455)	(5,139)	684	13.3	(4,128)
Profit (loss) before income taxes	11,703	7,918	3,785	47.8	8,677
Net profit (loss)	8,001	4,176	3,825	91.6	4,158
Net profit (loss) (adjusted for special factors)	9,081	5,862	3,219	54.9	5,715
Earnings per share (basic/diluted)	€ 1.61	0.87	0.74	85.1	0.88
Adjusted earnings per share (basic/diluted)	€ 1.83	1.22	0.61	50.0	1.20

In order to increase the informative value of the prior-year comparatives based on changes to the Company's structure or exchange rate effects, we also describe selected figures in **organic terms**, by adjusting the figures for the prior year for exchange rate effects, changes in the composition of the Group, and other effects. The exchange rate effects were primarily attributable to the translation of U.S. dollars to euros. Due to changes in the composition of the Group, the organic figures for the prior year decreased in the Group Development operating segment, in connection with the sale of T-Mobile Netherlands as of March 31, 2022, and in the Europe operating segment, mainly in connection with the sale of the Romanian fixed-network business as of September 30, 2021. By contrast, the organic figures in the United States operating segment increased in connection with the acquisition of Shentel as of July 1, 2021.

Net revenue, service revenue

In the reporting year, we generated net revenue of EUR 114.4 billion, which was 6.1% or EUR 6.6 billion up on the prior-year level. In organic terms, revenue remained on a par with the prior-year level, including positive net exchange rate effects of EUR 8.4 billion, with the changes in the composition of the Group having the net reducing effect of EUR 1.8 billion. Service revenue in the Group increased by EUR 8.8 billion or 10.6% year-on-year to EUR 91.9 billion. In organic terms, service revenue increased by EUR 3.3 billion or 3.7%.

Contribution of the segments to net revenue (according to the management approach)

millions of €

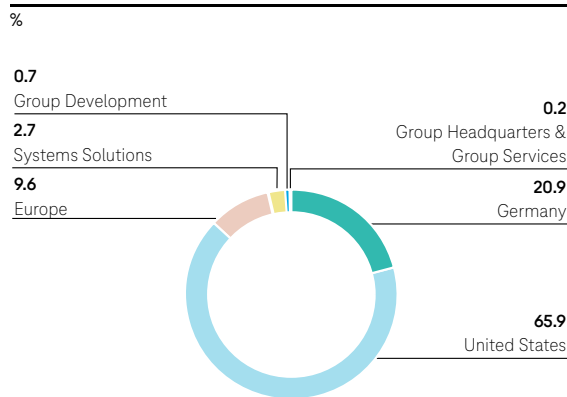
	2022	2021	Change	Change %	2020
Germany	24,505	24,050	455	1.9	23,712
United States	75,436	67,791	7,645	11.3	60,702
Europe	11,158	11,294	(136)	(1.2)	11,251
Systems Solutions	3,811	3,759	52	1.4	3,911
Group Development	1,708	3,165	(1,457)	(46.0)	2,883
Group Headquarters & Group Services	2,407	2,515	(108)	(4.3)	2,556
Intersegment revenue	(4,612)	(4,763)	151	3.2	(4,876)
Net revenue	114,413	107,811	6,602	6.1	100,139

Our United States operating segment in particular contributed to the positive revenue trend with an increase of 11.3 %, mainly due to exchange rate effects. In organic terms, revenue declined by 1.3 % year-on-year due to lower terminal equipment revenue, partially offset by higher service revenue. Revenue in our home market of Germany was up on the prior-year level, increasing by 1.9 %. This was primarily driven by growth in service revenues, in both the fixed-network core business, mainly due to broadband, and in mobile communications. In our Europe operating segment, revenue decreased by 1.2 % year-on-year, mainly due to the sale of the Romanian fixed-network business. In organic terms, however, revenue increased by 3.9 %, primarily attributable to the strong performance of the mobile business, especially the increase in higher-margin mobile service revenues, increases in roaming and visitor revenues, and volume-driven increases in revenues from terminal equipment sales. Fixed-network service revenue also developed better compared with the prior-year period. Revenue in our Systems Solutions operating segment was up 1.4 % year-on-year; in organic terms, it was up 1.0 %. This positive development was mainly driven by growth in the Digital Solutions, Road Charging, and Advisory portfolio units, and it more than offset the expected decline in traditional IT infrastructure business. Revenue in our Group Development operating segment declined significantly compared with the prior-year period, mainly due to the sale of T-Mobile Netherlands. In organic terms, however, revenue increased by 6.5 % thanks to the operational and structural growth of the GD Towers business entity.

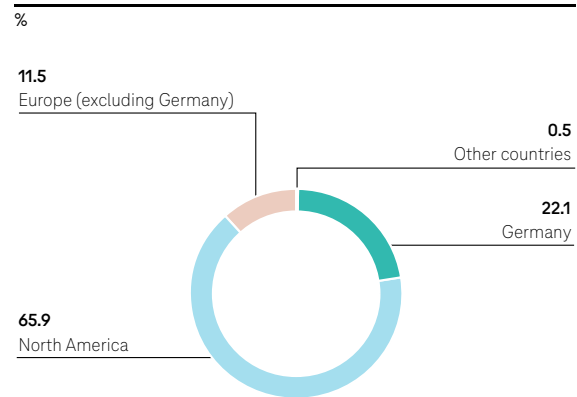
For further information on revenue development in our segments, please refer to the section [“Development of business in the operating segments.”](#)

For information on the extension of the definition of service revenue, please refer to the section [“Management of the Group.”](#)

Contribution of the segments to net revenue^a



Breakdown of revenue by region



^a For further information, please refer to Note 38 [“Segment reporting”](#) in the notes to the consolidated financial statements.

At 65.9 %, our United States operating segment again provided by far the largest contribution to net revenue of the Group, up 3.1 percentage points above the prior-year level. The proportion of net revenue generated internationally also increased from 77.0 % to 77.9 %.

Adjusted EBITDA AL, EBITDA AL

Adjusted EBITDA AL increased year-on-year by EUR 2.9 billion or 7.7 % to EUR 40.2 billion in the reporting year. In organic terms, adjusted EBITDA AL increased by EUR 0.7 billion or 1.7 %, including positive net exchange rate effects of EUR 2.8 billion, and with changes in the composition of the Group having a net reducing effect of EUR 0.6 billion. Adjusted core EBITDA AL, i.e., adjusted EBITDA AL excluding revenue from terminal equipment leases in the United States, thereby presenting operational development undistorted by the strategic withdrawal from the terminal equipment lease business, increased by EUR 4.3 billion or 12.5 % to EUR 38.9 billion.

Contribution of the segments to adjusted Group EBITDA AL (according to the management approach)

millions of €

	2022	Proportion of adjusted Group EBITDA AL %	2021	Proportion of adjusted Group EBITDA AL %	Change	Change %	2020
Germany	9,837	24.5	9,536	25.5	301	3.2	9,197
United States	25,614	63.7	22,697	60.8	2,917	12.9	20,997
Europe	3,964	9.9	4,007	10.7	(43)	(1.1)	3,910
Systems Solutions	284	0.7	271	0.7	13	4.8	269
Group Development	964	2.4	1,307	3.5	(343)	(26.2)	1,101
Group Headquarters & Group Services	(437)	(1.1)	(440)	(1.2)	3	0.7	(429)
Reconciliation	(17)	(0.0)	(47)	(0.1)	30	63.8	(28)
EBITDA AL (adjusted for special factors)	40,208	100.0	37,330	100.0	2,878	7.7	35,017

The United States, Germany, and Systems Solutions operating segments made a positive contribution to the development of adjusted EBITDA AL. In our United States operating segment, adjusted EBITDA AL increased by 12.9 %, essentially due to exchange rate effects. In organic terms, adjusted EBITDA AL grew by 0.1 % year-on-year. Adjusted core EBITDA AL increased by EUR 4.4 billion or 21.9 % to EUR 24.3 billion. Our Germany operating segment contributed to the increase thanks to high-value revenue growth and improved cost efficiency with 3.2 % higher adjusted EBITDA AL. In our Systems Solutions operating segment, adjusted EBITDA AL increased by 4.8 % or, in organic terms, by 0.9 %. Efficiency effects from our transformation program and increased revenue in our Digital Solutions and Road Charging portfolio units exceeded the decline in earnings in the traditional IT infrastructure business. Adjusted EBITDA AL in our Europe operating segment decreased by 1.1 %. In organic terms, however, adjusted EBITDA AL grew by 3.1 %, again making a significant positive contribution to earnings, with a positive net margin more than sufficient to offset the higher indirect costs. Adjusted EBITDA AL in our Group Development operating segment declined by 26.2 % year-on-year due to the sale of T-Mobile Netherlands as of March 31, 2022. In organic terms, it increased by 26.4 %, since the GD Towers business posted consistent growth on the back of a rising number of cell tower sites and was further strengthened by the development of the Austrian cell tower business.

EBITDA AL increased by EUR 2.1 billion or 6.2 % year-on-year to EUR 36.0 billion, with special factors changing from EUR -3.4 billion to EUR -4.2 billion. Expenses incurred in connection with staff-related measures, especially in the United States operating segment, increased by EUR 0.5 billion, and in connection with non-staff-related restructuring by EUR 0.2 billion against the prior year. Net expenses of EUR 2.3 billion were recorded as special factors under effects of deconsolidations, disposals and acquisitions. EUR 4.6 billion of this primarily related to expenses in connection with integration costs incurred as a result of the business combination of T-Mobile US and Sprint. These expenses included in particular discounts on terminal equipment for former Sprint customers whose devices can no longer be used in the T-Mobile US mobile network, and expenses arising in connection with the decommissioning of the former Sprint mobile network. The latter primarily comprise additional depreciation, amortization and impairment losses from reductions in the useful lives of leased network technology for cell sites in the United States. In connection with the agreement to sell the fiber-optic-based wireline business, T-Mobile US recorded expenses totaling EUR 0.7 billion in the third quarter of 2022 on account of payment obligations entered into. In addition to the agreed sale of the wireline business, a gain of EUR 0.1 billion from the consummated sale of IP addresses of the fiber-optic-based wireline network in the United States was recognized. Income of EUR 1.7 billion resulted from the deconsolidation of GlasfaserPlus, EUR 0.9 billion from the sale of T-Mobile Netherlands, and another EUR 0.1 billion from the deconsolidation of DIV II. In the prior year, net expenses of EUR 2.5 billion had been recorded as special factors under effects of deconsolidations, disposals and acquisitions. These expenses also primarily relate to the business combination of T-Mobile US and Sprint. The impairment losses recognized as special factors amounted to EUR 0.3 billion in the reporting year and mainly related to right-of-use assets used in connection with the former Sprint's fiber-optic-based wireline network. Other special factors affecting EBITDA AL amounted to EUR -0.3 billion and include net expenses (including insurance compensation) of EUR 0.4 billion in connection with the proceedings pending in consequence of the cyberattack on T-Mobile US in August 2021, as well as insurance compensation of EUR 0.2 billion in connection with damage sustained in the catastrophic flooding in North Rhine-Westphalia and Rhineland-Palatinate in July 2021.

For further information on the development of (adjusted) EBITDA AL in the segments, please refer to the section "[Development of business in the operating segments.](#)"

Profit/loss from operations (EBIT)

Group EBIT increased to EUR 16.2 billion, up EUR 3.1 billion or 23.8 % against the prior-year level. This increase is due in particular to the effects described under adjusted EBITDA AL and EBITDA AL. At EUR 27.8 billion, depreciation, amortization and impairment losses were EUR 0.3 billion higher than in the prior year.

Impairment losses increased by EUR 0.9 billion to EUR 1.2 billion, of which EUR 0.9 billion related to the United States operating segment, mainly in connection with assets of the former Sprint's fiber-optic-based fixed network. These impairment losses arose in part in connection with the sale of the business agreed in September 2022. Further impairment losses of EUR 0.1 billion related to the Systems Solutions operating segment and the Group Headquarters & Group Services segment. These related to follow-up investments in connection with assets previously impaired in the 2020 and 2021 financial years. Furthermore, despite the business outlook remaining positive, the substantial increase in the cost of capital in the reporting year prompted further impairment losses to be recognized on non-current assets at the end of 2022. In addition, impairment losses of EUR 0.1 billion related to the Europe operating segment in connection with non-current assets in the Romanian fixed-network business. The national company continues to operate in the structurally challenging and highly competitive Romanian market at prices that are low compared with other countries. In addition, high energy prices and sharp rises in interest rates had a negative impact on the enterprise value. The impairment losses recognized in the prior year amounted to EUR 0.3 billion and related primarily to the Systems Solutions operating segment and the Group Headquarters & Group Services segment.

By contrast, depreciation and amortization decreased by EUR 0.5 billion. In the Group Development operating segment, depreciation and amortization were down on the prior-year level in connection with the fact that T-Mobile Netherlands had been held for sale until it was sold and accordingly the related depreciation and amortization had been suspended, and in connection with its subsequent sale. In addition, depreciation and amortization were suspended for the GD Towers business entity, which has been held for sale since July 13, 2022. Depreciation on property, plant and equipment in the United States operating segment declined due to the ongoing strategic withdrawal from the terminal equipment lease business. By contrast, in the United States operating segment a reduction in the useful life of leased network technology for cell sites in connection with the business combination of T-Mobile US and Sprint, as well as the modification of existing arrangements between T-Mobile US and Crown Castle, mainly relating to the lease of cell sites from Crown Castle, resulted in higher depreciation of the corresponding right-of-use assets.

For further information on depreciation, amortization and impairment losses, please refer to Note 27 "[Depreciation, amortization and impairment losses](#)" in the notes to the consolidated financial statements.

For information on the agreement with DigitalBridge and Brookfield on GD Towers, and the presentation of GD Towers according to the management approach, including reconciliation table, please refer to the section "[Management of the Group](#)."

Profit before income taxes

Profit before income taxes increased by EUR 3.8 billion to EUR 11.7 billion. The loss from financial activities decreased year-on-year from EUR 5.1 billion to EUR 4.5 billion, with other financial income/expense improving from EUR -0.4 billion to EUR 1.4 billion. This was attributable in particular to positive measurement effects from a forward transaction to hedge the price of acquiring shares in T-Mobile US in the future and positive measurement effects from the amortization and subsequent measurement of the stock options received from SoftBank in June 2020 to buy shares in T-Mobile US. Less pronounced negative measurement effects from derivatives of T-Mobile US embedded in bonds compared with the prior-year period also contributed to this. The interest component from the measurement of provisions and liabilities increased by EUR 0.4 billion. This increase was mainly attributable to the subsequent measurement using actuarial principles of the present value of the provision recognized for the Civil Service Health Insurance Fund. However, finance costs also increased from EUR 4.6 billion to EUR 5.3 billion. This was primarily due to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase in the carrying amounts of lease liabilities, as well as to variable-interest financial liabilities in connection with the rise in interest rates in the reporting year. The share of profit/loss of associates and joint ventures included in the consolidated financial statements using the equity method declined from EUR -0.1 billion to EUR -0.5 billion. This was due to an impairment loss of EUR 0.5 billion recognized in the reporting year on the carrying amount of the stake in GlasfaserPlus. The impairment loss was triggered by the current macroeconomic developments and the associated sharp rise in interest rates.

Net profit, adjusted net profit

Net profit increased year-on-year by EUR 3.8 billion to EUR 8.0 billion. The tax expense from continuing operations and the discontinued operation increased by EUR 0.4 billion to EUR 2.2 billion. Profit attributable to non-controlling interests decreased from EUR 1.9 billion to EUR 1.5 billion, with the decrease being primarily attributable to our United States operating segment. Excluding special factors, which had a negative overall effect of EUR 1.1 billion on net profit, adjusted net profit amounted to EUR 9.1 billion, up EUR 3.2 billion against the prior year.

For further information on tax expense, please refer to Note 32 "[Income taxes](#)" in the notes to the consolidated financial statements.

Earnings per share, adjusted earnings per share

Earnings per share is calculated as net profit divided by the weighted average number of ordinary shares outstanding, which totaled 4,972 million as of December 31, 2022. This resulted in earnings per share of EUR 1.61, compared with EUR 0.87 in the prior year. Earnings per share adjusted for special factors affecting net profit amounted to EUR 1.83 compared with EUR 1.22 in the prior year.

Reconciliations of financial performance indicators from the IFRS consolidated financial statements

A reconciliation of revenues disclosed in the consolidated financial statements, including their breakdown into revenue categories, to the “service revenue” financial performance indicator can be found in the following table:

billions of €					
	2022	2021	Change	Change %	
Net revenue	114.2	107.6	6.6	6.1	
Revenue from the sale of goods and merchandise	(19.9)	(19.6)	(0.3)	(1.5)	
Revenue from the use of entity assets by others	(2.2)	(3.8)	1.6	42.1	
Revenue from the rendering of services	92.0	84.2	7.8	9.3	
+/- Reconciliation to service revenue as financial performance indicator					
Adjustment of revenue from the rendering of services ^a	(1.2)	(2.2)	1.0	45.5	
Adjustment of revenue from the sale of goods and merchandise ^b	0.4	0.3	0.1	33.3	
Adjustment of revenue from the use of entity assets by others ^c	0.8	0.9	(0.1)	(11.1)	
Service revenue	91.9	83.1	8.8	10.6	

^a The definition of “service revenue” does not include, in particular: revenues from valued-added services, revenues from application and contract services, and other non-recurring/variable revenues.

^b Relates to revenues from the sale of hardware in connection with the ICT business.

^c Primarily relates to revenues from wholesale business (e.g., in connection with unbundled local loops and co-location spaces).

A reconciliation of the definition of EBITDA to the “after leases” indicator (EBITDA AL) can be found in the following table:

millions of €					
	2022	2021	Change	Change %	2020
EBITDA	43,986	40,539	3,447	8.5	38,633
Depreciation of right-of-use assets ^a	(6,507)	(5,547)	(960)	(17.3)	(4,530)
Interest expenses on recognized lease liabilities ^a	(1,489)	(1,099)	(390)	(35.5)	(925)
EBITDA AL	35,989	33,893	2,096	6.2	33,178
Special factors affecting EBITDA AL	(4,219)	(3,437)	(782)	(22.8)	(1,839)
EBITDA AL (adjusted for special factors)	40,208	37,330	2,878	7.7	35,017

^a Excluding finance leases at T-Mobile US.

The following table presents the reconciliation of net profit to net profit adjusted for special factors:

millions of €					
	2022	2021	Change	Change %	2020
Net profit (loss)	8,001	4,176	3,825	91.6	4,158
Special factors affecting EBITDA AL	(4,219)	(3,437)	(782)	(22.8)	(1,839)
Staff-related measures	(1,230)	(717)	(513)	(71.5)	(1,268)
Non-staff-related restructuring	(175)	(22)	(153)	n.a.	(32)
Effects of deconsolidations, disposals and acquisitions	(2,256)	(2,542)	286	11.3	(1,655)
Impairment losses on right-of-use assets	(276)	0	(276)	n.a.	0
Reversals of impairment losses	0	0	0	n.a.	1,655
Other	(283)	(156)	(127)	(81.4)	(539)
Special factors affecting net profit	3,139	1,751	1,388	79.3	283
Impairment losses	(989)	(258)	(731)	n.a.	(656)
Profit (loss) from financial activities	(487)	(139)	(348)	n.a.	(25)
Income taxes	1,936	1,064	872	82.0	730
Non-controlling interests	2,680	1,084	1,596	n.a.	234
Special factors	(1,080)	(1,686)	606	35.9	(1,557)
Net profit (loss) (adjusted for special factors)	9,081	5,862	3,219	54.9	5,715

The following table presents a reconciliation of EBITDA AL, EBIT, and net profit to the respective figures adjusted for **special factors**:

millions of €						
	EBITDA AL 2022	EBIT 2022	EBITDA AL 2021	EBIT 2021	EBITDA AL 2020	EBIT 2020
EBITDA AL/EBIT	35,989	16,159	33,893	13,057	33,178	12,804
Germany	1,162	1,162	(595)	(596)	(760)	(819)
Staff-related measures	(523)	(523)	(478)	(478)	(684)	(684)
Non-staff-related restructuring	(8)	(8)	(12)	(12)	(18)	(18)
Effects of deconsolidations, disposals and acquisitions	1,608	1,608	(3)	(3)	(18)	(18)
Impairment losses	0	0	0	(1)	0	(59)
Other	84	84	(102)	(102)	(40)	(40)
United States	(5,949)	(6,637)	(2,637)	(2,692)	(370)	(370)
Staff-related measures	(352)	(352)	(16)	(16)	(32)	(32)
Non-staff-related restructuring	0	0	0	0	0	0
Effects of deconsolidations, disposals and acquisitions	(4,956)	(5,084)	(2,621)	(2,618)	(1,522)	(1,522)
Impairment losses	(275)	(836)	0	(58)	0	0
Reversals of impairment losses	0	0	0	0	1,604	1,604
Other	(366)	(366)	0	0	(420)	(420)
Europe	(31)	(147)	11	11	(188)	(374)
Staff-related measures	(70)	(70)	83	83	(181)	(181)
Non-staff-related restructuring	0	0	(1)	(1)	0	0
Effects of deconsolidations, disposals and acquisitions	12	12	(39)	(39)	(6)	(6)
Impairment losses	0	(117)	0	0	0	(186)
Reversals of impairment losses	0	0	0	0	50	50
Other	27	27	(32)	(32)	(51)	(51)
Systems Solutions	(159)	(270)	(206)	(384)	(201)	(567)
Staff-related measures	(107)	(107)	(141)	(141)	(159)	(159)
Non-staff-related restructuring	(5)	(5)	(3)	(3)	(3)	(3)
Effects of deconsolidations, disposals and acquisitions	(2)	(2)	(39)	(39)	0	0
Impairment losses	0	(111)	0	(178)	0	(367)
Other	(44)	(44)	(24)	(24)	(39)	(39)
Group Development	992	992	173	173	(43)	(43)
Staff-related measures	(10)	(10)	(8)	(8)	(11)	(11)
Non-staff-related restructuring	0	0	0	0	0	0
Effects of deconsolidations, disposals and acquisitions	1,003	1,003	184	184	(30)	(30)
Impairment losses	0	0	0	0	0	0
Other	(1)	(1)	(3)	(3)	(2)	(2)
Group Headquarters & Group Services	(234)	(270)	(182)	(203)	(277)	(322)
Staff-related measures	(168)	(168)	(157)	(157)	(201)	(201)
Non-staff-related restructuring	(162)	(162)	(7)	(7)	(11)	(11)
Effects of deconsolidations, disposals and acquisitions	80	80	(23)	(23)	(78)	(78)
Impairment losses	0	(36)	0	(21)	0	(44)
Other	17	17	5	5	14	14
Group	(4,219)	(5,171)	(3,437)	(3,692)	(1,839)	(2,496)
Staff-related measures	(1,230)	(1,230)	(717)	(717)	(1,268)	(1,268)
Non-staff-related restructuring	(175)	(175)	(22)	(22)	(32)	(32)
Effects of deconsolidations, disposals and acquisitions	(2,256)	(2,384)	(2,542)	(2,538)	(1,655)	(1,655)
Impairment losses	(276)	(1,100)	0	(258)	0	(656)
Reversals of impairment losses	0	0	0	0	1,655	1,655
Other	(283)	(283)	(156)	(156)	(539)	(539)

millions of €

	EBITDA AL 2022	EBIT 2022	EBITDA AL 2021	EBIT 2021	EBITDA AL 2020	EBIT 2020
EBITDA AL/EBIT (adjusted for special factors)	40,208	21,330	37,330	16,749	35,017	15,300
Profit (loss) from financial activities (adjusted for special factors)		(3,931)		(4,998)		(4,103)
Profit (loss) before income taxes (adjusted for special factors)		17,399		11,752		11,197
Income taxes (adjusted for special factors)		(4,157)		(2,879)		(2,659)
Profit (loss) (adjusted for special factors)		13,242		8,873		8,538
Profit (loss) (adjusted for special factors) attributable to						
Owners of the parent (net profit (loss)) (adjusted for special factors)		9,081		5,862		5,715
Non-controlling interests (adjusted for special factors)		4,161		3,011		2,823

Net assets of the Group

Condensed consolidated statement of financial position

millions of €

	Dec. 31, 2022	Share of total assets/liabilities and shareholders' equity %	Dec. 31, 2021	Change	Dec. 31, 2020
Assets					
Cash and cash equivalents	5,767	1.9	7,617	(1,850)	12,939
Trade receivables	16,766	5.6	15,299	1,467	13,523
Intangible assets	140,600	47.1	132,647	7,953	118,066
Property, plant and equipment	65,729	22.0	61,770	3,959	60,975
Right-of-use assets	33,727	11.3	30,777	2,950	30,302
Current and non-current financial assets	9,910	3.3	8,888	1,022	9,640
Deferred tax assets	8,316	2.8	7,906	410	7,972
Non-current assets and disposal groups held for sale	4,683	1.6	4,856	(173)	1,113
Miscellaneous assets	13,092	4.4	11,867	1,225	10,387
Total assets	298,590	100.0	281,627	16,963	264,917
Liabilities and shareholders' equity					
Current and non-current financial liabilities	113,030	37.9	111,466	1,564	107,108
Current and non-current lease liabilities	38,792	13.0	33,133	5,659	32,715
Trade and other payables	12,035	4.0	10,452	1,583	9,760
Provisions for pensions and other employee benefits	4,150	1.4	6,134	(1,984)	7,684
Current and non-current other provisions	8,204	2.7	9,463	(1,259)	9,033
Deferred tax liabilities	22,800	7.6	19,809	2,991	17,260
Liabilities directly associated with non-current assets and disposal groups held for sale	3,347	1.1	1,365	1,982	449
Miscellaneous liabilities	8,912	3.0	8,336	576	8,358
Shareholders' equity	87,320	29.2	81,469	5,851	72,550
Total liabilities and shareholders' equity	298,590	100.0	281,627	16,963	264,917

Total assets amounted to EUR 298.6 billion as of December 31, 2022, up by EUR 17.0 billion against December 31, 2021. Exchange rate effects in particular, primarily from the translation of U.S. dollars into euros, had an increasing effect. This increase is also due to the sustained high level of investing activities including, among other investments, spectrum acquisitions in the United States operating segment. The agreement signed between T-Mobile US and Crown Castle on the modification of existing arrangements concerning the lease of cell sites also increased total assets. Total assets were reduced due to the sale of T-Mobile Netherlands.

Cash and cash equivalents decreased from EUR 7.6 billion year-on-year to EUR 5.8 billion.

For further information, please refer to Note 37 “Notes to the consolidated statement of cash flows” in the notes to the consolidated financial statements.

On the assets side, **trade receivables** amounted to EUR 16.8 billion, up by EUR 1.5 billion against the 2021 year-end. In the United States operating segment, the increase in receivables was mainly due to exchange rate effects. The increase in receivables there was also attributable to the Equipment Installment Plan owing to customer additions. The carrying amount in the Germany operating segment also increased as a result of the termination of factoring agreements. The carrying amount was reduced by higher allowances of customer receivables, in particular in the United States operating segment. These resulted from higher receivables and potential future macroeconomic effects. Furthermore, wholesale receivables in the United States declined.

Intangible assets increased by EUR 8.0 billion to EUR 140.6 billion. Of this figure, EUR 8.8 billion was attributable to additions, EUR 3.1 billion of which resulted from the acquisition of mobile spectrum and related almost entirely to the licenses acquired at the FCC Auctions 110 and 108 in the United States. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 6.8 billion. Positive effects from changes in the composition of the Group contributed EUR 0.1 billion to the increase in the carrying amount, while amortization and impairment losses of EUR 6.9 billion reduced it. This includes impairment losses of EUR 0.2 billion. The reclassification of assets worth EUR 0.6 billion to non-current assets and disposal groups held for sale also reduced the carrying amount. These relate to the agreements on the sale of the Group’s cell tower business in Germany and Austria (GD Towers) and of the wireline business in the United States. Disposals decreased the carrying amount by EUR 0.1 billion.

Property, plant and equipment increased by EUR 4.0 billion compared to December 31, 2021 to EUR 65.7 billion. Additions for the upgrade and build-out of the network and in connection with the broadband/fiber-optic build-out and mobile infrastructure build-out increased the carrying amount by EUR 18.2 billion. The modification of the arrangements between T-Mobile US and Crown Castle for existing cell sites increased the carrying amount by EUR 0.8 billion. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 1.5 billion. Reclassifications of lease assets upon expiry of the contractual lease term to property, plant and equipment, in the United States operating segment in particular, increased the carrying amount by EUR 0.6 billion, while depreciation and impairment losses of EUR 13.7 billion had an offsetting effect. This includes impairment losses of EUR 0.7 billion, mainly relating to the impairment test of the former Sprint’s fiber-optic-based wireline business, which was carried out in the second quarter of 2022, and the corresponding sale agreed in the third quarter of 2022. The reclassification of assets worth EUR 1.5 billion to non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of GD Towers and of the wireline business in the United States. Disposals of EUR 1.1 billion also reduced the carrying amount.

Compared with December 31, 2021, **right-of-use assets** increased by EUR 3.0 billion to EUR 33.7 billion. This increase was driven by additions of EUR 10.5 billion, primarily as a result of the modification to existing leases agreed between T-Mobile US and Crown Castle in January 2022, mainly concerning the lease of Crown Castle’s cell sites. The modification of the arrangements resulted in an increase of USD 7.3 billion (EUR 6.6 billion) each in the right-of-use assets and in lease liabilities. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 2.0 billion. Depreciation, amortization and impairment losses of EUR 7.2 billion reduced the carrying amount. This included a EUR 1.6 billion increase in depreciation and amortization due to a reduction in the useful life of leased network technology for cell sites in the United States operating segment following the business combination of T-Mobile US and Sprint. This also includes impairment losses of EUR 0.3 billion, mainly relating to the impairment test of the former Sprint’s fiber-optic-based wireline assets, which was carried out in the second quarter of 2022, and the corresponding sale agreed in the third quarter of 2022. The reclassification of assets worth EUR 1.5 billion to non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of GD Towers and of the wireline business in the United States. Reclassifications of lease assets upon expiry of the contractual lease term to property, plant and equipment, in the United States operating segment in particular, also reduced the carrying amount by EUR 0.6 billion. Disposals of EUR 0.3 billion also reduced the carrying amount.

Current and non-current **financial assets** increased by EUR 1.0 billion to EUR 9.9 billion. Originated loans and receivables increased by EUR 0.9 billion, mainly in connection with cash collateral deposited for forward-payer swaps. In connection with receivables from grants still to be received from funding projects for the broadband build-out in Germany, the carrying amount of other receivables increased by EUR 0.2 billion. The carrying amount of debt instruments measured at fair value through profit or loss increased by EUR 0.4 billion in connection with the sale of a 50 % stake in GlasfaserPlus and the recognition of a contingent consideration receivable. The carrying amount of derivatives with a hedging relationship decreased by EUR 0.5 billion, due on the one hand to the decrease in positive fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. On the other hand, the fair values of interest rate and currency derivatives in cash flow hedges increased, primarily as a result of the significant rise in the interest rate level. The carrying amount of derivatives without a hedging relationship remained stable overall. This is due to a EUR 0.2 billion increase in the carrying amount of interest and currency derivatives. In connection with the stock options received from SoftBank to purchase shares in T-Mobile US, the carrying amount of the stock options recorded a net increase of EUR 0.1 billion against December 31, 2021. This was attributable to an increase of EUR 0.6 billion from positive measurement effects in connection with the development of the T-Mobile US share price and the amortization in full from the initial measurement of the stock

options at fair value. This was offset by the derecognition of the exercised options in April 2022, which had a fair value of EUR 0.5 billion at the time of exercising the stock options. The carrying amount of the derivatives without a hedging relationship decreased by EUR 0.3 billion in connection with negative measurement effects from derivatives embedded in bonds issued by T-Mobile US.

Non-current assets and disposal groups held for sale decreased by a net EUR 0.2 billion compared with December 31, 2021 to EUR 4.7 billion. The sale of T-Mobile Netherlands as of March 31, 2022 reduced the carrying amount by EUR 4.7 billion, and the sale of the 50 % stake in GlasfaserPlus on February 28, 2022 by EUR 0.1 billion. By contrast, the reclassification and continued recognition of the assets of GD Towers increased the carrying amount by EUR 4.2 billion, and those of the wireline business in the United States by EUR 0.3 billion. The assets were classified as held for sale as of December 31, 2022 on account of the sales agreements concluded.

For further information on the corporate transactions, please refer to the section [“Group organization.”](#)

Miscellaneous assets increased by EUR 1.2 billion to EUR 13.1 billion, EUR 0.6 billion of which was due to the increase in capitalized contract costs. This increase was attributable in particular to a higher level of capitalized costs of obtaining a contract in postpaid customer business in the United States and Germany operating segments. Contract assets increased by EUR 0.4 billion. This resulted in part from the increased marketing of the Equipment Installment Plan in the United States operating segment. Investments accounted for using the equity method also increased by EUR 0.4 billion, essentially as a result of the sale of the 50 % stake in GlasfaserPlus. Following the loss of control pursuant to the IFRSs as a result of the transaction, GlasfaserPlus was deconsolidated as of February 28, 2022. Since this date, the remaining 50 % of the shares in the joint venture have been included in the consolidated financial statements as an investment accounted for using the equity method. As of December 31, 2022, the carrying amount of the investment amounted to EUR 0.5 billion following recognition of an impairment loss of EUR 0.5 billion on the investment in the reporting year. The impairment loss was triggered by the current macroeconomic developments and the associated sharp rise in interest rates. In addition, DIV II was deconsolidated on August 2, 2022 as a result of the admission of new investors and the associated loss of control over the entity. Since then, the stake retained by the Group of 41.25 % has been included in the consolidated financial statements as an associate using the equity method. The carrying amount of the investment amounted to EUR 0.3 billion as of December 31, 2022. It was reduced by the disposal of 37.65 % of the shares in Cellnex Netherlands in the amount of EUR 0.4 billion as a result of the deconsolidation of DIV II. Inventories decreased by EUR 0.2 billion, due to the sale of terminal equipment in consequence of the impending market launch of new handset models, and warehouse closures at former Sprint sites in the United States operating segment. By contrast, inventories increased in the Germany and Europe operating segments, partly as a preventive measure in connection with the prevailing supply chain uncertainty. Exchange rate effects, in particular from the translation of U.S. dollars into euros, also contributed to the increase. Other assets increased by EUR 0.2 billion.

On the liabilities and shareholders' equity side, current and non-current **financial liabilities** increased by EUR 1.6 billion compared with the end of 2021 to a total of EUR 113.0 billion. The carrying amount of bonds and other securitized liabilities decreased by EUR 0.1 billion. Exchange rate effects, especially from the translation of U.S. dollars into euros, increased the carrying amount of bonds and other securitized liabilities by EUR 3.9 billion. Senior notes issued by T-Mobile US in the reporting year with a total volume of USD 3.0 billion (EUR 3.0 billion) and asset-backed securities (ABS notes) with a volume of USD 0.8 billion (EUR 0.8 billion) increased the carrying amount. The net change of EUR 2.3 billion in commercial paper also increased the carrying amount. Repayments by T-Mobile US of bonds with a total volume of USD 2.8 billion (EUR 2.7 billion) and outside of the United States of EUR bonds with a volume of EUR 2.6 billion and a GBP bond with a volume of GBP 0.7 billion (EUR 0.8 billion) reduced the carrying amount. In addition, the carrying amount decreased by EUR 3.5 billion in connection with measurement effects from derivatives with a hedging relationship, the offsetting entry for which is posted under bonds and other securitized liabilities. Liabilities with the right of creditors to priority repayment in the event of default decreased by EUR 0.3 billion, mainly due to repayments. The carrying amount of other interest-bearing liabilities decreased by EUR 0.3 billion compared with the prior-year level. In connection with cash collateral received for derivative financial instruments – primarily forward-payer swaps – the carrying amount of other interest-bearing liabilities decreased by EUR 1.5 billion. By contrast, the modification of the arrangements between T-Mobile US and Crown Castle regarding cell sites increased the carrying amount by EUR 0.8 billion. In addition, liabilities recognized by T-Mobile US for future payments for IP transit services in connection with the agreement on the sale of the wireline business increased the carrying amount by EUR 0.6 billion. The carrying amount of derivative financial liabilities increased by EUR 2.2 billion to EUR 2.9 billion. Negative measurement effects of derivatives with a hedging relationship increased the carrying amount, mainly due to the increase in negative fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. The carrying amount of derivatives without a hedging relationship decreased due to positive measurement effects from a forward transaction to hedge the price of acquiring shares in T-Mobile US in the future.

Current and non-current **lease liabilities** increased by EUR 5.7 billion to EUR 38.8 billion compared with December 31, 2021. This increase primarily relates to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase in the carrying amounts of lease liabilities of EUR 6.6 billion. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised lease liabilities by EUR 2.1 billion. The reclassification of lease liabilities to liabilities directly associated with non-current assets and disposal groups held for sale reduced the carrying amount by EUR 1.8 billion. These relate to the agreements on the sale of GD Towers and of the wireline business in the United States. The carrying amount was further reduced, in part in connection with the decommissioning of former Sprint cell sites and the closure of some former Sprint shops in the United States operating segment. The carrying amount was also reduced by declines in the Group Headquarters & Group Services segment and in the Systems Solutions operating segment.

Trade and other payables increased by EUR 1.6 billion to EUR 12.0 billion, due in particular to the sharp rise in procurement volumes in the United States, Germany, and Europe operating segments. In the United States operating segment, liabilities increased in connection with the acquisition of non-current assets and vis-à-vis terminal equipment vendors. The increase was also driven in part by exchange rates. The reclassification to liabilities directly associated with non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of GD Towers and of the wireline business in the United States.

Provisions for pensions and other employee benefits decreased by EUR 2.0 billion compared with December 31, 2021 to EUR 4.2 billion, mainly due to the increase in the discount rate. The development of the fair values of plan assets had an offsetting effect. Overall, the remeasurement of defined benefit plans resulted in an actuarial gain of EUR 1.8 billion.

Current and non-current **other provisions** decreased by EUR 1.3 billion compared with the end of 2021 to EUR 8.2 billion. Other provisions for personnel costs decreased by EUR 0.7 billion, mainly in connection with a decline in the provision recognized for the Civil Health Insurance Fund (Postbeamtenkrankenkasse – PBeaKK). This is due to a significant increase in the interest rate level. The provisions for restoration obligations decreased by EUR 1.1 billion in connection with reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale, in particular in connection with the agreed sale of GD Towers. By contrast, the provisions for litigation risks increased by a net amount of EUR 0.2 billion, mainly in connection with the proceedings pending in consequence of the cyberattack on T-Mobile US in August 2021. The provisions recognized for sales and procurement support also increased by EUR 0.2 billion. Exchange rate effects, in particular from the translation of U.S. dollars into euros, also ultimately contributed to this increase.

Liabilities directly associated with non-current assets and disposal groups held for sale increased by EUR 2.0 billion against December 31, 2021 to EUR 3.3 billion. The sale of T-Mobile Netherlands as of March 31, 2022 reduced the carrying amount by EUR 1.4 billion. By contrast, the reclassification and continued recognition of the liabilities of GD Towers increased the carrying amount by EUR 3.0 billion, and those of the wireline business in the United States by EUR 0.4 billion.

For further information on the corporate transactions, please refer to the section "[Group organization.](#)"

Miscellaneous liabilities increased by EUR 0.6 billion compared to December 31, 2021 to EUR 8.9 billion, due in particular to the increase in contract liabilities by EUR 0.3 billion and the increase in income tax liabilities, also by EUR 0.3 billion.

Shareholders' equity increased from EUR 81.5 billion as of December 31, 2021 to EUR 87.3 billion. Profit of EUR 9.5 billion, other comprehensive income of EUR 5.6 billion, and capital increases from share-based payments of EUR 0.7 billion contributed to this increase. Shareholders' equity was reduced in connection with dividend payments for the 2021 financial year to Deutsche Telekom AG shareholders in the amount of EUR 3.2 billion and to other shareholders of subsidiaries in the amount of EUR 0.2 billion. Transactions with owners also reduced the carrying amount by EUR 6.0 billion, mainly due to the acquisition of additional T-Mobile US shares to increase the stake and due to the share buy-back program underway at T-Mobile US. Changes in the composition of the Group resulting from the sale of T-Mobile Netherlands reduced the carrying amount of shareholders' equity by EUR 0.6 billion.

Profitability and financial position of the Group

Profitability

millions of €	2022	2021	2020
Profit (loss) from operations (EBIT)	16,159	13,057	12,804
Share of profit (loss) of associates and joint ventures accounted for using the equity method	(522)	(102)	(12)
Net operating profit (NOP)	15,636	12,956	12,792
Tax (imputed tax rate 2022: 27.8 %; 2021: 27.8 %; 2020: 27.8 %)	(4,347)	(3,602)	(3,556)
Net operating profit after taxes (NOPAT)	11,289	9,354	9,236
Cash and cash equivalents	5,767	7,617	12,939
Intangible assets	140,600	132,647	118,066
Property, plant and equipment	65,729	61,770	60,975
Right-of-use assets	33,727	30,777	30,302
Non-current assets and disposal groups held for sale and liabilities ^a	1,336	3,491	664
Investments accounted for using the equity method	1,318	938	543
Operating working capital	7,370	7,702	6,458
Other provisions	(8,204)	(9,463)	(9,033)
Net operating assets (NOA)	247,643	235,479	220,914
Average net operating assets (Ø NOA)	253,389	229,035	201,545
ROCE	4.5	4.1	4.6

^a Excluding the carrying amounts of companies accounted for using the equity method.

ROCE increased by 0.4 percentage points in the reporting period to 4.5 %. This was due to stronger percentage growth in net operating profit after taxes (NOPAT) than in the average amount of net operating assets (NOA) over the year. The positive development in NOPAT year-on-year was driven primarily by the increase in adjusted EBITDA AL. Higher total expenses classified as special factors – mainly in the United States operating segment – had an offsetting effect. These arose in connection with higher integration and restructuring costs to realize cost efficiencies as a result of the business combination of T-Mobile US and Sprint and the reduction in the useful life of leased network technology for cell sites. The increase in NOA is due in part to the acquisition of additional spectrum licenses by T-Mobile US and the associated increase in intangible assets. In addition, the development of NOA reflects our consistently high investment volume.

In 2022, NOPAT amounted to EUR 11.3 billion, up from EUR 9.4 billion in the prior year. The average amount of net operating assets (NOA) increased to EUR 253.4 billion in 2022 from EUR 229.0 billion in the prior year.

For further information on the definition of ROCE and the methods used to calculate this key performance indicator, please refer to the section “Management of the Group.”

Finance management

Our finance management ensures our Group’s ongoing solvency and hence its financial equilibrium. The fundamentals of Deutsche Telekom’s finance policy are established each year by the Board of Management and overseen by the Supervisory Board. Group Treasury is responsible for implementing the finance policy and for ongoing risk management. In order to ensure we have scope for financing, we continuously monitor the development of net debt, Deutsche Telekom AG’s rating, financial flexibility, and free cash flow AL.

Calculation of net debt

millions of €

	Dec. 31, 2022 ^a	Dec. 31, 2021 ^b	Change	Change %	Dec. 31, 2020
Bonds and other securitized liabilities	93,802	93,857	(55)	(0.1)	87,702
Liabilities to banks	4,122	4,003	119	3.0	5,257
Other financial liabilities	15,107	13,730	1,377	10.0	14,149
Lease liabilities	41,063	33,767	7,296	21.6	32,715
Financial liabilities and lease liabilities	154,093	145,357	8,736	6.0	139,823
Accrued interest	(999)	(1,012)	13	1.3	(1,035)
Other	(805)	(855)	50	5.8	(703)
Gross debt	152,289	143,490	8,799	6.1	138,085
Cash and cash equivalents	5,767	7,617	(1,850)	(24.3)	12,939
Derivative financial assets	2,273	2,762	(489)	(17.7)	4,038
Other financial assets	1,824	969	855	88.2	881
Net debt	142,425	132,142	10,283	7.8	120,227
Lease liabilities ^c	38,692	31,493	7,199	22.9	30,671
Net debt AL	103,733	100,649	3,084	3.1	89,556

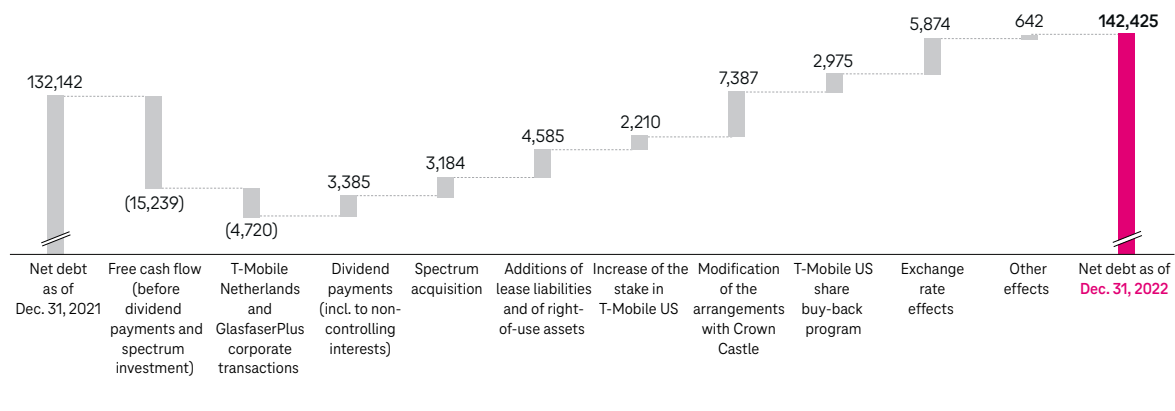
^a Including the net debt of the discontinued operation GD Towers and of the wireline business at T-Mobile US included under liabilities directly associated with non-current assets and disposal groups held for sale as of December 31, 2022.

^b Including the net debt of T-Mobile Netherlands included under liabilities directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

^c Excluding finance leases at T-Mobile US.

Changes in net debt

millions of €



The modification of the arrangements between T-Mobile US and Crown Castle resulted in an overall increase in net debt of EUR 7.4 billion, due to an increase in right-of-use assets and in lease liabilities of EUR 6.6 billion each and an increase in property, plant and equipment and in other financial liabilities of EUR 0.8 billion each. Other effects of EUR 0.6 billion include, among other factors, the recognition of liabilities for the acquisition of media broadcasting rights, share buy-backs at our subsidiaries, and contrasting measurement effects in connection with derivatives.

Other financing options

Off-balance-sheet financing instruments mainly relate to the sale of receivables by means of factoring. Total receivables sold as of December 31, 2022 amounted to EUR 2.8 billion (December 31, 2021: EUR 3.3 billion). At the end of 2022, this solely related to factoring agreements in the United States operating segment. The year-on-year decline was mainly attributable to the scheduled termination of factoring agreements in the Germany operating segment. The agreements are used in particular for active receivables management.

The rating of Deutsche Telekom AG

	Standard & Poor's	Moody's	Fitch
Long-term rating/outlook			
Dec. 31, 2020	BBB/stable	Baa1/negative	BBB+/stable
Dec. 31, 2021	BBB/stable	Baa1/stable	BBB+/stable
Dec. 31, 2022	BBB/positive	Baa1/stable	BBB+/stable
Short-term rating	A-2	P-2	F2

On April 22, 2022, the rating agency Standard & Poor's raised its rating outlook for Deutsche Telekom AG from "stable" to "positive" and also confirmed its long-term rating of BBB. Standard & Poor's considers an upgrade to our long-term rating within the next two years to be possible. We are therefore still a solid investment-grade company with access to the international capital markets.

Financial flexibility

	2022	2021	2020
Relative debt^a			
$\frac{\text{Net debt}}{\text{EBITDA (adjusted for special factors)}}$	3.07x	3.06x	2.78x
Equity ratio	29.2	28.9	27.4

^a Relative debt is calculated on a quarterly basis and the calculation of the figure for 2020 includes as an input for the first quarter of 2020 historic pro forma figures for Sprint, which was included in the United States operating segment.

To ensure financial flexibility, we primarily use the KPI "relative debt." This is a core component of our finance strategy and an important performance indicator for investors, analysts, and rating agencies. At 3.07x, we have deviated from the target range of 2.25x to 2.75x in the reporting year, as expected, on account of the business combination of T-Mobile US and Sprint. We expect to be back in the target range by the end of 2024.

Calculation of free cash flow AL

millions of €

	2022	2021	Change	Change %	2020
Net cash from operating activities	35,819	32,171	3,648	11.3	23,743
Interest payments for zero-coupon bonds	0	0	0	n.a.	1,600
Termination of forward-payer swaps at T-Mobile US	0	0	0	n.a.	2,158
Net cash from operating activities^a	35,819	32,171	3,648	11.3	27,501
Cash outflows for investments in intangible assets	(7,551)	(12,749)	5,198	40.8	(5,756)
Cash outflows for investments in property, plant and equipment	(16,563)	(13,616)	(2,947)	(21.6)	(12,938)
Cash capex	(24,114)	(26,366)	2,252	8.5	(18,694)
Spectrum investment	3,096	8,388	(5,292)	(63.1)	1,714
Cash capex (before spectrum investment)	(21,019)	(17,978)	(3,041)	(16.9)	(16,980)
Proceeds from the disposal of intangible assets (excluding goodwill) and property, plant and equipment	439	139	300	n.a.	236
Free cash flow (before dividend payments and spectrum investment)^a	15,239	14,332	907	6.3	10,756
Principal portion of repayment of lease liabilities ^b	(3,769)	(5,521)	1,752	31.7	(4,468)
Free cash flow AL (before dividend payments and spectrum investment)^a	11,470	8,810	2,660	30.2	6,288

^a Before interest payments for zero-coupon bonds and before termination of forward-payer swaps at T-Mobile US (both in 2020).

^b Excluding finance leases at T-Mobile US.

Free cash flow AL (before dividend payments and spectrum investment) increased by EUR 2.7 billion year-on-year to EUR 11.5 billion. The following effects impacted on this development:

Net cash from operating activities increased by EUR 3.6 billion to EUR 35.8 billion on the back of the good business performance. Exchange rate effects also had an increasing effect on net cash from operating activities. Factoring agreements resulted in positive effects of EUR 0.1 billion on net cash from operating activities in the reporting year. In the prior year, factoring agreements had had negative effects of EUR 0.1 billion. Higher cash outflows in connection with the integration of Sprint in the United States and an increase of EUR 0.4 billion in net interest payments in particular had a decreasing effect.

Cash capex (before spectrum investment) increased by EUR 3.0 billion to EUR 21.0 billion. Cash capex in the United States operating segment increased by EUR 3.0 billion to EUR 13.4 billion, mainly as a result of the accelerated build-out of the 5G network, the integration of Sprint, and exchange rate effects. In the Germany operating segment, cash capex increased by EUR 0.3 billion. Capital expenditure in the Germany operating segment totaled around EUR 4.4 billion in 2022, in particular for the build-out of the fiber-optic and 5G networks. In the Europe operating segment, our investments remained stable at EUR 1.8 billion. Here, we also continue to invest in the provision of broadband and fiber-optic technology and in 5G as part of our integrated network strategy. Cash capex in the Group Development operating segment totaled EUR 0.3 billion and was thus down EUR 0.2 billion year-on-year. The reduction is mainly due to the sale of T-Mobile Netherlands and lower build-out investments made by GD Towers compared with the prior year.

Lower cash outflows for the decrease in the principal portion of repayments of lease liabilities were due in particular to leases in the United States operating segment.

For further information on the statement of cash flows, please refer to Note 37 “Notes to the consolidated statement of cash flows” in the notes to the consolidated financial statements.

Development of business in the operating segments

Gross vs. net recognition of revenues – change in the principal/agent consideration. In light of the IFRS Interpretations Committee’s agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to the recognition of gross vs. net revenues, effective the start of the third quarter of 2022. The prior-year comparatives for revenue and order entry were adjusted with retrospective effect.

For further information on the change in policy, please refer to the section “Development of business in the Group.”

Reassignment of the security business. Effective July 1, 2022, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment in order to maintain a consistent focus on implementing our Group strategy pillar “Lead in business productivity.” Prior-year comparatives in both of the segments affected concerning the development of operations, customer development, headcount development, and order entry were adjusted retrospectively.

Germany

Customer development

thousands	Dec. 31, 2022	Dec. 31, 2021	Change	Change %	Dec. 31, 2020
Mobile customers	54,249	53,211	1,038	2.0	48,213
Contract customers ^a	23,791	23,129	662	2.9	25,975
Prepaid customers ^{a, b}	30,458	30,081	377	1.3	22,239
Fixed-network lines	17,363	17,525	(162)	(0.9)	17,590
Retail broadband lines	14,715	14,478	237	1.6	14,118
Of which: optical fiber ^c	12,112	10,379	1,733	16.7	9,515
Television (IPTV, satellite)	4,122	4,001	121	3.0	3,864
Unbundled local loop lines (ULLs)	3,136	3,622	(486)	(13.4)	4,101
Wholesale broadband lines	8,045	7,948	97	1.2	7,733
Of which: optical fiber	6,970	6,778	192	2.8	6,433

^a As of January 1, 2022, around 178 thousand consumers previously recorded under contract customers were reclassified as prepaid customers. Prior-year comparatives were not adjusted.

^b Due to a network switchover, a portion of our prepaid customers were migrated to another provider as of the end of the third quarter of 2022.

^c Since June 1, 2022, we have migrated customers to fiber-optic lines under our “Turn customers into fans” (Kunden zu Fans machen) initiative. In the fourth quarter of 2022, the number of lines upgraded as part of this initiative so far totaled around 1 million.

Total

In Germany we continue to be market leader both in terms of fixed-network and mobile revenues. This success is attributable to our high-performance networks, a broad product portfolio, and good service. We want to offer our customers a seamless and technology-neutral telecommunications experience. We regularly adapt our product portfolio to address the needs of our customers. As of July 1, 2022, we launched the new MagentaMobil rate plans.

Demand remained high for our fiber-optic-based lines. The total number of these customer lines increased to around 19.1 million overall by the end of December 2022. In 2022, 1.9 million customers in Germany received a fiber-optic-based line from us. Two key factors are driving this strong growth: demand for higher bandwidths, and the technical migration of customer lines to optical fiber under our “Turn customers into fans” (Kunden zu Fans machen) initiative launched as of June 1, 2022.

Mobile communications

The number of high-value mobile contract customers under the Telekom and congstar brands grew by 979 thousand customers overall. Sustained high demand for mobile rate plans with data volumes continues to drive this trend. A portion of prepaid customers were migrated to another network provider at the end of the third quarter of 2022. Furthermore, as of January 1, 2022, a portion of consumers previously reported under contract customers were reclassified as prepaid customers. Allowing for this change in disclosure, the number of prepaid customers increased by 199 thousand.

Fixed network

The fixed-network broadband market hosts a large number of players with differing infrastructures – from national through to regional providers. In order to consolidate our position on the market as Germany’s leading telecommunications provider, we continue to add new offerings to our portfolio.

The number of broadband lines increased by 237 thousand to 14.7 million in 2022, with growth accelerating again as of the end of 2022. Almost 40 % of the customers subscribed to a rate plan with speeds of 100 Mbit/s or higher. We recorded an increase of 121 thousand in the number of TV customers compared with year-end 2021. The number of fixed-network lines remained more or less stable at 17.4 million lines.

Wholesale

As of December 31, 2022, fiber-optic-based lines accounted for 62.3 % of all lines – 3.7 percentage points more than at the end of 2021. This growth is a result of the demand for our commitment agreements. Rising demand among retail customers for higher-bandwidth lines also contributed to the increase. The number of unbundled local loop lines decreased by 486 thousand compared with the end of the prior year, partly as a result of the shift to higher-value fiber-optic-based lines and partly from consumers switching to other providers. In addition, our wholesale customers are migrating their retail customers to their own fiber-optic-based lines. The total number of wholesale lines at the end of 2022 was around 11.2 million.

Development of operations

millions of €

	2022	2021	Change	Change %	2020
Net revenue	24,505	24,050	455	1.9	23,712
Consumers	12,370	12,122	248	2.0	11,680
Business Customers	9,040	8,922	118	1.3	8,901
Wholesale	2,676	2,709	(33)	(1.2)	2,922
Other	419	297	122	41.1	209
Service revenue	21,533	21,212	321	1.5	20,940
EBITDA	11,025	8,976	2,049	22.8	8,481
Special factors affecting EBITDA	1,162	(595)	1,757	n.a.	(760)
EBITDA (adjusted for special factors)	9,864	9,572	292	3.1	9,242
EBITDA AL	10,998	8,941	2,057	23.0	8,437
Special factors affecting EBITDA AL	1,162	(595)	1,757	n.a.	(760)
EBITDA AL (adjusted for special factors)	9,837	9,536	301	3.2	9,197
EBITDA AL margin (adjusted for special factors)	% 40.1	39.7			38.8
Depreciation, amortization and impairment losses	(4,019)	(4,020)	1	0.0	(4,522)
Profit (loss) from operations (EBIT)	7,006	4,956	2,050	41.4	3,959
EBIT margin	% 28.6	20.6			16.7
Cash capex	(4,399)	(4,119)	(280)	(6.8)	(4,195)
Cash capex (before spectrum investment)	(4,399)	(4,119)	(280)	(6.8)	(4,180)

Net revenue, service revenue

In 2022, we generated revenue of EUR 24.5 billion, which was up by 1.9 % year-on-year. The growth in service revenues of 1.5 % was attributable to increased revenue in the fixed-network core business, largely broadband-driven, and in mobile business.

Revenue from **Consumers** increased by 2.0 % compared with the prior year. Revenue from broadband business grew by 6.1%, due in part to the positive effects from customer appreciation for stable data lines and high bandwidths. Fixed-network terminal equipment business posted growth of 1.6 % on the back of demand on the customer side for terminal equipment lease models. Volume-driven declines in revenue from voice components continued to impact on traditional fixed-network business. Mobile business increased by 1.4 % thanks to higher service revenues, mainly due to positive customer development in our second brand congstar and general trends of recovery, including a return to travel and other recreational activities.

Revenue from **Business Customers** was up by 1.3 % year-on-year. If the one-time effect from the public sector in the prior year is taken into account, operating revenue would have increased by 2.3 %. The mobile business grew by 6.9 % due to positive revenue from terminal equipment business and ongoing customer additions.

Wholesale revenue was down at the end of 2022 by 1.2 % year-on-year. The positive trend in the number of fiber-optic-based lines continued, with an increase of 2.8 % compared with the prior year. However, this was not enough to offset the decrease in revenues of 13.4 % from declining volumes of unbundled local loop lines. Network services revenue was down against the prior-year level, mainly due to product migrations that enable our customers to optimize their operations.

Adjusted EBITDA AL, EBITDA AL

Adjusted EBITDA AL increased by EUR 301 million or 3.2 % year-on-year to EUR 9.8 billion. Our adjusted EBITDA AL margin increased to 40.1 %, up from 39.7 % in the prior year. The main reasons for this increase are a sound operational development, driven by high-value revenue growth, and enhanced cost efficiency. Lower personnel costs resulting, among other factors, from the smaller headcount and the ongoing implementation of efficiency enhancement and digitalization measures reduced costs.

The special factors affecting adjusted EBITDA AL mainly included the gain on deconsolidation of GlasfaserPlus (EUR 1.7 billion) and insurance compensation in connection with damage sustained in the catastrophic flooding in July 2021 (EUR 0.2 billion). Expenses for socially responsible instruments in connection with staff restructuring also had an effect. EBITDA AL increased by EUR 2.1 billion to EUR 11.0 billion.

| For further information on the joint venture GlasfaserPlus with IFM, please refer to the section "[Group organization](#)."

Profit/loss from operations (EBIT)

Profit from operations amounted to EUR 7.0 billion, an increase of 41.4 % year-on-year. The positive trend in adjusted EBITDA AL together with the gain on deconsolidation of GlasfaserPlus contributed to this increase. Depreciation, amortization and impairment losses were at the same level as a year earlier.

Cash capex (before spectrum investment), cash capex

Cash capex increased by EUR 280 million or 6.8 % compared with the prior year. Capital expenditure totaled around EUR 4.4 billion in 2022, with much of this figure going towards the build-out of our fiber-optic and 5G networks. Around 5.4 million households in Germany had the option of a direct connection to our fiber-optic network as of the end of 2022. In mobile communications, our customers benefit from greater LTE and 5G network coverage. 94.8 % of German households can already use 5G.

United States

Customer development

thousands

	Dec. 31, 2022	Dec. 31, 2021	Change	Change %	Dec. 31, 2020
Customers	113,598	108,719	4,879	4.5	102,064
Postpaid customers	92,232	87,663	4,569	5.2	81,350
Postpaid phone customers ^{a, b}	72,834	70,262	2,572	3.7	66,618
Other postpaid customers ^{a, b}	19,398	17,401	1,997	11.5	14,732
Prepaid customers	21,366	21,056	310	1.5	20,714

^a Customers impacted by the decommissioning of the legacy Sprint CDMA and LTE and T-Mobile US UMTS networks have been excluded from our customer base resulting in the removal of 212 thousand postpaid phone customers and 349 thousand postpaid other customers in the first quarter of 2022 and 284 thousand postpaid phone customers, 946 thousand postpaid other customers and 28 thousand prepaid customers in the second quarter of 2022. In connection with our acquisition of companies, we included a base adjustment in the first quarter of 2022 to increase postpaid phone customers by 17 thousand and reduce postpaid other customers by 14 thousand. Certain customers now serviced through reseller contracts were removed from our reported postpaid customer base resulting in the removal of 42 thousand postpaid phone customers and 20 thousand postpaid other customers in the second quarter of 2022.

^b In the first quarter of 2021, we acquired 11 thousand postpaid phone customers and 1 thousand postpaid other customers through our acquisition of an affiliate. In the third quarter of 2021, we acquired 716 thousand postpaid phone customers and 90 thousand postpaid other customers through our acquisition of the Wireless Assets from Shentel.

Customers

At December 31, 2022, the United States operating segment (T-Mobile US) had 113.6 million customers, compared to 108.7 million customers at December 31, 2021. Net customer additions were 6.8 million in 2022, compared to 5.8 million in 2021 due to the factors described below.

Postpaid net customer additions reached a record 6.4 million in 2022, compared to 5.5 million in 2021 and again exceeded the high end of the company's most recently increased annual guidance range. This increase resulted from higher postpaid other net customer additions, primarily due to an increase in High Speed Internet net customer additions and other connected devices, partially offset by lower net additions from mobile internet devices. In addition, the increase resulted from higher postpaid phone net customer additions, primarily due to lower churn, partially offset by lower gross additions driven by industry switching activity normalizing closer to pre Pandemic levels. High Speed Internet net customer additions included in postpaid other net customer additions were 1.8 million and 546 thousand in 2022 and 2021, respectively.

Prepaid net customer additions were 338 thousand in 2022, compared to 342 thousand in 2021. This decrease was primarily due to the continued industry shift to postpaid plans, partially offset by the introduction of our High Speed Internet offering and lower churn. High Speed Internet net customer additions included in prepaid net customer additions were 236 thousand in 2022. Our prepaid High Speed Internet launch was in the first quarter of 2022. Therefore, there were no prepaid High Speed Internet net customer additions in 2021.

Development of operations

millions of €

	2022	2021	Change	Change %	2020
Net revenue	75,436	67,791	7,645	11.3	60,702
Service revenue	58,219	48,361	9,858	20.4	43,766
EBITDA	26,707	25,555	1,152	4.5	24,852
Special factors affecting EBITDA	(4,155)	(1,836)	(2,319)	n.a.	(270)
EBITDA (adjusted for special factors)	30,862	27,392	3,470	12.7	25,122
EBITDA AL	19,665	20,060	(395)	(2.0)	20,628
Special factors affecting EBITDA AL	(5,949)	(2,637)	(3,312)	n.a.	(370)
EBITDA AL (adjusted for special factors)	25,614	22,697	2,917	12.9	20,997
Core EBITDA AL (adjusted for special factors) ^a	24,280	19,912	4,368	21.9	17,366
EBITDA AL margin (adjusted for special factors) %	34.0	33.5			34.6
Depreciation, amortization and impairment losses	(19,237)	(18,338)	(899)	(4.9)	(15,665)
Profit (loss) from operations (EBIT)	7,470	7,217	253	3.5	9,187
EBIT margin %	9.9	10.6			15.1
Cash capex	(16,340)	(18,594)	2,254	12.1	(10,394)
Cash capex (before spectrum investment)	(13,361)	(10,328)	(3,033)	(29.4)	(9,286)

^a Adjusted core EBITDA AL is distinguished by excluding revenue from terminal equipment leases from adjusted EBITDA AL, thereby presenting operational development undistorted by the withdrawal from the terminal equipment lease business.

Revenue, service revenue

Total revenue for the United States operating segment of EUR 75.4 billion in 2022 increased by 11.3 percent, compared to EUR 67.8 billion in 2021. In U.S. dollars, T-Mobile US' total revenues decreased slightly during the same period. Total revenues decreased primarily due to lower equipment revenues, mostly offset by higher service revenues. The components of these changes are described below.

Service revenues increased in 2022 by 20.4 percent to EUR 58.2 billion. In organic terms, service revenues increased by 4.9 percent year-on-year. This increase resulted from higher postpaid revenues primarily from higher average postpaid accounts and higher postpaid ARPA (Average Revenue per Account). In addition, service revenues increased due to higher prepaid revenues primarily from higher average prepaid customers. This increase was partially offset by lower wholesale and other service revenues primarily from lower advertising, MVNO and Wireline revenues, partially offset by higher Lifeline revenues.

Equipment revenues decreased in 2022 primarily from a decrease in lease revenues and customer purchases of leased devices primarily due to a lower number of customer devices under lease as a result of the continued strategic shift in device financing from leasing to equipment installment plans (EIP). In addition, equipment revenues decreased due to a decrease in the number of devices sold primarily driven by lower prepaid sales, partially offset by higher upgrade volume for Sprint customers to facilitate their migration to the T-Mobile US' network. In addition, equipment revenues decreased due to slightly lower average revenue per device sold, primarily driven by higher promotions, which included promotions for Sprint customers to facilitate their migration to the T-Mobile US' network, and an increase in contra-revenue primarily driven by higher imputed interest rates on EIP.

Adjusted EBITDA AL, EBITDA AL

In euros, adjusted EBITDA AL increased by 12.9 percent to EUR 25.6 billion in 2022, compared to EUR 22.7 billion in 2021. The adjusted EBITDA AL margin increased to 34.0 percent in 2022, compared to 33.5 percent in 2021. In U.S. dollars, adjusted EBITDA AL remained relatively flat during the same period. Adjusted EBITDA AL increased primarily due to higher service revenue as discussed above, lower cost of equipment sales and cost of services excluding Sprint Merger-related costs and higher realized synergies. This increase was offset by lower equipment revenues, higher bad debt expense and losses from sales of receivables driven by higher receivable balances, as well as normalization relative to muted pandemic levels in 2021 and estimated potential future macroeconomic impacts and higher costs related to outsourced functions. In U.S. dollars, lease revenues decreased as a result of the continued strategic shift in device financing from leasing to EIP by 57.2 percent in 2022.

Adjusted core EBITDA AL increased by 21.9 percent to EUR 24.3 billion in 2022, compared to EUR 19.9 billion in 2021. In U.S. dollars, adjusted core EBITDA AL increased by 8.4 percent during the same period. The change was primarily due to the fluctuation in adjusted EBITDA AL, discussed above, excluding the change in lease revenues.

EBITDA AL in 2022, included special factors of EUR -5.9 billion compared to EUR -2.6 billion in 2021. The change in special factors was primarily due to higher Merger-related costs, expenses related to the agreed sale of the Wireline Business, higher legal-related expenses (net of recoveries) including the settlement of certain litigation associated with the August 2021 cyberattack, and higher impairment expense due to the non-cash impairment of certain Wireline Business related right-of-use assets during 2022. The change in special factors is also impacted by other special items including certain severance, restructuring and other expenses and income, including gains from the sale of IP addresses, not directly attributable to the Sprint Merger. Special factors include Merger-related costs predominantly associated with the integration of Sprint and are comprised of integration costs to achieve efficiencies in network, retail, information technology and back office operations, migrate customers to the T-Mobile US' network and mitigate the impact of legal matters assumed as part of the Sprint Merger. In addition, Merger-related special factors include restructuring costs, including severance, store rationalization and network decommissioning as well as transaction costs, including legal and professional services related to the completion of transactions. Overall, EBITDA AL decreased by 2.0 percent to EUR 19.7 billion in 2022, compared to EUR 20.1 billion in 2021, primarily due to the factors described above, including special factors.

Profit/loss from operations (EBIT)

EBIT increased by 3.5 percent to EUR 7.5 billion in 2022, compared to EUR 7.2 billion in 2021. In U.S. dollars, EBIT decreased by 8.3 percent during the same period primarily due to lower EBITDA AL, partially offset by lower depreciation, amortization and impairment losses. In U.S. dollars, depreciation, amortization and impairment losses decreased 6.6 percent primarily due to lower depreciation expense on leased devices, resulting from a lower number of total customer devices under lease and certain 4G-related network assets becoming fully depreciated, including assets impacted by the decommissioning of the legacy Sprint CDMA and LTE networks and lower amortization expense on certain intangible assets acquired in the Sprint Merger. These decreases were partially offset by the non-cash impairments of certain wireline network assets in 2022 and higher depreciation expense (excluding leased devices) from the continued build-out of our nationwide 5G network.

Cash capex (before spectrum investment), cash capex

Cash capex (before spectrum investment) increased by 29.4 percent to EUR 13.4 billion in 2022, compared to EUR 10.3 billion in 2021. In U.S. dollars, cash capex (before spectrum investment) increased by 15.0 percent due to increase in purchases of property and equipment from the accelerated build-out of our nationwide 5G network, including from network integration related to the Sprint Merger.

Cash capex decreased by 12.1 percent to EUR 16.3 billion in 2022, compared to EUR 18.6 billion in 2021. In U.S. dollars, cash capex decreased by 21.3 percent primarily from a decrease in spectrum purchases, primarily due to USD 8.9 billion paid for spectrum licenses won at the conclusion of the C-band auction in March 2021, compared to USD 2.8 billion paid for spectrum licenses won at the conclusion of Auction 110 in February 2022 and USD 0.3 billion paid in total for spectrum licenses won at the conclusion of Auction 108 in September 2022. These decreases were partially offset by the fluctuation in cash capex (before spectrum investments) discussed above.

Europe

Customer development

thousands

		Dec. 31, 2022	Dec. 31, 2021	Change	Change %	Dec. 31, 2020
Europe, total^{a, b}	Mobile customers	47,336	45,816	1,520	3.3	45,619
	Contract customers	26,476	26,575	(99)	(0.4)	26,844
	Prepaid customers	20,860	19,241	1,619	8.4	18,775
	Fixed-network lines	7,907	7,802	105	1.3	9,084
	Broadband customers	6,689	6,381	308	4.8	6,939
	Television (IPTV, satellite, cable)	4,131	4,019	112	2.8	5,046
	Unbundled local loop lines (ULLs)/ wholesale PSTN	1,768	1,932	(164)	(8.5)	2,246
	Wholesale broadband lines	1,011	865	146	16.9	684
Greece	Mobile customers	7,323	7,045	278	3.9	6,914
	Fixed-network lines	2,622	2,624	(2)	(0.1)	2,589
	Broadband customers	2,359	2,306	53	2.3	2,185
Romania^a	Mobile customers	4,166	3,691	475	12.9	4,683
	Fixed-network lines	0	0	0	n.a.	1,444
	Broadband customers	0	0	0	n.a.	912
Hungary	Mobile customers	5,950	5,634	316	5.6	5,427
	Fixed-network lines	1,886	1,821	65	3.6	1,759
	Broadband customers	1,514	1,417	97	6.8	1,321
Poland	Mobile customers	12,512	11,542	970	8.4	11,198
	Fixed-network lines	30	29	1	3.4	31
	Broadband customers	154	77	77	100.0	32
Czech Republic	Mobile customers	6,423	6,297	126	2.0	6,178
	Fixed-network lines	704	645	59	9.1	606
	Broadband customers	430	391	39	10.0	363
Croatia	Mobile customers	2,305	2,276	29	1.3	2,253
	Fixed-network lines	868	875	(7)	(0.8)	885
	Broadband customers	648	633	15	2.4	625

^a The number of lines and customers in Romania decreased in the fourth quarter of 2021 due to the sale of Telekom Romania Communications, which operates the Romanian fixed-network business, effective September 30, 2021.

^b Since January 1, 2022, 921 thousand contract customers of a service provider in Austria are reported as wholesale customers and no longer as our own customers. The prior-year comparatives were not adjusted retrospectively.

^c "Other": national companies of North Macedonia, Montenegro, and the lines of the GTS Central Europe group in Romania.

thousands

		Dec. 31, 2022	Dec. 31, 2021	Change	Change %	Dec. 31, 2020
Slovakia	Mobile customers	2,446	2,502	(56)	(2.2)	2,441
	Fixed-network lines	856	880	(24)	(2.7)	865
	Broadband customers	643	633	10	1.6	607
Austria^b	Mobile customers	4,510	5,258	(748)	(14.2)	5,074
	Fixed-network lines	605	593	12	2.0	569
	Broadband customers	663	656	7	1.1	635
Other^c	Mobile customers	1,702	1,572	130	8.3	1,451
	Fixed-network lines	336	336	0	0	335
	Broadband customers	277	268	9	3.4	259

^a The number of lines and customers in Romania decreased in the fourth quarter of 2021 due to the sale of Telekom Romania Communications, which operates the Romanian fixed-network business, effective September 30, 2021.

^b Since January 1, 2022, 921 thousand contract customers of a service provider in Austria are reported as wholesale customers and no longer as our own customers. The prior-year comparatives were not adjusted retrospectively.

^c "Other": national companies of North Macedonia, Montenegro, and the lines of the GTS Central Europe group in Romania.

Total

In the Europe operating segment, almost all key performance indicators for customer development improved compared with the end of 2021, exceeding our expectations in some cases. Our convergent product portfolio, in particular, generated growth compared with year-end 2021 of 11.8 % in FMC customers thanks to ongoing demand. We are working flat out to build our fixed-network infrastructure with state-of-the-art optical fiber. The number of broadband customers has increased by 4.8 %. The mobile business also recorded an increase of 3.3 % in customer numbers. Our build-out of the 5G network is making good progress. Almost all of our national companies have already launched the commercial sale of 5G products and services.

Mobile communications

At the end of 2022, we had a total of 47.3 million mobile customers in the Europe operating segment; an increase of 3.3 % compared with the end of 2021. The number of contract customers decreased slightly by 0.4 %, largely as a result of the fact that we no longer include the SIM cards of a service provider in Austria in our customer base since January 1, 2022 but instead count them as wholesale customers. Without this effect, the number of contract customers increased by 3.2 %. By contrast, the contract customer base grew in almost all of our other national companies, but especially in Poland, Hungary, Romania, Greece, and the Czech Republic. Overall, contract customers accounted for 55.9 % of the total customer base. Our customers benefited from greater coverage with fast mobile broadband – a result of our integrated network strategy. The footprint countries of our operating segment are also making excellent headway with 5G. As of December 31, 2022, our national companies covered 47.4 % of the population (in particular in Greece, Montenegro, North Macedonia, Austria, and Croatia) with 5G.

The prepaid customer base recorded growth of 8.4 % compared with the end of 2021. Poland recorded a particularly strong increase, largely as a result of the prepaid SIM cards issued to many refugees from the war in Ukraine as part of a package of support. As part of our ordinary business activities, we offer our prepaid customers high-value contract plans with the resulting number of contract conversions also contributing positively to contract customer business.

Fixed network

The broadband business increased by 4.8 % compared with the end of 2021 to a total of 6.7 million customers. This growth is mainly driven by the national companies in Hungary, Poland, Greece, and the Czech Republic. By continuing to invest in optical fiber, we are systematically building out our fixed-network infrastructure. At the end of the reporting year, a total of around 8.1 million households (coverage of 32.0 %) were provided with the option by our national companies to subscribe to a direct connection to our fiber-optic network with speeds reaching up to 1 Gbit/s. The utilization rate remained stable at around 32 %. The number of fixed-network lines increased again slightly by 1.3 %, reaching 7.9 million as of December 31, 2022.

The TV and entertainment business had a total of 4.1 million customers in the 2022 reporting year, up by 2.8 % compared with the end of the prior year. This was attributable among other things to the acquisition of exclusive rights to broadcast sports events. With both telecommunications providers and OTT players offering TV services, the TV market is already saturated in many countries of our segment.

FMC – fixed-mobile convergence and digitalization

Our portfolio of convergent products, MagentaOne, was highly popular with consumers across all of our national companies. As of December 31, 2022, we had 7.0 million FMC customers; this corresponds to growth of 11.8 % compared with the end of the prior year. Our national companies in Hungary, Poland, Greece, Austria, and the Czech Republic in particular contributed to this growth. As of the end of the reporting year, FMC customers accounted for 60.6 % of the broadband customer base. We have also seen accelerated growth in the marketing of our MagentaOne Business product to business customers.

We continue to expand our digital interaction with customers, which means we can meet customer needs in a more personalized and efficient way, and position products and innovative services on the market more quickly. Around 67 % of our customers already use our service app.

Development of operations

millions of €					
	2022	2021	Change	Change %	2020
Net revenue	11,158	11,294	(136)	(1.2)	11,251
Greece	3,155	3,046	109	3.6	2,913
Romania	306	709	(403)	(56.8)	951
Hungary	1,715	1,750	(35)	(2.0)	1,716
Poland	1,413	1,421	(8)	(0.6)	1,446
Czech Republic	1,226	1,121	105	9.4	1,047
Croatia	905	908	(3)	(0.3)	917
Slovakia	806	787	19	2.4	772
Austria	1,391	1,346	45	3.3	1,296
Other ^a	320	301	19	6.3	283
Service revenue	9,279	9,578	(299)	(3.1)	9,577
EBITDA	4,296	4,390	(94)	(2.1)	4,153
Special factors affecting EBITDA	(31)	11	(42)	n.a.	(188)
EBITDA (adjusted for special factors)	4,327	4,380	(53)	(1.2)	4,341
EBITDA AL	3,933	4,018	(85)	(2.1)	3,722
Special factors affecting EBITDA AL	(31)	11	(42)	n.a.	(188)
EBITDA AL (adjusted for special factors)	3,964	4,007	(43)	(1.1)	3,910
Greece	1,310	1,265	45	3.6	1,199
Romania	38	147	(109)	(74.1)	153
Hungary	493	536	(43)	(8.0)	520
Poland	378	385	(7)	(1.8)	378
Czech Republic	503	471	32	6.8	430
Croatia	349	355	(6)	(1.7)	337
Slovakia	350	327	23	7.0	335
Austria	506	487	19	3.9	496
Other ^a	37	34	3	8.8	63
EBITDA AL margin (adjusted for special factors) %	35.5	35.5			34.8
Depreciation, amortization and impairment losses	(2,572)	(2,576)	4	0.2	(2,875)
Profit (loss) from operations (EBIT)	1,724	1,814	(90)	(5.0)	1,278
EBIT margin %	15.5	16.1			11.4
Cash capex	(1,872)	(1,905)	33	1.7	(2,216)
Cash capex (before spectrum investment)	(1,755)	(1,783)	28	1.6	(1,826)

The contributions of the national companies correspond to their respective unconsolidated financial statements and do not take consolidation effects at operating segment level into account.

^a "Other": national companies in North Macedonia, Montenegro, and the GTS Central Europe group in Romania, as well as the Europe Headquarters.

Net revenue, service revenue

Our Europe operating segment generated revenue of EUR 11.2 billion in the 2022 financial year, a slight year-on-year decrease of 1.2 %. In organic terms – i.e., adjusted for the sale of the Romanian fixed-network business on September 30, 2021, and assuming constant exchange rate effects – revenue increased by 3.9 % year-on-year. Service revenue declined year-on-year, but grew by 3.0 % in organic terms.

Organic revenue growth was largely driven by the strong performance of the mobile business, especially the increase in mobile service revenues with higher margins, due in part to increases in roaming and visitor revenues. Contract customer additions had positive effects on terminal equipment revenues. Service revenues also grew in the fixed-network business. Broadband and TV revenues increased on the back of the systematic build-out of our high-speed network infrastructure. Together with higher wholesale revenues, this increase offset the declines in voice telephony revenues, which were in line with expectations. The systems solutions business made a positive contribution to revenue overall. Regulatory interventions such as the reduction in termination rates had a negative impact on our organic development of revenue in the reporting period.

All countries apart from Romania contributed to the growth in revenue in organic terms, with our national companies in Hungary, the Czech Republic, Greece, and Austria recording the best relative development by country.

Revenue from **Consumers** increased in organic terms by 3.6 % year-on-year, due to the mobile business, where both service revenues and sales of mobile terminal equipment increased. In the fixed network, revenue from broadband and TV business increased thanks to our TV and entertainment offerings as well as the continuous fiber-optic build-out. This more than offset the decline in revenue from voice telephony. In addition, the higher number of FMC customers had a positive impact on revenue.

Revenues with **Business Customers** increased by 3.4 % compared with the prior year, with Greece, Austria, and Hungary contributing significantly to revenues in the core business of telecommunications, and Greece and the Czech Republic making a significant contribution to ICT revenues. Growth was recorded across all product areas. The number of mobile customers increased by 3.6 %, with almost all national companies contributing to growth, in particular Poland followed by Greece, Hungary, and Austria. Greece, Hungary, and the Czech Republic also recorded higher net mobile contract customer additions compared with the prior year. In the fixed-network business, the number of broadband customers rose by 4.4 %. Growth was recorded in particular in the segment of smaller business customers. Net customer additions were also up again year-on-year in the segment of medium-sized and larger corporate customers. ICT revenue rose sharply year-on-year, due to increases in both systems solutions and data communications. The digital infrastructure area developed positively as a result of the expansion of capacities and strong growth in the security business.

Adjusted EBITDA AL, EBITDA AL

Our Europe operating segment generated adjusted EBITDA AL of EUR 4.0 billion in the reporting year, a slight year-on-year decline of 1.1 %. In organic terms, adjusted EBITDA AL grew by 3.1 %, again making a significant positive contribution to earnings, with a positive net margin more than sufficient to offset the rise in indirect costs. This cost increase is in part a result of the supplementary telecommunication tax imposed by the Hungarian regulatory authorities in June 2022, which had an effect of EUR 61 million as of the end of 2022. Higher energy costs also had a negative impact on earnings.

Looking at the development by country, the increase in adjusted organic EBITDA AL was attributable to the positive trends at all of our national companies, but in particular in Greece, Slovakia, and Austria.

EBITDA AL decreased by 2.1 % year-on-year to EUR 3.9 billion. The expense arising from special factors was higher than in the prior year. In organic terms, EBITDA AL recorded modest growth of 1.4 %.

Development of operations in selected countries

Greece. In the reporting year, revenue in Greece increased by 3.6 % year-on-year to EUR 3.2 billion. The continued encouraging development in mobile business is mainly attributable to the addition of new contract customers. Visitor and roaming revenues also increased substantially thanks to travel returning to more normal levels. Our convergence products also performed well, with further customer additions and corresponding revenue. The ongoing fiber-optic and vectoring build-out, together with the resulting higher numbers of customers, continued to have a positive impact on the fixed-network business. Fixed-network revenues increased, mainly driven by strong growth in the broadband and TV business. Wholesale revenues also increased as a result of an increase in the volume of international calls on our networks. Systems solutions business recorded a substantial rise in revenue.

Adjusted EBITDA AL stood at EUR 1.3 billion, up 3.6 % year-on-year. In addition to a higher net margin, this positive trend was also supported by lower indirect costs, despite the increase in energy costs.

Hungary. Revenue in Hungary totaled EUR 1.7 billion in the 2022 financial year, declining by 2.0 % compared with the prior year due to substantial negative exchange rate effects. In organic terms, i.e., assuming constant exchange rates, revenue increased by 7.6 % year-on-year. The biggest driver of this increase was mobile business, mainly on account of significantly higher service revenues. In addition, contract customer additions had positive effects on terminal equipment business. Fixed-network revenue also increased year-on-year. We recorded higher service revenues in the broadband and TV business, both driven again by larger customer bases. Thanks to our increased investments in the build-out of fiber-optic lines, our offers have won over large numbers of customers. Our convergence products also continued to perform well, with further customer additions and corresponding revenue. Systems solutions business posted a slight decline in revenue.

Adjusted EBITDA AL stood at EUR 493 million, down 8.0 % year-on-year. In organic terms, adjusted EBITDA AL grew by 1.5 %. This growth was due in particular to significantly higher revenues, which more than offset the strong rise in costs driven mainly by the supplementary telecommunication tax imposed in June 2022.

Poland. Our revenue in Poland remained more or less stable in the reporting year at EUR 1.4 billion. In organic terms, revenue increased slightly by 2.0 %. Mobile revenue was up slightly, with contract customer additions also having a positive effect on terminal equipment business. In addition, higher roaming and visitor revenues offset the regulatory-induced reduction in termination rates. The number of FTTH customers in the fixed-network business also increased significantly, creating the basis for further broadband growth. This is reflected in higher broadband service revenues, and is also thanks to our successful partnership agreements on network infrastructure. Wholesale revenues were also negatively impacted by the regulatory-induced reduction in fixed-network termination rates. The number of FMC customers increased again substantially in 2022. This had a corresponding positive impact on revenues. Revenues in the systems solutions business declined.

Adjusted EBITDA AL remained more or less on a par with the prior-year level at EUR 378 million. In organic terms, adjusted EBITDA AL grew slightly by 0.6 %. The revenue-driven increase in the net margin was almost entirely offset by increases in indirect costs, in particular as a result of higher costs for energy and personnel costs.

Czech Republic. Revenue in the Czech Republic stood at EUR 1.2 billion in the reporting year, an increase of 9.4 % against the prior year. Excluding positive exchange rate effects, organic growth was 4.7 %. The realignment of our systems solutions business paid off: we recorded a substantial increase in revenue in this business area. The mobile business also grew, driven by higher service revenues and terminal equipment sales. However, mobile revenues were subject to a regulatory-induced reduction in termination rates. The fixed-network business also contributed to revenue growth. Thanks to our investments in the build-out of fiber-optic lines, our offers have won over large numbers of customers. Our convergence products recorded further customer additions and corresponding revenue growth.

Adjusted EBITDA AL increased by 6.8 % year-on-year to EUR 503 million. In organic terms, earnings grew by 2.3 % year-on-year, due to a revenue-related increase in the net margin. This was offset by higher indirect costs, primarily driven by increases in energy costs.

Austria. Revenue in Austria totaled EUR 1.4 billion in the 2022 financial year. This increase of 3.3 % was mainly attributable to growth in mobile revenues, with roaming and visitor revenues having a clearly positive impact. The regulatory-induced reduction in termination rates had a dampening effect on our mobile revenues. Service revenues in the fixed-network business developed encouragingly. The broadband business generated marked growth rates, due among other factors to a larger customer base and higher-value rate plans. Acceptance of our convergence products increased substantially again, also impacting positively on revenues.

Adjusted EBITDA AL increased by 3.9 % year-on-year to EUR 506 million. The higher revenues more than offset the rise in costs.

Profit/loss from operations (EBIT)

Our Europe operating segment recorded a decrease in EBIT of EUR 90 million in the reporting year. This was due to lower EBITDA, mainly owing to the sale of the Romanian fixed-network business in 2021. Depreciation, amortization and impairment losses were at the same level as a year earlier. An impairment loss of EUR 117 million recognized on non-current assets in the Romanian fixed-network business was offset by lower depreciation and amortization in our other national companies. Telekom Romania continues to operate in the structurally challenging and highly competitive Romanian market at prices that are low compared with other countries. In addition, high energy prices and sharp rises in interest rates had a negative impact on the enterprise value.

Cash capex (before spectrum investment), cash capex

In the 2022 financial year, the Europe operating segment reported cash capex of EUR 1.9 billion, down 1.7 % year-on-year. This decline is mainly due to the sale of the Romanian fixed-network business in 2021. We continue to invest in the provision of broadband and fiber-optic technology and in 5G as part of our integrated network strategy.

Systems Solutions

Order entry

millions of €					
	2022	2021	Change	Change %	2020 ^a
Order entry	3,952	3,876	76	2.0	4,564

^a Order entry for 2020 was not adjusted retrospectively in connection with the reassignment of the security business in 2022.

Development of business

The 2022 financial year continued to be dominated by the focusing of our systems solutions business on growth and future viability and the continuation of our transformation program. As communicated at the Capital Markets Day in May 2021, we have established four portfolio areas in line with market needs: Advisory, Cloud Services, Digital, and Security.

We have also defined selected industries (automotive, healthcare, public sector, and public transport), for which we have increased our offer of vertical solutions based on our expertise. In addition, we have agreed partnerships with leading cloud service providers (e.g., Amazon, Google, and Microsoft), so as to be able to offer our customers an even broader and more flexible range of cloud solutions.

By aligning ourselves in this way, our strategic goal is to become the leading IT service provider in the DACH region (Germany, Austria, Switzerland) and in other selected countries.

Order entry in our Systems Solutions operating segment was up by 2.0 % year-on-year in the 2022 financial year. This positive trend was in line with our expectations. Our focus industries, the public sector and healthcare, and the Germany region performed particularly well.

Development of operations

millions of €					
	2022	2021	Change	Change %	2020
Net revenue	3,811	3,759	52	1.4	3,911
Of which: external revenue	3,106	3,032	74	2.4	3,099
Service revenue^a	3,725	3,632	93	2.6	3,660
EBITDA	229	174	55	31.6	184
Special factors affecting EBITDA	(159)	(206)	47	22.8	(201)
EBITDA (adjusted for special factors)	388	380	8	2.1	384
EBITDA AL	125	65	60	92.3	68
Special factors affecting EBITDA AL	(159)	(206)	47	22.8	(201)
EBITDA AL (adjusted for special factors)	284	271	13	4.8	269
EBITDA AL margin (adjusted for special factors) %	7.5	7.2			6.9
Depreciation, amortization and impairment losses	(340)	(421)	81	19.2	(708)
Profit (loss) from operations (EBIT)	(110)	(247)	137	55.5	(524)
Special factors affecting EBIT	(270)	(384)	114	29.7	(567)
EBIT (adjusted for special factors)	160	138	22	15.9	43
EBIT margin (adjusted for special factors) %	4.2	3.7			1.1
Cash capex	(221)	(235)	14	6.0	(231)
Cash capex (before spectrum investment)	(221)	(235)	14	6.0	(231)

^a As of January 1, 2022, we extended our definition of service revenue in the Group, which increased this figure in the reporting period. The prior-year comparatives were not adjusted retrospectively.

Net revenue, service revenue

Revenue in our Systems Solutions operating segment in the 2022 financial year amounted to EUR 3.8 billion, up 1.4 % year-on-year, which slightly exceeded our expectations. This positive development was mainly driven by growth in the Digital Solutions (up 8.9 %), Road Charging (up 23.6 %), and Advisory (up 11.3 %) portfolio units, which more than offset the expected decline in traditional IT infrastructure business, due in part to deliberate business decisions such as the reduction in end-user services. In organic terms, revenue increased by 1.0 % year-on-year. External revenue increased by 2.4 %, mainly driven by the Digital Solutions portfolio unit. Service revenue also increased by 2.6 % due to the extension of the definition.

Adjusted EBITDA AL, EBITDA AL

In the 2022 financial year, adjusted EBITDA AL at our Systems Solutions operating segment increased by 4.8 % year-on-year to EUR 284 million, which was in line with our expectations. Efficiency effects from our transformation program and effects from increased revenue in our Digital Solutions and Road Charging portfolio units exceeded the decline in earnings in the traditional IT infrastructure business. In organic terms, adjusted EBITDA AL grew by 0.9 % year-on-year. EBITDA AL increased by EUR 60 million compared with the prior year to EUR 125 million. The expense arising from special factors was down EUR 47 million on the prior year at EUR -159 million, mainly due to lower restructuring costs and to a loss on deconsolidation in connection with the sale of a business operation in the prior year.

Profit/loss from operations (EBIT), adjusted EBIT

Adjusted EBIT in our Systems Solutions operating segment improved by EUR 22 million year-on-year in the 2022 financial year, coming in at EUR 160 million, due to the reasons described under adjusted EBITDA AL and as a result of declines in depreciation and amortization. EBIT increased by EUR 137 million compared with the prior year to EUR -110 million. The expense arising from special factors decreased by EUR 114 million year-on-year, to EUR -270 million, due in part to the reasons described under EBITDA AL. In addition, in the reporting year, non-cash impairment losses on non-current assets totaling EUR 111 million were recorded as special factors. These related to follow-up investments in connection with assets previously impaired in the 2020 and 2021 financial years. Furthermore, despite the business outlook remaining positive, the substantial increase in the cost of capital in the reporting year prompted further impairment losses to be recognized on non-current assets at the end of 2022. Impairment losses totaling EUR 178 million were recorded as special factors in the prior year.

Cash capex (before spectrum investment), cash capex

Cash capex in the Systems Solutions operating segment stood at EUR 221 million in 2022, slightly down on the prior-year level and hence still in line with our expectations.

Group Development

The sale of T-Mobile Netherlands was consummated on March 31, 2022. As such, T-Mobile Netherlands has not been part of the Group since April 1, 2022. The contributions for the first quarter of 2022 are still included in operational development due to the cumulative view.

For further information on the closing of the transaction, please refer to the section "[Group organization](#)" and to the section "[Changes in the composition of the Group and other transactions](#)" in the consolidated financial statements.

On July 13, 2022, Deutsche Telekom reached an agreement with DigitalBridge and Brookfield on the sale of a 51.0 % stake in GD Towers, comprising its tower assets in Germany and Austria, assigned to the Group Development operating segment. This transaction was consummated on February 1, 2023. The GD Towers business entity has been recognized in the consolidated financial statements as a discontinued operation since the third quarter of 2022. According to the management approach, however, we continue to include the contributions by GD Towers in the management-relevant financial performance indicators explained here.

For further information on the agreement with DigitalBridge and Brookfield on GD Towers, and the presentation of GD Towers according to the management approach, please refer to the sections "[Group organization](#)" and "[Management of the Group](#)."

Customer development

		Dec. 31, 2022	Dec. 31, 2021	Change	Change %	Dec. 31, 2020
thousands						
T-Mobile Netherlands	Mobile customers	0	6,939	(6,939)	(100.0)	6,803
	Fixed-network lines	0	739	(739)	(100.0)	682
	Broadband customers	0	728	(728)	(100.0)	668

Development of operations

millions of €					
	2022	2021	Change	Change %	2020
Net revenue	1,708	3,165	(1,457)	(46.0)	2,883
Of which: T-Mobile Netherlands	536	2,071	(1,535)	(74.1)	1,946
Of which: GD Towers	1,154	1,112	42	3.8	989
Service revenue	411	1,621	(1,210)	(74.6)	1,468
EBITDA	2,106	1,790	316	17.7	1,343
Special factors affecting EBITDA	992	173	819	n.a.	(43)
EBITDA (adjusted for special factors)	1,113	1,618	(505)	(31.2)	1,386
Of which: T-Mobile Netherlands	201	757	(556)	(73.4)	639
Of which: GD Towers	943	894	49	5.5	786
EBITDA AL	1,956	1,479	477	32.3	1,058
Special factors affecting EBITDA AL	992	173	819	n.a.	(43)
EBITDA AL (adjusted for special factors)	964	1,307	(343)	(26.2)	1,101
Of which: T-Mobile Netherlands	190	668	(478)	(71.6)	554
Of which: GD Towers	804	669	135	20.2	587
EBITDA AL margin (adjusted for special factors) %	56.4	41.3			38.2
Depreciation, amortization and impairment losses	(195)	(706)	511	72.4	(780)
Profit (loss) from operations (EBIT)	1,911	1,084	827	76.3	562
Cash capex	(343)	(572)	229	40.0	(699)
Cash capex (before spectrum investment)	(343)	(572)	229	40.0	(499)

The contributions of T-Mobile Netherlands and GD Towers are shown excluding consolidation effects at operating segment level.

Net revenue, service revenue

Revenue in our Group Development operating segment decreased in the 2022 financial year by 46.0 % year-on-year to EUR 1.7 billion. In organic terms, revenue changed in the prior-year period due to the sale of T-Mobile Netherlands as of March 31, 2022 and increased by 6.5 % year-on-year. This increase resulted from the operational and structural growth of our GD Towers business entity, which includes the German and Austrian cell tower business. The positive trend is down to an increase in the number of sites we have in Germany and was further strengthened by the Austrian cell tower business. Service revenue also decreased substantially due to the sale of T-Mobile Netherlands. The GD Towers business does not generate any service revenues.

Adjusted EBITDA AL, EBITDA AL

Adjusted EBITDA AL decreased by 26.2 % to EUR 964 million. Here too, the decline was attributable to the sale of T-Mobile Netherlands. In organic terms, adjusted EBITDA AL grew by 26.4 %. The GD Towers business posted consistent growth on the back of a rising number of cell tower sites and was further strengthened by the Austrian cell tower business. An operational increase in adjusted EBITDA AL was also achieved through revenue growth. Adjusted EBITDA AL was positively impacted by the suspension of the amortization of right-of-use assets due to the fact that the GD Towers business entity has been held for sale since July 13, 2022. EBITDA AL was positively influenced by net special factors of EUR 992 million, which mainly related to the gains on deconsolidation due to the sale of T-Mobile Netherlands (EUR 0.9 billion) and the deconsolidation of DIV II (EUR 0.1 billion). EBITDA AL increased by EUR 477 million compared with the prior-year period to EUR 2.0 billion.

Profit/loss from operations (EBIT)

EBIT increased by EUR 0.8 billion year-on-year to EUR 1.9 billion, mainly as a result of the development described under EBITDA AL. Depreciation, amortization and impairment losses were down year-on-year, primarily in connection with the fact that T-Mobile Netherlands had been held for sale until it was sold, and, accordingly, the related depreciation and amortization had been suspended, and its subsequent sale. In addition, depreciation and amortization were suspended for the GD Towers business entity, which has been held for sale since July 13, 2022.

Cash capex (before spectrum investment), cash capex

Cash capex was significantly down on the prior-year level at EUR 343 million and hence slightly below our expectations. The reduction is mainly due to the sale of T-Mobile Netherlands and lower build-out investments made by GD Towers compared with the prior year.

Group Headquarters & Group Services

Development of operations

millions of €

	2022	2021	Change	Change %	2020
Net revenue	2,407	2,515	(108)	(4.3)	2,556
Service revenue	967	984	(17)	(1.7)	970
EBITDA	(361)	(300)	(61)	(20.3)	(350)
Special factors affecting EBITDA	(234)	(182)	(52)	(28.6)	(277)
EBITDA (adjusted for special factors)	(128)	(118)	(10)	(8.5)	(73)
EBITDA AL	(672)	(622)	(50)	(8.0)	(707)
Special factors affecting EBITDA AL	(234)	(182)	(52)	(28.6)	(277)
EBITDA AL (adjusted for special factors)	(437)	(440)	3	0.7	(429)
Depreciation, amortization and impairment losses	(1,476)	(1,463)	(13)	(0.9)	(1,304)
Profit (loss) from operations (EBIT)	(1,837)	(1,764)	(73)	(4.1)	(1,655)
Cash capex	(973)	(1,007)	34	3.4	(990)
Cash capex (before spectrum investment)	(973)	(1,007)	34	3.4	(990)

Net revenue, service revenue

Revenue in our Group Headquarters & Group Services segment decreased in the reporting year by 4.3 %, mainly as a result of lower intragroup revenues from land and buildings due to the ongoing optimized use of space as well as to lower intragroup service revenues at Deutsche Telekom IT from the licensing of the One.ERP system. The relocation of units previously assigned to the Germany operating segment in connection with the bundling of financial functions had an offsetting effect. Against this background, organic revenue decreased by 6.2 % compared with the prior year.

Adjusted EBITDA AL, EBITDA AL

Adjusted EBITDA AL at our Group Headquarters & Group Services segment amounted to EUR -437 million in the reporting year, which was up slightly against the prior-year level. The fall in revenues and increase in operating expenses relating to land and buildings as well as the decline in revenue from Deutsche Telekom IT were offset by income from the disposal of non-current assets in connection with the further optimization of our real estate portfolio.

Overall, negative net special factors of EUR 234 million affected EBITDA AL in the reporting period. Expenses for staff-related and non-staff-related restructuring measures were offset by the positive effect from the reduction in other provisions. This was due in particular to a measurement effect in connection with the obligation to make additional capital contributions for defined benefit obligations vis-à-vis former employees as a result of the increase in interest rates, and from the termination of legal proceedings. In the prior-year period, EBITDA AL had been negatively impacted by special factors amounting to EUR 182 million, especially for staff-related measures. Against this background, EBITDA AL decreased by EUR 50 million to EUR -672 million.

Profit/loss from operations (EBIT)

EBIT declined by EUR 73 million compared with the prior year to EUR -1,837 million, driven mainly by the higher negative special factors and the increase in depreciation, amortization and impairment losses, mainly due to shorter project runtimes at Deutsche Telekom IT and higher impairment losses on software used by the Systems Solutions operating segment. By contrast, depreciation, amortization and impairment losses from land and buildings decreased as a result of our continued optimization of the real estate portfolio.

Cash capex (before spectrum investment), cash capex

Cash capex decreased year-on-year by EUR 34 million, mainly due to lower investments at Group Headquarters and lower cash capex for vehicles. Higher investments in the Technology and Innovation unit had an offsetting effect.

Development of business at Deutsche Telekom AG

Deutsche Telekom AG prepares its annual financial statements in accordance with the principles of German GAAP, as specified in the German Commercial Code (Handelsgesetzbuch – HGB) and the German Stock Corporation Act (Aktiengesetz – AktG).

As the Headquarters of the Deutsche Telekom Group, we perform strategic and cross-segment management functions and provide services for other Group companies. The profits and losses of our subsidiaries and Group financing measures have a material effect on our financial position and results of operations. In the Germany operating segment, total revenue was up 1.9 % against the prior year. This increase was primarily driven by service revenues in the fixed-network and mobile business. Total revenue in the United States operating segment increased by 11.3 % year-on-year. In U.S. dollars, T-Mobile US' total revenue decreased slightly year-on-year. Total revenue was primarily impacted by lower equipment revenues, partially offset by higher service revenues. Total revenue in our Europe operating segment decreased by 1.2 % compared with the previous year. In organic terms, i.e., adjusted for the sale of the Romanian fixed-network business as of September 30, 2021 and assuming constant exchange rates, revenue increased by 3.9 % against the prior-year level. Organic growth was mainly driven by the strong performance of the mobile business. Total revenue in our Systems Solutions operating segment was up 1.4 % year-on-year. The positive revenue trend was attributable to growth particularly in the Digital Solutions (+8.9 %), Road Charging (+23.6 %), and Advisory (+11.3 %) portfolio units. This trend more than compensated for the expected decline in traditional IT infrastructure business, due in part to deliberate business decisions such as the reduction in end user services. Total revenue in our Group Development operating segment decreased by 46.0 % year-on-year as a consequence of the sale of T-Mobile Netherlands as of March 31, 2022. In organic terms, revenue increased by 6.5 % year-on-year.

Deutsche Telekom AG reported income after taxes for the 2022 financial year of EUR 4.0 billion. Alongside the operating business, the development of business was affected in particular by intragroup disposals of interests at fair value in the reporting year to create the target structure under company law for the sale of a 51.0 % stake in companies of the cell tower business in Germany and Austria to DigitalBridge and Brookfield, which was consummated on February 1, 2023.

Results of operations of Deutsche Telekom AG

Statement of income of Deutsche Telekom AG under German GAAP (total cost method)

millions of €

	2022	2021	Change	Change %	2020
Net revenue	2,250	2,538	(288)	(11.3)	2,740
Other own capitalized costs	9	9	0	0.0	9
Total operating performance	2,259	2,547	(288)	(11.3)	2,749
Other operating income	2,480	1,177	1,303	n.a.	4,725
Goods and services purchased	(456)	(481)	25	5.2	(471)
Personnel costs	(1,936)	(2,176)	240	11.0	(2,291)
Depreciation, amortization and write-downs	(277)	(288)	11	3.8	(211)
Other operating expenses	(2,919)	(2,485)	(434)	(17.5)	(2,834)
Operating results	(849)	(1,706)	857	50.2	1,667
Net financial income (expense)	5,700	5,606	94	1.7	1,245
Income taxes	(839)	(278)	(561)	n.a.	(380)
Income after income taxes	4,012	3,622	390	10.8	2,532
Other taxes	(18)	(17)	(1)	(5.9)	(17)
Income after taxes	3,994	3,605	389	10.8	2,515

Operating results improved from EUR -1.7 billion to EUR -0.8 billion, due mainly to a year-on-year increase in other operating income of EUR 1.3 billion and a EUR 0.2 billion decrease in personnel costs. In particular, an increase in other operating expenses of EUR 0.4 billion and a decline of EUR 0.3 billion in net revenue had an offsetting effect.

Lower intragroup cost transfers from hiring out employees and from renting and leasing out property were the main factors contributing to the reduction in net revenue of EUR 0.3 billion.

The year-on-year increase in other operating income of EUR 1.3 billion was mainly due to gains of EUR 0.6 billion on the intragroup disposal of shares in Erste DFMG Deutsche Funkturm Vermögens-GmbH, Bonn, and gains of EUR 0.5 billion arising from the buy-back of own shares by DFMG Holding GmbH, Bonn. The increase was also attributable to EUR 0.2 billion higher income from derivatives, mainly in connection with U.S. dollar contracts. In addition, an increase of EUR 0.2 billion in foreign currency translation gains had a positive effect. This increase is due in particular to effects from the maturity of cross-currency interest rate hedges.

The decrease in personnel costs of EUR 0.2 billion is largely attributable to a lower headcount due to the take-up of the early retirement program for civil servants and other staff restructuring measures.

The increase of EUR 0.4 billion in other operating expenses compared with the previous year resulted primarily from the EUR 0.3 billion increase in expenses from derivatives. Of this figure, EUR 0.2 billion is attributable to negative measurement effects from a forward transaction concluded to hedge the price of acquiring shares in T-Mobile US in the future. In addition, a EUR 0.1 billion increase in foreign currency translation losses on loans denominated in foreign currency had a negative impact on other operating expenses.

Net financial income increased slightly by EUR 0.1 billion to EUR 5.7 billion, due primarily to an increase of EUR 0.6 billion in income related to subsidiaries, associated and related companies. A EUR 0.3 billion increase in net interest expense and a write-down in the amount of EUR 0.2 billion on CTA Holding GmbH, Bonn, as a result of the impairment of this company's indirectly held investment in BT Group plc, London, United Kingdom, had an offsetting effect.

Income related to subsidiaries, associated and related companies of EUR 6.5 billion (2021: EUR 5.9 billion) was positively affected in the reporting year in particular by profits transferred by Telekom Deutschland GmbH, Bonn, of EUR 7.1 billion (2021: EUR 4.3 billion) and by other German companies of EUR 0.7 billion (2021: EUR 2.5 billion). The transfer of losses of EUR 1.4 billion (2021: EUR 1.2 billion), including EUR 0.9 billion (2021: EUR 0.7 billion) from Deutsche Telekom IT GmbH, Bonn, and EUR 0.4 billion (2021: EUR 0.2 billion) from T-Systems International GmbH, Frankfurt/Main, had an offsetting effect.

Income related to subsidiaries, associated and related companies was impacted in particular by the operating business of the consolidated subsidiaries. In addition, income of EUR 2.3 billion from the intragroup sale of shares in DFMG Deutsche Funkturm GmbH, Münster, and income of EUR 0.4 billion from the sale of 50.0 % of the shares in GlasfaserPlus Holding GmbH & Co. KG, Cologne, had an effect at Telekom Deutschland GmbH, Bonn, in the reporting year. In the previous year, income related to subsidiaries, associated and related companies had been positively impacted by the effect of a capital repayment by T-Mobile Global Holding GmbH, Bonn, to T-Mobile Global Zwischenholding GmbH, Bonn, in the amount of EUR 2.1 billion.

Net interest expense increased from EUR 0.3 billion to EUR 0.6 billion, due in particular to expenses arising from the negative trend in plan assets for pension obligations amounting to EUR 0.2 billion in the reporting year. In the previous year, by contrast, income of EUR 0.2 billion had been recognized in this context. A EUR 0.2 billion decline in expenses from interest added back to noncurrent pension accruals had a positive effect on net interest expense.

Income after income taxes was particularly impacted by the aforementioned effects and increased by EUR 0.4 billion year-on-year in the 2022 financial year.

Other tax expense of EUR 18 million combined with the aforementioned factors resulted in income after taxes of EUR 3,994 million in the 2022 financial year. Taking into account EUR 2,706 million in unappropriated net income carried forward, unappropriated net income totaled EUR 6,700 million.

Financial position of Deutsche Telekom AG

Balance sheet of Deutsche Telekom AG under German GAAP

millions of €

	Dec. 31, 2022	Dec. 31, 2022 %	Dec. 31, 2021	Change	Dec. 31, 2020
Assets					
Intangible assets	139	0.1	301	(162)	216
Property, plant and equipment	2,252	1.8	2,337	(85)	2,388
Financial assets	105,599	86.6	106,615	(1,016)	101,411
Noncurrent assets	107,990	88.5	109,253	(1,263)	104,015
Receivables	10,800	8.9	5,186	5,614	8,180
Other assets	2,689	2.2	1,556	1,133	964
Cash and cash equivalents	162	0.1	454	(292)	3,201
Current assets	13,651	11.2	7,196	6,455	12,345
Prepaid expenses and deferred charges	338	0.3	455	(117)	437
Difference between plan assets and corresponding liabilities	0	0.0	0	0	9
Total assets	121,979	100.0	116,904	5,075	116,806
Shareholders' equity and liabilities					
Capital stock and reserves	53,674	44.0	53,662	12	53,028
Unappropriated net income	6,700	5.5	5,888	812	5,129
Shareholders' equity	60,374	49.5	59,550	824	58,157
Accruals for pensions and similar obligations	4,010	3.3	3,898	112	3,960
Tax accruals	490	0.4	252	238	412
Other accruals	3,150	2.6	3,034	116	2,591
Accruals	7,650	6.3	7,184	466	6,963
Debt	12,619	10.3	10,175	2,444	10,952
Remaining liabilities	41,206	33.8	39,859	1,347	40,594
Liabilities	53,825	44.1	50,034	3,791	51,546
Deferred income	130	0.1	136	(6)	140
Total shareholders' equity and liabilities	121,979	100.0	116,904	5,075	116,806

In addition to shareholders' equity, our financial position is mainly determined by noncurrent assets as well as by receivables from and payables to Group companies. Loans recognized under financial assets as well as receivables from and payables to affiliated companies primarily resulted from financing relationships between Deutsche Telekom AG and its subsidiaries.

The balance sheet total increased by EUR 5.1 billion year-on-year to EUR 122.0 billion.

The development of total assets was attributable in particular to the increase of EUR 5.6 billion in receivables and the increase of EUR 1.1 billion in other assets. By contrast, financial assets decreased by EUR 1.0 billion and cash and cash equivalents by EUR 0.3 billion.

Financial assets decreased year-on-year by EUR 1.0 billion, mainly as a result of loan repayments by T-Mobile USA, Inc., Bellevue, in the amount of EUR 2.0 billion. The carrying amount was also reduced by the buy-back of own shares by DFMG Holding GmbH, Bonn, in the amount of EUR 0.5 billion and the sale of 89.9% of the shares in Erste DFMG Deutsche Funkturm Vermögens-GmbH, Bonn, to DFMG Holding GmbH, Bonn, in the amount of EUR 0.2 billion. The write-down in the amount of EUR 0.2 billion on CTA Holding GmbH, Bonn, further reduced the carrying amount. The acquisition of around 21.2 million shares of T-Mobile US, Inc., Bellevue, by SoftBank Group Corp., Tokyo, for a purchase price of EUR 2.2 billion had an increasing effect on financial assets.

The increase in receivables of EUR 5.6 billion year-on-year was primarily due to the EUR 5.4 billion increase in receivables from cash management resulting in particular from the intragroup purchase of shares by DFMG Holding GmbH, Bonn. The EUR 0.2 billion increase in financial receivables from affiliated companies, mainly as a result of short-term loans granted to OTE Plc., London, further increased receivables.

The increase of EUR 1.1 billion in other assets is primarily due to higher receivables from cash collateral paid in connection with derivative financial instruments. The change in receivables from collateral is mainly attributable to higher interest rates.

The development of total shareholders' equity and liabilities was mainly influenced by the increase of EUR 2.4 billion in financial liabilities, of EUR 1.3 billion in remaining liabilities, and of EUR 0.8 billion in shareholders' equity.

The increase in shareholders' equity of EUR 0.8 billion was primarily attributable to income after taxes of EUR 4.0 billion in the 2022 financial year. The dividend payment of EUR 3.2 billion for the previous year had an offsetting effect.

Financial liabilities increased by EUR 2.4 billion to EUR 12.6 billion compared to the prior year, due in particular to the increase in commercial paper issued in the amount of EUR 2.3 billion.

Remaining liabilities increased by a total of EUR 1.3 billion year-on-year. Current liabilities from cash management rose by EUR 6.2 billion as a result of payments received by subsidiaries that were transferred to Deutsche Telekom AG in connection with the intragroup cash management system. By contrast, financial liabilities to affiliated companies decreased due to loan repayments to Deutsche Telekom International Finance B.V., Maastricht, in the amount of EUR 3.0 billion. Furthermore, liabilities from collateral were down by EUR 1.5 billion against the prior year. This change is mainly attributable to higher interest rates.

Statement of cash flows of Deutsche Telekom AG under German GAAP

millions of €

	2022	2021	Change	2020
Income after taxes	3,994	3,605	389	2,515
Net cash provided by (used for) operating activities	4,753	8,673	(3,920)	(1,808)
Net cash provided by (used for) investing activities	1,614	(2,980)	4,594	11,587
Net cash (used for) provided by financing activities	(6,659)	(8,440)	1,781	(8,654)
Net change in cash and cash equivalents	(292)	(2,747)	2,455	1,125
Cash and cash equivalents, at the beginning of the year	454	3,201	(2,747)	2,076
Cash and cash equivalents, at the end of the year	162	454	(292)	3,201

Net cash provided by operating activities decreased year-on-year by EUR 3.9 billion to EUR 4.8 billion. In addition to income after taxes of EUR 4.0 billion, which includes profit/loss from control and profit/loss transfer agreements and other income related to subsidiaries, associated and related companies, this item was primarily affected by the increase of EUR 0.8 billion in net debt in connection with the intragroup cash management system. This increase in turn was due mainly to cash proceeds from Deutsche Telekom Europe B.V., Maastricht, resulting from the sale of the shares in T-Mobile Netherlands Holding B.V., The Hague. The funds drawn by DFMG Holding GmbH, Bonn, for the intragroup acquisition of own shares and the shares in Erste DFMG Deutsche Funkturm Vermögens-GmbH, Bonn, in particular had an offsetting effect. Net cash provided by/used for operating activities in the previous year had been impacted in particular by the rescheduling of current receivables from cash management to long-term loans at Telekom Deutschland GmbH, Bonn.

Net cash provided by/used for investing activities changed year-on-year by EUR 4.6 billion, resulting in net cash provided by investing activities of EUR 1.6 billion. This change was attributable in particular to cash inflows resulted from loan repayments by T-Mobile USA, Inc., Bellevue, of EUR 2.0 billion, from the buy-back of own shares by DFMG Holding GmbH, Bonn, of EUR 1.1 billion, from the sale of shares in Erste DFMG Deutsche Funkturm Vermögens-GmbH, Bonn, of EUR 0.7 billion, and from interest received of EUR 0.6 billion. Cash outflows of EUR 2.2 billion for the acquisition of further shares in T-Mobile US, Inc., Bellevue, and the increase in cash collateral of EUR 1.0 billion had an offsetting effect. In the previous year, loans granted to subsidiaries, in particular to Telekom Deutschland GmbH, Bonn, had mainly influenced the Company's investing activities.

Net cash used for financing activities decreased by EUR 1.8 billion year-on-year to EUR 6.7 billion. Net cash used for financing activities primarily resulted from the payment of the dividend for the 2021 financial year of EUR 3.2 billion, from net repayments of financial liabilities in the amount of EUR 2.3 billion, of which EUR 1.5 billion is attributable to collateral received, and from interest paid of EUR 1.2 billion.

In all, this resulted in a decrease in cash and cash equivalents of EUR 292 million in the reporting year.

Risk management in hedge accounting

We use derivatives to hedge interest rate and currency exposures as well as other price risks; i.e., exclusively for hedging purposes, not for speculative gains. In the process, we monitor the effectiveness of the hedges on a regular basis.

Combined non-financial statement

For our Chairman of Board of Management, Tim Höttges, sustainability is one of the Board's top priorities. At Deutsche Telekom's first Sustainability Day, which took place on October 12, 2022, in Bonn, the members of the Board of Management of Deutsche Telekom explained just how strongly sustainability is anchored in the Group's organization, and presented the latest sustainability strategy. They gave a clear view of where we are today in terms of Environmental, Social and Governance (ESG) issues, the goals we have set, and the challenges we face when addressing sustainability. They sent a strong message: Deutsche Telekom is Europe's leading telecommunications company in terms of market capitalization, revenue, and earnings. But we also want to be one of the leading telecommunications companies when it comes to sustainability.



We can only achieve this goal by working together with managers and employees. For this reason, alongside the achievement of financial key performance indicators (KPIs), we have also anchored ESG KPIs in our remuneration system for Board of Management members and managers. In addition, we promote and support active ESG commitments by our employees. At the event, Tim Höttges also praised the dedication of our Green Pioneers, likening them to a sustainability supervisory board within the Company.


We have reached the first landmark on our journey to achieving what are, for us, ambitious climate goals: we already operate our networks using entirely green electricity. We still have further steps, both large and small, to take on the way to becoming fully climate neutral. The Board of Management announced, for example, that from 2023, there would be no more new company vehicles in Germany with combustion engines. This supports our interim goal for 2025 of climate neutrality in our own emissions (Scope 1 and 2). Another important step is to further decouple energy consumption from constantly increasing online data volumes, regardless of potential emissions. By 2024, we want to have doubled our energy efficiency in the Germany and Europe operating segments in comparison with 2020. In doing so, we are also doing our bit for the current energy situation in Europe.



A circular economy not only protects resources such as metal and rare minerals, but also has a direct impact on CO₂ emissions. We take responsibility for our actions and want to have a circular economy for network technology and devices in place in Europe by 2030. As part of this, we also take responsibility for the devices we sell to our customers. Lease or subscription models such as "device as a service" will play an important part in this. What is more, from 2025 onwards, almost all mobile devices marketed by Deutsche Telekom are to be sold in packaging that complies with our sustainability criteria. This is already the case for all of our new branded products throughout Europe.



According to a Bitkom study, 50 % of the CO₂ reductions necessary in Germany by 2030 can be enabled by digital technology. For us, this means integrating sustainability at the heart of our products. Many of our IoT solutions are already helping our customers to save energy, but IoT also has untapped potential – for example, it could play a role in establishing sustainable water management, or in making waste disposal more efficient.

"When people stop talking to each other, that is the moment when they stop understanding each other." These words from Tim Höttges clearly spell out the importance of the internet and its role in democracy. We want to promote sharing through digitalization. However, hate speech and fake news that spread quickly on the web pose a risk to our democracy. That's why we are campaigning for an online world that people can navigate with confidence and without having to fear marginalization. In 2022, we successfully continued our No Hate Speech campaign with a new campaign ad.

Recent years, which have been beset by challenges for us all, have shown that, when it comes to taking on social responsibility in times of crisis, we do our bit. The year 2022 was no different. At the very start of the war in Ukraine, our employees organized among themselves to support people in crisis. In addition, the Board of Management put together a comprehensive package of measures ranging from free SIM cards and job offers, through to support for aid organizations.

At the close of Sustainability Day, Mike Sievert, CEO of T-Mobile US, emphasized that we cannot be the best at connecting customers to their world without also taking on the challenge of making a positive impact on the world around us. The Board of Management was unanimous: ESG is a key strategic pillar of our work.

For further information on the Sustainability Day (including video stream), please refer to the topic special on our [website](#).

Creating transparency

We have been reporting on our corporate responsibility (CR) activities for more than 20 years: on our website, in our CR report, and in our annual report. Since the 2016 financial year, we have also explained how our core business contributes to achieving the UN Sustainable Development Goals (SDGs), which have been set as part of the 2030 Agenda.

| For further information, please refer to the section "[Sustainable Development Goals](#)."

Since the 2017 reporting year, we have published a non-financial statement (NFS) as part of the management report in accordance with § 315c in conjunction with § 289c to 289e HGB. In selecting the issues to be presented in the 2022 NFS, we took the statutory requirements into account. In addition, since the 2021 reporting year, we have fulfilled the obligatory reporting requirements regarding environmentally sustainable economic activities in accordance with Regulation (EU) 2020/852 of the European Parliament and of the Council of June 18, 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (hereinafter EU taxonomy): In the section "Aspect 1: Environmental concerns" we provide a breakdown of what percentage of our net revenue and also of our capital expenditure and operating expenditure for climate-related environmental objectives, for which criteria already exist in EU legislation, is taxonomy-eligible or taxonomy-aligned. The requirements for transparency in corporate sustainability are constantly increasing. To meet these requirements, we have followed the Global Reporting Initiative (GRI) standards for the concepts and the materiality analysis in this NFS, and our CR reporting additionally reflects other voluntary frameworks such as those of the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD). We also addressed the coming requirements of the Corporate Sustainability Reporting Directive (CSRD) in the reporting year, so that we can prepare our reporting for this in good time. [SDG 17](#) [RELATIONSHIPS](#)

| We will publish detailed information on this in our 2022 CR Report at the end of March 2023.

The Supervisory Board of Deutsche Telekom AG is responsible for the review of the content of the NFS. It did this with the support of Deloitte GmbH Wirtschaftsprüfungsgesellschaft (external auditor) in the form of a limited assurance engagement. The two non-financial performance indicators "energy consumption" and "CO₂ emissions" (Scope 1 and 2) are included as management-related performance indicators in the reasonable assurance engagement on Deutsche Telekom's consolidated financial statements and the combined management report. The NFS engagement is based on the International Standard on Assurance Engagements ISAE 3000 (revised). Unless otherwise stated, all disclosures in this NFS apply in equal measure to the Group and the parent company (combined non-financial statement). To avoid repetition within the management report, we refer to further information provided in other sections wherever relevant. References to disclosures not contained in the combined management report are provided as background information; these disclosures are not part of the NFS and thus are not covered by the engagement.

Our annual CR report supplements this NFS, meeting in full the requirements from a range of different stakeholders for substantiated accountability. The NFS is used by CR experts as an aid to rating Deutsche Telekom's sustainability performance. At the same time, we aim to engage stakeholders in our sustainability topics. For this reason, we have supplemented the CR report with interactive sustainability stories, serving the growing interest among the general public in sustainability issues. Some of the stories are also available in simplified German. [SDG 17](#) [RELATIONSHIPS](#)

During the reporting year, our 2020 CR Report was awarded first place in the independent cross-industry company ranking of the Institute for Ecological Economy Research (IÖW) and the future e.V. business initiative. We also attained second place for best sustainability communication in the NetFederation CSR benchmark ranking.

Sustainable Development Goals [SDG 17](#) [RELATIONSHIPS](#)

In 2015, the member states of the United Nations adopted 17 Sustainable Development Goals (SDGs). We want to make concrete contributions to achieving these goals along our entire value chain.



Our contributions to achieving the SDGs have also had a positive effect on our own Company. In order to highlight these contributions, we have divided them into five areas: Finance, Structure, Relationships, Employees, and Environment.

Deutsche Telekom's value contributions



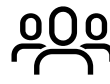
FINANCE



STRUCTURE



RELATIONSHIPS



EMPLOYEES



ENVIRONMENT

As a responsible employer, we greatly value employee participation and a working environment that is fair and respectful; we encourage diversity and support our employees on their journey toward the digital working world. In this way, we contribute toward achieving SDGs 5 (Gender equality), 8 (Decent work and economic growth), and 10 (Reduced inequalities) – and this also has a positive impact on cooperation within our Company (Employees). By building out our broadband network, we are making an active contribution to creating high-quality infrastructure, promoting innovation (SDG 9), and strengthening our infrastructure (Structure). And by consistently improving energy efficiency as we expand our network and by sourcing 100 % of our electricity from renewable energies, we contribute toward SDG 13 and make our own business activities more environmentally friendly (Environment). Our growing range of sustainable products and solutions increases this effect and enables our customers to reduce CO₂ emissions and conserve other resources (SDGs 12, 14, 15). Our smart cities solutions also promote a sustainable way of life (SDG 11). At the same time, these offerings enable us to generate revenue (Finance). Our commitment to an internet free of hate and to more civil courage online contributes to a peaceful, inclusive society based on the rule of law (SDG 16) and is associated with new cooperation relationships (SDG 17) for us (Relationships).

To clearly highlight the contribution our products, services, and activities make toward the individual sustainability development goals and our value chain, we have marked the relevant passages with the respective SDG and value contribution symbols. The symbols used are considered information extraneous to management reports in accordance with the explanation given in the section [“Introductory remarks.”](#)

Explanation of the business model

We are one of the leading telecommunications companies worldwide. We offer our consumers fixed-network/broadband, mobile, internet, and internet-based TV products and services, as well as ICT solutions for our business and corporate customers.

For further information on our business model, please refer to the sections [“Group organization”](#) and [“Group strategy.”](#)

Strategic and organizational approach to sustainability SDG 17 RELATIONSHIPS

We see ourselves as a responsible company and have made that a core element of our Group strategy. We are committed to implementing sustainability along our entire value chain – and to playing an important role in meeting today's environmental, economic, and social challenges. We are expressly committed to the principles of the United Nations Global Compact, the German Sustainability Code, and the Code of Responsible Conduct for Business. In addition, as already outlined, we support the United Nations Sustainable Development Goals.

We further refined our CR strategy in the reporting year, taking into account the results of the materiality analysis. We identified four key areas in which we want to act as a role model:

1. Our commitment to climate-neutral business practices
2. Our determined efforts to ensure the circularity of our products and services
3. Our pursuit of diversity, equity, and inclusion, as well as our investment into future skills
4. Our determination to help shape a digital society that is based on our fundamental democratic values and in which all people can participate safely, competently, and with autonomy

We also consider good governance to encompass an internal control system and a risk management system, including a compliance management system which is aligned with the company's risk situation. Maintaining data protection and security, engaging with the fundamental principles of digital responsibility, upholding human rights, shaping sustainable supply chains, investing capital based on ecological and social criteria, and ensuring communication about our environmental and social sustainability activities is transparent are additional meaningful aspects of good governance.

Our Board of Management bears overall responsibility for our CR goals, discussing and making decisions on key CR-related issues. The Group Corporate Responsibility (GCR) unit develops the Group-wide CR strategy, including the associated policies and guidelines. Its aim is to further develop our corporate culture, particularly in terms of sustainable innovation and social responsibility. As of January 1, 2022, GCR has been transferred from the Board of Management department for Human Resources and Legal Affairs into the department of the Chairman of the Board of Management. By taking this decision, the Supervisory Board and the Board of Management are emphasizing how seriously Deutsche Telekom takes its social and environmental responsibility. The different Group business units and segments are responsible for implementing the CR strategy. Specific measures are driven by the CR managers of each unit, who work together within the international CR Manager Network.

Our values and basic principles are anchored in our Guiding Principles, the Code of Conduct, the Code of Human Rights & Social Principles, and other subject-specific policies. The cornerstones of our sustainability management activities are formally set out in our CR Policy, which is binding for all Group units. To further shore up the implementation of our CR ambitions throughout the organization, we refined the CR Policy during the reporting year.

▮ We will publish detailed information on the CR Policy in our 2022 CR Report at the end of March 2023.

As part of our CR controlling and reporting activities, we record ESG data and performance indicators. We use this data primarily to calculate our ESG KPIs, which we use to measure and manage our CR performance. The non-financial performance indicators “energy consumption”, “CO₂ emissions” (Scope 1 and 2), and “energy intensity” are also elements of the Group’s higher-level controlling processes. Alongside the ESG KPIs, we also report other metrics with the aim of meeting all internal and external transparency requirements.

Growing numbers of investors take sustainability aspects into account in their investment decisions (Socially Responsible Investment, SRI). SRI investment products consist of securities from companies that have been reviewed based on environmental, social, and governance (ESG) criteria. The development of demand from socially responsible investors for the T-Share is an indicator we can use to assess our sustainability performance. The Socially Responsible Investment ESG KPI indicates the percentage of Deutsche Telekom AG shares held by such investors. We refined the methodology in the reporting year and have switched to monitoring sustainably managed shares at fund level and no longer at an institutional level. For better comparability with other companies, the total number of shares given pertains to the number of Deutsche Telekom shares in free float. Our commitment to greater sustainability is paying off: as of December 31, 2021, around 31.3 % of all T-Shares were held by investors who show concern for environmental, social, and governance criteria in their investment choices. 🏠 SDG 8 🏢 FINANCE

As part of our CR strategy, we have taken part successfully for many years in ESG ratings, which we select based on reputation, relevance, and independence. When rating agencies give high marks to our social and ecological commitment, the T-Share is included in the financial market’s sustainability indexes. In 2022, the T-Share was once again listed in all sustainability indexes relevant for us as a company.

Listing of the T-Share in sustainability indexes/ratings 🏠 SDG 8 🏢 FINANCE

Rating agency	Indexes/ratings/ranking	2022	2021	2020	2019	2018
S&P CSA	DJSI World	✓	✓	✓	✓	✓
	DJSI Europe	✓	✓	✓	✓	✓
	S&P ESG Index Series	✓	✓	✓	✓	—
CDP	STOXX Global Climate Change Leaders	✓	✓	✓	✓	✓
	Supplier Engagement A-List	○	✓	✓	✓	✓
MSCI	ESG Universal Indexes	✓	✓	✓	✓	✓
ISS-ESG	Prime Status (Sector Leader)	✓	✓	✓	✓	✓
Bloomberg	Gender Equality Index	✓	✓	✓	✓	✓
Sustainalytics	STOXX Global ESG Leaders ^a	✓	✓	✓	✓	✓
	UN Global Compact 100	✓	✓	✓	✓	✓
FTSE Financial Times Stock Exchange	FTSE4Good	✓	✓	✓	✓	✓
Moody's	Euronext indexes based on Moody's ESG data	✓	✓	✓	✓	✗

✓ Listed ✗ Not listed — Index did not yet exist in the relevant year ○ Result not available at the date of publication

^a Listed in other indexes in the relevant universe.

▮ We will publish detailed information on this in our 2022 CR Report at the end of March 2023.

Process for determining significant topics

For some two decades now, we have determined the topics that are relevant for our sustainability strategy and for our reporting on the basis of a materiality process that we are continually refining. In 2022, key factors influencing the refining of the process were changes to the requirements laid down in the GRI standards 2021 and the requirements stipulated in the CSRD, which will be relevant for our reporting as of the 2024 reporting year. However, since the CSRD will have the effect of changing the materiality criteria, we selected the topics for the present NFS based on the results of the 2021 materiality analysis, which we reviewed in the reporting year to ensure it was fully up to date. To review the key topics, we performed a document analysis in order to explore aspects such as existing legislation and the expectations of our stakeholders, for example, the capital markets. We then supplemented this with interviews with internal and external experts. In doing this, we considered both the negative and the positive impact of our business activities on the environment and on society along the value chain, and in a further step, we assessed our financial sustainability opportunities and risks. We then held an internal workshop to validate the results and to discuss potential strategic implications. This review process did not identify any new topics for the NFS in 2022. Consequently, there is no need to include further issues in the NFS for 2022. Although the two topics of “collaboration with employees’ representatives and trade unions” and “occupational health and safety” are not considered to be key topics, we continue to include them in our reporting. The key topic of “service quality” constitutes a central aspect of customer satisfaction.

For further information on customer satisfaction, please refer to the sections “[Group strategy](#)” and “[Management of the Group](#).”

The issues are assigned to the aspects as shown below and can be found in the corresponding sections of the NFS:

Aspect	Issue
1. Environmental concerns	<ul style="list-style-type: none"> – Climate protection – Resource conservation
2. Employee concerns	<ul style="list-style-type: none"> – Collaboration with employees’ representatives and trade unions – Diversity, equity, and inclusion – Occupational health and safety
3. Social concerns	<ul style="list-style-type: none"> – Network access and digital responsibility – Connect the unconnected – Data privacy and data security
4. Respecting human rights	<ul style="list-style-type: none"> – Labor standards in our own business area and at our suppliers
5. Fighting corruption	<ul style="list-style-type: none"> – Compliance management system

We will publish detailed information on the materiality process in our 2022 CR Report at the end of March 2023.

As part of our comprehensive risk and opportunity management system, we determine existing and potential risks and opportunities arising from environmental, economic, or social aspects, and from our corporate governance. As part of this process, we take into account the results of the financial assessment of the sustainability risks and opportunities in the materiality analysis. Topics such as climate protection, suppliers, and reputation involve potential risks, which we have outlined in the section “Risk and opportunity management.” We maintain this practice to provide the transparency our stakeholders expect, even if the risk assessment has found that these topics do not need to be rated as “very likely severe” in the meaning of § 289c (2) and (3) and § 315c HGB. The present NFS focuses on these risks and opportunities in relation to the relevant aspects.

For further information, please refer to the section “[Risk and opportunity management](#).”

Aspect 1: Environmental concerns

We are committed not only to minimizing the impact our business activities may have on the climate and the environment, but also to tapping into the opportunities for sustainable development offered by digitalization. If harnessed properly, these opportunities can contribute, among other things, to protecting resources and saving energy.

In order to establish uniform processes in the Company and to continually improve our environmental protection efforts, we use a comprehensive environmental management system that is part of the Group-wide integrated QHSE (quality, health, safety, and environment) management, and that is based on international standard ISO 14001. Our Group-wide environmental policy collates the key aspects of our voluntary commitments. In order to handle the rising tide of regulatory requirements, especially from the EU, we established an internal, cross-divisional Green Deal task force in 2020. The purpose of the task force is to ensure that necessary measures and processes can be implemented without delay and to create the necessary transparency. Correspondingly, evaluations and indications resulting from the task force’s activities are taken into account in the Group’s various sustainability initiatives.

Climate protection

Our investments in the network build-out make us one of the biggest investors in the industry. In 2022, we invested around EUR 21 billion Group-wide, primarily in building and operating networks to meet the growing demand for faster, full-coverage data services. However, the network build-out cannot be allowed to lead to an increase in CO₂ emissions and thus accelerate climate change. For this reason, we use energy from renewable sources to decouple CO₂ emissions from energy consumption. In Europe, we have set ourselves the goal of doubling the energy efficiency of our networks by 2024. Above and beyond this, we want to further increase energy efficiency – for instance at our data centers – and thus reduce energy consumption in the medium term despite the expected rise in data consumption (2024 against 2020, excluding T-Mobile US). The two non-financial performance indicators “energy consumption” and “CO₂ emissions” (Scope 1 and 2) were incorporated into the variable component of our Board of Management’s remuneration in 2021, and in 2022 were also made relevant for our executives (excluding T-Mobile US). In the United States, we are forging ahead with the highly intensive build-out of our 5G network, in particular in rural areas. This initially drives up power consumption. T-Mobile US, like the Group as a whole, has covered 100 % of its electricity requirements from renewable energy sources since 2021. There are strong fluctuations in T-Mobile US’ carbon footprint owing to unforeseeable natural disasters and the associated temporary use of equipment such as diesel generators to restore and back up damaged network infrastructure. Consideration must be given to the special national situation in this key market, which is why the decision was taken, in respect of short-term variable remuneration in 2023, not to include T-Mobile US in these two non-financial performance indicators. This step ensures that the right incentives are set for the Board of Management toward the sustainable development of the business, while safeguarding the stability of network operations at the same time. This applies equally to Board of Management managers and executives. The annual ambition for the performance indicators “energy consumption” and “CO₂ emissions” will continue to be set, managed, and reported for the entire Group as before, including a target value for T-Mobile US. In the reporting year, Group-wide energy consumption remained stable year-on-year at 13,253 GWh (prior year: 13,323 GWh). Due in particular to the Group-wide use of electricity from renewable energy sources, CO₂ emissions (Scope 1 and 2) are at a low level and dropped further as a result of our measures to 233 kt CO₂e (prior year: 247 kt CO₂e). The values given for total energy consumption and Scope 1 and Scope 2 emissions are based in part on estimates, assumptions, and extrapolations, and, in part, on data provided by our external energy service providers.

For about the last two decades, climate protection has been steadily increasing in importance at Deutsche Telekom. Our Group-wide climate protection strategy covers the following aspects: “Emissions from the value chain,” “Renewable energy sources,” “Energy efficiency,” and “Enablement: positive climate-protection effects on our customers.” In 2019, the Board of Management adopted climate goals, which it stepped up again in 2021:

- a. Since the end of 2021, we have been using electricity that comes from 100 % renewable sources everywhere in the Group (Scope 2, market-based method), which means we have achieved our goal.
- b. By the end of 2025, we aim to reach climate neutrality across the Company. We will cut up to 95 % of our CO₂ emissions (Scope 1 and 2) with the transition to electricity from renewable energy sources and other measures. We will need to offset the remaining emissions through compensatory measures.
- c. By 2030, we aim to reduce the emissions created by the manufacture and use of our products by 25 % per customer (compared to 2017) (Scope 3, categories: purchased goods and services, capital goods, use of sold products, use of leased products). These emissions account for more than 98 % of our carbon footprint. We maintain a close dialog with suppliers in order to reduce the emissions generated during production and to ensure that the products we offer consume less energy during the utilization phase.
- d. We want to have reached net zero by 2040 across all three scopes. Where there are CO₂ emissions that we cannot avoid by using renewable energy, improving energy efficiency, or agreeing climate targets with suppliers, for example, we will offset these using compensatory measures that mean they are permanently removed from the atmosphere, such as through natural sinks in which natural ecosystems absorb greenhouse gases from the atmosphere. This goal is in line with the targets set out by the European Green Digital Coalition, of which Deutsche Telekom is a founding member.

We developed our Group-wide climate goals in line with the current scientific and political conditions. The Science Based Targets initiative (SBTi) has confirmed to us that our climate protection targets contribute to compliance with the Paris Climate Agreement. Internal preparations were made during the reporting year for a fresh review of our current climate goals in line with the SBTi guidance. The review is to be completed in 2023. The SBTi also gave a positive assessment of the targets set by our subsidiaries in the United States and Hungary. The national companies are taking different steps to achieve these targets. These include power purchase agreements (PPAs) for procuring electricity from specific sustainable sources, such as wind and solar power. At the end of 2022, we were obtaining 27.7 % of our electricity through these PPAs (prior year: 23.1 %).

By 2025, we intend to increase this percentage in Europe to 50 % of our power consumption. Our aim is to actively support the sustainable production of green energy.

We calculate our CO₂ emissions across the Group in line with the Greenhouse Gas (GHG) protocol. The market-based method is used for Scope 2 emissions. The standard distinguishes between three categories of CO₂ emissions (Scope 1, 2, and 3). The following graphic visualizes the emissions of the different scopes resulting from our business activities, shown as CO₂-equivalent emissions (CO₂e emissions).

CO₂e emissions (Scope 1–3)

Deutsche Telekom Group in 2022 in % and kilotons (kt) of CO₂e



- **Scope 3 emissions from upstream activities:**
Upstream transportation and distribution, purchased goods and services, capital goods, waste generated in operations, fuel- and energy-related activities, business travel, and employee commuting
- **Scope 1 emissions from Deutsche Telekom's own activities:**
Primary energy requirements for operation of Deutsche Telekom's systems, buildings, and vehicles
- 🔗 **Scope 2 emissions from energy procured:**
Generation of electricity and district heating/cooling procured by Deutsche Telekom. Renewable energy certificates are taken into account when Scope 2 emissions are determined.
- 🔗 **Scope 3 emissions from downstream activities:**
Transportation of products sold to the customer, use of sold or leased products, and disposal and recycling of sold products. Some 2.6 million metric tons of CO₂e are additionally generated during the utilization phase of our solutions by devices that our customers purchase from third parties and not from Deutsche Telekom. As we have only a negligible influence on these devices and hence on their energy consumption and emissions, from this reporting year we report these emissions separately.

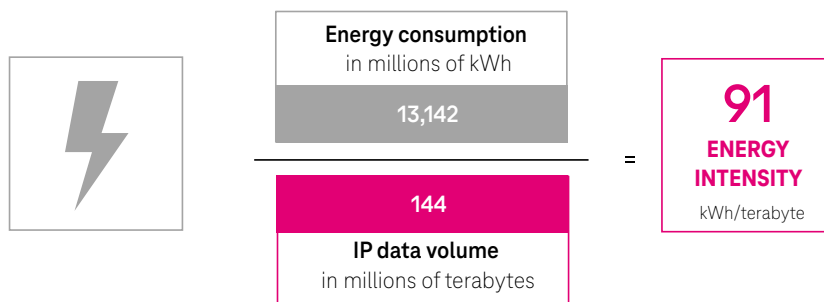
📄 We will publish detailed information on the year-on-year development of data in our 2022 CR Report at the end of March 2023.

Another important metric for us is the Renewable Energy KPI. It shows how much of our Company's overall electricity consumption is obtained from renewable energy sources. In 2022, this amounted to 100 % across the Group. Direct procurement, guarantees of origin, and own energy production are included in this calculation.

The Power Usage Effectiveness (PUE) metric serves as one indicator for the efficiency enhancement in our data centers. We determine this metric using the method recommended by the standard DIN EN 50600 for data centers, which takes the total energy consumed by data centers into account, not just that used to operate the servers. In 2022, the global PUE metric for our T-Systems data centers was 1.59 (prior year: 1.58). Our most-efficient highly available data center has a PUE of 1.30. We determine the effectiveness of our climate protection measures using key performance indicators (KPIs). The KPI for Energy Intensity for Deutsche Telekom (fixed-network and mobile entities) is shown in the following graphic. The KPI reflects our energy consumption in relation to the volume of data transmitted, thus demonstrating how our network's energy efficiency has developed in practice. The result stands at 91 (prior year: 102). Effective the reporting year, we no longer report the Carbon Intensity ESG KPI due to consistently low CO₂ emission levels (Scope 1 and 2), which diminished the usefulness of this KPI compared to previous years.

Energy Intensity ESG KPI

Deutsche Telekom Group (fixed-network and mobile entities) in 2022



We are also applying our climate protection efforts to our mobility: Our goal within the Group is to progressively increase the proportion of electric vehicles in our fleet in order to have fully electric mobility in place as soon as possible. We are committed to buying only electric company vehicles in Germany from 2023 onward, for example. As soon as charging infrastructure provides full coverage and sufficient suitable electric vehicles are available, we will also be able to implement full e-mobility in our service vehicles. Currently, around 35 % of new company vehicles ordered in Germany are electric (prior year: 30 %). In addition, our subsidiary Comfort Charge provides e-mobility charging infrastructure in Germany. Comfort Charge currently offers 161 rapid charging stations, and this is set to increase to more than 250 by the end of 2023. Both our own fleet and third-party vehicles can use the vehicle charging stations.

In order to effectively curb climate change, many relevant players must work together, which is why we participate in national and international associations and organizations, such as the Global Enabling Sustainability Initiative (GeSI) and econsense. We are also working systematically on improving climate protection throughout our supply chain. Since 2016, the CDP supplier engagement rating has assessed how well companies have integrated the topic of climate protection into their supply chains. In 2021, we were awarded an A rating by CDP and included on its Supplier Engagement Rating Leader Board. The supplier engagement rating had not yet been confirmed for the reporting year at the time of the publication of this report. Our CDP Supply Chain Coverage ESG KPI indicates the degree to which our procurement volume was covered by our suppliers' participation in the CDP Supply Chain Program in 2022. A total of over 52 % (prior year: over 70 %) of the procurement volume was covered in 2022 (excluding T-Mobile US). In the reporting year, 247 suppliers took part in the program (prior year: 268).

Resource conservation

Our goal is to make our product portfolio increasingly sustainable. To achieve this, we take a holistic approach to resource conservation and are committed to the responsible use of resources along our entire value chain. We aim to make products and materials as durable as possible and to ensure they are always recycled at the end of their lifetimes. Also, by providing innovative, network-based solutions, we support our customers in reducing their own CO₂ emissions and contributing to climate protection.

Sustainable products are a key factor in competition for us. Using the Sustainable Revenue Share ESG KPI, we determine how much revenue we (excluding T-Mobile US) generate from products that make a contribution to sustainability. Revenues for individual product clusters are partially determined using a percentage allocation based on assumptions. In 2022, this share amounted to just over 42 % (prior year: 42 %). We have recorded this indicator since 2014 using our own methodology, which we adapted in 2022. As previously, a product can only be assigned to the sustainable product portfolio provided it is highly likely that the product does not entail any of the seven risks defined in our methodology. Additionally, a product must also offer at least one of five of the sustainability benefits that we updated in the reporting year (or one of six benefits up to 2021). Effective the reporting year, we no longer include the use of renewable energies as a sustainability benefit. Cost savings are still considered as additional information. However, a cost benefit does not constitute a sustainability benefit in and of itself. Under the new assessment methodology, the prior-year figure changes to EUR 16.2 billion. Owing to the fact that the EU taxonomy does not cover the major part of our business model at present, we are reporting this KPI in parallel in the current reporting year.

We will publish detailed information on the Sustainable Revenue Share ESG KPI in our 2022 CR Report at the end of March 2023.

The return, repair, and recycling of old devices should be a matter of course. By 2030, we want all of our products to be recycled at the end of their lifetimes. We also want our suppliers to make their devices and network technology fully circular by 2030. We work closely with manufacturers to be able to offer an increasingly sustainable product range. In Germany and Austria, for example, we stepped up our strategic collaboration with Fairphone – a manufacturer specializing in sustainable smartphones – in the reporting year. In 2021, we introduced the Eco Rating methodology, in cooperation with four other European mobile communications operators. By now, nine network operators are using this rating methodology in 36 countries. More than 250 cell phones from 19 vendors were evaluated by the end of 2022 in terms of their environmental impact throughout their entire life cycle. In this way, we can help our customers make more sustainable purchase decisions and motivate vendors to reduce the environmental footprint of their devices. We are also pursuing our goals in our packaging. Since mid-2022, all new branded products launched in Europe must meet the sustainability criteria laid down in our new packaging guideline. More than two-thirds of the new packaging for smartphones we source from our suppliers also meets these criteria.

To indicate the sustainability benefits of our products to our customers, we make suitable products identifiable with recognized environmental labels. For example, several routers and mesh devices are certified with the Green Product environmental label of the TÜV Rheinland testing service provider. In addition, Telekom Deutschland's fixed-network telephones to a large part carry the Blue Angel seal of approval. The Blue Angel was also awarded to the joint system of Telekom Deutschland and the service provider Teqcycle Solutions for taking back cell phones. We use our #GreenMagenta and #GoodMagenta labels for those of our products and initiatives that bring sustainability benefits. #GreenMagenta encompasses Deutsche Telekom products, services, projects, actions, and initiatives that make a particularly positive contribution to climate protection and the more responsible use of resources. #GoodMagenta describes projects, actions, and initiatives that make a positive contribution to overcoming social challenges in the digital world. We have set out strict rules for awarding these two labels. There must be proven sustainability benefits. A comprehensive impact assessment is carried out in order to award the #GreenMagenta label, for example. If there are clear disadvantages for society or the environment, #GreenMagenta or #GoodMagenta will not be awarded, despite any potential advantages. More than 35 products from Germany and European national companies, such as Magenta Telekom in Austria and Makedonski Telekom in North Macedonia, have already been awarded the labels. For example, we have labeled our green network in Germany, which has been operated with electricity from 100 % renewable energy sources since 2021, with #GreenMagenta, while our Speedport Smart 4 router, with a case made from 90 % recycled plastic and with plastic-free packaging, also bears the label.

We will publish detailed information on this in our 2022 CR Report at the end of March 2023.

Conserving valuable resources is also a goal of the Green Pioneers initiative launched by our employees. More than 330 employees from around 70 locations in Germany have joined the initiative thus far. Our Green Pioneers raise awareness among the workforce of resource efficiency in the workplace and also provide inspiration for our core business. In 2022, some Green Pioneers held courses on environmental issues for their colleagues, with more than 1,900 employees in total taking part. As part of Green Action Month, they planted what had been a lawn with a 40 square meter mini-forest, using native plants, trees, and shrubs to offer the greatest possible biodiversity in the smallest area. The Cycling to Work project helps protect the climate and save carbon emissions. The Green Pioneers were also behind the successful installation of e-bike charging stations at several sites. At international level, the CR managers in the national companies also launched relevant local activities. For example, to mark Earth Day, Deutsche Telekom IT Solutions Slovakia carried out a range of activities including a plant exchange, training courses, and workshops on waste reduction and recycling for employees and their children, as well as other volunteer-run activities. 🌱 SDG 13 👥 EMPLOYEES

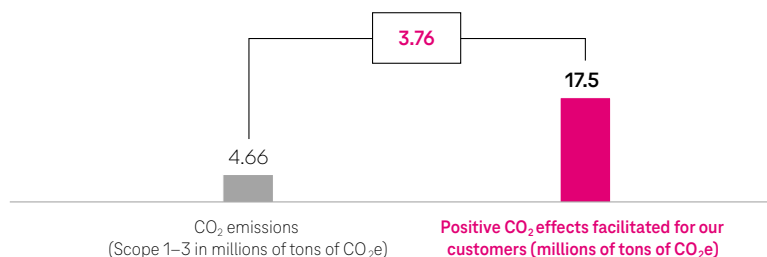
Environmental opportunities arising from the digital transformation

We can use our products, services, and activities to contribute to tackling many environmental and social challenges, as was made clear in a comparison with the 17 sustainability goals (SDGs) adopted by the United Nations. For instance, ICT solutions can help reduce resource consumption in agriculture and increase harvests, shape cities and mobility up for the future in terms of sustainability, stabilize power supply grids, or improve access to education and medical care – areas of application that offer market opportunities for our Company. In order to evaluate the concepts described in this NFS, it is important to also look to the opportunities digitalization opens up for sustainable development. 🌐 SDG 17 🏠 FINANCE

We use the Enablement Factor to measure our overall performance with regard to climate protection. For this ESG KPI, we calculate the positive CO₂ effects facilitated for our customers through using selected products. Relevant emissions generated by customers are generally taken into account, with the exception of emissions caused by operating video-conferencing facilities. Rebound effects are taken into account based on studies and estimates by experts, where it is possible to do so with reasonable effort. We put this figure in relation to our own CO₂ emissions. According to this figure, the positive CO₂ effects facilitated for our customers in Germany were 276 % higher in 2022 than our own CO₂ emissions (enablement factor of 3.76 to 1). The decline against the prior year (enablement factor of 4.8 to 1) is due to the use of more differentiated data collection methods, as well as a reduction in the number of people using our video conferencing solutions. The usefulness of the KPI depends very much on the underlying assumptions. 🌱 SDG 9 🌍 ENVIRONMENT

Enablement Factor ESG KPI

Deutsche Telekom Group in Germany in 2022



| We will publish detailed information on the topic of Corporate Digital Responsibility in our 2022 CR Report at the end of March 2023.

Compliance with the EU taxonomy transparency requirements 🌱 SDG 13 🏠 FINANCE

The EU taxonomy aims to promote investment flows from the finance sector to businesses that are involved in environmentally sustainable activities. It is thus intended to help the EU implement the European Green Deal, while, at the same time, creating a common understanding of the environmental sustainability of activities and investments. The Regulation also lays down corporate reporting obligations in regard to these economic activities. Criteria were set out in EU legislation in 2021 for the first environmental objectives of the taxonomy “Climate change mitigation” and “Climate change adaptation.” July 2022 saw the addition of further criteria for specific forms of energy generation.

Under the Taxonomy Regulation, the first step is to ascertain the taxonomy-eligible economic activities of a company. These are activities that are covered by the EU taxonomy and that therefore potentially contribute significantly to achieving the environmental objectives. The second step is to check whether these activities are taxonomy-aligned. An activity is considered taxonomy-aligned if it meets the technical screening criteria listed in Annexes I and II of Delegated Regulation (EU) 2021/2139 to qualify as contributing substantially to at least one environmental objective, does not cause significant harm to any of the other environmental objectives, and complies with the minimum social standards (minimum safeguards) stipulated in the Taxonomy Regulation (EU) 2020/852 in regard in particular to respecting human rights and complying with labor law.

As Deutsche Telekom belongs to the information and telecommunications industry, two of the economic activities currently listed in the EU taxonomy are relevant for the environmental objective “Climate change mitigation” (taxonomy-eligible) in respect of its core business:

- Data processing, hosting and related activities (8.1)
- Data-driven solutions for GHG emissions reductions (8.2)

As we provide charging infrastructure for electric vehicles through our subsidiary Comfort Charge, the following additional economic activity, which is pertinent to the environmental objective “Climate change mitigation,” is taxonomy-eligible:

- Infrastructure enabling low-carbon road transport and public transport (6.15)

No economic activities relevant to the environmental objective “Climate change adaptation” were identified in the 2022 financial year.

The EU taxonomy does not currently include criteria for the economic activity “Provision and operation of a network infrastructure for telecommunications.” The bulk of our business model is therefore not yet included in the taxonomy, which means that we cannot describe most of our core business as taxonomy-eligible. The EU taxonomy thus offers no way to illustrate our contribution to climate change mitigation in respect of our network infrastructure. We therefore lobby in a range of business and industry associations for the inclusion of suitable, relevant criteria in the EU taxonomy to describe our core activities.

On the other hand, the EU taxonomy does provide a list of cross-cutting activities outside of our core business that are relevant for our general corporate infrastructure, such as fleet and facilities management. The following cross-cutting activity for the environmental objective “Climate change mitigation” is relevant for Deutsche Telekom (taxonomy-eligible):

- Transport by motorbikes, passenger cars, and light commercial vehicles (6.5)

The three tables below provide an overview of our taxonomy-aligned economic activities for the reporting year. They break the figures down into both absolute values and the applicable percentage of Group turnover, capital expenditure, and operating expenditure.

Method for ascertaining taxonomy eligibility and alignment

When ascertaining the taxonomy-eligibility of economic activities, we focused on our core business activities taking cost-benefit aspects into account.

Those activities identified as taxonomy-eligible were checked individually for their taxonomy alignment. As we manage climate risks centrally at Group level, determining whether an activity causes no significant harm to the environmental objective “Climate change adaptation” took place at a higher level for all taxonomy-eligible activities. The sole exceptions to this are the United States operating segment and our national companies in Greece and Hungary, where the management of climate risks is still under development and does not yet fully conform with the EU taxonomy requirements. We therefore report taxonomy-eligible activities that are allocable to the United States operating segment and our national companies in Greece and Hungary as non-taxonomy-aligned for the reporting year. We ensure compliance with minimum social safeguards using a Group-wide management system.

To avoid significant harm to the environmental objective “Climate change adaptation,” checking for taxonomy alignment of all of the economic activities listed above requires an analysis of potential physical climate risks. As part of our security and risk management, we regularly examine our critical infrastructure to check for physical climate risks and take climate adaptation measures to minimize potential risks. The climate risk analysis is carried out using a recognized software platform based on the climate scenarios defined by the Intergovernmental Panel on Climate Change (IPCC). No material climate risks as defined in the taxonomy requirements were identified in connection with the taxonomy-eligible activities.

The minimum social safeguards require a management system to ensure compliance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the ILO Core Conventions and the International Bill of Human Rights. We have made an express commitment to the principles listed above, and we perform human rights due diligence using a risk-based management system encompassing both the Group and our supply chain that we use to monitor compliance with social and environmental standards. We also maintain a process of trust-based dialog with employees’ representatives and trade unions. To prevent corruption and to safeguard fair competition, Deutsche Telekom has a compliance management system which is aligned with the Company’s risk situation.

For further information on minimum social standards, please refer to the sections “[Collaboration with employees’ representatives and trade unions](#),” “[Connect the unconnected](#),” “[Labor standards in our own business area and at our suppliers](#),” and “[Compliance management system](#),” and to the 2022 CR Report, which will be published at the end of March 2023.

Economic activities that are relevant to turnover

The taxonomy-eligible economic activity **Data processing, hosting and related activities (8.1)** covers “Storage, manipulation, management, movement, control, display, switching, interchange, transmission or processing of data through data centers, including edge computing.” Of our Group-wide business activities, our Systems Solutions operating segment (T-Systems) comes under this sector. When evaluating the taxonomy eligibility of activities, we primarily take T-Systems’ global business into account. As well as data centers operated by T-Systems, we also included data centers operated on co-locations in the evaluation.

To ensure the data centers make a substantial contribution to climate change mitigation in accordance with the EU taxonomy, they must comply with the EU Code of Conduct on Data Centre Energy Efficiency. Five of the eight sites operated directly by T-Systems comply with this Code of Conduct. As we have not yet verified compliance with the Code of Conduct through external audits in accordance with EU taxonomy requirements, we are not classifying the data centers used for economic activity 8.1 as taxonomy-aligned in the reporting year. In addition, in accordance with the EU taxonomy the global warming potential of refrigerants that need to be used in data center cooling systems may not exceed a value of 675. This criterion is currently met by one data center that was fully refurbished in 2022. The other sites currently still use industry-typical refrigerants that meet the criteria of the EU directive on fluorinated greenhouse gases. We will make the change to taxonomy-aligned refrigerants as part of the regular refurbishment program for our data centers. We will carry out a detailed review of the individual data centers’ compliance with the criteria for preventing significant harm to the remaining environmental objectives in each case as soon as they fulfill the aforementioned climate change mitigation requirements in full.

We associate those solutions and products in the Group that, in accordance with the description in the EU taxonomy, are “predominantly aimed at the provision of data and analytics enabling GHG emission reductions” with the economic activity **Data-driven solutions for GHG emissions reductions (8.2)**. These are solutions and products that have clear potential to enable users to save CO₂ emissions. When selecting them, we take into account solutions and products that are incorporated into our Enablement Factor and Sustainable Revenue Share ESG KPIs, and/or that have been awarded our #GreenMagenta label. We thus identified the following taxonomy-eligible services within our Group-wide business activities:

- Business-related video conferences (saves travel-induced CO₂ emissions)
- Workplace and cloud solutions (increases energy efficiency by improving server utilization)
- IoT solutions (saves CO₂ emissions through, for example, efficient light switching)

We provide these services to a significant financial extent in the Germany operating segment, in our major subsidiaries in the Europe operating segment, and in the Systems Solutions operating segment.

The technical screening criteria require a life-cycle analysis as evidence of the taxonomy alignment of the solutions in question. These must show that a solution results in substantial greenhouse gas emission reductions both over and beyond its entire life cycle in comparison with the relevant reference solution available on the market. We understand reference solutions to be alternative solutions that would typically be used in a company in our footprint markets. This assumes that the companies are aligned with best practices. The technical screening criteria do not stipulate a specific threshold for “substantial” reductions in greenhouse gases in comparison with the reference solution. As there are differences in the technologies of the various taxonomy-eligible solutions, we have reviewed each solution separately to determine the point from which greenhouse gas savings can be considered “substantial” in accordance with scientific findings. The requisite life-cycle analyses have been prepared for business-related web conferencing solutions and for the cloud solutions Future Cloud Infrastructure, Open Telekom Cloud, and SAP Cloud Services. To date, we have not prepared a life-cycle analysis for the IoT solutions and therefore we do not report them as taxonomy-aligned for the reporting year.

By comparing in-person meetings with taxonomy-eligible business-related web conferencing solutions included in the analysis, evidence of significant greenhouse gas reductions was provided. For instance, hybrid meetings reduce greenhouse gas emissions by around 28 % (small meetings) or 37 % (large meetings).

Of the workplace and cloud solutions covered by the life-cycle analysis, Future Cloud Infrastructure reduced greenhouse gas emissions by around 16 % through the use of decentralized data centers operated by our customers themselves. The life-cycle analysis also found that using the Open Telekom Cloud or SAP Cloud Services reduced greenhouse gas emissions by 50 % compared with the reference scenario. This scenario is based on the assumption that our customers use their own, decentralized server infrastructure for storing and processing data rather than the cloud solution. We therefore classify all web conferencing, workplace and cloud solutions included in a life-cycle analysis as taxonomy-aligned.

For the aforementioned solutions, we exclusively use infrastructure located in Germany. The requirements for the “Transition to a circular economy” conform to current EU legislation, which we enforce as part of our environment management activities at our EU sites. The economic activity **Infrastructure enabling low-carbon road transport and public transport (6.15)** covers the construction, modernization, maintenance, and operation of such infrastructure, which also includes electric vehicle charging stations. Comfort Charge’s charging solutions encompass the installation, operation, and maintenance of charging infrastructure for electric vehicles. In addition to e-charging infrastructure operated on publicly accessible Deutsche Telekom sites, this also includes services related to the planning, construction, and maintenance of e-charging facilities at our customers’ premises. This means that both of the business areas of Comfort Charge can be assigned to this taxonomy-eligible activity. According to the technical screening criteria, electric vehicle charging stations alone make a substantial contribution to the environmental objective “Climate change mitigation.” Significant harm to the environmental objectives “The sustainable use and protection of water and marine Resources” and “The protection and restoration of biodiversity and ecosystems” can be ruled out since the charging stations are built on existing parking lots. The further regulations in respect of the circular economy and pollution prevention and control largely constitute elements of current EU legislation. As we build and maintain charging infrastructure in collaboration with service providers for whose activities no evidence has yet been provided of compliance with the criteria for a circular economy, we are reporting the Comfort Charge business for the reporting year as non-taxonomy-aligned.

Cross-cutting activities

Deutsche Telekom has a vehicle fleet that includes both company cars and service vehicles. The economic activity **Transport by motorbikes, passenger cars, and light commercial vehicles (6.5)** is therefore relevant as a cross-cutting activity that applies to the purchase, the lease, and the operation of vehicles of the classes M1 (passenger cars) and N1 (light commercial vehicles with a maximum weight of 3.5 t). As we are pushing forward with the transition to a fully electric fleet, especially in Germany and the EU, the majority of new vehicles purchased already meet the CO₂ thresholds set in the EU taxonomy. We were also able to provide evidence of the alignment of these vehicles with the other key EU taxonomy requirements, which are based on current EU legislation for new vehicles. As the choice of tires is left to the vehicle users themselves, we could not provide evidence of the taxonomy alignment of tires for the reporting year. We therefore report capital expenditure associated with our vehicle fleet as non-taxonomy-aligned.

Calculation of the taxonomy KPIs

The total Group figures used as the basis for calculation in accordance with the EU taxonomy in the reporting year amounted to EUR 114.2 billion (turnover), EUR 38.5 billion (capital expenditure), and EUR 0.4 billion (operating expenditure). The definition of turnover according to the EU taxonomy is equivalent to net revenue in our consolidated income statement contained in the consolidated financial statements. The relevant capital expenditure was determined on the basis of the consolidated statement of financial position contained in the consolidated financial statements and is determined as the sum of additions and changes within the consolidated group under property, plant and equipment, intangible assets (excluding goodwill), and right-of-use assets. In line with the EU taxonomy regulations, the disclosures on capital expenditures do not form part of a capital expenditure (capex) plan. The EU taxonomy defines costs that relate to research and development; building remediation measures; short-term leases; maintenance, and repair; and any other direct expenditures relating to the day-to-day maintenance of property, plant and equipment as relevant operating expenditure.

The disclosures on taxonomy eligibility and taxonomy alignment in terms of turnover, capital expenditure, and operating expenditure are directly assigned at the level of product groups to either the operation of data centers in accordance with economic activity 8.1. or the provision of ICT solutions in accordance with economic activity 8.2. The same applies to economic activity 6.15; the expenditure disclosed for this activity is assigned directly to the installation and operation of charging solutions. We do not generate any turnover with cross-cutting activities. Exclusively capital expenditure was assigned to economic activity 6.5.

To avoid double counting under the EU taxonomy, T-Systems’ taxonomy-eligible cloud solutions are only attributed to economic activity 8.2; they are not disclosed under economic activity 8.1. In addition, capital and operating expenditures were only assigned to the cross-cutting activity 6.5 if a direct correlation between the measures financed and the turnover-relevant economic activities 8.1, 8.2, and 6.15 was excluded.

As the EU taxonomy does not yet adequately cover our core business, an aggregate view of the taxonomy eligibility of all economic activities results in very low proportions again in 2022 of turnover (1.8 %), capital expenditure (0.8 %), and operating expenditure (33.5 %) for the Deutsche Telekom Group. The largest proportion of taxonomy-eligible capital expenditure can be allotted to property, plant and equipment (69.6 %), followed by intangible assets (18.1 %) and right-of-use assets (12.3 %).

The largest proportion of taxonomy-eligible turnover, capital expenditure, and operating expenditure can be allotted to economic activity 8.1: based on the relevant total figures for the Group, taxonomy-eligible business activities for data processing and hosting represented 1.0 % of turnover, 0.4 % of capital expenditure, and 19.0 % of direct expenses. To enable a statement of taxonomy eligibility at segment level, too, we also report supplementary KPIs for the Systems Solutions operating segment. The taxonomy-eligible portion, determined using the same calculation logic, is 36.0 % in relation to external turnover of the segment, and 62.6 % in relation to capital expenditure.

In second place, with 0.8 % taxonomy-eligible turnover, is economic activity 8.2, to which the business-related web conferencing solutions make a substantial contribution. The Comfort Charge business encompassed by economic activity 6.15, which in the 2022 financial year did not generate any material taxonomy-eligible turnover, is still under development. Cross-cutting activity 6.5 has only a supporting function for Deutsche Telekom's core business.

In the 2022 financial year, the taxonomy-aligned proportion of all economic activities of the Deutsche Telekom Group was 0.5 % of turnover, 0.0 % of capital expenditure, and 0.4 % of operating expenditure. The taxonomy-aligned proportion is attributable to economic activity 8.2 Data-driven solutions for GHG emissions reductions. For the Systems Solutions operating segment, the taxonomy-aligned proportion of turnover was 12.3 %, 0.1 % of capital expenditure, and 0.8 % of operating expenditure.

Given the high standards laid down in the technical screening criteria, the transformation is expected to be a lengthy process. We plan to increase the taxonomy alignment of our economic activities on a continual basis.

EU taxonomy KPIs

Deutsche Telekom Group in 2022			Substantial contribution to environmental objectives		Do no significant harm to environmental objectives						Minimum safe- guards	Category "enabling activity"	Category "transi- tional activity"
					Climate change miti- gation	Climate change adap- tation	Climate change miti- gation	Climate change adap- tation	Water and marine resources	Circular economy			
Turnover			%	%	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	E / -	T / -
millions of €			%	%	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	E / -	T / -
Relevant total figures for the Group	114,197	100.0											
Of which: taxonomy-eligible^{a, b}	2,063	1.8											
Of which: code/ taxonomy-aligned activities													
8.2 Data-driven solutions for GHG emissions reductions	565	0.5	100.0	0.0	n.a.	Yes	n.a.	Yes	n.a.	n.a.	Yes	E	-
Total	565	0.5											
Of which: code/non- taxonomy-aligned activities													
8.1 Data processing and hosting	1,124	1.0											
8.2 Data-driven solutions for GHG emissions reductions	364	0.3											
6.15 Infra- structure enabling low- carbon road transport and public transport	10	0.0											
6.5 Transport by motorbikes, passenger cars, and light commercial vehicles	0	0.0											
Total	1,498	1.3											
Of which: non-taxonomy-eligible	112,134	98.2											

^a The taxonomy-eligibility of the product portfolio was comprehensively reviewed in the reporting year. On this basis, connected car solutions, which in the prior year had been reported as taxonomy-eligible, were no longer reported as such. Instead, taxonomy-eligible IoT solutions are included in the reporting year.
^b In the prior year, our focus had been on the taxonomy-eligible economic activities that are explicitly assigned to the IT and telecommunications industry. For the reporting year, the business areas of Deutsche Telekom were considered from an end-to-end perspective, including the solutions from Comfort Charge.

For further information on turnover, please refer to the consolidated income statement in the consolidated financial statements or to Note 20 "Net revenue" in the notes to the consolidated financial statements.

Deutsche Telekom Group in 2022			Substantial contribution to environmental objectives		Do no significant harm to environmental objectives							Minimum safe- guards	Category “enabling activity”	Category “transi- tional activity”
			Climate change miti- gation	Climate change adap- tation	Climate change miti- gation	Climate change adap- tation	Water and marine resources	Circular economy	Pollution	Bio- diversity and eco- systems	Yes/No			
			Capital expenditure											
			millions of €	%	%	%	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	E / -	T / -
Relevant total figures for the Group			38,486	100.0										
Of which: taxonomy-eligible^{a, b}			310	0.8										
Of which: code/ taxonomy-aligned activities														
Total			0	0.0										
Of which: code/non- taxonomy-aligned activities														
8.1 Data processing and hosting			171	0.4										
8.2 Data-driven solutions for GHG emissions reductions			3	0.0										
6.15 Infra- structure enabling low- carbon road transport and public transport			5	0.0										
6.5 Transport by motorbikes, passenger cars, and light commercial vehicles			130	0.3										
Total			310	0.8										
Of which: non-taxonomy-eligible			38,176	99.2										

^a Whereas in the prior year the focus had been on the taxonomy-eligible economic activities that generate turnover, in the reporting year major taxonomy-eligible cross-cutting activities were also considered.

^b Unlike in the prior year, in the reporting year with regard to the taxonomy-eligible economic activity 8.1, we also report the capital expenditure and direct operating expenditure associated with the infrastructure, hardware, and software used in the data centers in the Systems Solutions operating segment.

For further information on capital expenditure, please refer to Note 5 “Intangible assets,” Note 7 “Property, plant and equipment,” and Note 8 “Right-of-use assets” in the notes to the consolidated financial statements. The capital expenditure given here also includes the additions of all non-current assets and disposal groups held for sale in the 2022 financial year.


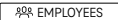
Deutsche Telekom Group in 2022			Substantial contribution to environmental objectives		Do no significant harm to environmental objectives							Minimum safe- guards	Category “enabling activity”	Category “transi- tional activity”
					Climate change miti- gation	Climate change adap- tation	Climate change miti- gation	Climate change adap- tation	Water and marine resources	Circular economy	Pollution			
Operating expenditure			%	%	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	E / -	T / -	
millions of €			%	%	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	E / -	T / -	
Relevant total figures for the Group	404	100.0												
Of which: taxonomy-eligible^{a, b}	135	33.5												
Of which: code/ taxonomy-aligned activities														
8.2 Data-driven solutions for GHG emissions reductions	2	0.4	100.0	0.0	n.a.	Yes	n.a.	Yes	n.a.	n.a.	Yes	E	-	
Total	2	0.4												
Of which: code/non- taxonomy-aligned activities														
8.1 Data processing and hosting	77	19.0												
8.2 Data-driven solutions for GHG emissions reductions	57	14.1												
6.15 Infra- structure enabling low- carbon road transport and public transport	0	0.0												
6.5 Transport by motorbikes, passenger cars, and light commercial vehicles	0	0.0												
Total	134	33.1												
Of which: non-taxonomy-eligible	269	66.5												

^a Unlike in the prior year, in the reporting year with regard to the taxonomy-eligible economic activity 8.1, we also report the capital expenditure and direct operating expenditure associated with the infrastructure, hardware, and software used in the data centers in the Systems Solutions operating segment.

^b In contrast to the prior year, the definition of operating expenditure was extended for the reporting year in the Systems Solutions operating segment. Operating expenditure now includes direct operating expenditure associated with the infrastructure, hardware, and software used to operate the taxonomy-eligible solutions.

For further information on operating expenditure, please refer to Note 26 “Other operating expenses” in the notes to the consolidated financial statements.

Aspect 2: Employee concerns

With their commitment, expertise, and high performance, our more than 200,000 employees ensure that we live up to our ambition to always be there for our customers, to operate a stable network, to grow the Company, and to pave the way for the digital society. They are crucial to our business success. Six Guiding Principles, representing our values, form the cornerstones for collaboration within our Company. We have defined our strategic HR priorities in line with the motto: “Supporting people. Driving performance.” We attach great importance to employee involvement and fair behavior toward colleagues, promote diversity, and engage in systematic health management.  

For our Guiding Principles and further information about our HR work, please refer to the section “Employees.”

For information on the opportunities and risks associated with employees, please refer to the section “Risk and opportunity management.”

Collaboration with employees' representatives and trade unions SDG 8 EMPLOYEES

Digitalization is fundamentally changing the way we work together. Employees are expected to demonstrate ever-greater flexibility, social skills, and autonomy, to continue learning throughout their lives, and to work with greater independence. We have made it our goal to support our employees in this transformation – and to help them not only to manage change, but also to take an active role in shaping it.

Codetermination rights play a key role in the digital transformation. Together with employees' representatives and trade unions, we want to create the working world of the future – with an eye to the needs of our workforce and the success of our Company. As the underlying laws and contracts vary from country to country, codetermination matters are managed locally with trade unions and employees' representatives. Group management is generally involved in issues of particular importance.

The works councils, central works councils, and Group Works Council represent the interests of Group employees in Germany. Our partner representing the employees' interests on a European level is the European Works Council (EWC). We also have executive staff representation committees and representatives of disabled employees at unit, company, and Group level. The EWC has been one of our established key dialog partners for many years, representing the interests of our employees in countries within the European Union and the European Economic Area. The EWC has 32 seats (prior year: 32), 28 of which are currently occupied (prior year: 29) (as of December 31, 2022). Collective bargaining plays an important role and has a long tradition at our Company, a fact made clear by the percentage of employees covered by collective agreements. As of December 31, 2022, 73 % of employees in Germany were covered by collective agreements (prior year: 73 %). We record the Group-wide coverage rate every two years. As of December 31, 2022, it stood at around 45 %. In 2022, 90 collective agreements were signed with the trade unions in Germany (prior year: 115), which is a testament to the close cooperation with employees' representatives.

We also carefully monitored trade union matters in the United States over the course of 2022. The responsibility for national human resources management matters in the United States lies with T-Mobile US' management, who are deeply committed to exercising this responsibility. Across the globe, Deutsche Telekom respects the rights to freedom of association and collective bargaining in accordance with national law. This naturally also applies to the United States, with all employees at T-Mobile US entitled to form or join a trade union. At the same time, employees are also free to choose not to do so. T-Mobile US will not exert any influence in this respect, neither favoring nor discriminating against employees because of a decision they have made.

Collaboration with employees' representatives is founded on our commitment to trusting cooperation – anchored in our Group-wide Employee Relations Policy, which sets out twelve core elements describing what we stand for as an employer around the world. The policy also describes our aspiration with regard to the following HR topics: virtual working, employee development, responsible handling of changes, health and sustainability, fair pay, work-life balance, leadership, diversity, the prohibition of discrimination, and how we communicate and work together with employees' representatives. Topics such as freedom of opinion and digitalization are also addressed. Our Code of Human Rights & Social Principles policy statement also includes our global voluntary commitment to safeguarding the freedom of association and the right to collective bargaining (in compliance with national law in each case).

Our employee survey, carried out every two years, is a key indicator of the relationship between our Company and its workforce. We supplement it with pulse surveys, which give us a snapshot of the mood of our employees twice a year. More than 100,000 colleagues, or 76 % of the total workforce, took part in the most recent pulse survey, which was held in November 2022. The survey asked employees about sustainability, among other topics, with considerable success: 84 % of those surveyed (2021: 84 %) stated that they identified with Deutsche Telekom's environmental and social engagement. A total of 83 % (2021: 83 %) believe that Deutsche Telekom acts responsibly toward the environment and society. The values reflect the survey findings excluding T-Mobile US, since T-Mobile US conducts its own employee survey.

For further information on the employee survey and the non-financial performance indicator "employee satisfaction," please refer to the section ["Employees."](#)

Diversity, equity, and inclusion SDG 10 EMPLOYEES

People from over 115 countries work successfully together at Deutsche Telekom. They all bring their diverse skills and cultural characteristics to the workplace. Respecting the individuality of our employees and harnessing their diversity for our joint success is just as important for our Group as developing a shared corporate culture. That is why the Human Resources and Legal Affairs Board of Management department includes a Diversity team. Our Group policy on Diversity, Equity and Inclusion, the six Guiding Principles, the Employee Relations Policy, and the Code of Human Rights & Social Principles policy statement form the foundation of our commitment to diversity. We are also a founding member of the Diversity Charter corporate initiative. In Germany, for example, our collective agreements on remuneration and other matters reached with the trade unions ensure transparent, gender-neutral compensation.

In line with the key dimensions of diversity set out by the Diversity Charter, we offer all employees – irrespective of age, ethnic origin and nationality, gender and gender identity, physical and mental abilities, religion and worldview, sexual orientation, and social origin – many development opportunities. We have developed action plans for each dimension of diversity so that we can make our working environment even more inclusive and put our diversity strategy in place in the various units. These measures include, for example, creating a prayer room and carrying out anti-racism workshops. During the reporting year, we also published a handbook focusing on care and support for transgender employees, which is aimed at fostering an inclusive workplace. Diversity, equity, and inclusion (DE&I) are also deeply rooted in the culture of T-Mobile US. In January 2021, T-Mobile US launched its strategic DE&I plan Equity in Action, which focuses on employees and on the key elements of talent, culture, brand, and digital equity. As part of the strategy, T-Mobile US obtains advice on DE&I questions from the External Diversity and Inclusion Council, which includes members from civil rights organizations. The representatives of the council provide input on setting priorities, goals, and shared endeavors. It also helps T-Mobile US implement its Equity in Action plan and the 54 DE&I promises.

Alongside these action plans, we are also continuing to move forward on cross-segment issues. These include mentoring programs, flexible working models, child care services, advisory services for those caring for family members, inclusion surveys, a global talent hub, and innovative ideas for dealing with demographic change. We also offer various training courses that shine a light on unconscious bias in order to reveal hidden prejudices. Last but not least, we support our many employee networks in Germany, such as MagentaPride, Women@telekom, the fathers' network, and the newly established network BIPoC@DT (Black, Indigenous and People of Color). At T-Mobile US, there is an internal diversity, equity and inclusion (DE&I) network. The network includes a group for persons with disabilities, a multicultural group with sub-groups, a multi-generational network, an LGBTQI+ community, a network for veterans and active members of the military, and a women's network.

For further information on equity and diversity in our Group, please refer to the section “Employees.”

Occupational health and safety

Measures that promote health within the Company not only help individual employees and ensure long-term business success, but also have positive effects outside of the Company. For example, certain vaccinations and care services are also available to the families of employees. We use holistic health management to take on social responsibility and promote a proactive culture of health. We support our employees in maintaining their health and occupational safety with a host of target audience-specific measures and extensive prevention programs. We consider the statutory requirements to be only the minimum standard we must achieve. Our corporate occupational health and safety measures are effectively incorporated into our structures via certified management systems and appropriate policies and guidelines. We support the Group-wide approach with an internationally harmonized quality, work, health, and environmental management system based on the international standards ISO 9001, ISO 45001, and ISO 14001.

The Board of Management bears overarching responsibility for safeguarding health, occupational safety, and the environment. We manage cross-segment measures at Group level; the Group companies have health & safety managers who are responsible for specific processes and offerings that take into account special requirements and conditions right down to company level. We systematically evaluate the measures to ensure they are effective. The health rate, for instance, is reported to the Board of Management once per quarter. In addition, we review the results of our employee survey, analyses of stress prevention measures under collective agreements, health insurance reports, and competitor benchmarks. We analyze this data and use it to derive suitable measures each year. For example, following the 2021 employee survey, all teams in participating countries were given suggestions for measures based on the health index ascertained for their particular country. Raising awareness, prevention, and encouraging individual responsibility are high priorities at our Company.

Group-wide initiatives serve to promote health awareness and health literacy among our employees. In Germany, a range of services are available to employees to promote health in the workplace, including comprehensive check-ups, colon cancer screenings, and flu shots. Between June 2021 and March 2022, the Betriebsärztlicher Dienst (BAD) occupational health service also provided Deutsche Telekom employees with vaccinations against the coronavirus (first, second, and booster vaccinations).

The health promotion program also includes courses on nutrition, exercise, and relaxation (stress prevention, mindfulness, etc.). Alongside campaign days such as a mindfulness day and a mental health day, series of presentations were established, together with individual offerings such as a sleep consultancy service and a nutrition clinic. We also offer the use of the Fitmit5 app, which aims to promote healthy break management. Our employees can use the corporate health promotion options free of charge, generally during working hours.



In addition, with our Germany-wide employee and executive advisory service, we offer a portfolio of support services in the area of psychosocial health, but also crisis prevention and advice in the event of psychosocial crises and extreme incidents. In 2022 we set up an advisory service for international employees affected by the war in Ukraine at short notice.

Standards have been put in place in Germany to improve occupational safety by regulating aspects such as safe, ergonomic environments in buildings and vehicles. In addition to services available to all employees, there are also target group-specific measures, e.g., driver safety training for certain areas of work. Our aim is to promote employees' health, boost their motivation, and improve the health rate.

Several key figures validate our performance in terms of corporate health management services. The health rate at Deutsche Telekom entities in Germany, including long-term illnesses, was 93.8 % in 2022 (prior year: 95.3 %). Excluding long-term illnesses, the health rate in 2022 stood at 95.2 % (prior year: 96.7 %). The worsening of the figure in 2022 is presumably a result of the gradual return to normality as pandemic protection and hygiene measures came to an end.


The total number of work-related accidents increased in comparison with the previous year. The accident rate in Germany was 5.5 accidents (resulting in over three days of absence) per thousand employees (prior year: 4.2). This figure also includes occupational accidents associated with the coronavirus pandemic. Excluding these Covid-19 cases, the accident rate in Germany was 4.4. The health index, which is measured every two years as part of the employee survey, increased slightly in 2021 in comparison with the previous survey. The score from the 2021 employee survey for the health index was 69 on a scale of 0 to 100. In the 2019 survey, the index had been shown as an average on a scale from 1 to 5, with a value of 3.6. When converted to the new scale, this represents 65 points, which means the index improved by 4 points. Preparations for the next round of surveys will begin in 2023.



Aspect 3: Social concerns

Access to state-of-the-art information technology is key to participating in the information and knowledge society. We aspire to enable as many people as possible to participate – also and especially in times of crisis. We are delivering on that promise with an array of different activities. In this context, the security of our customers' data is of prime importance. But the internet is also supposed to be a space in which all people can feel safe and where we interact on the basis of democratic principles. That is why we are actively pushing for a positive culture of online debate, promoting the competent use of ICT, and making a stand against hate speech and for civil courage online. As a relevant player in society, and committed as we are to exercising social responsibility, we also provide rapid help in emergencies. During the reporting year, this rapid help was particularly necessary when war broke out in Ukraine.  



For further information on our corporate identity and our Guiding Principles, please refer to the sections "[Group organization](#)" and "[Employees](#)."

Network access and digital responsibility


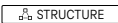
All around the world, having access to state-of-the-art information technologies is a precondition for economic performance and participation in a knowledge and information society. That is why we continue to rapidly expand our infrastructure and improve transmission speeds with new, secure technology.  


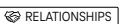
Demand for faster data services with full-coverage availability is growing continuously. Group-wide, we invested around EUR 21 billion primarily in building and operating networks, with around EUR 4.4 billion of this figure earmarked for the Germany operating segment alone. This is in addition to the investments that we make in acquiring mobile spectrum. Hence, the majority of the Group's investment volume in Germany is for the build-out of broadband networks. This build-out is based on the goals of our Europe-wide integrated network strategy, which we use to help achieve the EU Commission's network build-out targets and the Federal Government's Digital Agenda and broadband strategy. The strategy is founded on two pillars – building out mobile networks and rolling out optical fiber, with 5G coverage being the focus of the former. By the end of 2022, we already covered 94.8 % of German households with 5G. In more than 600 cities across Germany, the 5G network was available in the 3.6 GHz band at top speeds (as of the end of 2022). At the end of the reporting year, our fixed network provided around 37.1 million households in Germany with fiber-optic-based technology. Our fixed-network strategy is based on connecting households directly to the fiber-optic network (Fiber to the Home, FTTH): in 2022, we expanded fiber-optic coverage to around 2 million additional households in Germany, bringing the total number of households with the option to subscribe to a fiber-optic line to 5.4 million. In addition to the FTTH build-out, we are using other innovative products, such as our hybrid router, which combines the transmission bandwidths of fixed-network and mobile communications, thus attaining higher transmission speeds – particularly in rural areas.  

For further information on our build-out targets, please refer to the sections "[Group strategy](#)" and "[Forecast](#)."

In general, we want to make our network infrastructure and our products as efficient, environmentally friendly, and harmless to health as possible. That is why we are committed to addressing the topic of mobile communications and health responsibly. In the context of the 5G build-out, there is public debate around the potential effects of 5G on health. We have been providing information on the scientific evidence regarding mobile communications and health for more than 20 years now. Together with Telefónica Deutschland, Vodafone, and 1&1 Mobilfunk, we also support the information platform www.informationszentrum-mobilfunk.de. This platform provides expert, evidence-based information on mobile communications topics subject to controversial public debate, such as health, research, technology, benefits, and applications. In 2022, the platform cooperated with the German Federal Government communication initiative “Deutschland spricht über 5G” (Germany is talking about 5G), for example, by supporting initiatives to establish a dialog with citizens. We adopted our Group-wide EMF Policy (EMF being short for “electro-magnetic fields”) back in 2004. It defines standard requirements – which considerably exceed the applicable national legal requirements – for addressing mobile communications and health-related matters.  

For further information, please refer to the section “Risk and opportunity management.”


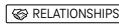
Responsibility for shaping the digital transformation has to be assumed by society as a whole. Our Board of Management plays an active role in this discussion, which entails looking at matters such as how we can use artificial intelligence (AI) responsibly. AI is a feature of an ever-growing number of ICT products and services that often goes unnoticed. It opens up opportunities, but also presents challenges. Back in 2018, under the auspices of Compliance Management, we were one of the first companies worldwide to adopt AI guidelines on digital ethics. These guidelines provide a framework for a responsible approach to AI. To supplement them, in 2021 we worked with experts to draw up professional ethics guidelines for all developers and product managers working with AI. The guidelines provide best practices, methods, and tips for transferring the Digital Ethics Guidelines on AI to application in development processes.  

We founded an interdisciplinary working group in 2022 that will address the development, monitoring, and implementation of digital ethics, anchoring the topic firmly within the Group. The working group is also preparing the enforcement of the upcoming EU AI Act. The working group is steered by the Board of Management members for Technology and Innovation and Human Resources and Legal Affairs, based on a co-creation approach. To ensure that in the supply chain, too, AI is developed that complies with our high ethical requirements, since early 2020 our Supplier Code of Conduct has included relevant content from our AI Guidelines.  

We at Deutsche Telekom are working to bring about digitalization oriented to people and values. Corporate digital responsibility (CDR) refers to efforts to manage the opportunities and risks of the digital transformation responsibly. The goals of our CDR activities are twofold: to prevent negative impacts, and to help shape the digitalization process in a positive way. In our Corporate Digital Responsibility framework, which we published in 2022, we set forth our perspectives on the far-reaching subject area of digital responsibility.


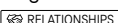
We will publish detailed information on this in our 2022 CR Report at the end of March 2023.

Connect the unconnected

To ensure equal participation for all in the information and knowledge society, the affordability of products and services is just as important as technical access. The ability to use digital media safely, responsibly, and to the benefit of all is becoming increasingly important. That is why we are working to build media literacy and democracy skills in the population. In doing so, we are guided by the aspiration that this digital participation also includes participation in society.  

The individual national companies are responsible for implementing projects on digital participation. These include projects in Slovakia and the United States: Deutsche Telekom IT Solutions Slovakia is supporting schools and teachers with particularly innovative and creative teaching approaches in primary schools in the programs School of the Future and Teacher of the Future, while T-Mobile US has launched two different challenges: a Family Challenge and the Changemaker Challenge, a contest in which young people contribute ideas for better coexistence in the categories digital participation, equal opportunities, and the environment. A total of 16 teams took part in the Changemaker Lab, a workshop on social entrepreneurship. Three teams won additional funding for their projects. The 10Million Project, which was launched by T-Mobile US in 2020 and aims to overcome the digital divide in education, had provided some 4.3 million school students with internet access free of charge by June 2022.

All of our initiatives for greater media literacy in Germany can be found on the website “Media, sure! But secure,,” where we provide information material for all target groups. Deutsche Telekom’s #TAKEPART stories – topics from the digital world for teenagers and young adults – are a practical take on digitalization issues of social relevance, translating them into a range of offers for multipliers – like teachers, for instance. The aim is to raise awareness, highlight alternatives, and try out new behaviors. All modules of the #TAKEPART stories are also available in simplified German. Our multiple award-winning “Teachtoday” initiative promotes the safe and competent use of online media by children and young people. A toolbox is provided by the initiative for multipliers and teachers. It comprises more than 130 formats that deal mainly with media literacy and democracy skills. The initiative additionally publishes the interactive digital children’s magazine SCROLLER, which also provides material and background information to be used in media literacy lessons.  

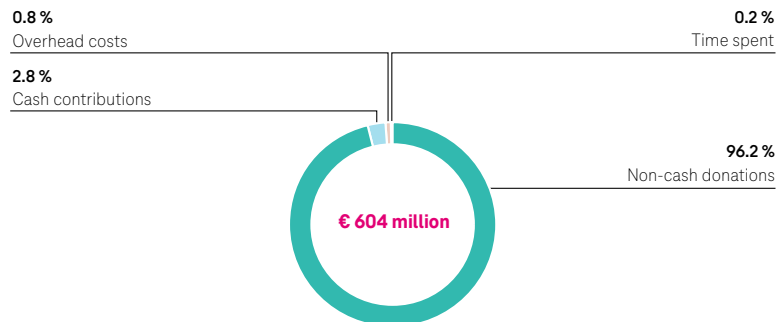
In 2022, we successfully continued our No Hate Speech campaign. We launched our new campaign ad on July 22, 2022, to mark International Action Day in Support of Victims of Hate Crimes. The ad aims to motivate the silent majority to get active against hate speech and abusive language online. As in the previous year, the focus of the campaign included gaming and e-sports: to mark Germany’s Digital Day on June 16, 2022, we gave a webinar titled “Gaming, chatting, hating – when gaming talk gets toxic.” We also support the #SpeakUpEsports campaign run by the esports player foundation in which 70 leading figures from the world of esports speak out in support of fair play and against hate speech in a series of short videos. With our No Hate Speech campaign we reached around 1 billion media contacts in the reporting year. We reached more than 4 million people directly or through multipliers such as parents and educators (e.g., in workshops) in 2022 alone (prior year: 3.8 million). We have labeled the campaign and our associated engagement with #GoodMagenta. We have also won a range of awards and prizes for the No Hate Speech campaign. [SDG 16](#) [RELATIONSHIPS](#)

The topic of data privacy is part and parcel of using digital media safely and securely. Our online guidebook Digitally secure offers practical advice on how to use digital media safely and securely. [SDG 16](#) [RELATIONSHIPS](#)

We measure the impact of our social commitment with a set of three ESG KPIs. The Community Contribution ESG KPI maps our social commitment in terms of financial, human, and material resources: in 2022, it amounted to around EUR 604 million in Germany (prior year: EUR 56 million). A particular effect in the reporting year was our support for Ukraine, which included free phone calls and SIM cards in the amount of almost EUR 550 million. The Reach– Focus Topics ESG KPI shows the number of media contacts we have reached with our communication on our focus topics of “digital participation” and “low-carbon society.” This includes, for instance, the people we reached in the 2022 financial year with advertising and content on socially relevant topics, such as online hate speech: we recorded an increase from 837 million the prior year to around 1,150 million people in Germany. The Beneficiaries ESG KPI shows the number of people who have benefited from our commitment to digital participation and the low-carbon society, for example, workshop participants, users of lower-cost rate plans, including other household members, and many more. In 2022, the number of beneficiaries was around 25 million (prior year: 21 million).

| We will publish detailed information and Group-wide figures in our 2022 CR Report at the end of March 2023.

Community Contribution ESG KPI



Emergency aid for Ukraine [SDG 16](#) [RELATIONSHIPS](#)

Deutsche Telekom reacted quickly in spring 2022, initiating wide-ranging emergency aid measures in Europe for Ukrainians in crisis. One example of the aid we offered was free prepaid SIM cards with free calls and data that were distributed in Poland, Romania, and Germany to Ukrainian refugees. Our Hungarian subsidiary Magyar Telekom also donated cell phones. Calls to Ukrainian dialing codes were free of charge for several months in Germany and the United States. Broadband connections and routers were provided for refugee accommodation.

Several hundred Deutsche Telekom employees grouped together to coordinate the aid. Employees in our national companies, for example, in Poland, Hungary, and Slovakia, volunteered, mainly at the borders. In Hungary, Magyar Telekom provided a building near the border as accommodation for volunteers; employees of Magyar Telekom and Deutsche Telekom IT Solutions Hungary worked together to renovate the building for this purpose. We also donated money to help with aid activities in Ukraine. We gave EUR 1 million to the German Red Cross, for example. Many employees in the Czech Republic responded to the call to collect donations. T-Mobile Czech Republic additionally donated over EUR 220 thousand. In numerous countries in Europe, we offered jobs to refugees. New employees were also given help to find accommodation, open bank accounts, and organize child care. Our team of software developers based mainly in St. Petersburg, who provide services for customers outside of Russia, have been offered work outside of Russia.

Data privacy and data security [SDG 16](#) [STRUCTURE](#)

People will only use ICT solutions if they trust in the security of their personal data – and only then can these solutions develop their true potential for more sustainable development. As a result, we attach particularly great importance to protecting and securing data.

| For further information, please refer to the section “Risk and opportunity management.”

Our active data privacy and compliance culture, which has been built up over many years, sets national and international standards. The data privacy-related compliance management system outlines the measures, processes, and audits we use to ensure compliance with laws, regulations, and voluntary commitments to uphold data privacy in the Group. Since 2009, the Group Board of Management has been advised by an independent Data Privacy Advisory Board comprising reputable experts from politics, the research community, business, and independent organizations.

Through our global data privacy organization, we are continually pursuing the objective of a transparent, high level of data protection in all of the Group companies. As far as legally possible, the companies of the Deutsche Telekom Group have additionally committed to the Binding Corporate Rules Privacy, which are intended to ensure a uniform high level of data protection for our products and services in accordance with ISO 27701.

The Group Security Policy contains significant security-related principles valid within the Group, which are based on the international ISO 27001 standards. This is how we guarantee an adequately high and consistent level of security throughout our entire Group. Similar to the data privacy organization, the Group has established a global security organization which operates both on a centralized basis and in all Group entities. These elements lay the foundation for ensuring an adequate and consistent level of security within our entire Group.

We issue an annual transparency report – since 2014 in Germany, and since 2016 in our other national companies in Europe – in which we set out the nature and scope of our disclosures to security authorities. We are thus fulfilling our statutory duty as a telecommunications company.

In order to ensure even better data privacy and data security within our Group, our corporate units are audited and certified several times a year by internal and external experts. This includes the annual (re-)certification of the Telekom Security Management in accordance with ISO 27001, regular Group-wide internal security checks, and the annual review of the individual Group units in connection with security maturity reporting. These audits help us assess the status quo of security in our Group and respond to requirements at Group or entity level at an early stage.

Every two years, we perform a sample survey of data privacy and data security awareness across the Company. In the course of the Group Data Privacy Audit (GDPA), we survey around 21,000 Deutsche Telekom employees (excluding T-Mobile US) on topics related to data privacy and data security. Of the employees invited to take part in 2022, around 16,000 responded. The results are used to calculate the Data Protection Award indicator – which quantifies the level of data protection in the units on a scale from 0 to 100 %. It is based on what the employees said they thought, did, and knew about data protection. The Data Protection Award indicator was calculated in 2022 at 88 % (2020: 86 %).

We use our Online Awareness Survey (OAS) as a tool for collecting indicators on security awareness within the Company. Some 42,000 employees (excluding T-Mobile US) across all levels of the hierarchy were invited to take part in the survey. Around a third responded. With academic support, we use the results from this survey to determine the Security Awareness Index (SAI). In the last survey in 2021, the index was 80.9 of a maximum of 100 points – higher than in any other benchmark company. The next survey is scheduled for fall 2023. We also have our processes and management systems as well as products and services certified by external, independent organizations such as TÜV, DQS, DEKRA, and auditing firms.

Telecommunications companies are required to train their employees on issues related to data protection law when they begin their employment. Deutsche Telekom goes above and beyond these legal requirements: Every two years, we train all of our employees in Germany and place them under an obligation to uphold data privacy and telecommunications secrecy. Corresponding requirements apply to our international companies. Where there is a greater risk of data such as customer or employee information being misused, we also offer additional online training designed for self-study, give data privacy presentations, and host classroom training courses on specialized topics such as protection of customer data.

Our subsidiary Deutsche Telekom Security is one of the leading providers of digital security. As the market leader in the DACH region and the hub of cybersecurity expertise for the entire Deutsche Telekom Group, the company has successfully protected more than just our own infrastructure. Our customers are offered the same highly professional solutions that are used to protect Deutsche Telekom itself around the world.

We react to new emerging threats and continuously develop innovative processes for defending against attacks. And for good reason: cyberattacks on companies are becoming more aggressive and sophisticated across all industries. In the reporting period alone, we registered on average almost 54 million attacks per day on our honeypot systems (prior year: 52 million). At its peak, the number of attacks per day reached up to 111.2 million. Of course, not all of the attacks picked up by our sensors are high-level. Most are automatic scanning processes to detect potential vulnerabilities. While these do not necessarily count as fully fledged attacks, they are still to be seen as relevant early-stage activities. Deutsche Telekom Security even develops its own malware in a shielded environment and uses it to test whether new systems can reliably detect and mitigate these attack vectors. In this way we ensure our own critical IT infrastructure is protected. We also offer other operators of critical infrastructure advisory services, for example energy providers.

Our security experts use their experience to help develop security solutions for our customers. Deutsche Telekom has brought a wide range of solutions to market maturity; in 2022, these included the Magenta Managed Detection & Response Endpoint, a solution enabling companies to react rapidly to threats and, if necessary, to stop processes in time to prevent further damage. With SASE, we also provide our customers with comprehensive protection in the cloud, so that they can work securely from anywhere. Data privacy and security play a fundamental role in the development of our products and services. We review the security of our systems at every step of development using the Privacy and Security Assessment process for new and existing systems when the technology or method of data processing is modified. We use a standardized procedure to also document the data privacy and data security status of our products throughout their entire life cycle. Our security management systems are certified externally. At the same time, we ensure that our services also comply with specific regulatory requirements from other industries, such as TISAX®, an established standard in the automotive industry.

Youth protection aspects are also taken into consideration in our product and service design. When we develop services that could be relevant in terms of youth protection in Germany, we consult our Youth Protection Officer for suggestions of restrictions or changes. In 2014, we appointed a Child Safety Officer (CSO) in each of our national companies in Europe. The CSO acts as a central contact for the relevant stakeholders of the community, and plays a key internal role in coordinating issues relevant to youth protection. Since protecting minors when they interact with media is a challenge across many different industries, we cooperate with different youth protection organizations and participate in alliances such as the “Alliance to better protect minors online,” which aims to make the internet a safer place for children and young people.

 SDG 3  RELATIONSHIPS

We work with research institutes, industry partners, initiatives, standardization bodies, public institutions, and other internet and telecommunications service providers worldwide with a view to fighting cybercrime and enhancing internet security together. For instance, we collaborate with the German Federal Office for Cybersecurity throughout Germany, and with the European Union Agency for Cybersecurity (ENISA) at EU level. We have also been involved in other national and international organizations for many years, such as the Federation of German Industries, Bitkom, and the Munich Security Conference. The Cyber Security Cluster Bonn is an association of authorities and companies in Bonn that are dedicated to consulting, education, and research in the field of cybersecurity. As an expert committee, the Cyber Security Cluster Bonn offers direct advice to German and European government bodies.

 SDG 17  RELATIONSHIPS

Aspect 4: Respecting human rights

We place high priority on respecting human rights. This applies not only to our Company, but also to our business partners and our approximately 25,000 suppliers in more than 150 countries – whom we explicitly place under the same obligations.

Labor standards in our own business area and at our suppliers SDG 10 EMPLOYEES

There are still places in the world where human rights are not a given. As part of our global procurement activities, we can be exposed to country- and supplier-specific risks. These include, for example, inadequate local working and safety conditions. Violations cause severe damage to those affected and can result in reputational damage and negative financial consequences for companies.

For further information, please refer to the section [“Risk and opportunity management.”](#)

As a responsible company, we have made an express commitment to upholding the UN Guiding Principles on Business and Human Rights adopted by the United Nations Human Rights Council in 2011 (Ruggie Principles). The obligation to respect human rights is anchored in our core regulations – i.e., our Guiding Principles and our Code of Human Rights & Social Principles policy statement, both of which have been approved by the Group Board of Management and by the managing bodies in Group companies. This underscores our commitment to protecting human rights and to the goals of the German National Action Plan on Business and Human Rights (NAP) adopted by the Federal Government in 2016. At the same time, the code embodies our commitment to complying with the principles laid down by the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the Universal Declaration of Human Rights, and the UN Global Compact. In addition to these voluntary commitments, we also recognize the minimum social safeguards which, in line with the provisions of the EU taxonomy, are necessary conditions for the taxonomy alignment of economic activities. This means that we comply with the legal requirements of the German Act on Corporate Due Diligence in Supply Chains, which will apply as of 2023 reporting year. We also require our suppliers to comply with all our guidelines related to human rights.

In order to implement our voluntary commitments and the legal requirements, we have introduced a comprehensive program for minimizing risks, which we are constantly updating. The core elements of the program are regular risk analyses in our own business area and at our suppliers; a policy statement on human rights; awareness-raising among employees, suppliers, and business partners; a mechanism for lodging complaints; and reporting.

Regular reviews (Human Rights Impact Assessments, HRIA), which focus on respect for human rights and on the working conditions at our Company and at our suppliers, are a key component of the program. These systematic, comprehensive assessments allow us to ensure that human rights risks are identified and infringements can be prevented. Within the Group, we also focus our attention on preserving the right to collective agreements, and on ensuring diversity and equity. We publish the results of these assessments on our website. In 2022, we carried out HRIA assessments in three of our national companies: in Romania, in Slovakia, and in the Czech Republic. The aspect of digital ethics was included in these assessments for the first time. As part of our Digital Responsibility initiative, in 2022 we formulated our mission for the development of human-centered technology based on humanist values. This provides an additional frame of reference that supplements our existing guidelines, e.g., regarding our approach to artificial intelligence.



| We will publish detailed information on this in our 2022 CR Report at the end of March 2023.

Employees and external third parties could raise concerns and make complaints, anonymously if necessary, in the 2022 financial year through our point of contact for human rights issues, humanrights@telekom, and via the TellMe whistleblower portal. We look into all tip-offs received, including those that reach us outside of these channels, and introduce countermeasures, provided the information is identified as plausible. In 2022, five tip-offs relating to human rights were received via the point of contact and the whistleblower portal (prior year: 7). Not all of these tip-offs were deemed plausible. As we received two tip-offs regarding a Greek supplier during the reporting year, we carried out an extensive on-site audit. A team of experts visited a total of ten sites unannounced to check for potential violations of working conditions and compliance requirements. No violations were found. Within three months of receipt of the tip-offs, a comprehensive investigation had been carried out and concluded in dialog with all those concerned.


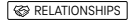
In addition, we conduct an annual formal review of compliance with our Employee Relations Policy. During the reporting year, these reviews were carried out as part of the of HRIAs in Romania, Slovakia, and the Czech Republic. Following a review of this type, the results are discussed with the regional manager of the national company in question.

At Group Headquarters, we pushed forward in 2022 with the process of anchoring human rights due diligence in the different governance processes. Part of this involved including human rights and environmental aspects in the annual Compliance Risk Assessment. This provides the opportunity for us to identify risks in our own business area at an early stage. In addition, we held numerous workshops with the functional units at Group Headquarters to ensure that the new legal requirements resulting, for example, from the Act on Corporate Due Diligence in Supply Chains, are taken into account.

Our perception of ourselves as a company that acts in a socially and ecologically sustainable way includes assuming responsibility along our entire value chain. We have been working to improve sustainability throughout our supply chain for many years. Our strategy for sustainable procurement practices is embedded in our procurement processes (excluding T-Mobile US). The heads of the CR and Procurement units are jointly responsible for its implementation. An escalation process calls for decisions to be made at Board of Management level in severe cases.

The Sustainable Procurement Group, a working group that has had an international focus since 2021, supports our national and international procurement units in implementing the sustainability requirements. At the same time, the group aims to promote discussion among employees in procurement. Our sustainability principles and their application in procurement are set out in the Procurement Practices in the Global Procurement Policy. In addition, there is a policy giving purchasing officers an overview of the CSR criteria that are to be taken into account at each stage of the procurement process. A CSR e-learning tool is available Group-wide to our employees in procurement providing training videos on the issue of sustainability in the procurement process.  

As a rule, we require our suppliers to accept the principles of our Supplier Code of Conduct and meet the associated requirements. Nonetheless, we cannot guarantee that all of our suppliers are up to the standard. To minimize risks and support suppliers in further developing their sustainability performance, we use a comprehensive risk management system for suppliers. The preliminary step involves a risk assessment for all material groups based on a defined set of CSR criteria. In addition, we carry out a comprehensive risk analysis for all suppliers in every category. Specialized companies assess our suppliers with regard to financial, CSR and compliance risks (excluding T-Mobile US). Sustainability performance is given a weighting of 20 % when we are selecting suppliers through invitations to tender. In this way, we can find out at an early stage if there is any increased risk with regard to specific sustainability aspects at any of our suppliers.

Sustainability assessments and reviews are additionally conducted for selected suppliers of product groups in high-risk categories. Depending on their individual sustainability performance and risk classification, we use a range of instruments, for instance, the information system EcoVadis, mobile employee surveys, and on-site supplier audits (social audits). Our focus here is not only on our direct suppliers but also, wherever possible, on downstream suppliers. We increase the effectiveness of our audits through our cooperation with the Joint Audit Cooperation (JAC), which currently consists of a large number of multinational telecommunications companies. In 2022, we carried out a total of 98 audits (prior year: 88) 83 social audits (prior year: 71) and 15 mobile surveys (prior year: 17), of which 40 (prior year: 34) at our direct and 58 (prior year: 54) at our indirect suppliers. Since 2010, we have carried out 910 audits (prior year: 812) within the framework of the JAC.  

We work in close cooperation with our strategically important suppliers on improving their sustainability performance, for example, in terms of environmental protection, working hours regulations, and occupational health. This is done primarily as part of the development program we initiated for suppliers. Since 2018, we have been implementing this program on the basis of a voluntary industry-wide approach known as the Sustainable Development Programme (SDP). In 2021, the SDP was migrated to the JAC. Alongside Deutsche Telekom, which heads the project, Telefónica, Swisscom, and Orange are working together to refine the SDP on an ongoing basis in accordance with the JAC sustainability targets. In the reporting year, four further suppliers (two of Deutsche Telekom and two of Swisscom) were included in the JAC (prior year: four). Since the launch of the program in 2014, a total of 33 suppliers have completed the SDP, achieving measurable ecological, social, and economic progress. For example, in 2022 one supplier saved over 3 metric tons of new plastics by reusing recycled materials.

Sustainability in procurement is measured based on the following ESG KPIs: the Procurement Volume Without CR Risk ESG KPI – for which the target is 95 % by 2025 – measures the procurement volume from direct business partners on whom an established external service provider carried out checks in the reporting period for negative reports in the media and found no irregularities. It also includes suppliers for whom irregularities were identified, but where corresponding corrective action was taken. The share of this procurement volume subjected to a risk assessment amounted to 99.6 % in 2022 (prior year: 99.7 %). The Procurement Volume Verified as Non-Critical ESG KPI – target for 2025: 60 % – by contrast, measures the share accounted for by suppliers checked for social and ecological criteria by means of dedicated reviews – e.g., through EcoVadis, the CDP, social audits, supplier visits, or our Supplier Development Programme. In 2022, the share of these CR-verified suppliers was 64.1 % (prior year: 60 %). In each case, the calculation is based on the Group-wide procurement volume that is already uniformly mapped to a large extent (excluding the Network Capacity category and T-Mobile US), but on different levels of supplier relationships.

Detailed information on our supplier management and measures preparing for the implementation of the Act on Corporate Due Diligence in Supply Chains will be published in our 2022 CR report at the end of March 2023.

Aspect 5: Fighting corruption

Corruption violates national and international law. We take a clear stance against any form of corruption in the public and private sector, whether this is active corruption in the form of bribery, or passive corruption in the form of bribe-taking. For this reason, our compliance management system is particularly geared towards preventing corruption.

Compliance management system

Our compliance culture is a key component for corporate governance based on integrity and respect. We have expressed our Group-wide commitment to complying with ethical principles and both legal and statutory requirements. We have incorporated this pledge in our Guiding Principles and our Code of Conduct.

We implemented a compliance management system with the aim of minimizing risks arising from systematic infringements of legal or ethical standards that could result in regulatory or criminal liability on the part of the Company, its executive body members, or employees, or result in a significant loss of reputation. The Board of Management considers its overall responsibility for compliance as a key leadership task. Our Chief Compliance Officer is responsible for the design and management of the compliance management system. Compliance officers implement the compliance management system and our compliance goals locally at the level of our operating segments and national companies.

Our compliance management system is based on the Compliance Risk Assessment (CRA), which we use to identify and assess compliance risks and introduce appropriate preventative measures. To this end, we have introduced a process to be carried out at regular intervals. The companies that will take part in the CRA are selected according to governance, based on the level of maturity of their compliance management system (maturity-based model). In the reporting year, the CRAs included 69 entities (61 companies and 8 central units) and covered 93.6 % (prior year: 98.1 %) of the workforce (according to the FTE figures for the fully consolidated companies and central units as of December 31, 2021). As a company listed on the United States stock exchange, T-Mobile US uses its own methodology to carry out a risk assessment; it reports regularly on this risk assessment to the relevant bodies, which include representatives of Deutsche Telekom AG. The individual Group companies are responsible for conducting the CRA, with support and advice given from the central compliance organization. We have our compliance management system reviewed regularly by independent auditors, with particular attention paid to anti-corruption measures. Nine German companies were audited in 2020. A further 13 international companies were then assessed in 2021. A total of 22 companies were thus successfully audited in the 2020 and 2021 financial years. A further audit of companies yet to be selected is planned for 2024. The audits focused in particular on processes in the companies that are exposed to an increased risk of corruption, for example, in procurement, sales, events, donations, sponsorships, mergers and acquisitions, and human resources.

We regularly provide risk-oriented and target group-specific compliance and anti-corruption training. Employees can also obtain advice on compliance matters and on conduct based on our values and in line with the law on the AskMe advice portal.

Despite all precautions, we are not always able to prevent breaches of law or violations of regulations at the Company. Our TellMe whistleblower portal enables employees and external third parties to report potential breaches of compliance to the Compliance unit fully confidentially. In 2022, 81 compliance-related tip-offs were submitted via the TellMe portal (prior year: 87 tip-offs). Over the course of the year, 39 of these were confirmed to be cases of misconduct and dealt with accordingly. Within the scope of the legal framework available to us, we systematically pursue all tip-offs, including those that reach us via other channels, and implement commensurate sanctions in compliance with the relevant statutory provisions. We have introduced a Group-wide reporting process to control and monitor these activities.



With our Supplier Code of Conduct as an integral component of our General Terms and Conditions for Purchasing, we obligate our suppliers to, among other elements, refrain from any kind of corruption or conduct that could be interpreted as such. We select our business partners based on compliance criteria and, where required, conduct risk-oriented compliance business assessments. We have been offering regular e-learning training courses on compliance to our suppliers since 2014.

We will publish detailed information on our Supplier Code of Conduct in our 2022 CR Report at the end of March 2023.

Employees

Supporting people. Driving performance.

We at Deutsche Telekom are actively shaping the digitalization of society and, at the same time, we are engaged in the cultural and digital transformation of our own company. In many areas, environmental effects, new technologies, and business models entail fundamental changes to our working world and the skills we require for it. Our aspiration is to steer this transformation process and, in doing so, shift the focus of attention to people. As HR, our vision is to create the Best Team in the Industry, making a positive contribution to achieving our goal of becoming the Leading Digital Telco in line with our Group strategy. On the one hand, this requires us to safeguard the competitiveness of our organization, further enhance our attractiveness as an employer, and create a working environment capable of responding dynamically to changes in how we work today. On the other, it means strengthening a diverse and inclusive culture in which all employees have the opportunity to unlock their full potential.   Above and beyond this, we place a particular emphasis company-wide on building and extending urgently needed technical and digital skills to systematically shape up our company in readiness for the challenges that lie ahead.



Our people strategy is thus central to the implementation of our Group strategy. We bundle our programs and initiatives into the following **strategic priorities**, which we refined in the reporting year and present in the following using projects and measures for illustrative purposes.

1. Future-proof organization
2. Top tech and digital skills
3. Best place to work
4. Leadership in digital tomorrow

Our HR work based on the priorities

1. Future-proof organization

Our ambition for a future-proof organization is to build competitive structures which serve both our corporate targets and our workforce. That means aligning employment conditions with the market while systematically tapping efficiency potential by improving the quality of our HR products and services, and by automating and digitalizing processes in a targeted way. At the same time, we are taking steps to permanently adapt our structures, processes, and ways of working to changing market conditions.

Collective bargaining.   In the course of 2022, a total of 90 collective agreements were concluded with the trade unions for the Group entities in Germany covered by collective agreements. The “big” collective bargaining round for nine entities was successfully concluded in May 2022, despite the difficulties posed by rising inflation. Salary increases were negotiated for a total of 55,000 employees, ranging from 2.7 % in the higher pay groups to 3.1 % in the lower pay groups. Additionally, to cushion some of the effects wrought by high inflation, one-time payments of EUR 1,000 per employee were agreed for the lower and middle pay groups. The Group also promised to continue to provide training at a high level, and agreed to increase the number of planned hires for apprentices and students on dual study programs in the coming years to at least 1,900 in 2023 and 1,800 in 2024. We also successfully paved the way for combining units from the large B2B entities into a single company. We achieved this by harmonizing the collectively agreed pay and benefits across the B2B entities. In our national companies in Europe, too, we successfully concluded viable collective agreements in spite of the unusually high inflationary pressure. In addition to the collective pay increases, which were generally below the inflation rate, in some entities we agreed to make one-time payments to further cushion the impact, especially for employees in lower pay groups.

Transformation initiatives. It is our responsibility to place employees with the right skills in the right jobs and continue to support their development in line with future needs. In addition to the technology-induced transformation initiatives, the crisis-induced need to adapt, and the competition-induced staff restructuring, the decisive tools in achieving this goal are proactive total workforce management, the ongoing digitalization of our core processes, and investments in skilling.

In the reporting year we once again implemented essential transformation programs in the Group's business areas, for instance, in the B2B and B2C segments at Telekom Deutschland and the corporate customer segment at T-Systems International, as well as at Deutsche Telekom IT, the Group's internal IT service provider, and at Deutsche Telekom Services Europe, the Group's internal HR and financial service provider. Care was taken to implement all restructuring activities in a socially responsible manner.

The Group continued its efforts in the reporting year to build towards modern, fit-for-purpose organizational models, such as agile or flexible organizational structures to meet the different needs of business. Some 43,000 employees were working in agile or flexible structures as of 2022. For example, at Deutsche Telekom IT, global organizational structures such as chapters and agile workflows were continuously evolved with the goal of transforming internal IT into cross-border teams. A number of our national companies in Europe, too, including Magyar Telekom in Hungary, Slovak Telekom, and T-Mobile Polska, have already implemented agile working across broad swaths of the organization. Magyar Telekom extended its agile structures in the reporting year to include customer-facing employee groups. We thus not only promote customer-oriented and agile working methods, but are also able to respond quickly to change.

New employment prospects. The newly created unit next.JOB began its work in early 2022. next.JOB offers employees in Germany who are seeking a new professional challenge outside of the Group opportunities to enter the public sector. The placement service is available to both civil servants and non-civil servants and coordinates closely with the Group segments. Within just one year of launch, next.JOB has already facilitated 69 permanent placements, and continued to amplify and strengthen the extensive network of public-sector partners.

As a founding member of the initiative Allianz der Chancen in 2021, we are committed to actively shaping the transformation of the working world. Member organizations of the alliance are aligned with the goal of offering their employees economically and socially sustainable employment prospects across many different industries. The aim is to make people aware of new opportunities and lower the threshold for change: from one job to another. To this end, in the reporting year the companies rolled out their own internal projects and also formulated common areas of operation and recommendations for action for a new working world. One such measure is to support and reward employees who are willing to change jobs.

2. Top tech and digital skills

According to a Korn Ferry Institute study, by 2030 there will be 4.3 million vacant technical positions in the technology, media, and telecommunications industries. Yet we need highly skilled employees, many of whom with technical, digital, and IT profiles, to help us achieve our Group strategy. In times of shortages of skilled labor, this not only puts us in direct competition with our industry peers, but in particular with tech and software companies, as well as the automotive sector, all of which are desperately in need of technical and digital skills. We respond to this challenge by ramping up our investments in recruiting, developing, and retaining talents with the requisite skills. Our efforts are bearing fruit: in 2022 we increased the percentage of digital experts within our workforce at the Group to 19.7 %. This figure is significantly in excess of our original target of 17 % by 2024.

Employer brand. Competition on the labor market continues to intensify, especially in the IT and tech field. The employer market is turning into an employee market, as employers are now in a tug-of-war for talent on a global stage and across multiple industries. In parallel, the needs and expectations of this sought-after target group have changed – a development that was further heightened by the experiences from the coronavirus pandemic. Not only are these talents becoming more and more demanding, but other topics like flexible working, innovation, and new technologies are also gaining in importance.

We have realigned our employer branding strategy and employer value proposition (EVP) with the goal of further strengthening our position as an international, attractive employer for top tech and digital talents. Working together with tech talents as part of an iterative process, we carefully developed the content to ensure that the new employer branding strategy reflects their needs and expectations as well as our Group strategy. Our international employer branding campaign "Question today, create tomorrow." profiles current employees and invites talents to join us in questioning the status quo and to find the answers for the future together. Using messages tailored to specific audiences, an eye-catching look and feel, and a strong content strategy, all of which build on the strategic pillars of the new EVP, we help IT experts to discover career opportunities at Deutsche Telekom on various social media channels. The campaign is gradually being rolled out to the national companies through the first quarter of 2023.

Further targeted recruitment drives are also being implemented alongside the international employer branding campaign. We deploy a broad spectrum of HR marketing measures oriented to specific target groups with the goal of filling vacancies with the ideal candidates as rapidly as possible. Above and beyond this, we developed a new strategy focusing on university partnerships, and expanded existing cooperations with strategic partners in order to generate attention among a young target audience. We also remain committed to existing partnerships, including with Femtec, with the goal of attracting women into STEM professions at Deutsche Telekom.



A strong employer brand pays off: following its win in the previous year, Deutsche Telekom has once again won the Institute of Research & Data Aggregation's Leading Employer Award 2023. Our efforts to tailor our communication to specific target audiences are also bearing fruit: we were ranked #1 in Potentialpark's 2022 Azubi Communication Study and #2 in its Talent Communication study. Deutsche Telekom AG took the top spot in the NetFed HR Benchmark study. Our national companies also received accolades for their appeal as employers: for example, T-Mobile Austria received the Kurier seal of quality "Favorite Employer 2022," PwC named our Hungarian subsidiary Magyar Telekom the most attractive employer in the telecommunications and media industries, while our national company in the Czech Republic, T-Mobile Czech Republic, won the prize for top employer in the telecommunications sector.

Talent attraction. In 2022, despite the tense situation on the labor market, we attracted around 12,000 new employees (outside of the United States). Germany accounted for the largest share of these new hires, with around 2,700, followed by India, with around 2,000. In Germany, we won over 190 new employees in the fourth quarter of 2022 alone, most of whom are technicians working on the fiber-optic build-out. T-Mobile US recruited over 22,000 new employees in the reporting year. We welcomed 1,671 new apprentices and dual students in Germany, a high percentage of whom with technical, digital, and IT profiles. 53 young employees took us up on the opportunity to join one of our year-long orientation programs. We won the HR Excellence Award in 2022 for our Discover MINT program, which gives young people the option to try out a dual study course in the STEM field. In 2022, Capital magazine validated our keen efforts to advance young employees working at our company and offer them opportunities for success by ranking us "Germany's best training provider" in the categories "Vocational training" and "Dual studies."  

Our digital and at the same time personal approach shapes our entire recruiting strategy. We value direct and personal contact, so we attend careers fairs, networking sessions, and other events. Our employees are crucial to attracting talents on a personal level, and in recognition of this in 2022 we launched #ExpertsHireExperts, a program which rewards the successful recommendation of employees with a EUR 2,500 bonus. This new program has already resulted in over 200 new employees for our Company. We also utilize new and innovative recruitment activities to target specific platforms, such as events in the metaverse, and use artificial intelligence. Our international active sourcing team uses targeted searches to find and directly approach highly experienced individuals. In 2022, the team inspired around 500 IT/tech candidates to apply for roles within the Group.

In addition to using a blend of traditional and innovative approaches to recruitment, our goal is to further strengthen our position as a global employer. With this in mind, in 2022 we began to build further T-Hubs in Europe, which combine a cross-segment concept with an attractive location strategy to unlock access to additional employee markets. We have created a cross-segment home for top tech and digital talents at new sites in Spain and Greece, and are currently also piloting the T-Hub approach in Poland. We offer these talents an attractive work environment, inspiring projects and leaders, and cross-segment training and career opportunities.

In 2022, T-Mobile US' onboarding program Being Un-carrier provided support for over 1,800 new employees and their managers in the form of optimized communication, online resources, live orientation sessions, and special benefit offerings, as well as in respect of diversity, equity, and inclusion. In the third quarter of 2022, T-Mobile US launched its New Leader Onboarding program developed especially for employees taking on leadership roles, whether as new hires or as a result of internal promotions. Since its launch, the program has already supported almost 190 new managers by providing targeted communication, online resources, and live orientation sessions.

Learning initiatives and offerings.   A central focus of our HR activities is on establishing and designing learning initiatives and offerings. We provide comprehensive training programs tailored to the business needs of the individual segments and complemented by focused horizontal Group offerings. Here, too, there is a clear emphasis on providing targeted support for employees undergoing technical and digital skilling and upskilling. Of particular relevance for us are the following profiles: DevOps, software and cloud engineers; solution architects and designers; and data scientists. We provide learning initiatives, guided learning journeys, and phased training programs for these profiles to facilitate reskilling and upskilling. In the first stage of this "learning ecosystem," the foundation is laid for the acquisition of digital skills: internationally available Explorer Journeys provide employees with initial insights into and knowledge in the fields of software development, artificial intelligence, data analytics, digital marketing, and user experience (UX). The program has attracted over 11,000 employees since it was launched in 2020. The second stage, known as Career Shifter, focuses on the software developer profile and allows us to address employees coming from minimal or zero IT backgrounds and reskill them into one of the most sought-after technical profiles. In the third stage, specialists with expertise in specific fields take center stage: here, the aim is to expand their expertise and strengthen their existing knowledge through the "good to great" pillar of their learning system. In 2022, following championing by the local HR teams and business areas in the segments, three learning journeys were incorporated in this stage and made available to all employees globally. Over 1,200 employees have already taken part in the first global version of the program.

In 2022, we took our “youlearn” learning culture initiative, introduced in 2019, to the next level and dovetailed it more effectively with our Group strategy. With the theme “Time to focus on tech & digital skills,” youlearn was closely oriented to the acquisition of technical and digital skills – successfully so: in the reporting year, employees in Germany and our national companies in Europe invested a total of 3.8 million learning hours under this program, of which 46.6 % were specifically devoted to technical and digital skills.



With a digital learning rate of around 79 %, digital learning is firmly established as a learning tool at Deutsche Telekom. Over 178,000 employees can take advantage of a whole range of digital and state-of-the-art learning offerings provided on the intelligent learning platform Percipio, dubbed the “Netflix of learning,” and through the integration of education platforms such as Coursera, a provider of digital further-training courses offered by top-ranking universities. The 2018 employee initiative Learning from Experts (LEX) has since become the largest peer-to-peer learning community at Deutsche Telekom and contributes immensely to informal learning. In 2022, experts shared their knowledge with other colleagues in over 5,390 online LEX sessions. Technical and digital skills were also the focus of the 2022 youlearn days, a global and digital learning event at Deutsche Telekom. With more than 5,400 registered participants from 29 countries, event participation was up by 10 % against last year, putting it yet again at an all-time high.



Due to the successful launch of levelUP!NextGeneration in 2019, we not only offered the program again in 2022 in digital format, but went one step further and substantially expanded the scope. While still a program for (future) leaders, it is now also suitable for tech and digital experts who have no ambitions to solid-line leadership. This move has transformed this former dedicated leadership skilling program into a program which supports a variety of career paths within the Group. A total of almost 750 employees from across the globe, including around 400 (prospective) managers and just under 350 tech and digital experts from 22 countries, completed the four-month skilling program. Its primary focus is on teaching innovative, inspirational, and tangible leadership topics and skills relating to digitalization and technology. Example topics include ambidextrous leadership, which places equal emphasis on innovation and efficiency; leading in an agile work environment; and managing complexity. Complementary elective modules aim to meet personal development needs. levelUP!NextGeneration also helps us strengthen and encourage intragroup and cross-segment collaboration.

Our T-Mobile US employees devoted a total of 5.7 million hours of their time to learning through a learning management tool. In addition, the Magenta University at T-Mobile US acts as a central support hub, empowering employees to make the most of their abilities, take advantage of career opportunities, expand their leadership skills, and strengthen their commitment to diversity, equity, and inclusion.

Employee development and skilling. We have laid the foundation for the necessary skill transformation by creating instruments including the Global Job Architecture (GJA), strategic HR planning, and strategic skill management. The GJA simplifies existing function structures and consolidates them in future-proof job profiles. Our strategic HR planning takes changing market conditions into account to plot the right course for targeted investment in the skills that will be needed going forward. Skill management is supported by a digital tool to pinpoint where personal skills are present or lacking, and development plans are continuously adapted by means of tailored training programs. Over 31,000 employees in the Group successfully went through the skill management process in 2022.

WeGrow, our modern performance management system that enables ongoing development dialog between managers and employees, also focuses on our employees’ personal development. This blend of strategic HR tools establishes a systemic basis for providing our employees with targeted upskilling and reskilling.

T-Mobile US has identified nine core development skills and underlying behaviors which it calls “values in action.” These values in action are crucial to achieving the mission, vision, and strategy of our U.S. subsidiary, and in the United States we offer evaluations, development, and resources tailored to each of these values. T-Mobile US also offers access to learning platforms like Percipio and Franklin Covey, empowering thousands of learners to acquire skills to meet their exact needs. In certain business areas, such as Digital, Enterprise Technology Solutions, and T-Mobile for Business and Consumer, T-Mobile US is developing role-based training to support strategic outcomes within its organization.  

As part of “values in action,” T-Mobile US offered targeted upskilling opportunities focusing on digital-first approaches and digital fluency, including a live discussion with the Chief Digital Officer of T-Mobile US, podcasts, resources, and other curated learning content and offerings. The security-first culture at T-Mobile US allows us to create an environment in which employees can acquire and strengthen security-related knowledge together. All employees also receive training on the basics of cybersecurity. The Be Cyber Smart program collates and teaches content ranging from digital literacy to topics including physical security, phishing, malware, password management, data privacy, and much more besides.  

3. Best place to work

It is our strategic goal to create a motivating work environment where all employees can live up to their full potential. We strive not only to drive forward technical solutions to shape the new, hybrid working worlds, but also to create an inclusive environment and a culture of trust and responsibility that unites all employees in pursuit of a common corporate purpose. In the reporting year, we once again aligned various initiatives with this goal.

Culture. SDG 8 EMPLOYEES We believe that our culture is Deutsche Telekom's DNA and an essential factor in safeguarding our long-term success. Building on the strong foundation of our Guiding Principles, corporate culture must also reflect the changing needs of customers and employees. For this reason, we understand culture to be a constantly evolving process. At Deutsche Telekom, we therefore also talk about our "living culture." Our Guiding Principles act as our compass, leading us to reflect on our behavior on a daily basis and helping us to make the right decisions. We use the Living Culture day and the Telekom Team Award each year to devote attention to this subject in a special setting. Under the theme "The Power of We," this year's Living Culture day took place for the first time at a central location outside Germany, namely Vienna. More than 30 countries took part, with over 5,000 teams and participants watching the live stream of the event. There was a strong social media presence on external networks, with 64,000 posts, as well as comments and likes. Our internal communication platform YAM registered 60,000 views. The Telekom Team Award is an international award with six categories, one for each of our Guiding Principles, aimed at recognizing outstanding performance as a team. In 2022, a total of 18 winning teams were chosen from among 261 entries from 20 countries. Between October and December, some 13,000 employees around the world used an online tool to vote on the final order of the winners.

Our six Guiding Principles





Diversity, equity, and inclusion. SDG 5 EMPLOYEES Fostering diversity, equity, and inclusion is an integral part of who we are and how we see ourselves. We support the different diversity dimensions such as age, national and ethnic origin, gender and gender identity, physical and mental abilities, religion and beliefs, sexual orientation, or social background. We firmly believe that this also increases our corporate success, because we consider diverse teams to be a driver of innovation. In respect of gender diversity, our goal of increasing the percentage of women in management positions to 30 % across the Group (excluding T-Mobile US) by 2025 still applies. With women occupying 50 % (December 31, 2021: 45 %) of positions on the Supervisory Board and 37.5 % (December 31, 2021: 37.5 %) of positions on the Board of Management of Deutsche Telekom AG at the end of 2022, we have already exceeded this target in these boards. Across the Group (including T-Mobile US), the proportion of women in middle and upper management stood at 28.1 % at the end of 2022 (December 31, 2021: 27.3 %). To ensure we also reach our target in these management levels, we have worked with the different business segments to draw up concrete implementation plans. Specific measures are to be agreed aimed at increasing diversity in management teams depending on the situation in the respective segment, to be discussed by management on a regular basis. Diversity is particularly relevant in the context of our succession planning and recruitment activities.



T-Mobile US, too, strives to safeguard and further build on the diversity within its workforce in respect of gender, age, and national origin. Our U.S. subsidiary demonstrates its commitment to diversity through a whole range of initiatives, such as Next Tech Diversity, Women in Tech, the Returnship Program, Accessibility Initiatives, and the McKinsey Executive Leadership Program to name a few. T-Mobile US also founded six Employee Resource Groups celebrating its employees' rich diversity and heritage: Women & Allies Network, Veterans & Allies Network, Pride, Multigenerational Network, Multicultural Alliance, and the Accessibility Community.



Numerous additional actions and products further support our efforts to achieve greater diversity within the Company to make it an inclusive workplace for all. The international implementation of a revised Group policy on Diversity, Equity and Inclusion (DE&I) in 2021 laid the foundation for a shared framework of values which we continued to actively develop in the reporting year by way of our Group Inclusion Agreement and the Action Plan 2.0. This framework helps to support and safeguard compliance with our diversity values in all decision-making activities and actions at all Group levels. We sent a further signal, including externally, of our commitment to diversity and inclusion with the publication of the Transgender Handbook which contains information for all employees. It aims not only to increase transgender visibility and awareness, but also to offer practical support and guidance. Various international and segment-specific initiatives, too, show how we stand together for diversity, including #strongerTogether at T-Systems International in 14 countries, or employee-led communities such as the Women's Hub at Magyar Telekom. For the first time ever in the reporting year, in order to make the impact of our actions measurable and transparent, we added questions on employees' perception of equity and participation.

The successful implementation of the Global Talent Hub promotes the targeted placing of talents within our succession management process in all dimensions of diversity, e.g., gender, age, and nationality. Likewise, we actively support the career aspirations of women with the successful implementation of programs for the advancement of women including Action For Leadership with Nokia and UN Women in 2022. We also raise employee awareness through tailored training courses on topics such as unconscious bias, racism, and transgender issues, and we encourage employees to reflect on these.



For further information on the Global Talent Hub, please refer to the section "[Talent development](#)."

Shares2You.   We strive to give all employees the opportunity to participate in the success of our business while also fostering an entrepreneurial culture, and to this end we once again offered our Shares2You share program for employees in 2022. In the reporting year, Deutsche Telekom AG ran the Shares2You program for a second time under which employees can acquire shares in Deutsche Telekom AG up to an amount of EUR 1,000. For every two shares they purchase, they receive another share at no cost. All shares received in this way must be held for a minimum of four years. The program was also rolled out internationally in the reporting year to three national companies in the Czech Republic and Slovakia. A total of 1,263 employees of these three companies took part, investing an aggregate amount of just under EUR 1.2 million. In Germany, the second wave of the program began in October 2022 in participating German Group entities: 36,648 employees registered for the program, requesting to invest a total of over EUR 34.6 million. The shares are set to be issued in early 2023.

New work & hybrid working.   Once the pandemic is over, we will continue to actively shape the transition to a hybrid working world and to provide our employees with comprehensive support as they make this journey. We have provided Group-wide collaboration tools to give our employees greater flexibility to structure their daily work schedules and to choose their physical workplace, and to collaborate even better across units and borders. We believe that a nuanced approach both for and within the segments provides the best basis for taking the variety of different business needs into account. Not only that, but it gives managers the opportunity to draw up hybrid working models with their teams giving equal consideration to the diverse employee groups and team structures. In the reporting year we thus prioritized the idea of combining "the best of both worlds": greater flexibility and autonomy through mobile working in combination with personal encounters in the office as the basis for identification and innovation. For example, we invested in transforming our offices into places of encounter and supported and motivated our employees to see each other in person again with measures like the T for Togetherness campaign. We also held the employee festival AWAK3 in June 2022 with this particular goal in mind. AWAK3 was an international festival at which employees could meet up with colleagues to see live concerts, play sports, and participate in workshops on innovative business topics and sustainability. The success of our activities is reflected, once again, in extremely high employee satisfaction and a consistently high level of employer attractiveness.

Employee satisfaction.   Our engagement score, which is our measure of employee satisfaction, is calculated from data collected by the employee survey conducted every two years (excluding T-Mobile US). We also conduct pulse surveys twice per year – or once in employee survey years – to obtain feedback from our employees. The most recent pulse survey, conducted in November 2022, returned a high engagement score of 78 points (2021: 77 points). With employee participation of 76 % (2021: 80 %), the results in many areas, such as Goals (93 %; 2021: 92 %), Strengths (90 %; 2021: 88 %), Purpose (86 %; 2021: 86 %), and Information (86 %; 2021: 86 %), were among the highest ever. The question on Mood or Satisfaction remains at the very high level of 81 % (2021: 80 %) following a significant increase to around this level during the coronavirus pandemic. To allow for qualitative answers, the survey included a free-text box in which employees could suggest things that would reinforce their commitment to their work. Questions were also asked on the Group. The highest values were recorded for the new topic added in 2022: No Discrimination & Safe Space (92 %); as well as for the topics Guiding Principles (91 %; 2021: 90 %) and Digital Collaboration (86 %; 2021: 86 %). Several initiatives are in place to further enhance employee satisfaction.

T-Mobile US held separate employee surveys in March, June, and September 2022. The survey covers a broad spectrum of subjects designed to measure employee commitment and the corporate culture. Of the employees who were invited to take part in the most recent survey in September 2022, 54 % responded. The results show a high level of employee satisfaction: 86 % (2021: 86 %) said that their own team offers an inclusive working environment which is accepted by all colleagues, 79 % (2021: 83 %) are proud to work for their company, and 76 % (2021: 80 %) would recommend T-Mobile US to others as an attractive employer. This is further borne out by the numerous accolades awarded to T-Mobile US over the last few years for its status as a preferred employer. Like in 2021, the U.S. subsidiary was included on the Forbes list of America's Best Employers. T-Mobile US made it onto the Fortune 100 list of best employers for the fifth time. And for the tenth time in succession, T-Mobile US achieved a top score of 100 in the Human Rights Campaign Corporate Equality Index for its commitment to building an inclusive workplace for lesbian, gay, bisexual, transgender, and queer employees.

Employee health.   Our health management strategy is designed to maintain and promote our employees' health and performance. We view occupational health and safety legislation as minimum requirements. Our corporate culture encourages our employees to take responsibility for their own health. When the Covid-induced restrictions were lifted in 2022, the health rate in Germany declined to 93.8 % (including long-term illnesses), i.e., it returned to the pre-pandemic level. The Group applies a coordinated hygiene concept based on the recommendations of the Robert Koch Institute. Employees are regularly provided with information on dealing with the coronavirus. Since fall 2022, the focus of our vaccination offerings has shifted back to flu shots.

We continue to support our employees and managers by providing them with classroom and online formats covering topics such as leadership, remote collaboration, and preserving and enhancing resilience, and by offering confidential, anonymous advice on psychosocial problems via a dedicated helpline. In the 2022 financial year, a support service was set up for international employees affected by the war in Ukraine.



For further information on emergency aid for Ukraine provided in the Group, please refer to the section "[Combined non-financial statement.](#)"

The health promotion program also includes courses on nutrition, exercise, and relaxation (stress prevention, mindfulness). In 2022, the Federal Occupational Health Association (Bundesverband Betriebliches Gesundheitsmanagement – BBGM) awarded us a Best Practice Award in Germany for our #ausruhezeichen campaign to promote healthy sleep and recovery. On an international level, our OTE group in Greece received six awards relating to health and safety. These included accolades for promoting a culture of health and safety in areas of daily life for our employees through the long-running action program "Living better." Awards were also received for initiatives, for example, on health and well-being, behavioral risks, and best crisis management.



In July 2021, T-Mobile US was the first mobile provider to receive the WELL Health-Safety seal, which it also received in 2022. The seal is awarded based on a global assessment which ensures that spaces and sites comply with science-backed health and safety standards.



4. Leadership in digital tomorrow

Further developing the digital and tech skills of our managers is a crucial step towards successfully implementing our Group strategy. Not only that, but a modern leadership culture based on diversity and humanity is essential both for our Company's long-term commercial success and for attracting and retaining talents. We therefore continued to pursue this strategic priority during the reporting year through the continual evolution of our leadership culture and through a range of leadership skilling programs.

Leadership culture.   We believe that the ongoing development of our leadership culture within the Group has a positive effect on our employees and thus a direct impact on our success as a company. This is further borne out by the findings from the most recent survey, which identifies team attractiveness and a culture of trust as key factors driving employee satisfaction. Essentially, this culture must also be directly palpable in interpersonal interactions between managers and employees. In particular after a period with a lack of social interaction and contact during the coronavirus pandemic, we invested more in enabling personal encounters and in strengthening communities. One example of our efforts to facilitate dialog and networking, and to jointly drive forward the digital transformation, is the SpeedUP! days, which we held for the first time in 2022. This two-day event offered managers and top talents the opportunity to attend workshops and speak directly with experts to extend their digital skills, hone their thought processes, and learn new methodologies.

We value highly an environment in which our managers feel part of a leadership team. This drives us to invest not only in the transfer of skills and the teaching of methodologies, but also in strengthening our leadership communities, such as the Telekom Transformation Team (T³). T³ is a group of around 250 top-level managers from the Board of Management and the business leader team, as well as top talents from across all functions and segments of Deutsche Telekom. Its role, alongside members' regular line responsibilities, is to drive forward the transformation of the organization. We support this community year-round with a combination of broad-based leadership programs and individual measures. Our current range of programs – EQ Master, Mountain Wisdom, Limitless, and Leadership Presence – are specifically designed to enable our top-level managers to unlock their full leadership potential. The T³ community also meets up once a year for an event dedicated to enhancing leadership skills and the understanding of the organization. This year, the event theme was “Trailblazers” to reflect qualities such as frontier spirit and the courage to take on pioneering roles within change processes. Another initiative in 2022 was the first digital format for the T³ community, called De-Mystifying Digital. A series of sessions of 60 to 90 minutes were offered covering data science, cloud computing, digital talent magnets, Web3, metaverse, and cybersecurity. A recording was made available on the internal leadership skilling platform levelUP!.

Leadership skilling.   In the age of digitalization, managers must possess skills and methods that differ greatly from those needed in the analog world. That is why, since the start of the reporting year, we have been supporting not just our executives with levelUP!, our innovative digital further-training service; but we have extended the offering of training for successful leadership in the digital age to all managers. As a result, the number of managers registered on the platform grew to over 5,000 in 2022. levelUP! comprises modules that can be combined individually as required. Knowledge is shared primarily via interactive, digital learning formats in combination with classroom training and self-study materials. In 2022, our levelUP! offerings focused on the Leading Digital program. Eight skills were identified as the most important digital leadership skills at Deutsche Telekom: 1. Artificial intelligence, 2. Data science and analysis, 3. Cloud computing, 4. Computer hardware and networking, 5. Cyber and application security, 6. Computational thinking, 7. Software and programming languages, and 8. Collaboration and productivity software. levelUP! aims to teach these specific skills in a way that ensures all managers have a basic understanding of these key digital topics. The program comprises three phases: 1. Understanding the digital mindset, 2. Learning the eight key digital skills (beginner and advanced level), and 3. Applying and transferring the newly acquired skills and knowledge into practice.

T-Mobile US offers a range of leadership skilling programs to promote a variety of talents and empower employees to achieve success at every stage of their career. Leadership development is supported by way of intensive and needs-based learning experiences in a portfolio that covers everything from onboarding and development within the role, to transition/top talent programs, coaching, assessments, and mentoring. Our goal is to offer programs which champion courageous, inspirational, target-oriented leaders who are capable of getting the best out of themselves and others.  

Talent development. On our journey to becoming the Leading Digital Telco, a key priority for us are the talents in our Global Talent Hub (GTH). These talents are future managers and executives, and we help prepare them for the challenges ahead. The GTH consists of two pipelines: the “executive-ready pipeline” with no more than 200 talents at any one time who are immediately ready for and seeking an executive position within the company, and the new “raw diamond pipeline” with a maximum of 100 talents who have demonstrated leadership potential early on in their careers and are being guided under the talent program towards an executive position by way of a relevant career stepping stone. At present, 237 talents are being actively supported as part of this process. In both talent pools, we focus on employees in all positions who are striving to pursue a global, cross-segment, cross-border career within Deutsche Telekom. We also evaluate these talents with respect to their digital skills and mindset. Our talents are developed with an equal focus on their personal career advancement and on our ability to fill key positions within the Group with GTH talents faster. Specially trained talent brokers are invaluable in this context: they draw up personal development plans together with the talents, discuss career paths, facilitate networking among talents, raise their visibility, and actively recommend them for executive positions when a vacancy arises. In 2022, 57 Global Talent Hub participants signed an executive contract, i.e., 20 % of executive positions were filled with GTH talents in the reporting year (excluding T-Mobile US).

Alongside the central initiatives, our operating segments also offer their own talent programs which specifically prepare employees to take on their first leadership duties within the segment. For example, the Europe operating segment runs a “30 under 30” program offering targeted support for very young leadership talents. The Germany segment offers a springboard program called OSD Talent Reise to prepare talents for the next phase of their career journey. This program teaches leadership skills in addition to focusing on expert careers.

Headcount development

The Group's headcount fell by 4.5 % compared with the end of the prior year. In our Germany operating segment, the number of employees declined by 4.5 % against year-end 2021, largely due to the take-up of socially responsible instruments as part of staff restructuring activities, such as dedicated retirement and phased retirement. The total number of employees in the United States operating segment decreased by 5.6 %. The decline against year-end 2021 is primarily due to intentional headcount rationalization to manage costs. In our Europe operating segment, the headcount was down by 3.5 % compared with the end of the prior year, in particular in Greece, Slovakia, Poland, and Croatia. The headcount in our Systems Solutions operating segment was up 4.6 % against the end of 2021. The effect on headcount of our efficiency enhancement measures was more than offset by increased staff requirements in our growth areas. In the Group Development operating segment, the sharp year-on-year decrease in headcount of 69.0 % was mainly due to the sale of T-Mobile Netherlands as of March 31, 2022. The headcount in the Group Headquarters & Group Services segment was down 5.9 % compared with the end of 2021, mainly due to the ongoing staff restructuring in the Technology and Innovation unit, primarily in connection with a transformation program at Deutsche Telekom IT, and continued staff restructuring at Vivento.

Workforce statistics

Headcount development

	Dec. 31, 2022	Dec. 31, 2021	Change	Change %	Dec. 31, 2020	
FTEs in the Group	206,759	216,528	(9,769)	(4.5)	226,291	
Of which: Deutsche Telekom AG	12,302	13,897	(1,595)	(11.5)	15,374	
Of which: civil servants (in Germany, with an active service relationship)	8,381	9,653	(1,272)	(13.2)	10,583	
Germany operating segment ^a	59,014	61,768	(2,754)	(4.5)	67,956	
United States operating segment	67,088	71,094	(4,006)	(5.6)	71,303	
Europe operating segment	34,083	35,319	(1,236)	(3.5)	41,272	
Systems Solutions operating segment	27,392	26,175	1,217	4.6	26,490	
Group Development operating segment	828	2,674	(1,846)	(69.0)	2,684	
Of which: GD Towers	762	775	(13)	(1.7)	744	
Group Headquarters & Group Services ^a	18,353	19,498	(1,145)	(5.9)	16,585	
Breakdown by geographic area						
Germany	81,469	85,160	(3,691)	(4.3)	89,032	
International	125,290	131,368	(6,078)	(4.6)	137,258	
Of which: other EU member states	48,144	50,005	(1,861)	(3.7)	55,816	
Of which: rest of Europe	2,087	2,066	21	1.0	2,168	
Of which: North America	67,312	71,337	(4,025)	(5.6)	71,617	
Of which: rest of world	7,747	7,960	(213)	(2.7)	7,658	
Natural attrition^b	5.9	5.2	0.7	13.5	3.9	
Of which: Germany	2.5	2.1	0.4	19.0	2.0	
Of which: international	10.7	9.3	1.4	15.1	6.6	
Productivity trend^c						
Net revenue per employee	thousands of €	542	488	54	11.1	448

^a As part of reorganization measures at Deutsche Telekom IT, around 3.7 thousand employees were reassigned from the Germany operating segment to the Technology and Innovation unit in the Group Headquarters & Group Services segment effective January 1, 2021. Prior-year comparatives were not adjusted.

^b Excluding T-Mobile US.

^c Based on the average number of employees.

Personnel costs



millions of €

	2022	2021	Change	Change %	2020
Personnel costs in the Group	19,446	18,463	983	5.3	18,853
Of which: Germany	8,389	8,461	(72)	(0.9)	8,764
Of which: international	11,057	10,002	1,055	10.5	10,089
Special factors ^a	1,367	906	461	50.9	1,836
Personnel costs in the Group (adjusted for special factors)	18,080	17,556	524	3.0	17,017
Net revenue	114,413	107,811	6,602	6.1	100,139
Adjusted personnel cost ratio	%	15.8	16.3		17.0
Personnel costs at Deutsche Telekom AG under German GAAP	1,936	2,176	(240)	(11.0)	2,291

^a Expenses for staff-related measures.

Technology and innovation

T&I strategy: digital transformation and human centrality





At Deutsche Telekom, innovation means creating the best possible (digital) customer experience on the basis of our multiple award-winning network – now and in the future. We believe our core competency consists in integrating the individual components (such as hardware and software in the mobile and fixed networks) so that, in conjunction with our own network and IT infrastructure and supported by partner companies, we can guarantee the best customer experience at a reasonable price with resilient and future-proof technology. This is precisely the task of our Technology and Innovation Board of Management department, which works in close cooperation with our operating segments. The Technology and Innovation Board of Management department is where we combine and integrate our Technology, Innovation, IT, and Security functions. This structure will allow us to meet the demands of the future network generation and the associated requirements not only of our customers, but also of our employees, our partners, and our shareholders – in terms of network security and sustainability, too. Our Group strategy Leading Digital Telco applies not only to high-speed broadband access, but also to responsible network production. That is an economic and ecological necessity, especially given growing cloudification, increasing data traffic, and the rising number and concentration of active components in our network.  


We are thus in a position both to enable Deutsche Telekom’s current business and at the same time to shape the future. We are convinced that we can reliably deliver results, constantly develop product, industry, and technological innovations, and simultaneously hone and refine our ways of working. The following examples, which illustrate our improved network infrastructure, strong technology partnerships, and innovative services and customer experience, highlight how we want to safeguard and maintain our technology leadership among European network operators through technological progress and innovation.



- **Delivery Innovation:** Technology and Innovation is a supplier and service provider for the Group. As such, it is particularly important that we consistently meet our obligations. That means conscientiously delivering our services, leveraging the synergies offered by centralized production, and working cost efficiently. At the same time, we can also shape the future, e.g., by promoting agile working methods to make our production future-proof.
- **Experience Innovation:** We are Deutsche Telekom’s central innovation unit. Constantly pursuing innovations that benefit our customers, the Group, and all other stakeholders is our task and our obligation – but we also consider it an expression of the freedom we enjoy. Our technological innovations form the underpinnings for this. We work in close cooperation with the segments and with external partner companies in order to meet our customers’ requirements and to create the innovations this calls for.
- **Capability Innovation:** Continuing to turn Deutsche Telekom into a software-based company entails transforming our capabilities on an ongoing basis. We want to recognize the need for future changes in our Company and to be able to handle them as they arise. Changes become entrenched especially when accompanied by cultural innovation in the shape of skills transformation and the systematic retraining and further training of our employees as software engineers, AI experts, and network architects. By the end of 2022, we had given some 2,000 of our employees intensive training in topics relevant for the future, such as software development, artificial intelligence (AI), and DevOps, as well as in agile methods, in 16 international Skill Academies.  

Innovation priorities

Innovations can be produced everywhere. That is why it is important to ensure we pursue our innovation activities at an intragroup level and that they are aligned with our strategy. Our interconnected innovation areas provide a holistic, Group-wide framework for this. In the reporting year, we further built on our activities in the prior year to evolve our innovation priorities in close coordination with the operating segments.

- **Connectivity:** We are developing our router operating system for the digital future – with enhanced cloud-based connectivity management and service quality, a superior customer experience and standardized operation via app, PC, or television, and value-added applications such as child protection functions, home security, predictive maintenance, and troubleshooting.   This new router generation is based on a globally scalable reference system (Reference Design Kit, RDK), which we are constantly fine-tuning together with other leading telecommunications providers. Rollout began in Austria and Poland in the reporting year, and we aim to bring the new router generation to all markets in Europe by 2024. A core element of connectivity management is the home-network check software feature, which is available both in service apps in Germany such as MeinMagenta and via the TV interface, and which provides for new, context-based customer interaction to optimize service and troubleshoot problems in home networks.
- **Smart home:** We continue to cloudify and refine our smart home offerings, with the aim of making the ecosystem future-proof. A key component of this is the cloud-native MagentaZuhause app, which has been available to download as a full version since February 2022. Users can connect all of their smart home devices with the app and enable personalized use by each member of the household, as well as access and administer services including Wi-Fi.  

- **Service orchestration in the connected home:** We want to improve the customer experience at home by ensuring the easy, seamless, uniform, uncomplicated interaction of all Deutsche Telekom's services and devices, and by enabling services from selected partners. To link up our different services we are relying on the HomeOS orchestration platform we have developed in-house. The MagentaZuhause app is the first customer touchpoint to use the HomeOS platform. It combines TV, smart home, router management, and MagentaCloud functions, with more features being added regularly. The goal is to continue integrating these functions into the MagentaTV menu ever more seamlessly. MagentaZuhause was available in over 4 million German households as of the end of 2022.
- **Magenta Voice:** With smart voice control (also known as voicification), we want to further enhance the way our customers experience our services, and to simplify interaction with technology and devices. To achieve this, we are constantly evolving our voice platform, winning over new partners, and integrating voice control into additional products and services such as television and the MeinMagenta and MagentaZuhause (SmartHome) apps, with the aim of offering our customers a comprehensive convergent application space. Ongoing functionality enhancements have resulted in rising customer usage and satisfaction levels. In parallel, we continue to work towards realizing B2B solutions, such as a scheduling assistant for business customers.
- **AI One Conversation:** By integrating artificial intelligence, we will ensure that our products and services remain competitive into the future.   The focus of our activities in the reporting year continued to be on scaling up our AI-based Frag Magenta digital assistants for chat and telephone. The aim of these digital assistants is to further personalize all customer interactions across all points of contact. In November 2022, German computer magazine Computer Bild and market statistics company Statista named our Frag Magenta chatbot the best German chatbot for 2022. We also continue to personalize our marketing and sales activities so as to be able to offer our customers tailored solutions that are based on our previous interactions with them.
- **Network differentiation:** In this innovation program, we are working on developments to disaggregate, cloudify, and automate our network production making increased use of data and artificial intelligence. This new approach aims to both improve the customer experience considerably and increase flexibility and scalability, while simultaneously lowering costs. We will achieve this with software solutions for automated error detection, analysis, and correction based on machine learning, among other solutions. Together with other leading network operators as part of the O-RAN Alliance, we are working towards defining a global standard for an open, intelligent, virtualized, and interoperable radio access network. At the i14y lab in Berlin, which is operated by a consortium of leading European telcos within the open space hosted by Deutsche Telekom, start-ups, suppliers, operators, and system integrators test and validate the integration of new, disaggregated components to safeguard the interoperability of individual components and modules in a growing ecosystem. This enables us to further expand our multi-vendor strategy to increasingly reduce our dependence on individual vendors and thus safeguard our technology leadership. The innovative approach to network production unlocks new opportunities to directly monetize the network, for instance, via network application programming interfaces (APIs). To this end, under the umbrella of the Linux Foundation and the GSMA, Deutsche Telekom collaborated with other network operators, leading manufacturers, cloud providers, and app developers to launch CAMARA – the Telco Global API Alliance initiative in February 2022. CAMARA's goal is to identify the needs of the developer community and, on this basis, to specify and implement open, globally standardized APIs to enable simple, uniform, codable access to network functionalities across all telecommunication providers.
- **Standalone 5G:** Up to now, Deutsche Telekom has used 5G non-standalone (5G NSA) in which the existing 4G core network continues to provide the technical backbone. The 5G radio access network is now being integrated with the new 5G core network to create 5G standalone (5G SA). This core network is the source of crucial innovations and benefits, because it removes the need for terminal devices to connect to the 4G and 5G networks in parallel. The 5G core network is based on a cloud platform with virtualized core network functions, which will enable new applications such as network slicing. Network slices are discrete logical networks with individual, application-specific characteristics such as bandwidth, latency, or security, which are created on the same shared physical infrastructure. They allow applications always to be provided with the appropriate (virtual) network. Network slices could therefore be used, for example, for applications where bandwidth and latency are critical, such as augmented/virtual reality; for communication among authorities where security is critical; or for secure, high-availability applications for business customers. For instance, in collaboration with BMW Group, Valeo, Ericsson, and Qualcomm Technologies, we presented a world-first demonstration of automated driving applications supported by network slicing with controlled network features for Quality of Service (QoS). In trials, the partners explored how network slicing with different QoS features supports automotive use case scenarios.
- **Data & analytics:** This is an innovation area in which we are driving the implementation of Group-wide principles and tools for data processing and analytics. Our uniform data model will enhance and accelerate our data analysis and enable us to easily transpose successful applications to new markets and countries using cloud-based deployment architecture. As the privacy and integrity of our customers' data is our top priority, customer and network data remain with the respective national companies  . We have also set in motion a comprehensive data transformation program based partially on a cloud architecture and the principle of data democratization.

- **Sustainable Telco:**   Our newest innovation area is devoted to making the telecommunications industry more sustainable. With a view to safeguarding long-term access to affordable green energy, our main focus is on energy efficiency and energy resilience. This includes location-based usage of regenerative energy with dynamic energy storage management for load balancing, as well as AI-powered, load-dependent energy-saving mechanisms. In the reporting year, we successfully delivered the proof of concept required for energy efficiency management in the mobile network of one of our national companies, and in several other national companies have begun piloting the implementation of partially self-sufficient energy supply. We also put the first model sites with photovoltaic systems, wind power, and in some cases, fuel cell technology into operation.

Three-pronged innovation strategy


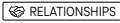
We set ourselves apart from the competition and generate growth in three ways:


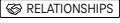
1. In-house developments



In 2022, we continued to pursue our current innovation topics, developed new products, and simultaneously ramped up our transformation into a more agile company.

- **Delivery Innovation:** Artificial intelligence drives internal digitalization, e.g., in campaign management or with our Frag Magenta chatbot. With the rollout of our RDK router operating system developed in-house, the integration of service orchestration, and voice-operated smart home and media applications, we offer an integrated, customer-first home experience which we will continue to evolve going forward.
- **Capability Innovation:** In the wake of our transformation into an agile company, more than 95 % of our employees now work in an agile set-up, which is also having a positive impact on IT delivery. For example, over 88 % of our IT deployments now take place outside of the traditional waterfall development model.

T-Labs – as part of Group Technology – is the research and development unit of Deutsche Telekom, focusing on translating new technology trends into tangible results for Deutsche Telekom’s innovation portfolio. Co-research is the key mission for the T-Labs team, with the vision of achieving a superior customer experience and exploring disruptive technologies for future telecommunications infrastructures. Our latest research activities focus on the networks of the future and artificial intelligence, spatial computing, decentralized systems, and network security and digital twins. From our base in Berlin, we cooperate with multiple universities around the world.

Active cooperation with universities and academia in general has the goal of turning ideas into action and has been at the heart of T-Labs’ mission from the outset. As a trusted interface between academia and business, we provide fast access to scientific innovation and R&D, enabling various co-creation formations.   Together with Deutsche Telekom’s HR team, T-Labs’ active promotion of cooperation with universities also serves a Group-wide function, by also attracting talents and strengthening brand awareness of the company in the R&D community.

In November 2022, T-Labs launched the third edition of T Challenge, a global innovation competition run in conjunction with T-Mobile US for start-ups, developers, and research institutions. This time around, the focus is on finding innovative solutions and approaches based on Web3 technologies for a human-centered internet. Experts predict that Web3, the next generation of the internet, has the potential to break the stronghold that current centralized web services have and give control back to the users. This human-centered internet could mark a paradigm shift for the business models of many digital applications.   As part of T Challenge, T-Labs and T-Mobile US collaborate closely with intragroup stakeholders to develop specific solutions for Deutsche Telekom.

Future networks & AI.   Telecommunications networks belong to the most complex structures in modern industrial societies. The techno-economic evolution of these networks follows the principles of cloudification, disaggregation, and automation, making increased use of data and artificial intelligence. Consequently, we research data-driven algorithmic approaches for optimized operation and preemptive cybersecurity in telecommunications systems. T-Labs’ research activities continue to focus on Open RAN, cybersecurity, quantum technology, and next-generation (6G) networks. 6G in particular is not only an evolution of the current state of technology, but at the same time represents fundamental progress spurred on by extensive research in the fields of AI, sustainability, and new services. In the reporting year, Deutsche Telekom took over the lead for the 6G NeXt (Native Extensions for XR Technologies) research project, part of the “6G industry projects for research into integrated systems and sub-technologies for 6th generation mobile communications” program funded by Germany’s Federal Ministry of Education and Research. Nine partners from industry and academia are involved in the program, with the goal of investigating 6G requirements for real-time and demanding XR applications, such as anti-collision systems and holographic 3D communication. The first 6G networks are expected to go live in 2030.

Spatial computing. Spatial computing is focused on enabling advanced user interaction at higher standards for various customer segments by using next-generation XR technologies and human-computer interfaces. Our activities in smart media will provide a seamless and consistent experience when using future Deutsche Telekom products and services. Our mission as innovators, researchers, and developers is to create an exciting, immersive world for our customers and to lay the foundation for an energy-efficient future metaverse. A perfect example of this is our Eco Streaming project to investigate the energy consumption of components along our media supply chain. Moreover, in collaboration with a range of partners, the national research project 6G NeXt was launched under which use cases were defined and implemented with network requirements that go well beyond the possibilities offered by 5G networks.

Decentralized systems. This research area deals with the distribution of authority over data among multiple players with the aim of making intermediaries obsolete. Corporations and individuals alike have recognized the immense potential of distributed ledger technologies. These enable the decentralization, transparency, and integrity of data, while significantly increasing efficiency at the same time. The goal is to enable trust without dependence on single trusted parties. Some applied use cases within this area are digital identities, digital business processes, digital asset management, and crypto-economics.

Network security & digital twin. This research area focuses on creating a scientific toolkit for studying the most pressing issues of future telecommunication networks: security, efficiency, stability, and complexity management. With the advent of disaggregated network architectures (Open RAN), traditional deterministic engineering approaches are no longer possible. As a consequence, high-definition and realistic digital representation and simulation tools (digital twins) are needed in order to provide a new basis for optimizing design and operation. Working together with partners from academia and industry, our research in this field contributes to advancing areas such as the modeling of energy consumption in Open RAN architectures and the detection of logical conflicts in network management. Security research for future telecommunication networks faces a number of tasks: the extraction of reliable, rapid analyses from ever-growing data volumes, the rapid recognition of perceptible threats, and the recommendation of appropriate action. We do this by developing AI algorithms which take structured texts (logs, etc.) and extract data to look for patterns that could indicate threats and attack vectors. Implicit methods such as these are far superior to conventional deterministic detection. This field is also the subject of two major projects funded by the Federal Republic: Open Lab and CampusOS, both of which are investigating the combined issues of network simulation and security research.

2. Partnerships

We draw on the expertise and abilities of our partners in order to implement the digital transformation. For example, we rely on the tremendous innovative energy coming out of Silicon Valley, Israel, China, Korea, India, Germany, and other innovation hotspots across the globe. The following are some examples of successful partnerships:

- We have expanded our strategic investment in Israeli software company **Teridion** and further strengthened the partnership. Teridion is a leading vendor of cloud-based connectivity platforms. Businesses can dynamically build cloud-hosted connectivity on the Teridion Liquid Network scaled to their needs and available worldwide.
- In collaboration with **Telefónica, Orange, Vodafone** and the software developer **Matsuko**, our goal is to bring holographic communication to the mass market. If hologram telephony is to be realized in the near future and available to everyone at all times, it must work with all widely available smartphones in combination with a VR headset.
- We also further strengthened our partnership with video-conferencing and unified communications provider **Zoom**. We provide a range of solutions for communications from a single source in Germany and in other European national companies.
- Furthermore, we extended our partnership with **RingCentral**, under which we jointly offer an end-to-end solution for communication and collaboration. The new product is called RingCentral X powered by Telekom and empowers small businesses, SMEs, and major corporations alike to implement remote working. RingCentral, as a leading vendor of global communication solutions for businesses, unifies team messaging, video meetings, cloud telephony, and service centers on one single platform. The comprehensive Unified Communications as a Service (UCaaS) solution is delivered to customers over Deutsche Telekom's mobile and fixed networks.

3. Start-up funding

As Deutsche Telekom's leading start-up program, the **hubraum** tech incubator puts external start-ups in touch with the relevant business units in our Group, so that together they can offer innovative products to consumers and business customers. To this end, hubraum provides the start-ups with seed financing from its own investment fund and targeted innovation programs geared to our strategic growth areas and technologies. A range of further innovation programs, some building on existing programs, is also planned. The programs likewise focus on topics such as networks, 5G, augmented reality, and sustainability.

Since founding hubraum in 2012, we have established a strategic investment portfolio of over 30 companies and worked together closely with more than 350 further start-ups from Europe and Israel in areas such as the real-time gigabit society (e.g., 5G and edge cloud), the smart data economy (e.g., AI and process automation), and the Internet of Things (e.g., NB-IoT and Industry 4.0). The hubraum campus in Berlin – with one of Europe's first 5G networks and edge cloud infrastructure – and the campus in Krakow offer start-ups not only co-working office space, but also exclusive access to our Group's networks, product platforms, and test data to help them build up their businesses faster. The hubraum 5G prototyping initiative continued in 2021 with the 5G Early Access Program, a – hitherto unique – 5G testing environment operated by Deutsche Telekom on the hubraum campus in Berlin. Under the program, the environment was made available year-round to start-ups and hyperscalers to test 5G APIs directly on a fully functional 5G standalone core network. These activities were continued in 2022, and will be expanded further in 2023 with a focus on developer relations in collaboration with T-Mobile US. The interaction with developers and its systematic analysis by the hubraum research team make a valuable contribution to the ongoing evolution of our API products.

The hubraum 5G prototyping initiative was also accompanied by other programs and initiatives in 2022:

- **Developer Relations:** Developers currently have difficulty integrating telecommunications services into their applications, as the current network architecture does not support it. To overcome this problem, hubraum developed a portal for access to network APIs and strengthened its efforts to form a group of experts for this topic. The aim is to enable businesses to offer their products and services, including telecommunications services, easily.
- **Snapdragon Spaces:** In mid-2022, hubraum launched the Snapdragon Spaces Program in collaboration with Qualcomm and T-Mobile US to provide eleven start-ups with app development support. The focus was on augmented reality: apps for entertainment & gaming, education & training, and fitness & health. The program outcomes were presented at the Deutsche Telekom XR & Metaverse event in Bonn in November 2022.
- **hub4industry:** The consortium was founded in 2019 with funds from the Polish Ministry of Economic Development and Technology. hubraum is establishing the factory of the future in an on-site showroom, with a 4G/5G campus network based on typical single RAN architecture and an EPC network. In 2022, consortium members hubraum and T-Mobile Polska qualified for the EU project European Digital Innovation Hubs, which was set up to support digital transformation in small and medium-sized enterprises in Poland.

The following start-ups received investment funding from us in the reporting year:

- **inStreamly** (Poland) operates an interactive, scalable platform that places ad content with thousands of micro-streamers simultaneously.
- **Hype Labs** (United States, Portugal) is developing a decentralized telecommunications platform on which individual devices can connect up to form a mesh network with no need for internet or infrastructure.
- **tagSpace** (Australia) offers a platform for users to place augmented reality content at any location, no coding required.

We also founded **Venture Studio** – a joint venture of hubraum and Founders Factory – to invest in start-ups which are active in certain other areas of relevance to us.

Innovation governance

Innovation cycles are getting shorter and shorter. As a result, we must be agile and flexible in how we manage and budget our innovation projects. We orient ourselves toward the best-practice approaches used by innovative start-ups and successful companies, and to the latest findings from research and academia.

Portfolio and Innovation Board

The Portfolio & Innovation Board (PIB) plays a central role in managing our innovations. This Group-wide body ensures that we set the right priorities by identifying and selecting the innovation projects for our Group and deciding on the method of implementation. Our efforts are guided primarily by the Group strategy and we create full transparency across the Group regarding our investments in innovation.

Corporate Innovation Fund

Our Corporate Innovation Fund (CIF) is managed centrally by the PIB. Similar to a venture capital approach, the CIF offers all business and product ideas generated within the Group a flexible and results-oriented form of funding for a specific project phase. The provision of an innovation budget allows us, for example, to fund new innovation projects at short notice and with little red tape. Such financing is granted independently of annual planning periods, and therefore intensifies our focus on market and customer requirements. The only condition is that the new business and product ideas solve pertinent customer problems and support our strategy.

T&I Investment Committee

We established the Investment Committee to speed up investment decisions on our multi-year innovation priorities. Its objective is to act like an (internal) venture capitalist. The Investment Committee allocates funding according to success, similar to the approach used for start-ups and among venture capital investors, whereby raising new funding from capital investors is dependent on the venture's performance. This gives us the flexibility we need when developing innovation topics and focuses efforts on success. Funding is made available for the next project phase only when specific outcomes that are relevant to our customers are achieved.

Deutsche Telekom Capital Partners



The investment management group Deutsche Telekom Capital Partners invests on behalf of Deutsche Telekom and other investors. DTCP invests in venture and growth capital and acquires companies in Europe, the United States, and Israel. Its investments are both financially and strategically motivated. DTCP also plays an active role in establishing business relations between the innovative portfolio companies, Deutsche Telekom, and other partner corporations, in order to create added value for all sides.

Advised by the T-Capital business area at Deutsche Telekom Capital Partners, Deutsche Telekom – through the strategic investment fund Telekom Innovation Pool (TIP) – invests in and promotes business start-ups that have a strategic focus and support the Group's long-term targets through collaboration with the respective business areas. The goal is to actively pursue long-term innovations for the Group, particularly in the areas of wireless infrastructure, cloud native computing, decentralized services, Internet of Things connectivity, and digital transformation. In 2022, TIP made four new corporate investments: Helium/Nova Labs (alternative network infrastructure for 5G and LoRa WAN), Proximo (multi-cloud networking, automated application connectivity), Kinexon (IoT, precise object positioning, tracking, asset connectivity), and Ponto (regulated payment networking infrastructure).

Patent portfolio

Patents are gaining more and more significance in the telecommunications industry. Our patent strategy has to keep pace with the constant evolution of market players and fields of activity. On the one hand, our Group's scope for action must be maintained. On the other, we want to protect the results of our own research and development, and to use these in cooperation and partnership with other companies. National and international patent rights are vital for these types of activity. We are therefore strongly dedicated to developing, granting, and maintaining our own patents. In the reporting year, Deutsche Telekom held a total of around 8,200 patent rights. We are firmly committed to expanding our patent portfolio, taking relevant current and future technologies into account. This will secure the value of our innovations in a dynamic world and bolster the Group's competitiveness.

Investment in research and development

Research and development (R&D) expenditure includes pre-production research and development, such as the search for alternative products, processes, systems, and services.   By contrast, we do not class as R&D expenditure the costs of developing system and user software which is designed to improve productivity and make our business processes more effective. R&D expenditure in the Deutsche Telekom Group amounted to EUR 30 million in 2022 (2021: EUR 33 million). As the parent company, Deutsche Telekom AG bears part of the Group's research and development expenditure. At EUR 15 million, this was on a par with the level in the prior year. In 2022, our Group's investments in internally generated intangible assets to be capitalized were also up year-on-year at EUR 702 million compared with EUR 612 million for the previous year. These investments predominantly relate to internally developed software, mainly in our Group Headquarters & Group Services segment. In 2022, Deutsche Telekom AG's investments in internally generated intangible assets to be capitalized were EUR 28 million compared with EUR 29 million for the previous year.

Forecast^a

Statement by the Board of Management on the expected development of the Group

We are proving to be an anchor of stability in difficult times. We successfully continued our growth course on both sides of the Atlantic again in 2022 in a challenging macroeconomic environment. We want to continue the strong development of the last few years and lead the Group into the future with sustainable growth. In the reporting year again significant transactions have been closed and reorganizations completed, and we took further steps to secure control of T-Mobile US. We want to use this strong starting position going forwards to underpin our success with solid financial growth rates, further extend our technology leadership with the best state-of-the-art networks, and thereby contribute to the implementation of our Leading Digital Telco strategy.

This ties in with our financial targets for the period through 2024, which we communicated at our [Capital Markets Day](#) in May 2021. From 2020 through 2024, we aim to achieve the following compound annual growth rates (CAGR) or targets for our key financial performance indicators:

- **Revenue** is expected to increase by an average of 1 to 2 %; **service revenue** by an average of 3 to 4 %.
- **Adjusted EBITDA AL** is expected to increase by 3 to 5 % on average; adjusted core EBITDA AL, i.e., adjusted EBITDA AL excluding revenues from terminal equipment leases in the United States, is expected to increase by 5 to 6 % on average.
- **Free cash flow AL** (before dividend payments and spectrum investment) is expected to increase steadily, exceeding EUR 18 billion^b in 2024.
- **Earnings per share** (adjusted for special factors) is expected to exceed EUR 1.75^b in 2024.

For 2023, we expect to post the following year-on-year trends, assuming a comparable consolidated group and constant exchange rates^b:

- **Revenue** is likely to increase slightly in 2023. We expect **service revenue** to increase.
- **Adjusted EBITDA AL** is expected to increase by around 4 % in 2023 to around EUR 40.8 billion. In the reporting year, adjusted EBITDA AL came in at EUR 40.2 billion; on a like-for-like basis, i.e., adjusted for comparability with the adjusted EBITDA AL forecast for 2023, adjusted EBITDA AL stood at EUR 39.3 billion. We expect adjusted core EBITDA AL to increase significantly by around 7 % to around EUR 40.5 billion in 2023.
- **Free cash flow AL** is expected to grow to over EUR 16 billion in 2023, i.e., up by more than 40 %. Free cash flow AL in 2022 was EUR 11.5 billion; on a like-for-like basis, i.e., adjusted for comparability with the free cash flow AL forecast for 2023, free cash flow AL stood at EUR 11.2 billion.
- We are anticipating **earnings per share** (adjusted for special factors) of over EUR 1.60 in 2023.

Economic outlook

The general global growth forecasts brightened somewhat toward the turn of the year 2022/23. In its economic forecast from January 2023, the International Monetary Fund (IMF) expects global economic growth of 2.9 % in 2023. We expect to see moderate growth in our core markets for full-year 2023. In the United States, the extensive tightening of monetary policy is expected to put pressure on economic development in the first half of 2023, but also to significantly slow down the upward trend in consumer prices. In Europe, energy prices are expected to fall only slowly over the year ahead, which will further increase production costs with a likely gradual knock-on effect on consumer prices. A fall in demand will also ease supply-side shortages, which will remain at a high level. In 2024, the economy is expected to slowly return to normal.

^a The forecasts contain forward-looking statements that reflect management's current views with respect to future events. Words such as "assume," "anticipate," "believe," "estimate," "expect," "intend," "may," "could," "plan," "project," "should," "want," and similar expressions identify forward-looking statements. These forward-looking statements include statements on the expected development of revenue, service revenue, EBIT, EBITDA after leases, adjusted EBITDA after leases, adjusted core EBITDA after leases, ROCE, cash capex, and free cash flow after leases. Such statements are subject to risks and uncertainties, such as an economic downturn in Europe or North America, changes in exchange and interest rates, the outcome of disputes in which Deutsche Telekom is involved, and competitive and regulatory developments. Some uncertainties or other imponderables that might influence Deutsche Telekom's ability to achieve its objectives, are described in the "Risk and opportunities management" section of the combined management report and in the "Disclaimer" at the end of the Annual Report. Should these or other uncertainties and imponderables materialize, or the assumptions underlying any of these statements prove incorrect, the actual results may be materially different from those expressed or implied by such statements. We do not guarantee that our forward-looking statements will prove correct. The forward-looking statements presented here are based on the future structure of the Group, without regard to significant acquisitions, disposals, business combinations, or joint ventures that may arise at a later date. These statements are made with respect to conditions as of the date of this document's publication. Without prejudice to existing obligations under capital market law, we do not intend, or assume any obligation, to update forward-looking statements.

^b When determining the targets for our key financial performance indicators, a U.S. dollar exchange rate of USD 1.14 was assumed at the Capital Markets Day. Our expectations for 2023 were determined based on the average U.S. dollar exchange rate for the 2022 financial year of USD 1.05.

The following table shows the expected GDP growth rate trends and the change in harmonized consumer prices in our most important markets for 2023 and 2024.

%	GDP for 2023 compared with 2022	GDP for 2024 compared with 2023	Consumer prices for 2023 compared with 2022	Consumer prices for 2024 compared with 2023
Germany	0.1	1.4	7.5	2.9
United States	1.4	1.0	3.4	2.3
Greece	1.0	2.0	6.0	2.4
Romania	1.8	2.2	10.2	6.8
Hungary	0.1	2.6	15.7	3.9
Poland	0.7	2.6	13.8	4.9
Czech Republic	0.1	1.8	9.5	3.5
Croatia	1.0	1.7	6.5	2.3
Slovakia	0.5	1.9	13.9	3.6
Austria	0.3	1.1	6.7	3.3

Sources: European Commission, November 2022; IMF, January 2023.

Expectations for the Group

Expectations up to 2024. We expect profitable growth to continue over the next two years. This will provide a sound basis for achieving our financial ambitions – as communicated at our Capital Markets Day in May 2021.

We expect our **financial performance indicators** to develop as follows in 2023 and 2024 on an organic basis, i.e., on a like-for-like basis with the prior year:

- We expect **revenue** to increase slightly both in 2023 and in 2024 on the back of the positive development of service revenue. The United States operating segment will be the primary driver of this trend, and we likewise expect revenue in this segment to grow slightly in both 2023 and 2024. In our Germany operating segment, we expect revenue to increase slightly in 2023 and to increase in 2024.
- **Service revenue** is projected to increase year-on-year in both 2023 and 2024. This trend will be influenced by the growth expected in the United States operating segment for 2023 and 2024.
- **Adjusted EBITDA AL** is expected to increase to around EUR 40.8 billion in 2023 and to increase substantially in 2024. Revenue and the realization of synergies from the business combination of T-Mobile US and Sprint will have a positive impact. Adjusted EBITDA AL will be negatively affected in particular in 2023 by the gradual withdrawal from the business model of terminal equipment leases in the United States, with revenues from terminal equipment leases being offset primarily by the depreciation of the capitalized terminal devices on the expenses side. Terminal equipment leases were a major pillar, in particular, at Sprint. In its place, marketing activities are set to shift increasingly toward the Equipment Installment Plan.
- We expect **adjusted core EBITDA AL** to increase substantially year-on-year in both 2023 and 2024, driven by the realization of synergies from the business combination of T-Mobile US and Sprint. Adjusted core EBITDA AL is distinguished by excluding revenues from terminal equipment leases in the United States from adjusted EBITDA AL, thereby presenting operational development undistorted by the withdrawal from the terminal equipment lease business. For this reason, we are adding adjusted core EBITDA AL to our financial performance indicators for the years of the withdrawal from the business model of terminal equipment leases in the United States for explanatory purposes.
- **Profit/loss from operations (EBIT)** is expected to increase substantially year-on-year in 2023 and to decline year-on-year in 2024. This development is attributable to the income from the sale of shares in GD Towers to be recognized as a special factor in 2023. At the same time, the figures for 2023 will also show the positive effects arising from the reduction in integration costs in connection with the business combination of T-Mobile US and Sprint. EBIT expected for 2024 will benefit from the positive trend in adjusted core EBITDA AL, but will decline year-on-year on account of the large positive special factor recorded in 2023.
- **ROCE** is expected to increase significantly in 2023 and decrease in 2024 due to the effects described for the development of EBIT. Hence, we expect to achieve our target for ROCE to be higher than the expected weighted average cost of capital (WACC) again from 2023, following an increased burden until 2022 from the integration costs arising from the business combination of T-Mobile US and Sprint.
- Our investments – measured in terms of **cash capex** (before spectrum investments) – are expected to decline to around EUR 16.8 billion in 2023 on account of the largely completed network integration in connection with the business combination with Sprint in the United States. For 2024 we expect to report a stable cash capex development (before spectrum investment). We want to continue investing heavily in building out our network infrastructure in Germany, the United States, and Europe in order to safeguard our technology leadership in the long term.
- **Free cash flow AL** (before dividend payments and spectrum investment) is expected to increase significantly to over EUR 16 billion in 2023. We also expect a strong increase in free cash flow AL in 2024 due to sound operational development.

- At the end of 2022, we had the following **ratings**: BBB with a positive outlook (Standard & Poor's – S&P); BBB+ with a stable outlook (Fitch); and Baa1 with a stable outlook (Moody's). Maintaining an investment grade rating within the A– to BBB range will enable us to retain access to the international capital markets and is thus a key component of our finance strategy.
- We expect **earnings per share** (adjusted for special factors) of over EUR 1.60 in 2023, after positive factors had been recorded in 2022, including measurement effects from the forward transaction to hedge the price of acquiring T-Mobile US shares in the future, and the amortization and subsequent measurement of stock options to buy shares in T-Mobile US, as well as income from the measurement of provisions due to the significant rise in the interest rates. We expect to see adjusted earnings per share increase sharply in 2024.

Our debt issuance program puts us in a position to place issues in the international capital markets at short notice, while our commercial paper program enables us to issue short-term papers in the money market. T-Mobile US is being refinanced primarily in the form of senior unsecured notes.

Bonds and loans in the total amount of EUR 8.1 billion and EUR 6.3 billion will fall due for repayment in 2023 and 2024, respectively, of which around EUR 4.7 billion and EUR 3.2 billion, respectively, relate to T-Mobile US. A number of T-Mobile US bonds include issuer termination rights. If the premature termination and refinancing of these bonds result in economic gains, this could give rise to further refinancing requirements. We plan to issue new bonds in various currencies. The exact financing transactions will depend on developments in the international finance markets. We also intend to cover part of our liquidity requirements by issuing commercial paper. In early 2023, Deutsche Telekom prematurely bought back own bonds with a volume of EUR 2.7 billion with terms ending between 2023 and 2027. This resulted, among other factors, in a reduction in maturities in 2023 and 2024 by EUR 0.7 billion and EUR 0.6 billion, respectively.

We want to continue leveraging economies of scale and synergies through suitable partnerships or appropriate acquisitions in our footprint markets. There are no plans, however, to expand into emerging markets. We will continue to subject our existing partnerships and equity investments to regular strategic reassessments with a view to maximizing the value of our Company.

If the economic situation should deteriorate or any unforeseen state or regulatory interventions arise, the expectations expressed here may change accordingly. Given the level of macroeconomic uncertainty, we also cannot rule out the possibility of deviations.

The following tables summarize the forecasts for our financial and non-financial performance indicators up to 2024. They assume a comparable consolidated group and constant exchange rates, i.e., an organic basis. In order to create a comparable basis with the forecast period, the results of the 2022 financial year have been adjusted for significant changes in the composition of the Group which have been included in the planning, and for changes in the organizational structure in the pro forma presentation. Thus, the expectations for 2023 are based on the pro forma figures for 2022; expectations for 2024 are based on expectations for 2023. To indicate the intensity and trends of our qualified comparative forecasts, we apply the following aspects: strong decrease, decrease, slight decrease, stable trend, slight increase, increase, strong increase.

Financial performance indicators

		Results in 2022	Pro forma in 2022 ^a	Expectations for 2023 ^b	Expectations for 2024 ^b
Net revenue					
Group	billions of €	114.4	113.7	slight increase	slight increase
Germany	billions of €	24.5	24.7	slight increase	increase
United States (in local currency)	billions of \$	79.3	79.3	slight increase	slight increase
Europe	billions of €	11.2	11.2	increase	slight increase
Systems Solutions	billions of €	3.8	3.7	stable trend	slight increase
Service revenue					
Group	billions of €	91.9	91.6	increase	increase
Germany	billions of €	21.5	21.7	slight increase	slight increase
United States (in local currency)	billions of \$	61.2	61.2	increase	increase
Europe	billions of €	9.3	9.3	increase	slight increase
Systems Solutions	billions of €	3.7	3.6	stable trend	slight increase
EBITDA AL	billions of €	36.0	34.2	strong increase	decrease
EBITDA AL (adjusted for special factors)					
Group	billions of €	40.2	39.3	around 40.8	strong increase
Germany	billions of €	9.8	9.9	10.2	increase
United States (in local currency)	billions of \$	27.0	27.0	28.4	strong increase
Europe	billions of €	4.0	4.0	4.0	increase
Systems Solutions	billions of €	0.3	0.3	0.3	increase
Core EBITDA AL (adjusted for special factors)^c					
Group	billions of €	38.9	38.0	strong increase	strong increase
United States (in local currency)	billions of \$	25.5	25.5	strong increase	strong increase
Profit (loss) from operations (EBIT)	billions of €	16.2	14.8	strong increase	decrease
ROCE	%	4.5		strong increase	decrease
Cash capex (before spectrum investment)					
Group	billions of €	21.0	20.7	16.8	stable trend
Germany	billions of €	4.4	4.4	slight increase	slight increase
United States (in local currency)	billions of \$	14.0	14.0	strong decrease	stable trend
Europe	billions of €	1.8	1.8	stable trend	stable trend
Systems Solutions	billions of €	0.2	0.2	stable trend	stable trend
Free cash flow AL (before dividend payments and spectrum investment)					
	billions of €	11.5	11.2	> 16	strong increase
Rating					
Standard & Poor's, Fitch		BBB, BBB+		from A- to BBB	from A- to BBB
Moody's		Baa1		from A3 to Baa2	from A3 to Baa2
Other					
Dividend per share ^{d, e}	€	0.70		Dividend payout ratio of 40 to 60 % of EPS (adjusted for special factors), minimum € 0.60	Dividend payout ratio of 40 to 60 % of EPS (adjusted for special factors), minimum € 0.60
Earnings per share (adjusted for special factors)	€	1.83		> 1.60	strong increase
Equity ratio	%	29.2		25 to 35	25 to 35
Relative debt		3.07x ^f		> 2.75x ^f	around 2.75x ^f

^a Significant changes in the organizational structure and in the composition of the Group (e.g., the sale of shares in GD Towers – exclusion of 12 months for pro forma 2022 and expectations – and the sale of T-Mobile Netherlands).

^b On a comparable basis.

^c Adjusted core EBITDA AL is distinguished by excluding revenue from terminal equipment leases in the United States from adjusted EBITDA AL, thereby presenting operational development without distortion. For this reason, we are adding adjusted core EBITDA AL to our financial performance indicators for the years of the withdrawal from the business model of terminal equipment leases in the United States for explanatory purposes.

^d The expectation regarding the dividend per share refers to the respective financial year indicated.

^e Subject to approval by the relevant bodies and the fulfillment of other legal requirements.

^f Deviation from the target range of 2.25 – 2.75x for a short period due to the business combination of T-Mobile US and Sprint until year-end 2024.

For further information on the expected development of the financial performance indicators of our operating segments, please refer to the section “Expectations for the operating segments.”

Non-financial performance indicators

		Results in 2022	Pro forma in 2022 ^a	Expectations for 2023	Expectations for 2024
Group					
Customer satisfaction (TRI*M index)		76.0		slight increase	slight increase
Employee satisfaction (engagement score)		78		stable trend	stable trend
Energy consumption ^b	GWh	13,253		slight increase	increase
Of which: excluding T-Mobile US	GWh	4,704		slight increase	slight increase
CO ₂ emissions (Scope 1 and 2) ^c	kt CO ₂ e	233		increase	decrease
Of which: excluding T-Mobile US	kt CO ₂ e	179		increase	decrease
Fixed-network and mobile customers					
Germany					
Mobile customers	millions	54.2	54.2	increase	increase
Fixed-network lines	millions	17.4	17.4	stable trend	stable trend
Retail broadband lines	millions	14.7	14.7	slight increase	slight increase
Television (IPTV, satellite)	millions	4.1	4.1	increase	increase
United States					
Postpaid customers	millions	92.2	92.2	increase	increase
Prepaid customers	millions	21.4	21.4	slight increase	slight increase
Europe					
Mobile customers	millions	47.3	47.3	increase	slight increase
Fixed-network lines	millions	7.9	7.9	stable trend	stable trend
Broadband customers	millions	6.7	6.7	increase	increase
Television (IPTV, satellite, cable)	millions	4.1	4.1	increase	increase
Systems Solutions					
Order entry	billions of €	4.0	3.8	stable trend	slight increase

^a Significant changes in the organizational structure and in the composition of the Group included.

^b Energy consumption, mainly: electricity, fuel, other fossil fuels, district heating for buildings.

^c Calculated according to the market-based method of the Greenhouse Gas Protocol.

For further information on the expected development of the non-financial performance indicators of our operating segments, please refer to the section “Expectations for the operating segments.”

Our **customer satisfaction** – which is measured using the **TRI*M index** performance indicator – is expected to rise slightly in both 2023 and 2024 against the baseline recalculated for 2023. For the Germany and Systems Solutions operating segments in particular, the values achieved put us in a leading position compared to the relevant benchmark and we intend to maintain this position in 2023. We are aiming for a slight improvement in the Europe segment.

Having achieved a high level of 78 points – on a scale of 0 to 100 – on the **engagement score** in the 2022 pulse survey, and in view of the results of the surveys conducted in 2021, we expect the positive response of our employees regarding our Company to remain stable in the next surveys in 2023 and 2024.

We expect our **energy consumption** to increase slightly at Group level in 2023 and to increase in 2024. Excluding T-Mobile US, we expect a slight increase in both years. In 2023, we expect **CO₂ emissions** (Scope 1 and 2) to initially increase both at Group level and excluding T-Mobile US, followed by a decrease. Since 2021, 100 % of the electricity requirements for all Group units have been met from renewable sources. As such, the majority of emissions have been eliminated.

For further information on our ESG KPIs, please refer to the section “Combined non-financial statement.”

Our planning is based on the following exchange rates:

Currency		Exchange rate
Polish zloty	PLN	4.69
Czech koruna	CZK	24.56
Hungarian forint	HUF	391.12
U.S. dollar	USD	1.05

Expectations for Deutsche Telekom AG. The development of business at Deutsche Telekom AG, the Group's parent company, is reflected particularly in its service relationships with its subsidiaries, the results of the subsidiaries' domestic reporting units, and other income from subsidiaries, and from associated and related companies. In other words, our subsidiaries' results from operations and the opportunities and challenges they face are key factors shaping the future development of Deutsche Telekom AG's figures. Accordingly, in addition to our expectations for the Group, the expectations described on the following pages concerning the operating segments' revenue and earnings – such as strong competition, regulatory intervention, market and economic expectations, etc. – have an impact on our expectations concerning the development of Deutsche Telekom AG's future income after taxes.

Since 2021, subject to approval by the relevant bodies and the fulfillment of other legal requirements, the amount of the dividend is based on a dividend payout ratio of 40 to 60 % of adjusted earnings per share, with a lower limit fixed at EUR 0.60 per dividend-bearing share. For the 2022 financial year, we will propose a dividend of EUR 0.70 for each dividend-bearing share.

For the 2023 financial year, we expect an unappropriated net income for Deutsche Telekom AG that will allow the distribution of a dividend of 40 to 60 % of adjusted earnings per share.

Expectations for the operating segments

Below, we explain the market expectations and the expectations for the financial and non-financial performance indicators of our operating segments. We assume a comparable consolidated group and constant exchange rates for the development of our performance indicators.

| We presented more information on the expected development of the operating segments at our [Capital Markets Day](#) in May 2021.

Following the sale of T-Mobile Netherlands as of March 31, 2022 and 51.0 % of the shares in GD Towers as of February 1, 2023, our Group Development operating segment no longer makes a significant contribution to the expectations of the Group's significant performance indicators. For this reason our forecast does not provide a separate presentation of the figures for this segment or a corresponding explanation.

Germany

Following the increase in revenue in the German market for telecommunications services in the reporting year, the industry association Bitkom forecast further revenue growth in 2023, albeit at a slower pace. Despite disrupted supply chains due to the war in Ukraine and the persistent inflation that is encumbering economic development, demand for mobile and fixed-network-based communications remains high. Declines in revenue due to ongoing intense price competition, negative regulatory effects from reduced mobile termination rates, and the decline in traditional fixed-network telephony will be more than offset by still growing demand for mobile data volumes and faster connectivity in the consumer and business customer area. In the German mobile market, revenues are expected to increase by 3.1 % and service revenues by 1.9 % in 2023 (source: Analysys Mason). In the Germany fixed-network business including television, the number of broadband lines will continue to rise; revenues are expected to grow by 1.2 % (source: Analysys Mason).

Innovative, attractive rate plans and supplementary services – such as TV and streaming options, and smart-home services – are becoming increasingly important for our competitive position with consumers, while cloud services, security applications, and solutions for Industry 4.0 are gaining in significance with business customers. We set ourselves apart from other providers with technology leadership and our broad range of products and services. At our Sustainability Day in October 2022, we confirmed our priorities for climate neutrality, circular economy, diversity, and digital participation, as well as good corporate governance.

The mobile communications market in Germany is currently dominated by three providers, each with its own network infrastructure, deploying 4G/LTE and 5G technology to ensure that the majority of the population has access to mobile internet. In 2019, Drillisch Netz AG, a subsidiary of United Internet AG, acquired mobile spectrum and began to set up a fourth mobile network. At the end of 2022, three mobile sites were put into operation. As the build-out continues, infrastructure competition is expected to increase. Furthermore, competition from mobile providers without their own network infrastructure is also likely to increase further.

In mobile communications, we lead the market for network coverage – in terms of speed and customer experience: in its annual mobile network test, Connect magazine named Deutsche Telekom the clear winner, awarding the rating "outstanding" for the first time. As of the end of 2022, 94.8 % of the population in Germany were covered by Deutsche Telekom's 5G network. With the continued build-out, we want to further improve our network quality. To this end, we will increase network density and capacity further in both rural areas and in cities.

The market for fixed-network broadband hosts a large number of players with differing infrastructures – from national through to regional providers. We are assuming that competition from cable network operators will remain intense and that the number of providers who have their own fiber-optic networks will increase.

In the fixed network, we want to provide fiber-optic-based products to more and more customers. Our Germany-wide IP-based network achieves high transmission bandwidths of up to one gigabit per second. In order to always offer our customers competitive high-speed lines, we increasingly invest in digital infrastructure. We accelerated our FTTH rollout in the reporting year and now enable 5.4 million households to directly connect to our fiber-optic network. Our build-out will benefit both people in towns and cities and those in rural areas. We are set to maintain our rapid FTTH build-out pace over the coming years by building out on our own, but also through partnerships, with the addition of 2.5 to 3 million households per year. Our goal is to roll out fiber-optic lines to more than 10 million households and companies by the end of 2024. We will use a wide range of partnership models to increase the utilization rate of our broadband infrastructure by our own retail business as well as through partnerships with wholesale providers in broadband marketing.

The German TV market is saturated at around 38.8 million TV households (source: Statista). Nevertheless, we want to grow our TV customer base further, by providing a wide variety of entertainment “from a single source.” In order to offer our customers the best possible user experience, we are also engaging in partnerships, for example with RTL+, Disney+, Netflix, Prime Video, Sky/WOW, DAZN, and AppleTV+. In this way, MagentaTV combines multiple entertainment worlds in one. We broadcast all matches of the 2022 FIFA Soccer World Cup in Qatar exclusively and in UHD, including pre- and post-match coverage.

Our goal is to continue expanding our position as the leading integrated telecommunications provider in the German market by providing innovative and competitive products and services. To this end, we aim to further reduce the complexity of our products and processes through automation and digitalization initiatives. We want to deliver the best customer experience with perfect service. To this end, we invest systematically in our networks and the brand experience. We improve the service and shopping experience through our digital channels by creating more opportunities to offer customized and contextualized products and services. For our business customers, we position ourselves as the preferred partner for digitalization. We offer integrated portfolios for both small and large business customers as well as multinational corporations. From fixed network and mobile communications through to IT, we offer one-stop integrated solutions professionally and fast to provide our customers with optimum, sustainable support in a digital world.

We want to remain the market leader in Germany in terms of revenue over the coming years and extend our lead through rising service revenues. We are responding to our customers’ constantly growing demand for bandwidth and will continue to invest extensively in broadband networks, digital transformation, and outstanding customer service. In our broadband business, revenues are constantly growing and customer satisfaction levels rising, and we want to continue this growth trend again in 2023. We will improve customer satisfaction by actively evolving our mobile services (e.g., MeinMagenta app) and ensuring seamless service across all channels (e.g., web, hotline, shop). We want to turn our customers into fans and reward our existing customers in our new loyalty program Magenta Moments with exclusive Deutsche Telekom advantages, through services from our own portfolio, but also through partner deals and exclusive events.

In our Germany operating segment, we expect slight revenue growth in 2023 and a further increase in revenue in 2024. Our value drivers are growing mobile and broadband revenues (a result of the increased attractiveness of our own mobile brand), rising numbers of customers with high-speed lines, and B2B revenue growth, for example, thanks to the positive trend in IT and cloud business. We want to continue expanding our fiber-optic services, both by means of business models with wholesale products and through further partnerships.

Thanks to our excellent network quality and the progress we are making with fiber-optic build-out, we expect to see a further increase in 2023 and 2024 in the number of mobile customers as well as slight growth in our broadband lines, fueled by demand for TV and high-speed products. Our initiatives to digitalize IT solutions business for our business customers will continue to increase revenues from IT and cloud services, and from M2M/IoT business. In wholesale business, we expect sales volumes to fall overall, mainly due to the fact that our wholesale customers are migrating their retail customers to alternative cable and fiber-optic-based infrastructure. We nevertheless expect demand to remain high as a result of our partnerships with wholesale providers.

In each of the next two years, we expect to post year-on-year increases in earnings in our Germany operating segment. For 2023, we expect adjusted EBITDA AL to increase to around EUR 10.2 billion, driven in particular by high-value revenue growth and a simultaneous reduction in indirect costs, mainly through digitalization and automation. Our adjusted EBITDA AL is expected to rise further in 2024. We are forecasting a stable adjusted EBITDA AL margin for 2023 and 2024.

Our course is set for innovation and growth: While we will continue to consistently promote investments in new technologies with great intensity in the future, we will wind down legacy systems, cutting costs in the process. Over the coming years, we will focus our investments on building out a forward-looking fixed-network and mobile infrastructure (e.g., FTTH and 5G). Our aim here will be to close gaps in the network in rural areas and provide urban centers with the high bandwidth they require. We want to continue this rollout efficiently and, to this end, are participating in funding programs. We expect our capital expenditure (cash capex before spectrum investment) to increase slightly year-on-year in both 2023 and 2024.

United States

The overall U.S. ICT continued its posts-2020 upward swing in 2022. Growth continued in nearly all ICT sectors, including IT equipment and services, and total telecom infrastructure and services. Mobile voice and data services showed strong increase over 2021 levels, and total market growth, as well as individual sector growth, is expected at a steady clip through 2026 and after, depending on specific projections. (Sources: Mordor Intelligence, GSMA)

According to GSMA overall mobile revenues are expected to increase annually with continued subscriber growth, data consumption increases, and growth in the device market. Plan rates remain competitive. Cable can present an even greater competitive threat if they are able to leverage further its mid-band spectrum won in 2021 and 2022. For example, the Federal Communications Commission announced in January 2022, DISH spent over 7 billion US-\$ in the 3.45 band auction, winning 1,232 licenses in total.

Leading industry associations such as GSMA expect the U.S. to continue to lead global migration to 5G. The U.S. is in the midst of its second wave of 5G buildout and adoption. Further mid-band deployment has supported more robust 5G experiences, with 5G adoption continuing to grow in 2022. Fixed Wireless Access for home and enterprise has become the primary tech behind fixed broadband growth. 5G is also growing in the enterprise segment with wireless WAN to branch office locations and to serve ultra-mobile professions. By 2028, around 420 million 5G subs (for all North America) are expected, accounting for over 90 % of mobile subscriptions. GSMA expects over half of all mobile connections running on 5G networks by 2025, and Ericsson forecasts 90 % by 2027. T-Mobile US expanded its 5G network leadership, by reaching 325 million people, utilizing the 600 MHz spectrum holdings it acquired in April 2017. (Source: Ericsson Mobility Report)

Following the completion of the merger with Sprint, T-Mobile US hit the ground running with its profitable growth initiatives, carrying great momentum into 2023. T-Mobile US continues to focus on creating shareholder value and providing an unmatched combination of best network and value experience in the U.S. wireless industry. Key elements of the company's focus include consistently and profitably outgrowing the competition, unlocking the value of synergies faster and bigger than anticipated and making the necessary investments to position the company for long term success. T-Mobile US customer growth initiatives center on attracting and retaining a loyal customer base by providing plans that are simple, affordable and without unnecessary restrictions to deliver the best value in wireless. T-Mobile US further extends this winning formula by combining this best value proposition in the market with its leading 5G network experience.

T-Mobile US expects continued strong subscriber growth in 2023 through further expansion in underpenetrated growth vectors, such as smaller markets and rural areas, enterprise and high-speed internet, which helped fuel industry leading growth over the last few years while allowing T-Mobile US to deliver industry-best financial results. However, competitive pressures and unforeseen changes in the macroenvironment in the U.S. may affect the expected ability to attract and retain branded postpaid and prepay customers.

T-Mobile US expects a slight increase in total revenues in U.S. dollars in 2023 and an increase in 2024 driven by increasing service revenue growth primarily from postpaid account and ARPA growth offset by lower revenues in the wholesale base. Total revenues are expected to increase, albeit, at a slower pace than service revenues as 5G device upgrade rates slow resulting in decreases in installment device financing and lower lease revenues from a declining lease base.

For 2023 T-Mobile US expects adjusted EBITDA AL of 28.4 billion US-\$, and a strong increase in 2024. Adjusted EBITDA AL will be impacted by the continued transition from handset leasing to equipment installment plans for remaining Sprint customers, which is expected to be completed by the end of 2023. Revenue growth is expected to outpace increases in expense as T-Mobile US focuses on delivering customer growth and merger synergies driven by operating cost efficiencies and site decommissioning following its Sprint customer migration and network integration. However, investments to further unlock growth vectors, such as smaller markets and rural areas and enterprise, may impact adjusted EBITDA AL. Adjusted Core EBITDA AL, i.e., adjusted EBITDA AL excluding revenues from handset leasing, is expected to increase strongly in 2023 and 2024.

Excluding expenditures relating to spectrum, T-Mobile US reached peak levels of cash capex in 2022 from its accelerated network integration and the rapid pace of its 5G network deployment. The company expects a strong decrease in cash capex in 2023, reflecting greater capital efficiencies from its 5G network build and then a further slight decrease in 2024.

Europe

The economic development of the countries of our Europe operating segment deteriorated significantly in the reporting year due to the war in Ukraine and the associated macroeconomic impact, after a clear recovery had been observed at the end of 2021. Europe's heavy dependency on Russian energy resulted in sharp increases in commodity prices. As well as the general uncertainty on the markets, which mostly has a negative effect on the economy, economic outlooks are also coming under pressure from the current high rates of inflation in the EU. This renewed economic uncertainty could have a negative impact on household and business expenditure for telecommunications services and thus reduce in particular revenues from business customers, roaming, and the prepaid segment. The European Commission expects a further sharp rise in consumer prices in 2023. This trend is not expected to let up until the following year.

Analysys Mason forecasts slight total revenue growth for telecommunications services of 0.5 % for the countries of our Europe operating segment for 2023; for 2024 growth will also be rather modest. Customer demand for a fast and reliable broadband connection is expected to lead to growth in broadband revenues of around 2 % in the coming two years. The trend towards increased data usage will continue, especially in households that have not previously had sufficiently fast broadband lines. Demand has also grown as a result of the trend towards working from home induced by the coronavirus pandemic, which potentially will not noticeably decline in the future. On top of this, the fiber-optic build-out is being accelerated. In most Central and Eastern European countries, there is still the possibility of increasing broadband network coverage. Additional regulatory-induced measures will likely further boost investments in network infrastructure. This growth is being bolstered by the growing number of companies offering convergent products. According to Analysys Mason, TV revenues will increase in traditional pay TV business by around 1 % in both 2023 and 2024. Mobile revenues will increase by just under 1 % in 2023 and 2024 according to the Analysys Mason forecast.

We aspire to continue developing into Europe's Leading Digital Telco in the coming years. We stated this aim at the 2021 Capital Markets Day and we continue to confirm it. All national companies in the Europe operating segment except for Romania are integrated providers of telecommunications services, have high brand recognition levels, and are very significant players in their respective home markets. The national companies support each other by sharing training and knowledge, especially when it comes to the challenges arising from digitalization and cloudification. In order to further strengthen our competitiveness, we are working in partnership with other companies, in Austria and the Czech Republic for example, to drive forward the network build-out.

We firmly believe that we can only generate long-term and sustainable growth if we put our customers at the heart of everything we do. In the consumer segment, we want, for example, to create the best customer experience by offering our FMC product portfolio to customers across all national companies in a segment-specific way. With MagentaOne, we integrated fixed-network and mobile services with which we successfully shape developments on the European markets. Over the next few years, we will further develop these convergent product bundles to address specific target groups. Our TV business remains key to the success of FMC. That is why, going forward, we will continue negotiations, depending on local market conditions, to acquire (co-)exclusive rights to broadcast national and international sports events, such as soccer leagues, or the rights to TV movies/series. In addition, we will work with local and international OTT services, such as Netflix, Voyo, or RTL+, to enable our customers to enjoy entertainment across all devices, depending on the offers available in each market.

Digital interaction with our customers is a key factor in meeting customer needs in a more personalized and efficient way, and positioning products and innovative services on the market more quickly. Our service app – a digital interaction tool – is already used by more than two thirds of our customers. It helps us monetize our product portfolio through up- and cross-selling, and bring down costs by reducing service cases through self-service and preventive maintenance. We offer another possibility for interaction, for example, through our digital retail platform, OneShop, which is already in use in four countries. In customer interactions – whether digital or in person – we want to ensure that we can offer customers the best customer experience. Thus, we believe we can achieve first place in customer satisfaction rankings of telecommunications companies in the respective countries by 2024, as measured by the TRI*M index which is based on empirical research.

We are able to do all this because we use our network infrastructure intelligently based on different technologies. With our fast fiber-optic networks and the accelerated rollout of 5G, we are playing our part in the digital transformation and we want to serve private households, business customers, and municipalities with our fully integrated products. In all our footprint countries, we will gradually re-use the technology that is currently still used for 3G and reform the released spectrum to increase LTE and 5G capacity. The build-out of fiber-optic technology also progresses further. By 2024, we will add around 2 million more households, increasing fiber-optic coverage from the current level of 8.1 million households (32.0 % coverage) to a level of 40 % network coverage. We plan to increase the number of connected households to over 3 million and thus to achieve a utilization rate of 33 % by 2024.

In the B2B area, the ever more complex requirements of digitalization are putting pressure on companies and the public sector to act. Here we will combine digital offers, innovations beyond the core offering, the engagement platform, and other business models. These also include modern digital infrastructure, cloud and data storage solutions with automatic back-up functions, and software-defined network functions through partners such as Cisco, Viptela, Versa, or Fortinet. The issue of security is one of our focus areas. In a number of markets, we have already secured data traffic for business customers in our mobile and fixed networks, on a fully-automated basis, without any installations on the customers' side. We will continue to build out these functions, constantly expand our portfolio for all company sizes, and optimize our advisory approach with expert teams.

In our Europe operating segment, we expect a positive trend in both consumer and business customer numbers in the next two years, primarily thanks to the stronger focus on the convergence brand MagentaOne. We expect the number of mobile customers to grow in 2023 and to increase slightly in 2024. We expect the number of fixed-network lines to remain stable in both years. We expect the number of broadband customers to grow in both 2023 and 2024. For TV customers, we forecast an increase for 2023 and again for 2024.

We expect revenues for our Europe operating segment to increase in 2023 and to increase slightly in 2024 – measured on a comparable basis, i.e., at constant exchange rates and market conditions, and given an unchanged organizational structure – despite pressure resulting from decisions by regulatory authorities, such as the supplementary telecommunications tax imposed in Hungary, and the further reduction in mobile termination rates. Likewise we expect service revenues to increase in 2023 and to increase slightly in 2024.

We assume that prices on the energy market will remain at a high level for the time being. On top of this comes higher inflation in the countries of our segment, which could increase pressure in future collective bargaining rounds with employee representatives regarding the adjustment of salaries. In addition, highly intense competition in the markets of our operating segment could potentially put pressure on our margins. In order to be prepared for such a trend, we realize cost-cutting potential and intend to increase our productivity and exploit the benefits of digitalization, for instance by automating processes. Accordingly, we expect adjusted EBITDA AL to remain stable at EUR 4.0 billion in 2023 and to increase in 2024.

To maintain our technology leadership, we continue to invest in our integrated networks and plan to maintain the high overall level of investments over the next few years. We expect a stable trend for cash capex (before spectrum investment) in 2023 and 2024.

Systems Solutions

Overall, growth in the IT market is expected to remain stable over the coming years, while cost pressure and intense competition are likely to persist. Digitalization will accelerate further in many areas. For this reason, we expect demand for advisory services and solutions in the areas of cloud services and digitalization of business processes, as well as IT security (cyber security) and sustainability to increase further.

The market for IT services is expected to continue growing over the coming years. At the same time, this market is undergoing a radical transformation, e.g., due to ongoing standardization and automation, demand for smart services, and the changes being wrought by cloud services in outsourcing business. Further challenges have arisen in the shape of digitalization and the growing importance of cybersecurity. Traditional IT business will continue to decline, while advisory, cloud services, and cybersecurity may achieve double-digit growth rates. In view of all this, our plan is to continue investing increasingly in growth markets – especially in digitalization (e.g., EDGE, artificial intelligence (AI), and blockchain), multi- and hybrid cloud services, and cybersecurity.

Part of our Group strategy is the ambition to be a leading partner for business productivity. We give our customers help and guidance in implementing digital business models with our offerings for advisory, cloud services, and digitalization solutions, including data sovereignty and security, as well as through our strategic partnerships.

Under the program to transform our systems solutions business, we realigned our organization and workflows on a portfolio basis, thereby creating the basis for business transparency and dedicated portfolio management and strategy. We are continuing to drive forward expansion of the growth business (e.g., public cloud, sovereign cloud, cloud migration, big data, and data intelligence) while at the same time stabilizing and making further cost savings in established IT business (e.g., infrastructure solutions), with the aim of bringing about a significant shift in the revenue mix towards our growth areas.

In terms of revenue and market share, we are among the top providers in the European IT market and are market leader in Germany. Our very high levels of customer satisfaction – with a TRI*M score of 96 – are a core element in maintaining this position in the long term as well as in playing a leading role in digitalization.

Overall, for the Systems Solutions operating segment we are forecasting a stable year-on-year trend in order entry for 2023 and moderate year-on-year growth for 2024. Revenue is expected to trend stably in 2023 and to increase slightly in 2024. Revenue primarily comprises service revenue. The trend in service revenue thus essentially mirrors that of total revenue. Adjusted EBITDA AL is expected to increase in 2023, reaching around EUR 0.3 billion. We expect adjusted EBITDA AL to increase again in 2024. We expect cash capex (before spectrum investment) to remain stable in 2023 and 2024.

Group Headquarters & Group Services

At Group Headquarters & Group Services, we will stay focused over the next two years on our ongoing efficiency enhancement measures, with which we are further optimizing our structures, especially within Group Services. We will also continue to focus on implementing our cost-cutting measures. This will primarily involve reallocating human resources, bundling standardized processes for the Group, and enhancing the value of our real estate portfolio by means of innovative space and workplace concepts. In the course of further optimizing office space and capacities in the Group, we use existing technical solutions that make it easier for our employees to organize their own place of work flexibly between home or the office. As these cost cutting measures will put us in a position to offer our services more cost-effectively, the operating segments stand to benefit from them as well. Our focus on a sustainable future is reflected in our decision to extend the useful life of our vehicle fleet and to convert the procurement of all new company vehicles to e-mobility.

In the coming years, too, our Board of Management department Technology and Innovation will drive not only the development of innovative technologies, products, and services, but also IT standardization and the ongoing establishment of centralized production platforms. Major areas of capital expenditure in the years 2023 and 2024 will include technology development, the implementation of our IT strategy, and security. We expect this to reduce overheads, mainly driven by IT operating costs, the ongoing standardization of IT infrastructure and platforms – mainly through cloudification, automation, and retiring – and by standardizing IT interfaces.

In the long term, these savings will help the Group finance its innovation endeavors. We are focusing on innovation topics such as network slicing, Open Radio Access Network (O-RAN), applications based on the 5G mobile communications standard, vertical cloud production for the Group's own network, evolution of a proprietary smart system for the voice control of Deutsche Telekom products and services, and introduction of a uniform operating system for routers marketed by the Group. Technological innovations will serve to safeguard the network and technology leadership of our Germany and Europe operating segments in the long term and to evolve the campus networks, which are designed to improve the integrated automation of our international industrial customers' production processes. Ultimately, every one of our investment projects revolves around enhancing the customer experience.

Risk and opportunity management

Board of Management's assessment of the aggregate risk and opportunity position

The assessment of the aggregate risk position is the outcome of the consolidated analysis of all material risk categories or individual risks. The aggregate risk position has deteriorated compared with the prior year due to the war in Ukraine and the resulting consequences for the global economy. Our major challenges particularly include the regulatory factors, economic uncertainties, and intense competition and the associated pressure on profitability in the telecommunications business, as well as the pressure to change arising from new technologies and strategic transformation. At the time of preparing this report, neither our risk management system nor our management could identify any material risks or developments that threaten the continued existence of Deutsche Telekom AG or a significant Group company as a going concern.

We are convinced that we will also be able to master challenges and exploit opportunities in the future without having to take on any unacceptably high risks for our business or for society and the environment. We strive to achieve a good overall balance between opportunities and risks, with the aim of increasing added value for our stakeholders by analyzing and seizing new market opportunities.

For further information on sustainability, please refer to the section [“Combined non-financial statement.”](#)

Risk and opportunity management system

As one of the world’s leading providers in the telecommunications and information technology industry, we are subject to all kinds of uncertainties and change. In order to operate successfully in this ongoing volatile environment, we anticipate potential developments at an early stage and systematically identify, assess, and manage the resulting risks and opportunities. We therefore consider a functioning risk and opportunity management system to be a central element of value-oriented corporate governance.

A risk and opportunity management system of this kind is not only necessary from a business point of view; it is also required by laws and regulations, in particular § 91 (2) and (3) of the German Stock Corporation Act (Aktiengesetz – AktG). Deutsche Telekom AG’s Audit Committee monitors the effectiveness of the internal control system and the risk management system as required by § 107 (3) sentence 2 AktG.

Our risk and opportunity management system is based on the globally applicable risk management standard of the International Standards Organization (ISO). ISO standard 31000 “Risk management – Principles and guidelines” is regarded as a guideline for internationally recognized risk management systems.

Our Internal Audit unit reviews the functionality and effectiveness of elements of our risk management system at regular intervals. Under § 317 (4) of the German Commercial Code (Handelsgesetzbuch – HGB), the auditor of listed companies should assess whether the board of management has taken the measures incumbent upon it under § 91 (2) AktG in a suitable form, and whether the monitoring system stipulated by this paragraph is calculated to meet its objectives, including the early detection of developments that could put the continued existence of the company at risk. Our system complies with the statutory requirements for a risk early detection system.

In addition, our Group Controlling unit specifies a series of Group guidelines and processes for the planning, budgeting, financial management, and reporting of investments and projects. These guidelines and processes are intended to guarantee both the necessary transparency during the investment process and the consistency of investment planning and decisions in our Group and operating segments. They also provide the Board of Management with support in reaching its decisions. This process also includes the systematic identification of strategic risks and opportunities. The Group Policy on Risk Management was further refined in 2022 and adapted to the current circumstances.

Organization of the risk and opportunity management system

The Group Risk Governance unit defines the methods for the risk and opportunity management system that is applied Group-wide and for the associated reporting system, in particular the Group risk report. All operating segments as well as the Group Headquarters & Group Services segment are connected to the central risk and opportunity management system of the Group via their own risk and opportunity management. The relevant owners in each of the segments are responsible for identifying, assessing, and continuously monitoring risks. Management takes potential opportunities into account in the annual planning process and continuously develops them further during business operations.

Our Group-wide risk and opportunity management system covers strategic, operational, regulatory, legal, compliance, and financial risks and opportunities for our consolidated and major non-consolidated entities. The standard process described below provides a framework. The starting point for the identification of risks and opportunities is the deviation from a planned value or company target. Once risks and opportunities have been identified, we move on to analyze and assess them in more detail. We then decide on the specific course of action to be taken, for example, in order to reduce risks or seize opportunities. The respective risk owner evaluates, implements, and monitors the associated measures. After taking mitigating measures into account, these risks are summarized in the risk reporting, which is submitted to the decision-makers in the company and/or the relevant supervisory body. This also enables transparent monitoring of the development of individual risks, as well as of the overall risk situation, including the mitigation measures taken. Our risk culture, the manner in which we deal with risks, is a key component and embedded in all parts of the Company.

The risks and opportunity management process is described below using five elements. For purposes of simplification, “risks” is used in the following, instead of referring to “opportunities and risks” in each case. The document nonetheless focuses on both positive and negative deviations from the planned value. Risk management is therefore always a matter of opportunity and risk management.

The risk and opportunity management system



Risk culture

Our risk culture includes the basic attitudes in relation to risks and forms the basis and the framework for everyday business, for being able to make risk-oriented decisions. The risk culture is closely interlinked with Deutsche Telekom’s corporate culture, which requires risks and opportunities to be dealt with in a positive and transparent way. At the core of our risk culture is the motto “Everyone is a risk manager,” which means that, in principle, every employee takes responsibility for their risks, and handles them in accordance with the defined process.

Corporate targets

The corporate targets (or targets for the relevant individual unit derived from these) serve as the starting point for the identification of risks as deviations from planned values. These include both quantitative and qualitative targets. In order to assess the threat to the continued existence of the Company, we implemented the concept of risk-bearing capacity. Risk-bearing capacity encompasses the assets for covering possible losses. These assets are defined through equity and liquidity.

Risk analysis

Risk identification. Each segment produces a quarterly risk report or risk notification in accordance with the standards laid down by the central risk management and based on specific materiality thresholds. These reports or notifications assess risks, taking into account their extent in terms of impact on results of operations or financial position, as well as their probability of occurrence, and they identify action to be taken and suggest or initiate measures. Qualitative factors affecting our strategic positioning and reputation are taken into account. We base our assessment of risks on a period of two years. This is also the length of our forecast period. If significant risks exist beyond the forecast period, these are monitored and documented on an ongoing basis. In addition, on an annual basis, we consider “emerging risks,” which are primarily derived from external studies. These are risks and opportunities that are developing at considerable pace, and in some cases are difficult to assess. Risks and opportunities like these are triggered primarily by technological developments (e.g., digitalization), environment (e.g., climate change), or threats (e.g., cyberattacks).

Risk assessment. Individual risks are assessed on the basis of “probability of occurrence” and “risk extent.” The following assessment yardsticks apply:

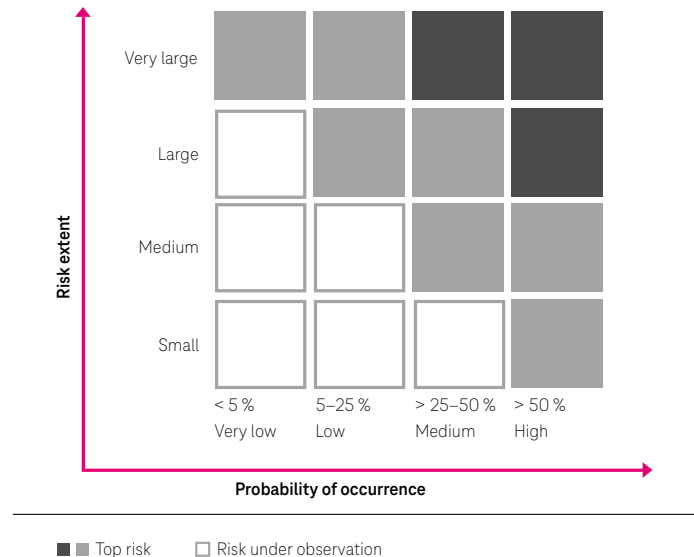
Probability of occurrence	Description
< 5 %	Very low
5 to 25 %	Low
> 25 to 50 %	Medium
> 50 %	High

Risk extent	Description
Small	Limited negative effects on business activities, results of operations, financial position, and reputation; individual EBITDA AL risk < € 200 million
Medium	Negative effects on business activities, results of operations, financial position, and reputation; individual EBITDA AL risk ≥ € 200 million
Large	Significant effects on business activities, results of operations, financial position, and reputation; individual EBITDA AL risk ≥ € 500 million, and/or affects more than one Group entity
Very large	Damaging negative effects on business activities, results of operations, financial position, and reputation; individual EBITDA AL risk ≥ € 1.0 billion, and/or affects more than one Group entity

Risk extent is primarily assessed based on EBITDA AL. If relevant, other indicators are to be used for the assessment, e.g., financial risks based on cash flow, which can also be used to assess the categories of risk.

On the basis of our assessment using the criteria described above, we categorize the individual risks in our risk and opportunity management process as top risks or risks under observation, as shown in the graphic below.

Risk portfolio



We generally report the top risks (gray and dark ray shading). Exceptions are possible, for example, risks from prior years that we continue to list for the sake of reporting continuity although they are classified as “risk under observation” (white shading) in the current reporting period.

It should be noted that risks with an extent currently assessed as being small may in the future have a stronger impact than risks currently assessed as having a larger extent. This may be due to uncertainties that cannot be assessed at present and over which we have no influence.

For the aggregate disclosure of an overall risk position, Group Risk Governance performs an “EBITDA AL at risk” calculation for Deutsche Telekom. This states that, with a particular probability of occurrence, the risk extent ascertained using the simulation will not be exceeded. In a change to the 2021 combined management report, the methodology has been extended to add “Cash flow at risk,” a new calculation that aggregates the risks affecting cash flow. The risk aggregations are carried out using a technique that has become known as Monte Carlo simulation, in which a large number of risk-related potential future scenarios is considered. The overall risk positions are set in relation to the assets for covering possible losses. The risk-bearing capacity analysis is carried out once a quarter as part of risk reporting.

Identification and assessment of opportunities in the annual planning process. The systematic management of risks is one side of the coin; securing the Company’s long-term success by means of integrated opportunities management is the other. That is why identifying opportunities and subjecting them to a strategic and financial assessment is an essential part of our annual planning process. It allows us to factor those opportunities into our forecasts for financial and non-financial performance indicators.

The short-term monitoring of results and the medium-term planning process help our operating segments and Group Headquarters identify and seize the opportunities in our business throughout the year. While short-term monitoring of results mainly targets opportunities for the current financial year, the medium-term planning process focuses on opportunities that are strategically important for our Group. In this context we distinguish between two types of opportunity:



- External opportunities, i.e., those with causes over which we have no influence, for example, the revocation of additional taxes in Europe.
- Internal opportunities, i.e., those that arise within the Company, for example by focusing our organizational structure on innovation and growth areas and products, or through business partnerships and collaborations from which we expect to reap synergies.

We are constantly enhancing the efficiency of our planning process so as to gain greater scope for action. The preliminary plans of our operating segments form the basis for a concentrated planning phase during which members of the Board of Management, business leaders, senior executives, and experts from all business areas intensively discuss the strategic and financial focus of the Group and its operating segments, and from all of which they ultimately produce an overall picture. The identification of opportunities from innovation and their strategic and financial assessment play a major role throughout this process. This “brainstorming” may result in opportunities being taken and transferred to the organization, or rejected and passed back to the respective working groups for revision.


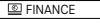
Risk handling

Group insurance management. To the extent possible and economically viable, we take out adequate Group-wide insurance cover for insurable risks. DeTeAssekuranz – a subsidiary of Deutsche Telekom AG – acts as an insurance broker for group insurance management. It develops and implements solutions for the Group’s operational risks using insurance and insurance-related tools and places them on the national and international insurance markets.

Taking out insurance cover is an essential option for our external risk transfer. The coverage of risks in our Group insurance programs requires the transfer of risk for the purpose of protecting the Group’s financial position. That means that the possible extent of the risk must have reached a volume “relevant for the Group” or the risks have to be bundled and managed at Group level to protect the Group’s interests (opportune reasons/cost optimization/risk reduction).

Business continuity management (BCM).   BCM is a process within operational security and risk management that helps protect business processes from the consequences of damaging incidents and disruptions. It ensures the continuation of business processes through ongoing analysis, assessment, and management of relevant risks for people, technology, infrastructure, supply and service relationships, and information. The aim is to identify potential threats at an early stage and to keep the impact and duration of a disruption of critical business processes to an acceptable minimum by ensuring appropriate resilience in the organization plus the ability to effectively cope with threats.

To this end, BCM identifies critical business processes and business processes requiring protection, including any supporting processes, process steps, and assets (people, technology, infrastructure, information, and supply and service relationships). Appropriate precautionary measures are also defined. In particular, security management works in coordination with the relevant units and process owners to analyze the possible consequences of external and internal threats with relevance for security, such as natural disasters, vandalism, or sabotage. Once the extent of potential losses and probability of occurrence have been assessed, preventive measures can be put in place and contingency plans developed.

Risk containment measures.   The risk owners initiate and execute further measures to mitigate the risks. A wide range of measures are available, depending on the risk type. A few examples of these measures are:

- We tackle risks from the market environment with comprehensive sales controlling and intensive customer management.
- We deal with risks arising from brand and reputation by continuously analyzing the market and communications.
- We also take a whole array of measures to deal with operational risks: for example, we constantly implement operational and infrastructural measures in order to improve our networks, and offer our employees systematic training and development programs.
- We deal with risks from the political and regulatory environment through an intensive, constructive dialog with policymakers and the authorities.
- We minimize legal risks by ensuring suitable support for proceedings and by designing contracts appropriately in the first place.
- We manage interest and currency risks by means of systematic risk management and hedge them using derivative and non-derivative financial instruments.
- The Group Tax unit identifies potential tax-related risks at an early stage and systematically records, assesses, and monitors them. It takes any measures necessary to minimize tax-related risks and coordinates them with the Group companies affected. The unit also draws up and communicates policies for avoiding tax risks.

Risk monitoring

The Group risk report, which presents the main risks, is prepared for the Board of Management on a quarterly basis. The Audit Committee of the Supervisory Board of Deutsche Telekom AG also examines this report at its meetings. Furthermore, the Board of Management informs the Supervisory Board. In addition, the emerging risks are presented once a year as part of the risk report. Among other benefits, the Group risk report ensures transparent monitoring of the development of individual risks, as well as of the overall risk situation. This is supported by the Group-wide risk management tool. If any unforeseen risks arise, they are reported ad hoc (even outside of regular reporting). We inform the Audit Committee about all of the latest developments and/or changes in the risk management system at a special meeting held annually.

Risks and opportunities

In the following section, we present all risks and opportunities of significance to the Group – including emerging risks – that, as things currently stand, could affect the results of operations, financial position, and/or reputation of Deutsche Telekom and, via the subsidiaries' results, the results of operations, financial position, and/or reputation of Deutsche Telekom AG. We only consider risks and opportunities after the mitigation measures taken (net assessment). If risks and opportunities can be clearly allocated to an operating segment, this is presented accordingly in the following.

In order to make it easier to understand and see their effects, we have assigned the individually assessed risks to the following categories. Where multiple individual risks are assigned to one risk category, we calculate the risk significance on the basis of risk aggregation carried out using a Monte Carlo simulation, in which we consider the individual risks along with their individual extent and probability of occurrence. The outcome, or risk significance, is the "value at risk." This states that, with a particular probability of occurrence, the risk extent ascertained using the simulation will not be exceeded. An expert assessment is used for risk categories that have not been quantified.

The resulting risk significance for the risk categories is broken down into four levels:

Risk significance	Description
Low	< € 200 million value at risk
Medium	≥ € 200 million value at risk
High	≥ € 500 million value at risk
Very high	≥ € 1.0 billion value at risk

Corporate risks

	Risk significance	Change against prior year
Strategic risks		
Macroeconomic environment, Germany	Medium	Deteriorated
Macroeconomic environment, United States	Medium	Deteriorated
Macroeconomic environment, Europe	Medium	Deteriorated
Market environment, Germany	Low	Unchanged
Market environment, United States	Very high	Unchanged
Market environment, Europe	Low	Unchanged
Strategic implementation and integration	High	Unchanged
Brand and reputation	Low	Unchanged
Sustainability and social responsibility	Medium	Unchanged
Health	Low	Unchanged
Operational risks		
Technology, Germany	Low	Unchanged
Technology, United States	Medium	Improved
Technology, Europe	Low	Unchanged
Procurement and suppliers	Low	Unchanged
Data privacy and data security	High	Deteriorated
Other operational risks	Medium	Deteriorated
Regulatory risks	Medium	Unchanged
Litigation and anti-trust proceedings	See Litigation	
Compliance risks	See Compliance risks	
Financial risks	High	Unchanged

Strategic risks and opportunities

Risks and opportunities relating to the macroeconomic environment. As an international corporation, we operate in a large number of countries, using a range of currencies. A substantial economic downturn could generally reduce the purchasing power of our customers and adversely affect our access to the capital markets. Exchange rate fluctuations could impact on our earnings.

Uncertainty over the global economic outlook remains high. The war in Ukraine has had a significant negative impact on the economic outlook. One repercussion is the sharp rise in energy prices, which in turn are driving up energy, transportation, and manufacturing costs. The general scarcity of energy sources could push up global energy prices further and lead to supply shortages, especially for our Germany and Europe operating segments. The coronavirus pandemic also continues to have implications for the global economy. Although the pandemic has only had a limited negative impact on the telecommunications sector so far, if it were to re-escalate, it could lead to further supply-side shortages. In this context, China's central role for global supply and value chains poses a particular risk. As a result of the combination of rising prices and prolonged supply bottlenecks, a decline in economic output is expected in the latter part of 2022/early part of 2023 while inflation remains high. A migration to lower-cost rate plans among customers, as well as larger numbers of customers defaulting on payments, could ensue. Similar developments could also arise in the United States, where pandemic-related government aid programs have come to an end. Interest rate hikes in the United States and Europe and the likelihood of yet further increases could drive down overall investment activity and consumption. Additional risks could result from other geopolitical conflicts, for instance between China and Taiwan, and the uncertainty from international trade conflicts. In principle, extreme risks with a high impact of loss and a very low probability of occurrence could also have a substantial impact on the global economy and our business. Examples of these are extensive extreme weather events (e.g., tsunamis, solar storms), a new disruptive technology, further armed conflicts, or new pandemics. We therefore expect the macroeconomic situation in Germany, the United States, and Europe to deteriorate and are raising the risk significance from low to medium.

These risks are counterbalanced by opportunities. Many governments (including in Germany, in particular) have decided to provide extensive support to their citizens and companies – this helps to absorb at least part of the increase in energy prices and could mitigate falling consumption to some extent and reduce insolvency.

Risks from the market environment. The main market risks we face include the steadily falling profitability of voice and data services in the fixed network and in mobile communications. In addition to price reductions imposed by regulatory authorities, this is primarily attributable to ongoing intense competition in the telecommunications industry.

Competitive pressure is expected to continue, especially in the fixed network in Germany and the countries of our Europe operating segment. In the broadband market, the trend of disproportionate growth in the market shares of regional network operators and supra-regional specialist FTTH providers, particularly in Germany, continues to establish itself. They build out their own infrastructure and thus increase their market coverage. Increasingly this is done with fiber-optic infrastructure, thereby increasing their customer numbers and expanding their own value added. There is still strong competition to gain new customers by cutting prices and offering introductory discounts.

We expect ongoing price pressure for mobile voice telephony and mobile data services, which could adversely affect our mobile service revenues. Among the main reasons for this price pressure are data-centric, aggressively priced offers. Providers that do not have their own infrastructure (MVNOs) market such offers over the internet, for instance, while there is also the risk that smaller competitors will take unforeseen, aggressive pricing measures. Technological innovations such as the use of pure eSIMs in smartphones could put further pressure on prices by increasing the willingness of customers to switch providers.



Another competitive risk lies in the fact that, both in the fixed network and in mobile communications, we are increasingly faced with competitors who are not part of the telecommunications sector as such, but are increasingly moving into the traditional telecommunications markets. This mainly relates to major players in the internet and consumer electronics industries. As a result, we are exposed to the risk of a further loss of share of value added and falling margins due to increasingly losing direct customer contact to competitors.

T-Mobile US is active in a market environment that is characterized by intensive, increasing competition. Alongside traditional telecommunications providers that deliver bundled offerings including content and mobile video services, there is additional competition, as mobile, fixed-networks, and satellite industries increasingly converge. Additionally, potential market saturation in the United States may cause the wireless industry's customer growth rate to decline in comparison with previous years. There were changes in the market environment of T-Mobile US among others due to the successful acquisition of spectrum. High-speed internet allows our U.S. subsidiary to offer its own access product and provide a basis on which to continue the business with bundled offerings. Furthermore, in the market environment of T-Mobile US strategic partnerships and MVNO relationships are being built. T-Mobile US must continue to successfully refine and implement its market strategy as Value Leader, Customer Service Leader and 5G Network Leader to attract and maintain customers. Increasing competitive pressure due to attractive bundle offers and device promotions could lead to difficulty in achieving targets in terms of business, financial and operating results in the future. Furthermore, social instability may cause protests or demonstrations that could escalate and lead to business disruptions such as store closures or inventory theft.



Innovation cycles are getting shorter and shorter. This confronts the telecommunications sector with the challenge of bringing out new products and services at shorter and shorter intervals. New technologies are superseding existing technologies, products, or services in part, in some cases even completely. This can lead to lower prices and revenues in relation to the services offered, such as telephony, news, internet access, smart home, or television – right through to full substitution by new, global providers. These substitution risks could impact our revenue and earnings. We deal with the impact of substitution risks by, for example, offering integrated solutions with hyper-personalization and contextualization (e.g., HomeOS) in order to “turn customers into fans” and thereby secure their loyalty. In terms of building out fiber-optic networks, more and more new competitors are entering into the markets, which can lead to longer payback periods for all market players. A strategic rivalry is growing between the “West” (United States and Europe) and the “East” (China), which could accelerate various technological areas (e.g., in 6G).

Our Systems Solutions operating segment also faces challenges. Continued strong competition and persistent cost pressure are adversely affecting traditional IT business. In addition, the technological shift toward cloud solutions and digitalization in the IT sector is prompting new, strongly capitalized, competitors to enter the market. This might lead to revenue losses and declining margins at T-Systems.

Opportunities from the market environment. The telecommunications and IT market is extremely dynamic and highly competitive. The economic and competition conditions as well as customers’ changing wants and needs affect our actions and impact on our Company indicators. We generally expect the situation to develop as described in the section “[Forecast.](#)”

Apart from the risks described, there is the possibility that our customers could move to higher-value rate plans since the data volume of the applications used is rising steadily. Likewise, further growth could be generated by tapping into new customer segments, especially in the United States (e.g., for business customers and small and medium-sized enterprises). In addition, ever-shorter innovation cycles could enable us to drive the digital transformation of our society and to provide our consumers and business customers with innovative products and solutions. That is why, with growing convergence of networks, IT, and products, our innovation and technology activities are decisive when it comes to identifying opportunities and making the most of them in an increasingly competitive environment. Hence, our Technology and Innovation Board of Management department has joined all relevant functions under a common leadership to ensure a close integration of technology, innovation, IT, and security.   By doing so, we are putting the development of human-centered solutions and outstanding, seamless customer experiences front and center, and in the reporting year we won multiple awards, for example, for our digital assistant Frag Magenta and the product MagentaZuhause (SmartHome).

| For further information on our innovation activities, please refer to the section “[Technology and innovation.](#)”

The substantial increase in capacity, bandwidth, and availability, and the lower latencies provided by the 5G mobile standard we have rolled out offer greater reliability, security, and guaranteed service quality, for example, for industrial use cases. 5G enables increased requirements for existing business models to be managed more cost-efficiently going forward. In addition, it offers opportunities for further business models, by marketing improved network capabilities (e.g., network access, localization, security, identity, storage location, temporary storage) to relevant partners. We have already implemented many use cases with 5G, such as 5G campus networks, applications for extended reality (XR), support for autonomous driving and mobile edge computing, in which data is processed in a decentralized manner (at the edges of the network). Together with other technologies like the NarrowBand Internet of Things (NB-IoT) and artificial intelligence (AI), 5G and edge computing provide the underpinnings for the further digital transformation of society. To develop the next, sixth mobile generation, we are working with industry and researchers on a standard that aims to address a number of current challenges facing telecommunications networks: the connection between all people, the orchestration of various access networks, sustainability, and carbon neutrality, and the further underpinning of data privacy, trust, and security.  

Furthermore, opportunities for new project business are arising in our systems solutions business from data sovereignty, innovation areas such as AI, and industrial IoT initiatives.

Risks relating to strategic implementation and integration. We are in a continuous process of strategic adjustments and cost-cutting initiatives. If we are unable to implement these projects as planned, we will be exposed to certain risks. In other words, the benefit of the measures could be less than originally estimated, take effect later than expected, or not at all. Each of these factors, individually or in combination, could have a negative impact on our business situation, financial position, and results of operations.

The business combination of T-Mobile US and Sprint was consummated on April 1, 2020. The combination of the two companies to form the new T-Mobile US affects all operational areas; for instance, the integration of the mobile networks and the IT and technology environments, customer management, sales, HR management, logistics, and the control environment. T-Mobile US is making progress with leveraging synergies from the business combination with Sprint. By combining and optimizing the mobile networks, T-Mobile US has already been able to migrate the vast majority of customers to its own network. T-Mobile US is ahead of plan with the network decommissioning. The legacy Sprint CDMA retirement was substantially completed in the second quarter of 2022 and the orderly shut-down of the LTE network was completed in the third quarter of 2022. The last major part of the integration is the billing conversion, which is expected to be largely complete by the end of 2023. It remains necessary to fulfill multiple conditions, including those agreed with the antitrust and regulatory authorities. Numerous commitments exist, particularly with respect to the network build and to support DISH as they build a stand-alone network.

Collaboration with Chinese suppliers is being impeded by the enduring trade conflict between the United States and China. Since 2020, the United States has restricted the use of U.S. technology for and by Chinese suppliers on account of security concerns. They also put pressure on other countries to do the same. In Germany, the legislator has put an end to many years of intensive discussion concerning the security of critical infrastructure with the Second Act to Increase the Security of Information Technology Systems, or the IT Security Act 2.0 (IT-Sicherheitsgesetz 2.0). A positive outcome is that a number of long-disputed requirements for critical infrastructure (KRITIS) have now been laid down. Deutsche Telekom itself has long been scrutinizing security-critical components prior to installation and on an ongoing basis once in operation. We therefore assume that the assessment by the authorities will also be compatible with rapid network build-out and will not lead to any long-term delays. The IT Security Act 2.0 does not include any ban on individual manufacturers. The German Federal Ministry of the Interior and Community is currently drafting the necessary rules (on the certification of critical components, manufacturer declarations of trustworthiness, among others) for the practical application of the IT Security Act 2.0. The requirements laid down in the security catalog, drawn up by the Bundesnetzagentur and the Federal Office for Information Security in accordance with the Telecommunications Act and published in early August 2021, will be relevant to any critical components that could potentially be affected. In respect of the certification obligation for components that have already been installed, the catalog stipulates a transition period expiring on December 31, 2025. This is why the affected components can largely be considered to be grandfathered until that point in time. The risk of a retrospective order to remove components already installed in the network is low under current legislation. However, we cannot rule out the possibility that critical components from certain manufacturers currently in use may not be deployed from January 1, 2026 onwards. Several network operators have taken steps to file official objection proceedings to clarify the ambiguous legal terminology and scope of application of the security catalog. Irrespective of this, the hurdles for retrospective orders to remove components already approved will be high. In other countries, such as Austria and Poland, it is still possible that suppliers in critical infrastructure will have to be replaced within specific deadlines.

Opportunities relating to strategic implementation and integration.   In our Magenta Advantage strategic area of operation, we work with partners to develop new digital business models based on our assets or capabilities. These partnerships provide opportunities for us to increase revenue and strengthen customer loyalty. Since the start of 2022, we have made exclusive offers from partner firms available to customers on our OneApp, for example TIER Mobility, GetYourGuide, and Disney+. We will continue to expand this pan-European loyalty program in our European markets going forward.

The logical network that has resulted from the completed IP transformation (all IP) speaks one language and, in technical terms, functions largely independently of the services transmitted. This will enable efficiency gains, e.g., by reducing the complexity of maintenance and operation, switching off service-specific legacy platforms, and saving energy. In addition, all IP will generate growth potential both by improving the customer experience of existing services (e.g., better voice quality, more customer self-service, greater configuration flexibility) and by providing an indispensable basis for convergence products and the Internet of Things, and by shortening the time to market for new products.

One of the key benefits of the all-IP network is that it also acts as a foundation for the future cloud- and software-based production of networks and services. It creates opportunities to increase efficiency, accelerate the provision of new services and features, improve quality, and tap into new revenue potential, while at the same time increasing automation.

The disaggregation of the access networks (in mobile communications: Open Radio Access Network, O-RAN; in the fixed-network: Access 4.0) and core networks (e.g., the 5G core network) as part of our network differentiation strategy offers the opportunities of expanding the supplier ecosystem and, as a result, increasing competition, flexibility, and innovation. As we simultaneously drive forward automation and cloudification, we also expect a reduction in total costs and an increase in agility and speed in the provision of new services and features.

We are driving forward the transformation of our IT using agile development, decoupling, and cloudification. These approaches enable us to tap into new possibilities for accelerating developments and increasing the efficiency of IT production, by providing modular components, known as microservices, and APIs and producing them in a scalable cloud with state-of-the-art technology. Furthermore, agile and decoupled development makes it possible to reduce big bang risks in the delivery of major software releases by means of smaller, flexible software releases.

Risks and opportunities arising from brand and reputation. An unforeseeable negative media report on our products and services or our corporate activities and responsibilities may have a huge impact on the reputation of our Company and our brand image. Social networks may make it possible that such information and opinions can spread much faster and more widely. Ultimately, negative reports may impact on our revenue and our brand value. In order to avoid this, we engage in a constant, intensive, and constructive dialog, in particular with our customers, the media, and the financial world. For us, the top priority is to take as balanced a view as possible of the interests of all stakeholders and thereby uphold our reputation as a reliable partner.

Risks and opportunities relating to sustainability and social responsibility. For us, comprehensive risk and opportunity management also means considering the opportunities and risks arising from ecological or social aspects or from the management of our Company. To this end, we actively and systematically involve all relevant stakeholders in the process so as to identify current and potential risks and opportunities along our entire value chain. In parallel with our ongoing monitoring of ecological, social, and governance issues, we systematically determine our stakeholders' positions on these issues. The key tools we use here are: a document analysis, covering legal texts, studies, and media publications, amongst other things; our involvement in working groups and committees of national and international business associations and social organizations, e.g., GeSI, ETNO, BDI, Bitkom, Econsense, and BAGSO; stakeholder dialog formats organized by us; our various publications, such as the press review and newsletters; and workshops with experts from our Company. We also integrate the biggest sustainability risks in our internal compliance assessment, thereby recording the associated positioning and development of measures in the various business areas.

For further information on sustainability, please refer to the section "[Combined non-financial statement](#)."

We have identified the following as our main sustainability management issues:

- **Reputation.** How we deal with sustainability issues also entails both opportunities and risks for our reputation. A high level of service quality is one of the most important factors for improving customer perception. Customer satisfaction has been embedded in our Group management as a non-financial performance indicator to underline the importance of this issue. Transparency and reporting help to promote the trust of other external stakeholders in our Group. Our annual and CR reports also serve this purpose. However, issues such as business practices, data privacy, and work standards in the supply chain, conduct in relation to human rights, and ethical conduct in relation to and use of AI also entail reputational risks: if our brands, products, or services are connected with such issues in negative media reports, this may cause substantial damage to our reputation. As part of our sustainability management activities, we continuously review such potential risks and take measures to minimize them. This includes systematically incorporating them in the Group's internal compliance management system, so as to determine the relevance of the risks in relation to sustainability issues and their effect on reputation across units. We also ascertain how our products and services make a positive contribution to sustainability in order to enhance our reputation.
- **Climate protection.** We pursue an integrated climate strategy, which means focusing not only on the risks that climate change poses for us and our stakeholders, but also on the opportunities it presents. By 2030, ICT products and services will have the potential to save up to seven times as much in CO₂ emissions in other industries as the growth in the ICT sector itself will generate, even taking into account the expected rebound effects (according to the GeSI Digital for Purpose study). Taking an optimistic view, this could mean a 9 % reduction in global CO₂ emissions by 2030. In addition, investments of around USD 3 trillion in innovative solutions are expected by 2030, which will not only expand the business, but will also support the SDGs. We are supporting this trend by evaluating our product portfolio to identify sustainability benefits. In addition, we want to continuously improve the ratio of the emissions that our products and services save to those generated by our own value chain and report on our corresponding successes using an enablement factor.

Climate change risks are already visible in the form of increasingly extreme weather conditions. Such storm events can damage our infrastructure and disrupt network operation. This would have a direct effect on our stakeholders, e.g., our customers, suppliers, and employees and can result in revenue losses or lower customer satisfaction. The risk is assessed in relation to the continuation of operations as part of risk management and is managed at an operational level in the business units. Deutsche Telekom welcomes the targets behind the Task Force on Climate-related Financial Disclosures (TCFD) and is actively working to implement them. In a first step, we conducted a gap analysis on the coverage of TCFD recommendations. In a number of workshops with relevant players from technology, procurement, strategy, and risk management, we defined Deutsche Telekom AG's key climate-related opportunities and risks and gave them an initial weighting. As a next step, we conducted a location analysis, with the example of Germany, of the physical climate risks in various scenarios (business as usual/4-degree scenario), which is now being internationalized as part of a transnational project. In addition to the physical risks, transitory risks (threats arising from sudden adaptations to climate change made by economic sectors) were also being analyzed in detail.

| We will publish detailed information on this in the 2022 CR Report.

We can take further preventive action in this area by also reducing our own CO₂ emissions. For this reason, in 2021 we set ourselves the ambitious target of cutting our CO₂ emissions across the Group (Scope 1 and 2) to net zero by 2025. Up to 95 % of these emissions will be actually cut. Any remaining emissions will be offset through compensatory measures. Climate protection also carries financial risks, whether from the introduction of levies on CO₂ emissions or increased energy costs, as well as stricter requirements for products, for example in relation to energy efficiency. The measures we are taking to counter these risks include measuring our own energy efficiency and finding ways to improve it. Our new ESG targets agreed from 2021 for Board of Management remuneration in relation to the respective annual energy consumption as well as the planned annual CO₂ emissions for Scope 1 and 2 also contribute to achieving the climate targets and energy efficiency measures. We have a Group-wide program to specifically address our supply chain and we are working to optimize our products and their packaging. Since 2021, the Group has covered 100 % of its electricity requirement with renewable energy. This is achieved through power purchase agreements (PPAs) and other forms of direct purchase, also by other means, such as through guarantees of origin.

| For further information on this, please refer to the section "[Combined non-financial statement](#)."

- **Suppliers.** SDG 8 RELATIONSHIPS We see more sustainability in our supply chain as an opportunity – for our reputation and our business success. Apart from the general risks associated with our global procurement activities, we could be exposed to country- and supplier-specific risks. These include, for example, the use of child labor, the conscious acceptance of environmental damage, or inadequate local working and safety conditions. We systematically review our processes, including in terms of upcoming requirements (e.g., the German Supply Chain Due Diligence Act (Lieferkettensorgfaltspflichtengesetz)). Our due diligence obligations relate both to our own operating activities and to our supply chain. We regularly analyze and assess potential risks and introduce preventive and corrective measures as required. We conduct audits mainly within the scope of the Joint Audit Corporation (JAC). The aim of the JAC is to reduce sustainability risks in our supply chain and to improve ecological and social aspects, including the issue of human rights. As such, the audit is compliant with internationally recognized guidelines and standards, such as the ILO Core Labor Standards, the UN Guiding Principles on Business and Human Rights, and the OECD Guidelines for Multinational Enterprises. Our partnerships with suppliers that comply with international sustainability standards ensure a high level of product quality and reliable procurement. We have a special development program in place to help strategic suppliers introduce business practices that are both socially and ecologically acceptable while remaining economically efficient. This program showed measurable successes again in the reporting period and has three major advantages: It has a positive impact on our suppliers' working conditions, enhances their profitability, and makes the economic relevance of sustainability clear for both sides, i.e., for our suppliers and for the Group alike. For instance, better working conditions at our suppliers reduces the number of work-related accidents as well as the attrition rate. That, in turn, ensures high product quality and increases productivity, while at the same time lowering costs for recruitment and training. Thus, not only are we strengthening our suppliers' profitability and CR performance, we are also significantly reducing identified risks.


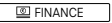
Health. SDG 3 RELATIONSHIPS Mobile communications, or the electromagnetic fields used in mobile communications, regularly give rise to concerns among the general population about potential health risks. This issue continues to be the subject of public, political, and scientific debate. Acceptance problems among the general public mostly concern mobile communications networks and occasionally the use of mobile terminals such as smartphones, tablets, and laptops. The discussion has intensified repercussions for the build-out of the mobile infrastructure. In the fixed network, this could affect the use of traditional IP and DECT (digital cordless) phones, and devices that use Wi-Fi technology. There is a risk of regulatory interventions, such as tightened thresholds for electromagnetic fields or the implementation of precautionary measures in mobile communications, e.g., amendments to building law, or also the risk of a labeling requirement for handsets.

Over the past few years, recognized expert organizations such as the World Health Organization (WHO) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) have repeatedly reviewed the current thresholds for mobile communications and confirmed that – if these values are complied with – the use of mobile technology is safe based on current scientific knowledge. National and international expert organizations will continue to regularly review the recommended thresholds.

We are convinced that mobile communications technology is safe if specific threshold values are complied with. We are supported in this conviction by the assessment of the recognized bodies. Our responsible approach to this issue finds expression in our Group-wide EMF Policy, with which we commit ourselves to more transparency, information, participation, and support of independent mobile communications research, far beyond that which is stipulated by legal requirements. We aim to overcome concerns among the general public by pursuing an objective, scientifically well-founded, and transparent information policy. We thus continue to see it as our duty to continue our trust-based dialog with local authorities and to ensure its successful progress. This particularly applies since our long-standing collaboration with municipalities to expand the mobile network was enshrined in law in 2013. Previously, this collaboration was based on voluntary self-commitments by the network operators.

Operational risks and opportunities

Risks arising from technology. We have an increasingly complex information/network technology (IT/NT) infrastructure, which we constantly expand and upgrade to ensure the best customer experience and consolidate our technology leadership. Outages in the current and also future technical infrastructure cannot be completely ruled out and could in individual cases result in revenue losses or increased costs. After all, our IT/NT resources and structures are the key organizational and technical platform for our operations. The ongoing convergence of IT and NT harbors risks. In order to counter these holistically, our technology, innovation, IT, and security activities are combined under the Board of Management department for Technology and Innovation.

Risks could arise in this area relating to all IT/NT systems and products that require internet access. For instance, faults between newly developed and existing IT/NT systems could cause interruptions to business processes, products, and services, such as smartphones and MagentaTV, or to connectivity for business customers. In order to avoid the risk of outages, e.g., due to natural disasters or fires, we use technical early warning systems and redundant IT/NT systems. The Computer Emergency Response Team (CERT) at Deutsche Telekom Security is in charge of protecting our business customers' servers. In cloud computing, all data and applications are stored at a data center. Our European data centers have security certification and meet strict data protection provisions and the EU regulations. All data relating to companies and private persons is protected from external access. Constant maintenance and automatic updates keep the security precautions up to date at all times. On the basis of a standardized Group-wide business continuity management (BCM) process, we also take organizational and technical measures to prevent damage from occurring or, if we cannot, to mitigate the subsequent effects. We also have insurance cover for insurable risks.  

T-Mobile US relies upon its systems and networks and the systems and networks of other providers and suppliers, to provide and support services. T-Mobile US' business, like that of most retailers and wireless companies, involves the receipt, storage, and transmission of customers' confidential information, including sensitive personal information, payment card information, and confidential information about their employees and suppliers, as well as other sensitive information about T-Mobile US, such as business plans, transactions, and intellectual property. Cyberattacks, such as denial of service and other malicious attacks, could disrupt T-Mobile US' internal systems, networks, and applications, impair its ability to provide services to customers, and have other adverse effects on its business.

In order to grow and remain competitive with new and evolving technologies in the industry, T-Mobile US will need to adapt to future changes in technology, continually invest in its network, increase network capacity, enhance existing offerings, including through digital channels, and introduce new offerings to address its current and potential customers' changing demands. If T-Mobile US is unable to take advantage of technological developments on a timely basis, then it may experience a decline in demand for its services or face challenges in implementing or evolving its business strategy. Following the business combination with Sprint, T-Mobile US operates and maintains several customer billing systems and will continue to run them until all of Sprint's legacy customers have been successfully migrated to T-Mobile US' existing billing systems. Unexpected difficulties or delays could cause major system or business disruptions. As the customer migration of Sprint customers is on track and the churn of legacy Sprint customers has been reduced, we have lowered the risk significance from "high" to "medium" of the risk category Technology Risks USA.

Opportunities arising from technology. The utilization of large data volumes (big data) from our networks can improve and speed up decision-making processes by enhancing transparency. It does so by shifting the basis for decisions from hypotheses to facts and, for example, enabling correlations to be recognized. In this way, machine learning can be used, for example, to manage the energy consumption of our technology in a forward-looking way based on the analysis of network data.

Our Systems Solutions operating segment covers innovative business areas in the digital transformation of business processes, such as cloud computing, edge computing, and cybersecurity. These business areas could develop faster than expected. As a pioneer of the digital transformation, we have an opportunity to actively shape market trends through a variety of projects in the fields of healthcare, public administration, and mobility solutions. Under these data-based digital business models, our partner-oriented approach is a highly promising way of contributing our core competencies – in cloud computing, edge computing, and cybersecurity – to various projects. In addition, we have references regarding strategic engagements in our focal sectors Automotive, Public Administration, Health, and Public Transport. We also see potential for development in the sovereign clouds environment.

As a technology and development partner for toll collection business in Europe, we already have a strong competitive position. We have earned valuable references in European toll collection projects in Belgium and Austria and through the launch of a Europe-wide toll collection system (Toll4Europe). This will help to give us an edge over our competitors.

Procurement and supply risks. Deutsche Telekom cooperates with a variety of suppliers of technical (information and communication technology) and non-technical products and services. Products and services that might involve a higher risk include software and hardware, network technology components, and all products and services provided directly to end customers.

Deutsche Telekom's supply chains are currently being negatively impacted by a number of factors, e.g., by a shortage of semiconductor chips, the coronavirus pandemic, geopolitical tensions, e.g., between China and Taiwan, and the war in Ukraine. There has been an imbalance between supply and demand on the global market for semiconductor chips since 2021. In addition, pandemic-related restrictions (e.g., lockdowns in Asian countries in the form of temporary factory and seaport closures) and geopolitical tensions (e.g., technology sanctions imposed by the United States) were impeding the global logistics stability regarding raw and other materials. Furthermore, the general costs of semiconductor materials, production, global logistics, energy, and wages are rising, driven in part by inflation and exchange rates. This leads to general price rises for products and services. Europe is experiencing supply delays. However, short-term shortages were avoided thanks to countermeasures taken. Inventory shortages could also arise in the United States. The establishment of additional production capacities means that the situation regarding the availability of semiconductors is expected to ease in the medium term. Additional risks may also result from the dependence on individual suppliers or from individual vendors defaulting. This applies in particular for Chinese suppliers of telecommunications technology. We employ organizational, contractual, and procurement strategy measures to counteract these challenges. For example, in early 2021, the Group-wide Supply Chain Resilience task force was set up to assess the risk situation at regular intervals and, where necessary, take relevant mitigating measures, and monitor their implementation.

Risks and opportunities arising from data privacy and data security

Data privacy. All Group companies are subject to specific data privacy regulations (in the EU especially the General Data Protection Regulation (GDPR)). These requirements must be implemented and their compliance must be monitored. Data privacy incidents could be sanctioned with extremely high fines (up to between 2 and 4 % of the global Group revenue). The European supervisory authorities' concept for fines has been applied. It stipulates very high fines even for violations with a low criticality. Despite mitigation measures and well-established data privacy management structures, it is not possible to fundamentally rule out data privacy incidents as almost all procedures/processes in the Group are relevant in terms of data protection. Errors may occur that are linked to reputation, cost, and sanction risks.

Since the introduction of the GDPR, data privacy law has been largely harmonized in Europe. As a Group with its focus in Europe, Deutsche Telekom has benefited from this, since the majority of special national data privacy regulations no longer apply and no longer have to be implemented in the individual entities in the European Union, reducing additional costs. In the recent past, European institutions have further strengthened data protection. On July 16, 2020, the European Court of Justice (ECJ) issued a landmark judgment on Schrems II. With this ruling, Europe's highest court addressed the concerns on the level of data protection in the United States and declared the adequacy decision of the EU Commission for the United States (Privacy Shield) void. Since then, our Group Privacy unit has worked with all affected Group units to implement the requirements arising from the ruling and the publications of the European Data Protection Board. Nevertheless, a residual risk remains since the authorities' regulatory practice has yet to be clarified. All companies in the EU, but also their contractual partners around the globe, must rise to the significant challenges of this ruling in order to be able to ensure data continues to be processed in compliance with data protection regulations going forwards. Group Privacy sees the current developments between the EU Commission and the United States concerning the conclusion of a new "EU-U.S. Data Privacy Framework" as an opportunity for greater legal certainty in international cooperation.

The new requirements also affect the Group's Privacy and Security Assessment (PSA) process. This process, which is now fully digital, meets the requirements of the GDPR with regard to carrying out a Privacy Impact Assessment for evaluating and documenting the risks posed by data processing. For example, a Transfer Impact Assessment was integrated in the PSA process. In all new procedures with a third-country involvement, all requirements from the ruling are taken into account and documented right from development. The new standard contractual clauses published by the European Commission in 2021 have been mandatory for all new agreements concluded since September 27, 2022. Under the Schrems II project, existing agreements with suppliers and partners in third countries were amended to take account of the new standard contractual clauses by the implementation deadline of December 27, 2022.

In addition, we have carefully examined technical developments and digital transformation projects to verify if they are in line with the Group strategy. Take, for example, the service app, which our customers can use to manage their Telekom products and contracts. In 2021, this standardized technical and data privacy-compliant solution was also launched in Germany. Another example is the German Corona-Warn-App and the subsequent European solution, which we continue to further develop together with the Robert Koch Institute, SAP, and other partners. Deutsche Telekom played a role in developing this app with partners, the Federal Government and other institutions.

T-Systems signed the EU Cloud Code of Conduct (EU Cloud CoC) in 2021. After all, the EU Cloud is synonymous with something essential, namely, nothing less than the digital sovereignty of Europe in cloud services. This refers to the complete control of stored and processed data and independent decision-making on who can access the data. This requires clear rules and requirements, which is what the EU Cloud CoC offers. The European data protection authorities authorized this Code of Conduct. By becoming a signatory, the Company and hence also T-Systems undertakes to continue to increase the data protection level for cloud services in the interests of customers and European data protection. In this way they provide proof that data is processed in accordance with the requirements of the GDPR. Compliance with the rules is reviewed by an independent body.

However, since the ePrivacy Regulation has still not yet been adopted, there is yet another sector-specific regulatory challenge for the telecommunications sector in the EU. As telecommunications providers' data processing options are substantially restricted compared with what is possible under the GDPR, innovative big data and artificial intelligence applications in the field of telecommunications cannot realize the same kind of potential as those of companies that are only subject to the GDPR.

Data security. IT security continues to pose major challenges. In addition to preventive measures such as integrated security in business processes and measures to raise security awareness among employees, we counter these challenges with increased focus on the analysis of threats and cyber risks. This is where our early warning system comes in: It detects new sources and types of cyberattack, analyzes the behavior of the attackers while maintaining strict data privacy, and identifies new trends in the field of security. Along with the honeypot systems, which simulate vulnerabilities in IT systems, our early warning system includes alerts and analytical tools for spam mails, viruses, and Trojans. We exchange the information we obtain from all these systems with public and private bodies to detect new attack patterns and develop new protection systems.

Cybercrime and industrial espionage are on the rise and they are becoming ever more complex due to rapidly advancing technologies and attack methods. As a result, we face constant challenges and adjustments to protect our customer and business partner data, as well as our networks, technologies, products, and services against these attacks. Such incidents can lead, among other things, to business disruptions, embezzlement, or unauthorized access to confidential or personal information, and to loss of reputation. Due to the rise in successful, significant cyberattacks against Deutsche Telekom in recent years, and on the basis of the updated financial evaluation of cyber risks, we have raised the risk significance of the risk category "Data privacy and data security" from "medium" to "high." We are addressing this development with comprehensive security concepts. In order to create greater transparency and thus be in a stronger position to tackle these threats, we are relying more and more on partnerships, e.g., with public and private organizations. By means of the Security by Design principle, we have made security an integral part of our development process for new products and information systems. In addition, we carry out intensive and obligatory digital security tests.

We are continually striving to accelerate our growth through IT security solutions. To this end, we have combined our security units within Deutsche Telekom Security. We want to leverage this end-to-end security portfolio to secure market shares and score points with security concepts on the back of megatrends like the Internet of Things and Industry 4.0. We are also continuing to gradually expand our partner ecosystem in the area of cybersecurity.

We provide regular updates on the latest developments in data protection and data security on our [website](#).

Other operational risks and opportunities

Employees. Our employees play a crucial role in the transformation of Deutsche Telekom. Their skills are a key factor to our business success. Both this success and our service provision are dependent on the ability to acquire, retain, and develop specialist staff and talents. Growing competition for experts and the war for talents, coupled with the need to offer increasingly flexible working conditions (e.g., remote working), could lead to key employees (in particular those in technical and IT-related roles) leaving the company, while demand continues to grow unabated. Sharply rising entry-level salaries could exacerbate the situation and increase costs further. The availability of staff with an appropriate skill set at nearshore and offshore sites is crucial when it comes to rendering services on budget, in line with requirements, and on time. The demands of the talents with regard to potential employers have also increased. Apart from remuneration, factors they care about include flexible working, environmental social governance, culture, diversity, and innovations. Due to the intensifying war for talents and potential salary-driven cost increases, we are raising the significance of the risk category “Other operational risks” from low to medium. We systematically work to address these challenges head on, for example, by strengthening Deutsche Telekom and T-Mobile US as an attractive employer brand and by proactively seeking out new specialist staff and talents worldwide.

In 2022, we once again used socially responsible measures to restructure the workforce in our Group. Early retirement models such as phased and dedicated retirement, and severance payments have been largely taken up, but also the training and placement of civil servants in the public sector by Vivento has proved very popular. The transformation with the associated staff restructuring is extremely important for achieving the Group's goals. Nevertheless, it is essential the restructuring is managed in a targeted way. That is why, for each request by an employee to take up a staff reduction instrument, it must be ensured on principle that the arrangement is voluntary on both sides (agreed by employee and manager), so as to avoid, for example, the loss of high performers.

The Company still employs numerous civil servants, who originally belonged to Group units of Deutsche Telekom that have since been sold. Where requested, these civil servants have been granted temporary leave from their civil servant status. However, there is a risk that they may return to us from a sold entity, for instance after the end of their temporary leave from civil servant status, without the Company being able to offer them jobs. Currently, 1,061 civil servants are entitled to return from outside the Group in this way (as of December 31, 2022), thus posing a risk.

Risks and opportunities relating to regulation



In the following section, we describe the main regulatory risks and opportunities that, as things currently stand, could affect our results of operations and financial position, and our reputation.

Regulatory risks arise from telecommunications-specific statutory regulations at the national, European, and U.S. level, and from the consequent powers of national authorities to regulate or intervene in the market and limit our freedom as regards product design and pricing. Deregulation can give rise to regulatory opportunities. Regulatory intervention, which we can only anticipate to a limited extent, may exacerbate existing price and competitive pressure. There are concerns that regulation in the United States, Germany, and other European countries may also impact revenue and earnings trends in the medium to long term.

Changes in regulatory policy and legislation

European legislation constantly influences our pricing and product design. After the European Electronic Communications Code (EECC) resulted in adjustments to national laws in the previous year, the EU Roaming Regulation entered into force on July 1, 2022. It extends the Roam Like at Home requirements for another ten years, establishes provisions for transparency and quality, and sets prices for charging between providers.

| For more information on the European roaming rules, please refer to the section [“Major regulatory decisions.”](#)

Policy decisions can give rise to risks, but also opportunities. The Federal Government's Digital Strategy adopted in August 2022 is a first step for potential further measures, for example, in connection with digitalization projects in administration or a modern legal framework for the data economy. The Gigabit Strategy contained therein aims, among other goals, to ensure nationwide fiber-optic coverage and state-of-the-art mobile technology. To this end, measures are expected in relation to approval processes or the realignment of the subsidized build-out, which could significantly affect conditions for the continued network build-out.  

| For more information on the Federal Government's digital strategy, please refer to the section [“Major regulatory decisions.”](#)

In view of the highly topical debates regarding the network security of critical infrastructure, the legislator has already announced adjustments in this regard, which will be implemented by regulatory and other authorities. This will lead to new requirements, for which the costs of implementation for Deutsche Telekom are not yet possible to estimate.

In the United States, too, new or amended wireless-related provisions and laws can increase the complexity of processes and lead to higher costs for T-Mobile US.

Awarding of spectrum

Risks could arise from the fact that inappropriate auction rules and frequency usage requirements, excessive reserve prices, or disproportionately high annual spectrum fees could jeopardize our planned acquisition of spectrum. Inappropriate conditions for the awarding of spectrum can include, for example, extensive build-out requirements and, in some cases, requirements to grant network access (national roaming, service provider access). By contrast, we see an opportunity in particular in the fact that such spectrum award procedures enable mobile network operators to obtain the optimum amount of spectrum for their future business. We would thus be equipped for further growth and innovation. The upcoming award procedures mainly relate to the auctioning of additional spectrum in the 700 MHz, 800 MHz, 900 MHz, 1,800 MHz, 3,400 to 3,800 MHz, and the 26,000 MHz ranges. In addition, spectrum licenses, especially in the 2,100 MHz and 2,600 MHz ranges, will expire by 2024 in some countries and need to be renewed. Major award procedures are currently being prepared, primarily in Croatia, Austria, Poland, Hungary, Slovakia, and the Czech Republic. In Germany, consultations were held regarding the 800 MHz, 1,800 MHz, and 2,600 MHz bands to determine which award procedure to select (auction or extension). A final decision on this has not yet been made.

For further information on spectrum auctions that were completed in 2022 or are still ongoing, please refer to the section "[Major regulatory decisions.](#)"

Areas in which national regulators may intervene

European and national laws and regulations grant national regulators extensive powers of intervention.

Our Group companies in Germany and Europe continue to be subject to extensive **regulation of wholesale products**, obligating us to make our network and services available to our competitors wherever we are deemed to have significant market power as an operator. The national regulators regularly check and determine the corresponding terms, conditions, and prices of these wholesale offerings. The key wholesale products subject to regulation are unbundled local loop lines, bitstream products, leased lines, and the associated services.

In July 2022, the Bundesnetzagentur published its decision on the future **regulation of access to Deutsche Telekom's copper and fiber-optic network**. With this decision, rules for FTTH networks are laid down, the previous regulation for Layer2 (VDSL) is discontinued, and access to ducts and poles is also imposed. The precise access conditions will be set down in the subsequent procedures, by means of which the authority will influence Deutsche Telekom's pricing and product design.

For further information, please refer to the section "[Major regulatory decisions.](#)"

Within the scope of the subsidized network build-out, companies have an obligation to ensure access to the subsidized network. The Bundesnetzagentur can be called on to settle disputes. Since 2021, termination rates have been determined directly by the European Commission by way of a **delegated act**. In addition, European and national **consumer protection regulations** apply.

In addition to the requirements of telecommunications law, our media products are also subject to special European and national regulations under **media law**, as well as non-sector-specific regulations such as data and consumer protection. These include, in the broader sense, copyright law, regulations concerning the responsibility for published content, requirements in relation to ensuring the protection of minors in the media, and requirements in relation to the content and user interfaces of media distribution platforms. Barring any changes to its shareholder structure on the one hand (the Federal Republic and KfW being its major shareholders), or to the legal situation, or the prevailing opinions of media regulators on the other, it is unlikely that Telekom Deutschland will be granted a license to broadcast radio and TV programs.

Litigation

Major ongoing legal proceedings

Deutsche Telekom is party to proceedings both in and out of court with government agencies, competitors, and other parties. The proceedings listed below are of particular importance from our perspective. If, in extremely rare cases, required disclosures on individual litigation and anti-trust proceedings are not made, we concluded that these disclosures may seriously undermine the outcome of the relevant proceedings.

Prospectus liability proceedings (third public offering, or DT3). This relates to initially around 2,600 ongoing lawsuits from some 16,000 alleged buyers of T-Shares sold on the basis of the prospectus published on May 26, 2000. The plaintiffs assert that individual figures given in this prospectus were inaccurate or incomplete. The amount originally in dispute totaled approximately EUR 78 million plus interest. Some of the actions are also directed at KfW and/or the Federal Republic of Germany as well as the banks that handled the issuances. The Frankfurt/Main Regional Court had issued orders for reference to the Frankfurt/Main Higher Regional Court in accordance with the German Capital Investor Model Proceedings Act (Kapitalanleger-Musterverfahrensgesetz – KapMuG) and has temporarily suspended the initial proceedings. On May 16, 2012, the Frankfurt/Main Higher Regional Court had ruled that there were no material errors in Deutsche Telekom AG's prospectus. In its decision on October 21, 2014, the Federal Court of Justice partly revoked this ruling, determined that there was a mistake in the prospectus, and referred the case back to the Frankfurt/Main Higher Regional Court. On November 30, 2016, the Frankfurt/Main Higher Regional Court ruled that the mistake in the prospectus identified by the Federal Court of Justice could result in liability on the part of Deutsche Telekom AG, although the details of that liability would have to be established in the initial proceedings. Following an appeal from both parties, in February 2021, the Federal Court of Justice once again referred the proceedings back to the Frankfurt/Main Higher Regional Court for further consideration. In November 2021, Deutsche Telekom AG presented a settlement concept under which a concrete settlement offer is to be made to every eligible plaintiff. The settlement offers are made without any judicial decision and do not constitute an admission of liability on the part of Deutsche Telekom AG. Settlements have now been agreed with the majority of the eligible plaintiffs. Deutsche Telekom AG has recognized appropriate provisions for risk in the statement of financial position.

Claims relating to charges for the shared use of cable ducts. In 2012, Kabel Deutschland Vertrieb und Service GmbH (today Vodafone Deutschland GmbH (VDG)) filed a claim against Telekom Deutschland GmbH to reduce the annual charge for the rights to use cable duct capacities. In similar proceedings, the then Unitymedia Hessen GmbH & Co. KG, Unitymedia NRW GmbH, and Kabel BW GmbH (today all Vodafone West) filed claims against Telekom Deutschland GmbH in January 2013, demanding that it cease charging the plaintiffs more than a specific and precisely stated amount for the shared use of cable ducts, including in the future. The claims were rejected by the Frankfurt Higher Regional Court (VDG) and by the Düsseldorf Higher Regional Court (Vodafone West) and an appeal was not allowed in both cases. In response to the complaints of the plaintiffs against non-allowance of appeal, the Federal Court of Justice allowed the appeal by VDG to the extent that it relates to claims dating from January 1, 2012; the appeal by Vodafone West was allowed to the extent that it relates to claims dating from January 1, 2016. The claims were rejected with legally binding effect for the time periods prior to this. In a ruling on December 14, 2021, the Federal Court of Justice referred the proceedings concerning the remaining claims back to the responsible Higher Regional Courts for a new hearing and decision. VDG has since updated its claim, which it now puts at around EUR 749 million plus interest for the period from January 2012 to December 2021. The plaintiff Vodafone West has also updated its claim, which it now puts at around EUR 418 million plus interest for the period from January 2016 to June 2022. At present the financial impact of both these proceedings cannot be assessed with sufficient certainty.

Sprint Merger class action. On June 1, 2021, a shareholder class action and derivative action was filed in the Delaware Court of Chancery against Deutsche Telekom AG, SoftBank, T-Mobile US, and all of our officers and directors at that time, asserting a breach of fiduciary duties relating to the purchase price amendment to the Merger Agreement, as well as SoftBank's subsequent monetization of its T-Mobile US shares. On October 29, 2021, the complaint was amended. The amended complaint is directed at the same defendants and the same underlying transactions as in the original action; however, it includes additional submission on alleged facts. At present, the financial impact of these proceedings cannot be assessed with sufficient certainty.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in August 2021. In August 2021, T-Mobile US confirmed that their systems had been subject to a criminal cyberattack that compromised data of millions of their customers, former customers, and prospective customers. With the assistance of outside cybersecurity experts, T-Mobile US located and closed the unauthorized access to their systems and identified customers whose information was impacted and notified them, consistent with state and federal requirements. As a result of the cyberattack, numerous consumer class actions including mass arbitrations were filed against T-Mobile US. The class actions brought before the federal courts were consolidated into one action in December 2021. The plaintiffs are claiming damages in an as yet unspecified amount. On July 22, 2022, T-Mobile US entered into an agreement to settle the consumer class action in the Federal Court for USD 350 million (EUR 331 million). In addition, T-Mobile US has committed to spending a total of USD 150 million in 2022 and 2023 on data security and related technologies. The settlement is subject to final court approval. T-Mobile US expects that the settlement of the consumer class action, if approved by the court, together with further settlements already or still to be concluded with consumers, will satisfy essentially all claims asserted to date by current, former, and potential customers affected by the cyberattack in 2021. T-Mobile US has recognized corresponding provisions for risks in the statement of financial position of around USD 0.3 billion (EUR 0.3 billion).

Furthermore, in November 2021, a derivative action was brought against the members of the Board of Directors of T-Mobile US and against T-Mobile US as nominal defendant. This action has since been withdrawn. In September 2022, a further purported shareholder filed a new derivative action against the members of the Board of Directors of T-Mobile US and against T-Mobile US as nominal defendant alleging claims for breach of fiduciary duties relating to the company's cybersecurity practices. It is currently not possible to estimate the resultant financial risk with sufficient certainty.

In addition, inquiries have been made by various government agencies, law enforcement and other state authorities, with which T-Mobile US is cooperating in full. At present the financial impact of these proceedings cannot be assessed with sufficient certainty.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in January 2023. On January 5, 2023 T-Mobile US identified that a bad actor was obtaining data through an application programming interface (API). Based on the company's preliminary investigation, the affected API was only able to provide a limited set of customer account data, including name, billing address, email address, telephone number, date of birth, T-Mobile account number, and information such as the number of lines on the account and plan features. The preliminary results of the investigation indicate that, in total, around 37 million current postpaid and prepaid customer accounts were affected, although many of these accounts did not include the full data set. Based on an initial assessment, T-Mobile US assumes that the attacker retrieved data via the affected API for the first time from or around November 25, 2022. The company continues to investigate the incident and, in accordance with federal and state requirements, has notified those individuals whose data was affected. In connection with this cyberattack, consumer class actions were filed against T-Mobile US and official inquiries were submitted to the company, to which it will respond and, as a result of which, it may incur substantial expenses. It is currently not possible to estimate the resultant financial risk with sufficient certainty.

Patents and licenses. Like many other large telecommunications and internet providers, Deutsche Telekom is exposed to a growing number of intellectual property rights disputes. There is a risk that we may have to pay license fees and/or compensation; we are also exposed to a risk of cease-and-desist orders, for example relating to the sale of a product or the use of a technology.

Further, Deutsche Telekom intends to defend itself and/or pursue its claims vigorously in each of these proceedings.

Anti-trust proceedings

Like all companies, our Group is subject to anti-trust law. In recent years, we have notably stepped up our compliance efforts in this area too. Nevertheless, Deutsche Telekom and its subsidiaries are from time to time subject to proceedings under anti-trust law or follow-on damage actions under civil law. In the following, we describe material anti-trust proceedings and resulting claims for damages.

Claims for damages against Slovak Telekom following a European Commission decision to impose fines. The European Commission decided on October 15, 2014 that Slovak Telekom had abused its market power on the Slovak broadband market and as a result imposed fines on Slovak Telekom and Deutsche Telekom AG, which were paid in full in January 2015. After the General Court of the European Union partially overturned the European Commission's decision in 2018 and reduced the fines by a total of EUR 13 million, the legal recourse following the ruling of the European Court of Justice on March 25, 2021 is exhausted. Following the decision of the European Commission, competitors filed damage actions against Slovak Telekom with the civil court in Bratislava. These claims seek compensation for alleged damages due to Slovak Telekom's abuse of a dominant market position, as determined by the European Commission. A further claim was filed with the court in the reporting period, such that there are now three claims pending, amounting to a total of EUR 219 million plus interest. It is currently not possible to estimate the financial impact with sufficient certainty.

Claims for damages against Deutsche Telekom AG, including due to insolvency of Phones4U. Phones4U was an independent British mobile retailer, which declared insolvency in 2014. The insolvency administrator is pursuing claims before the High Court of Justice in London against the mobile providers active on the UK market at that time and their parent companies on the grounds of alleged collusion in violation of anti-trust law and breach of contract. Deutsche Telekom AG, which at that time held 50 % of the mobile company EE Limited, has rejected the claims as unsubstantiated. The High Court of Justice in London heard testimony from several witnesses and experts in the period between mid-May and the end of July 2022 with a view to establishing the legal basis for a claim. Phones4U is still seeking damages in an as yet undisclosed amount. It is currently not possible to estimate the financial impact with sufficient certainty.

Compliance risks

Compliance risks are risks arising from systematic infringements of legal or ethical standards that could result in regulatory or criminal liability on the part of the company, its executive body members, or employees, or result in a significant loss of reputation. In order to minimize these risks, we have set up a compliance management system.

For further information on the compliance management system, please refer to “Aspect 5: Fighting corruption” in the section “Combined non-financial statement.”

Financial risks and opportunities

Liquidity, credit, currency, interest rate risks

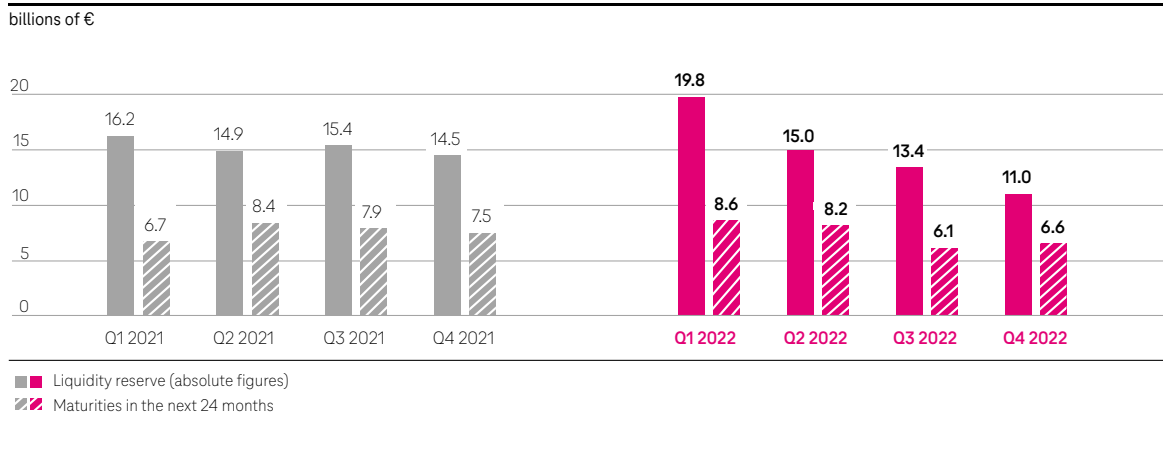
With regard to its assets, liabilities, and planned transactions, our Group is particularly exposed to liquidity risks, credit risks, and the risk of changes in exchange rates and interest rates. We want to contain these risks. Risks with an impact on cash flows are monitored in a standard process and hedged accordingly using derivative and non-derivative hedges. Derivative financial instruments are used solely for hedging and never for speculative purposes. The following risk areas – liquidity, credit, currency, and interest rate risks – are evaluated taking into account all hedges.

For further information on the risk assessment, please refer to the “Corporate risks” table above.

Liquidity risk. To ensure the Group’s and Deutsche Telekom AG’s solvency and financial flexibility at all times, we maintain a liquidity reserve in the form of credit lines and cash as part of our liquidity management. Since the successful business combination of T-Mobile US and Sprint, T-Mobile US has pursued its own separate financing and liquidity strategy.

Deutsche Telekom (excluding T-Mobile US): Primarily bilateral credit agreements with 21 banks with an aggregate total volume of EUR 12.6 billion were available as of December 31, 2022, of which EUR 0.2 billion were utilized. Our liquidity reserve covered maturing bonds and long-term loans at all times for at least the next 24 months (see graphic below).

Development of the liquidity reserve (excluding T-Mobile US), maturities in 2021/2022



Furthermore, bilateral credit lines with an aggregate total volume of USD 7.5 billion (EUR 7.0 billion) plus a cash balance of USD 4.6 billion (EUR 4.3 billion) were available to T-Mobile US as of December 31, 2022.

Credit risks. In our operating business and certain banking activities, we are exposed to a credit risk, i.e., the risk that a counterparty will not fulfill its contractual obligations. To keep this credit risk to a minimum, we conclude transactions with regard to financing activities only with counterparties that have at least a credit rating of BBB+/Baa1; we also actively manage limits. In addition, we have concluded collateral agreements for our derivative transactions. At the level of operations, the outstanding debts are continuously monitored in each area, i.e., locally.

Currency risks. Currency risks result from investments, financing measures, and operations. Risks from foreign currency fluctuations are hedged on a pro rata basis depending on their probability of occurrence, if they affect the Group’s cash flows (transaction risks). However, foreign-currency risks that do not influence the Group’s cash flows, for example, risks resulting from the translation of assets and liabilities of foreign operations into euros (translation risks) are generally not hedged. Deutsche Telekom may nevertheless also hedge these foreign-currency risks under certain circumstances.

Interest rate risks. Our interest rate risks mainly result from Group financing: On the one hand, we have an interest rate risk relating to the issue of new liabilities, and on the other, we have an interest rate risk arising from variable-interest liabilities. The euro interest rate position is actively managed as part of our interest rate management activities. Each year, a maximum is set for the percentage of variable-interest liabilities, taking into account the planned finance costs. The USD debt position of T-Mobile US primarily comprises partially cancelable, fixed-income bonds.

For further information, please refer to Note 42 "[Financial instruments and risk management](#)" in the notes to the consolidated financial statements.

Tax risks

We are subject to the applicable tax laws in many different countries. Risks can arise from changes in local taxation laws or case law and different interpretations of existing provisions. These risks can impact both our tax expense and benefit as well as tax receivables and liabilities.

Other financial risks and opportunities

This section contains information on other financial risks that we consider to be immaterial at present or cannot evaluate based on current knowledge.

Rating risk. Deutsche Telekom's credit rating affects our access to the capital markets, to the international finance markets, and our refinancing costs. A lower rating could impede access to the capital market and, over time, would lead to an increase in the cost of debt financing. We intend to maintain our rating in a corridor from A- to BBB and thereby safeguard undisputed access to the capital market. As of December 31, 2022, Deutsche Telekom AG's credit rating with Moody's was Baa1 with a stable outlook, while Standard & Poor's rated us BBB with a positive outlook, and Fitch BBB+ with a stable outlook. From today's perspective, access to the international debt capital markets for both Deutsche Telekom AG and T-Mobile US is not jeopardized.

Energy. The war in Ukraine and the current situation on the world market are driving sharp rises in energy costs. Energy prices are highly volatile. Further increases in electricity, gas, and oil prices are possible, which could drive up energy, transportation, and manufacturing costs. Depending on the market conditions, our national companies pursue different procurement strategies whereby attempts are made to balance long-term supply reliability, appropriate prices, and favorable market trends.

Control environment. Compliance with business and regulatory requirements in particular for internal controls requires high efforts. Not meeting these demands could lead to difficulties or weaknesses in the overall control environment of Deutsche Telekom and could result in inaccurate financial statements.

Sales of shares by the Federal Republic or KfW Bankengruppe. As of December 31, 2022, the Federal Republic and KfW Bankengruppe jointly held 30.5 % in Deutsche Telekom AG. It is possible that the Federal Republic will continue its policy of privatization and sell further equity interests in a manner designed not to disrupt the capital markets and with the involvement of KfW Bankengruppe. There is a risk that the sale of a significant volume of shares by the Federal Republic or KfW Bankengruppe, or any speculation to this effect, could have a negative impact on the price of the T-Share.

Impact of the CR strategy on the value of the Company.   Growing numbers of investors take sustainability aspects into account in their investment decisions (Socially Responsible Investments, SRI). SRI investment products consist of securities from companies that have been reviewed based on environmental, social, and governance (ESG) criteria. The development of demand from socially responsible investors for the T-Share is an indicator we can use to assess our sustainability performance. The Socially Responsible Investment ESG KPI indicates the percentage of Deutsche Telekom AG shares held by such investors. Our commitment to greater sustainability is paying off: as of December 31, 2022, around 31.3 % of all T-Shares were held by investors who show concern for environmental, social, and governance criteria in their investment choices. We have refined the methodology and underlying data and have switched to monitoring the sustainably managed shares at fund level and no longer at an institutional level. For better comparability with other companies, the total number of shares given pertains to the number of Deutsche Telekom shares in free float.

Impairment of Deutsche Telekom AG's assets. The value of the assets of Deutsche Telekom AG and its subsidiaries is reviewed periodically. In addition to the regular annual measurements that are also performed for the carrying amounts of investments in the annual financial statements of Deutsche Telekom AG prepared in accordance with German GAAP, specific impairment tests may be carried out, for example, where changes in the economic, regulatory, business, or political environment suggest that the value of goodwill, intangible assets, property, plant and equipment, investments accounted for using the equity method, or other financial assets might have decreased. These tests may lead to the recognition of impairment losses that do not, however, result in cash outflows. This could impact to a considerable extent on our results, which in turn may negatively affect the T-Share price.

For further information, please refer to the section "[Summary of accounting policies – Judgments and estimates](#)" in the notes to the consolidated financial statements.

Governance and other disclosures

Governance

As of December 31, 2022, **Board of Management** responsibilities were distributed across eight Board departments.

Four of these cover cross-functional management areas

- Chairman of the Board of Management

and the Board of Management departments

- Finance
- Human Resources and Legal Affairs
- Technology and Innovation.

In addition, there are four segment-based Board of Management departments:

- Germany
- Europe
- T-Systems
- USA and Group Development

Composition of the Board of Management as of December 31, 2022

Members of the Board of Management	Department
Timotheus Höttges	Chairman of the Board of Management (CEO)
Adel Al-Saleh	T-Systems
Birgit Bohle	Human Resources and Legal Affairs
Srini Gopalan	Germany
Dr. Christian P. Illek	Finance (CFO)
Thorsten Langheim	USA and Group Development
Dominique Leroy	Europe
Claudia Nemat	Technology and Innovation

On December 15, 2021, Timotheus Höttges' appointment as Chairman of the Board of Management was canceled effective December 31, 2021, and he was reappointed as Chairman of the Board of Management for the period from January 1, 2022 through December 31, 2026. On February 25, 2021, Birgit Bohle was reappointed as the Board of Management member for Human Resources and Legal Affairs for the period from January 1, 2022 through December 31, 2026. Also on February 25, 2021, Thorsten Langheim was reappointed as the Board of Management member for USA and Group Development for the period from January 1, 2022 through December 31, 2026. By resolution of February 23, 2022, Adel Al-Saleh was reappointed as the Board member responsible for T-Systems for the period from January 1, 2023 to December 31, 2027. By resolution of May 19, 2022, Dr. Christian P. Illek was reappointed as the Board member responsible for Finance for the period from April 1, 2023 to March 31, 2028. By resolution of December 14, 2022, Dominique Leroy was reappointed as the Board member responsible for Europe for the period from November 1, 2023 to October 31, 2028.

The members of the Board of Management are appointed and discharged in accordance with § 84 and § 85 of the German Stock Corporation Act (Aktiengesetz – AktG) and § 31 of the German Codetermination Act (Mitbestimmungsgesetz – MitbestG).

The **Supervisory Board** of Deutsche Telekom AG advises the Board of Management and oversees its management of business. It is composed of 20 members: 10 represent the shareholders and 10 the employees. The employees' representatives were most recently appointed at the delegates' assembly on November 20, 2018.

Amendments to the Articles of Incorporation are made pursuant to § 179 and § 133 AktG and § 18 and § 21 of the Articles of Incorporation. According to § 21 of the Articles of Incorporation, the Supervisory Board is authorized, without a resolution by the shareholders' meeting, to adjust the Articles of Incorporation to comply with new legal provisions that become binding for the Company and to amend the wording of the Articles of Incorporation.

At the 2022 shareholders' meeting, held on April 7, 2022, the shareholders of Deutsche Telekom AG elected Dr. Frank Appel as a member of Deutsche Telekom AG's Supervisory Board. The Supervisory Board then elected Dr. Appel as the new Chairman of the Supervisory Board, as successor to Prof. Ulrich Lehner, who left the Supervisory Board with effect from the end of the shareholders' meeting.

The **remuneration system** for the Board of Management provides incentives to successfully implement the corporate strategy, to ensure a sustainable development of the Company, and is also focused on creating long-term value for our shareholders. The remuneration received by the members of the Supervisory Board is specified under § 13 of the Articles of Incorporation of Deutsche Telekom AG. Under the remuneration system, members of the Supervisory Board received fixed annual remuneration. The recommendations of the German Corporate Governance Code (GCGC), as published in the Federal Gazette on June 27, 2022, on "Remuneration of the Management Board and the Supervisory Board" (Section G) were complied with.

Detailed information on the remuneration of the Board of Management and the Supervisory Board is published in the separate [remuneration report](#).

Members of the Board of Management and Supervisory Board of Deutsche Telekom AG were reported to have purchased and transferred 447,898 shares (2021: 308,258) and sold 65,460 shares (2021: 0) inter alia under the Share Matching Plan and as personal investments in the course of 2022. Total direct or indirect **shareholdings** in the Company or associated financial instruments by members of the Board of Management and the Supervisory Board do not exceed 1% of the shares issued by the Company.

Significant events after the reporting period

For information on events after the reporting period, please refer to Note 48 “Events after the reporting period” in the notes to the consolidated financial statements and to the notes to the annual financial statements of Deutsche Telekom AG as of December 31, 2022.

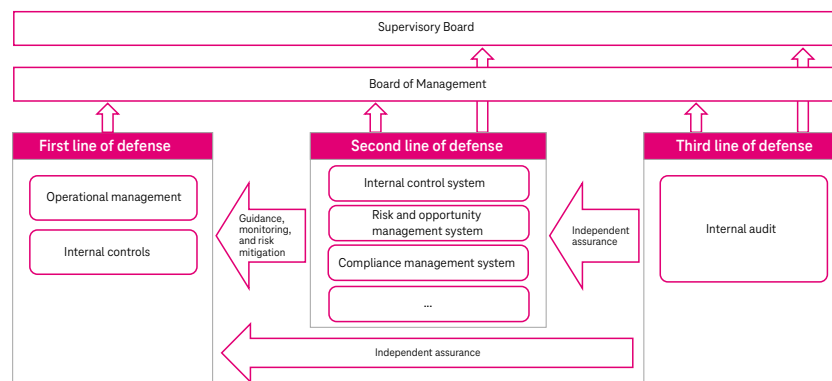
Integrated control and monitoring system^a

Sound corporate governance based on sustainable value creation is particularly important for an international group such as Deutsche Telekom, with its many subsidiaries and associates. The Supervisory Board and the Board of Management are convinced that such corporate governance, taking both company and industry-specific issues equally into account, is an important building block for the future success of Deutsche Telekom AG. Accordingly, responsibility for compliance with the principles of sound corporate governance is vested in senior management.

Responsible, risk-appropriate handling of risks and opportunities is a core component of our corporate governance. The various systems implemented by the Board of Management (in particular the internal control system and the risk and opportunity management system including the compliance management system) to record and mitigate risks work together as part of a mutually complementary control and monitoring system and are subject to review by Internal Audit.

With this integrated system, Deutsche Telekom follows the “Three lines of defense” model. The operational units and their operational management, i.e., the risk owners, form the first line of defense. They are responsible for identifying, assessing, and continuously monitoring risks. The second line of defense primarily comprises the internal control system, the risk and opportunity management system, and the compliance management system, and it serves to manage and monitor the first line of defense. This includes defining requirements, guidelines, and processes, monitoring risks, and reporting to the Board of Management and to the Supervisory Board of Deutsche Telekom AG and its Audit Committee. The third line of defense is Internal Audit, which ensures the first and second lines of defense are audited and advised objectively and independently.

Three lines of defense model



The most important features of the internal control system and the risk and opportunity management system including the compliance management system are described below.

Internal control system



Deutsche Telekom AG’s internal control system (ICS) is based on the internationally recognized COSO (Committee of Sponsoring Organizations of the Treadway Commission) Internal Control – Integrated Framework, COSO I, as amended on May 14, 2013. The ICS is an integral component of the functional management of the Group.

^a Information in this section is information extraneous to the management report as explained in the section “Introductory remarks.”

The Audit Committee of the Supervisory Board of Deutsche Telekom AG monitors the effectiveness of the ICS as required by § 107 (3) sentence 2 AktG in conjunction with § 107 (4) sentence 1 AktG. The Board of Management is responsible for defining the scope and structure of the ICS at its discretion in accordance with § 91 (3) AktG. The ICS supports the organizational implementation of the Board of Management's decisions. This includes achieving the business targets, proper and reliable accounting, and compliance with significant legal requirements and regulations. Sustainability aspects, which are continuously developed on the basis of regulatory requirements, are also taken into consideration.

Internal Audit is responsible for independently reviewing the appropriateness and effectiveness of the ICS in the Group and at Deutsche Telekom AG, and, to comply with this task, has comprehensive information, audit, and inspection rights and is involved across all levels of the ICS process.

In addition to protecting against financial reporting risks, the ICS also ensures general management of operational risks and compliance. Its functional and process-related focus is adapted to the Group's current risk situation on an annual basis. The ICS organization bundles and integrates the internal control processes and supports the Board of Management in designing, implementing, and maintaining an appropriate and effective control system. It comprises ICS Management at Group Headquarters and the local ICS management of each entity. Central ICS Management is responsible for managing and coordinating the ICS processes in their entirety.

The entities to be included in the ICS are also reviewed and identified annually on the basis of Deutsche Telekom's statement of investment holdings. All material entities are fully integrated in the ICS process. This also means that the controls are documented in a Group-wide IT system and are reviewed for their appropriateness and effectiveness at least once a year. Consistent Group-wide minimum requirements for the entities' control systems are defined based on the key Group functions. These include, for example, accounting, IT, procurement, HR, security, data privacy, taxes, compliance, and also corporate responsibility.  

Effectiveness is regularly reviewed applying the dual-checking principle and, depending on the risk exposure of the controls within the functional unit, across departments or (additionally) by Internal Audit. The aim is to identify control gaps and non-effective controls, in particular to analyze the impact on financial reporting and to initiate and monitor suitable countermeasures.

The ICS process is completed with a cascaded approval process, starting with the function owners in the entities and the local finance and managing directors, through to Group level. The ICS Steering Committee, with the involvement of the Group's most important function owners, then evaluates the results and makes recommendations to the Board of Management. Based on this, the Board of Management decides on the appropriateness and effectiveness of the ICS twice a year. The Audit Committee is informed in detail on the status and results of the ICS process at least three times a year and discusses the alignment of the ICS with management and the external auditors. Nevertheless, there are inherent limitations in every ICS. No control system – even if it is deemed to be appropriate and effective – can ensure that all relevant control risks are identified and are being completely and effectively addressed by means of controls.

All non-material entities exposed to risks with an extent that is deemed to be low from a Group perspective, are included in the Group-wide ICS as part of a simplified and standardized process. These entities must submit an annual self-declaration, based on a control risk catalog, on the maturity of the implemented controls and a statement on the effectiveness of the ICS in their entity. Internal Audit regularly reviews these self-declarations in a risk-oriented way. The ICS Steering Committee, the Board of Management, and the Audit Committee are informed at least once a year about the results of the self-assessments.

For information on the accounting-related internal control system, please refer to the section "[Accounting-related internal control system.](#)"

Risk and opportunity management system

Our risk and opportunity management system is based on the globally applicable risk management standard ISO 31000 "Risk management – Principles and guidelines." It serves as a guide for internationally recognized risk management systems. A risk and opportunity management system is necessary from both a business point of view and on the basis of laws and regulations, in particular § 91 (2) and (3) of the German Stock Corporation Act (Aktiengesetz – AktG). Our risk and opportunity management system is organized on a decentralized basis. The Group Risk Governance unit defines the Group-wide methods, including the associated reporting system, and the segments are integrated via their own risk and opportunity management. The relevant owners in each of the segments are responsible for identifying, assessing, and continuously monitoring risks. This is also at the core of our risk culture, which includes the motto "Everyone is a risk manager." In other words, every individual takes responsibility for their risks.

For further information on the risk and opportunity management system, please refer to the section "[Risk and opportunity management system.](#)"

Compliance management system SDG 8 RELATIONSHIPS

Our compliance culture is a key component for corporate governance based on integrity and respect. We have expressed our Group-wide commitment to complying with ethical principles and both legal and statutory requirements. We have incorporated this pledge in our Guiding Principles and our Code of Conduct.

We implemented a compliance management system with the aim of minimizing risks arising from systematic infringements of legal or ethical standards that could result in regulatory or criminal liability on the part of the Company, its executive body members, or employees, or result in a significant loss of reputation. In particular, when we established the compliance management system to prevent corruption, we used the Principles for the Proper Performance of Reasonable Assurance Engagements Relating to Compliance Management Systems laid down in IDW Assurance Standard 980 as a basis. The Board of Management considers its overall responsibility for compliance as a key leadership task. Our Chief Compliance Officer is responsible for the design and management of the compliance management system. Compliance officers implement the compliance management system and our compliance goals locally at the level of our operating segments and national companies.

For further information on the compliance management system, please refer to “[Aspect 5: Fighting corruption](#)” in the section “[Combined non-financial statement](#).”

Statement of effectiveness

Based on regular discussions about the internal control system and the risk and opportunity management system, including the Group risk report and the ICS report, the Board of Management is not aware of any circumstances as of the date of preparation of the combined management report which contradict the appropriateness and effectiveness of these systems in their entirety. In addition, at the end of 2022/start of 2023, an external audit of risk and opportunity management was carried out in accordance with IDW Auditing Standard 981. Based on the information currently available, this audit did not uncover any reasons that cast doubt on the appropriateness or effectiveness.

Accounting-related internal control system

The accounting-related ICS comprises the principles, methods, and measures used to ensure appropriate accounting. It is continuously being refined and aims to ensure the consolidated financial statements of Deutsche Telekom are prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union, as well as with the regulations under commercial law as set forth in § 315e (1) HGB. Another objective of the accounting-related ICS is the preparation of the annual financial statements of Deutsche Telekom AG and the combined management report in accordance with German GAAP.

It is generally true of any ICS that regardless of how it is specifically structured there can be no absolute guarantee that it will achieve its objectives. Therefore, as regards the accounting-related ICS, there can only ever be relative, but no absolute, certainty that material accounting misstatements can be prevented or detected.

Group Accounting manages the processes of Group accounting and management reporting. Legal provisions, accounting standards, and other pronouncements are continuously analyzed as to whether and to what extent they are relevant and how they impact on financial reporting. The relevant requirements are defined in the Group Accounting Manual, for example, communicated to the relevant units and, together with the financial reporting calendar that is binding throughout the Group, form the basis of the financial reporting process. In addition, supplementary process directives such as the Intercompany Policy, standardized reporting formats, IT systems, as well as IT-based reporting and consolidation processes support the process of uniform and compliant Group accounting. Where necessary, we also draw on the services of external experts, for example, to measure pension obligations or in connection with purchase price allocations. Group Accounting ensures that these requirements are complied with consistently throughout the Group. The staff involved in the accounting process receive regular training. Deutsche Telekom AG and the Group companies are responsible for ensuring that Group-wide policies, regulations, and procedures are complied with. The Group companies ensure the compliance and timeliness of their accounting-related processes and systems and, in doing so, are supported and monitored by Group Accounting.

Operational accounting processes at the national and international level are increasingly managed by our shared service centers. Harmonizing the processes enhances their efficiency and quality and, in turn, improves the reliability of the internal ICS. The ICS thus safeguards both the quality of internal processes at the shared service centers and the interfaces to the Group companies by means of adequate controls and an internal certification process.

Internal controls are embedded in the accounting process depending on risk levels. The accounting-related ICS comprises both preventive and detective controls, which include:

- IT-based and manual matching
- The segregation of functions
- The dual-checking principle
- Monitoring controls
- General IT checks such as access management in IT systems, and change management

Central and local ICS management continuously develop the ICS further in line with the operational processes, systematically responding to new technologies and ways of working. These include the use of software robots, real-time alarms, artificial intelligence, and agile working.

We have implemented a standardized process throughout the Group for monitoring the effectiveness of the accounting-related ICS. This process systematically focuses on risks of possible misstatements in the consolidated financial statements. At the beginning of the year, specific accounts and accounting-related process steps are selected based on risk factors. They are then reviewed for effectiveness in the course of the year. If control weaknesses are found, they are analyzed and assessed, particularly in terms of their impact on the consolidated financial statements and the combined management report. Material control weaknesses, the action plans for eradicating them, and ongoing progress are reported to the Board of Management and additionally to the Audit Committee of the Supervisory Board of Deutsche Telekom AG. In order to ensure a high-quality accounting-related ICS, Internal Audit is closely involved in all stages of the process.

Corporate Governance Statement and Declaration of Conformity

The Corporate Governance Statement pursuant to § 289f, § 315d HGB is available on our [Investor Relations website](#). The Declaration of Conformity pursuant to § 161 AktG can be found below:

- I. The Board of Management and the Supervisory Board of Deutsche Telekom AG hereby declare that in the period since submission of the most recent declaration of conformity pursuant to § 161 AktG on December 30, 2021, Deutsche Telekom AG has complied with the recommendations of the Government Commission on the German Corporate Governance Code announced by the Federal Ministry of Justice on March 20, 2020, in the official section of the Federal Gazette (Bundesanzeiger), with the exception of recommendation C.5 (maximum number of supervisory board mandates).
- II. The Board of Management and the Supervisory Board of Deutsche Telekom AG hereby declare further that as of today Deutsche Telekom AG complies with the recommendations of the Government Commission on the German Corporate Governance Code, published by the Federal Ministry of Justice in the official section of the Federal Gazette (Bundesanzeiger) on June 27, 2022, with the exception of recommendation C.5 (maximum number of supervisory board mandates).
- III. Reason for the declared deviation from recommendation C.5: According to recommendation C.5, members of the management board of listed companies should not have, in aggregate, more than two supervisory board mandates in non-group listed companies or comparable functions, and should not accept the chairmanship of a supervisory board in a non-group listed company. In the opinion of the Management Board and the Supervisory Board, the total number of supervisory board mandates held or the supervisory board chairmanship in non-group listed companies and comparable functions should be assessed more appropriately on a case-by-case basis than by means of a rigid limitation. As long as it is ensured that a member of the Supervisory Board of Deutsche Telekom AG has sufficient time to exercise this supervisory board mandate with due regularity and care, a deviation from recommendation C.5 may appear appropriate in individual cases, taking into account all relevant aspects of the respective circumstances.

Bonn, December 30, 2022

For the Supervisory Board
Dr. Frank Appel

For the Board of Management
Timotheus Höttges

Legal structure of the Group

Deutsche Telekom AG, Bonn, is the parent of the Deutsche Telekom Group. Its shares are traded on the Frankfurt/Main Stock Exchange as well as on other stock exchanges.

For information on the composition of capital stock in accordance with § 289a (1) HGB and § 315a HGB of direct and indirect equity investments, please refer to Note 19 "Shareholders' equity" in the notes to the consolidated financial statements and to the notes to the annual financial statements of Deutsche Telekom AG as of December 31, 2022.

Shareholders' equity

Each share entitles the holder to one vote. These voting rights are restricted, however, in relation to treasury shares (at December 31, 2022: around 14 million in total).

Treasury shares. The amount of issued capital assigned to treasury shares was approximately EUR 35 million at December 31, 2022. This equates to 0.3 % of share capital. 13,757,255 treasury shares were held at December 31, 2022.

For information on the treasury shares in accordance with § 160 (1) No. 2 AktG, please refer to Note 8 in the annual financial statements of Deutsche Telekom AG as of December 31, 2022 and to Note 19 "Shareholders' equity" in the notes to the consolidated financial statements.

The shareholders' meeting resolved on April 1, 2021 to authorize the Board of Management to purchase shares in the Company by March 31, 2026, with the amount of share capital accounted for by these shares totaling up to EUR 1,218,933,400.57, provided the shares to be purchased on the basis of this authorization in conjunction with the other shares of the Company that the Company has already purchased and still possesses or are to be assigned to it under § 71d and § 71e AktG do not at any time account for more than 10 % of the Company's share capital. Moreover, the requirements under § 71 (2) sentences 2 and 3 AktG must be complied with. Shares shall not be purchased for the purpose of trading in treasury shares. This authorization may be exercised in full or in part. The purchase can be carried out in partial tranches spread over various purchase dates within the authorization period until the maximum purchase volume is reached. Dependent Group companies of Deutsche Telekom AG within the meaning of § 17 AktG or third parties acting for the account of Deutsche Telekom AG or for the account of dependent Group companies of Deutsche Telekom AG within the meaning of § 17 AktG are also entitled to purchase the shares. The shares are purchased through the stock exchange in adherence to the principle of equal treatment (§ 53a AktG). Shares can instead also be purchased by means of a public purchase or share exchange offer addressed to all shareholders, which, subject to a subsequently approved exclusion of the right to offer shares, must also comply with the principle of equal treatment.

The shares may be used for one or several of the purposes permitted by the authorization granted by the shareholders' meeting on April 1, 2021 under item 7 on the agenda. The shares may also be used for purposes involving an exclusion of subscription rights. In addition, they may be sold on the stock market or by way of an offer to all shareholders, or withdrawn. The shares may be used to fulfill the rights of Board of Management members to receive shares in Deutsche Telekom AG, which the Supervisory Board has granted to these members as part of the arrangements governing the remuneration of the Board of Management, on the basis of a decision by the Supervisory Board to this effect. Furthermore, under the authorization granted on April 1, 2021, the Board of Management is authorized to offer and/or grant shares to employees of Deutsche Telekom and of lower-tier affiliated companies as well as to Managing Board members of lower-tier affiliated companies; this also includes the authorization to offer or grant shares free of charge or on other special conditions.

Under the resolution of the shareholders' meeting on April 1, 2021, the Board of Management is also authorized to acquire the shares through the use of equity derivatives.

No treasury shares were acquired in the reporting period and in the prior year. Currently, the treasury shares for participants of the Share Matching Plan and of the Shares2You share program for employees are issued from the pool of shares previously held in a trust deposit.

As part of the acquisition of VoiceStream Wireless Corp., Bellevue, and Powertel, Inc., Bellevue, in 2001, Deutsche Telekom AG issued new shares from authorized capital to a trustee, for the benefit of holders of warrants, options, and conversion rights, among others. These options or conversion rights expired in full in the 2013 financial year. As a result, the trustee no longer had any obligation to fulfill any claims in accordance with the purpose of the deposit. The trust relationship was terminated at the start of 2016 and the deposited shares were transferred free of charge to a custody account of Deutsche Telekom AG. The previously deposited shares are accounted for in the same way as treasury shares in accordance with § 272 (1a) HGB. On the basis of authorization by the shareholders' meeting on April 1, 2021, the treasury shares acquired free of charge may be used for the same purposes as the treasury shares acquired for a consideration. In the reporting year, 708 thousand previously deposited shares were reallocated for issue to eligible participants of the Share Matching Plan (prior year: 3,462 thousand shares).

For matching shares from the Share Matching Plan and for free shares from the employee share program Shares2You, treasury shares are transferred free of charge to the custody accounts of employees of Deutsche Telekom AG. In cases where treasury shares are transferred to the custody accounts of employees of other Group companies, the costs have been transferred at fair value to the respective Group company since the 2016 financial year. For treasury shares bought by way of the personal investment as part of the Shares2You program and transferred to the custody accounts of employees, a conversion rate of EUR 18.78 per share was used. The conversion is determined using the lowest price at which a trade actually took place on an official German exchange on the date of conversion.

In all months of the reporting year, except for September, treasury shares (760 thousand in total) were reallocated and transferred to the custody accounts of eligible participants (prior year: 3,485 thousand treasury shares). As of December 31, 2022, disposals of treasury shares resulting from the transfers in the reporting period accounted for 0.02 %, or EUR 1,947 thousand, of share capital. Gains on disposal arising from transfers of treasury shares amounted to EUR 12,225 thousand. The transfers of treasury shares increased the capital reserve by EUR 10,278 thousand. In the reporting year, 367 thousand treasury shares with a fair value of EUR 6,737 thousand were billed to other Group companies.

Authorized capital and contingent capital. The shareholders' meeting on May 31, 2017 authorized the Board of Management to increase the share capital with the approval of the Supervisory Board by up to EUR 3,600,000,000 by issuing up to 1,406,250,000 no par value registered shares against cash and/or contribution in kind in the period ending May 30, 2022. This authorization could be exercised in full or on one or more occasions in partial amounts. The Board of Management was authorized, subject to the approval of the Supervisory Board, to exclude residual amounts from shareholders' subscription rights. Furthermore, the Board of Management was authorized, subject to the approval of the Supervisory Board, to disapply shareholders' subscription rights in the event of capital increases against contribution in kind when issuing new shares for business combinations or acquisitions of companies, parts thereof, or interests in companies, including increasing existing investment holdings, or other assets eligible for contribution for such acquisitions, including receivables from the Company. However, the value of the new shares for which shareholders' subscription rights have been disapplied on the basis of this authorization – together with the value of the shares or conversion and/or option rights or obligations under bonds issued or sold since May 31, 2017 subject to the disapplication of subscription rights – was not allowed to exceed 20 % of the total share capital; the latter was defined as the amount existing as of May 31, 2017, upon entry of the authorization, or upon the issue of the new shares, whichever amount was lowest. If the issue or sale was carried out in analogous or mutatis mutandis application of § 186 (3) sentence 4 AktG, this also constituted the disapplication of subscription rights. Further, the Board of Management was authorized, subject to the approval of the Supervisory Board, to determine the further content of share rights and the conditions under which shares are issued (**2017 authorized capital**). The shareholders' meeting resolved on April 7, 2022 to cancel the 2017 authorized capital to the extent that it still existed, effective the date of entry of the 2022 authorized capital described below. Following the capital increase in September 2021 in return for a non-cash contribution, the 2017 authorized capital amounted to EUR 3,024,000,000. The cancellation of the remaining 2017 authorized capital was entered in the commercial register on June 7, 2022.

The shareholders' meeting on April 7, 2022 authorized the Board of Management to increase the share capital with the approval of the Supervisory Board by up to EUR 3,829,600,199.68 by issuing up to 1,495,937,578 no par value registered shares against cash and/or contribution in kind in the period ending April 6, 2027. The authorization may be exercised in full or on one or more occasions in partial amounts. The Board of Management is authorized, subject to the approval of the Supervisory Board, to exclude residual amounts from shareholders' subscription rights. Furthermore, the Board of Management is authorized, subject to the approval of the Supervisory Board, to disapply shareholders' subscription rights in the event of capital increases against contribution in kind when issuing new shares for business combinations or acquisitions of companies, parts thereof, or interests in companies, including increasing existing investment holdings, or other assets eligible for contribution for such acquisitions, including receivables from the Company. However, the value of the new shares for which shareholders' subscription rights have been disapplied on the basis of this authorization – together with the value of the shares or conversion and/or option rights or obligations under bonds issued or sold since April 7, 2022 subject to the disapplication of subscription rights – must not exceed 10 % of the total share capital; the latter is defined as the amount existing as of April 7, 2022, upon entry of the authorization, or upon the issue of the new shares, whichever amount is lowest. If the issue or sale is carried out in analogous or mutatis mutandis application of § 186 (3) sentence 4 AktG, this shall also constitute the disapplication of subscription rights. Further, the Board of Management is authorized, subject to the approval of the Supervisory Board, to determine the further content of share rights and the conditions under which shares are issued (**2022 Authorized Capital**).

As of December 31, 2022, the share capital was contingently increased by up to EUR 1,200,000,000, comprising up to 468,750,000 no par value shares (**2018 Contingent Capital**). The contingent capital increase will be implemented only to the extent that

- a. the holders or creditors of bonds with warrants, convertible bonds, profit participation rights, and/or participating bonds (or combinations of these instruments) with options or conversion rights, which are issued or guaranteed by Deutsche Telekom AG or its direct or indirect majority holdings by May 16, 2023, on the basis of the authorization resolution granted by the shareholders' meeting on May 17, 2018, make use of their option and/or conversion rights or
- b. those obligated as a result of bonds with warrants, convertible bonds, profit participation rights, and/or participating bonds (or combinations of these instruments), which are issued or guaranteed by Deutsche Telekom AG or its direct or indirect majority holdings by May 16, 2023, on the basis of the authorization resolution granted by the shareholders' meeting on May 17, 2018, fulfill their option or conversion obligations (including in the event that, in exercising a repayment option when the final due date of the bond is reached, Deutsche Telekom AG grants shares in Deutsche Telekom AG completely or partially in lieu of payment of the amount due)

and other forms of fulfillment are not used. The new shares shall participate in profits starting at the beginning of the financial year in which they are issued as the result of the exercise of any option or conversion rights or the fulfillment of any option or conversion obligations. The Supervisory Board is authorized to amend § 5 (3) of the Articles of Incorporation of Deutsche Telekom AG in accordance with the particular usage of the contingent capital and after the expiry of all the option or conversion periods.

Main agreements including a change of control clause

The main agreements entered into by Deutsche Telekom AG that include a clause in the event of a change of control principally relate to bilateral credit lines and several loan agreements. In the event of a change of control, the individual lenders have the right to terminate the credit line and, if necessary, serve notice or demand repayment of the loans. A change of control is assumed when a third party, which can also be a group acting jointly, acquires control over Deutsche Telekom AG.

On November 2, 2016, Deutsche Telekom AG signed a change agreement to the shareholder agreement with the Greek government from May 14, 2008 on Hellenic Telecommunications Organization S.A., Athens, Greece, (OTE); the change agreement concerned the accession of the Hellenic Republic Asset Development Fund (HRADF) as a party to the contract. Under this agreement, the Greek government is, under certain circumstances, entitled to acquire all shares in OTE from Deutsche Telekom AG as soon as one (or more) person(s), with the exception of the Federal Republic of Germany, either directly or indirectly acquire(s) 35 % of the voting rights of Deutsche Telekom AG.

In the master agreement establishing the procurement joint venture BuyIn in Belgium, Deutsche Telekom AG and Orange S.A. (formerly France Télécom S.A.)/Atlas Services Belgium S.A. (a subsidiary of Orange S.A.) agreed that if Deutsche Telekom or Orange comes under the controlling influence of a third party or if a third party that is not wholly owned by the Orange group of companies acquires shares in Atlas Services Belgium S.A., the respective other party (Orange and Atlas Services Belgium S.A. only jointly) may terminate the master agreement with immediate effect.

Changes in the composition of the Group

63 German and 290 foreign subsidiaries are fully consolidated in Deutsche Telekom's consolidated financial statements (December 31, 2021: 62 and 314). 14 associates (December 31, 2021: 16) and 15 joint ventures (December 31, 2021: 10) are also included using the equity method.

The principal subsidiaries of Deutsche Telekom AG are listed in the section "[Summary of accounting policies – Principal subsidiaries](#)" in the notes to the consolidated financial statements.

Business combinations

Deutsche Telekom did not consummate any material business combinations in the 2022 reporting year.

For further information, please refer to the section "[Summary of accounting policies – Changes in the composition of the Group and other transactions](#)" in the consolidated financial statements.

Consolidated financial statements

Consolidated statement of financial position

millions of €			
	Note	Dec. 31, 2022	Dec. 31, 2021
Assets			
Current assets		39,144	38,799
Cash and cash equivalents	<u>1</u>	5,767	7,617
Trade receivables	<u>2</u>	16,766	15,299
Contract assets	<u>3</u>	2,410	2,034
Current recoverable income taxes	<u>32</u>	213	321
Other financial assets	<u>11</u>	4,865	4,051
Inventories	<u>4</u>	2,639	2,855
Other assets	<u>12</u>	1,800	1,766
Non-current assets and disposal groups held for sale	<u>5</u>	4,683	4,856
Non-current assets		259,446	242,828
Intangible assets	<u>6</u>	140,600	132,647
Property, plant and equipment	<u>7</u>	65,729	61,770
Right-of-use assets	<u>8</u>	33,727	30,777
Capitalized contract costs	<u>9</u>	3,205	2,585
Investments accounted for using the equity method	<u>10</u>	1,318	938
Other financial assets	<u>11</u>	5,044	4,836
Deferred tax assets	<u>32</u>	8,316	7,906
Other assets	<u>12</u>	1,507	1,369
Total assets		298,590	281,627

millions of €			
	Note	Dec. 31, 2022	Dec. 31, 2021
Liabilities			
Current liabilities		45,389	38,803
Financial liabilities	<u>13</u>	14,389	12,243
Lease liabilities	<u>13</u>	5,126	5,040
Trade and other payables	<u>14</u>	12,035	10,452
Income tax liabilities	<u>32</u>	801	549
Other provisions	<u>16</u>	4,412	3,903
Other liabilities	<u>17</u>	3,412	3,584
Contract liabilities	<u>18</u>	1,868	1,668
Liabilities directly associated with non-current assets and disposal groups held for sale	<u>5</u>	3,347	1,365
Non-current liabilities		165,881	161,355
Financial liabilities	<u>13</u>	98,641	99,223
Lease liabilities	<u>13</u>	33,666	28,094
Provisions for pensions and other employee benefits	<u>15</u>	4,150	6,134
Other provisions	<u>16</u>	3,792	5,560
Deferred tax liabilities	<u>32</u>	22,800	19,809
Other liabilities	<u>17</u>	2,171	1,959
Contract liabilities	<u>18</u>	663	577
Liabilities		211,270	200,159
Shareholders' equity	<u>19</u>	87,320	81,469
Issued capital		12,765	12,765
Treasury shares		(35)	(37)
		12,730	12,728
Capital reserves		61,532	63,773
Retained earnings including carryforwards		(34,489)	(36,358)
Total other comprehensive income		783	(1,641)
Net profit (loss)		8,001	4,176
Issued capital and reserves attributable to owners of the parent		48,558	42,679
Non-controlling interests		38,762	38,790
Total liabilities and shareholders' equity		298,590	281,627

Consolidated income statement

millions of €				
	Note	2022	2021	2020
Net revenue	20	114,197	107,610	99,946
Of which: interest income calculated using the effective interest method		589	276	278
Other operating income	21	4,653	1,300	2,873
Changes in inventories	22	26	(8)	(15)
Own capitalized costs	23	2,852	2,841	2,752
Goods and services purchased	24	(52,926)	(49,418)	(44,370)
Personnel costs	25	(19,371)	(18,394)	(18,792)
Other operating expenses	26	(6,383)	(4,261)	(4,493)
Impairment losses on financial assets		(1,235)	(637)	(862)
Gains (losses) from the write-off of financial assets measured at amortized cost		(24)	(122)	(188)
Other		(5,124)	(3,502)	(3,443)
EBITDA		43,049	39,671	37,900
Depreciation, amortization and impairment losses	27	(27,635)	(27,091)	(25,534)
Profit (loss) from operations (EBIT)	28	15,414	12,580	12,366
Finance costs	29	(5,292)	(4,416)	(4,029)
Interest income		387	611	589
Interest expense		(5,679)	(5,027)	(4,617)
Share of profit (loss) of associates and joint ventures accounted for using the equity method	30	(524)	(102)	(11)
Other financial income (expense)	31	1,379	(435)	131
Profit (loss) from financial activities		(4,437)	(4,953)	(3,908)
Profit (loss) before income taxes		10,977	7,628	8,458
Income taxes	32	(1,937)	(1,732)	(1,858)
Profit (loss) after taxes from continuing operations		9,039	5,896	6,600
Profit (loss) after taxes from discontinued operation	33	443	207	147
Profit (loss)		9,482	6,103	6,747
Profit (loss) attributable to				
Owners of the parent (net profit (loss))		8,001	4,176	4,158
Non-controlling interests	34	1,481	1,927	2,589
Earnings per share	36			
Profit (loss) from continuing operations attributable to the owners of the parent (net profit (loss))	millions of €	7,558	3,969	4,011
Profit (loss) from discontinued operation attributable to the owners of the parent (net profit (loss))	millions of €	443	207	147
Profit (loss) attributable to the owners of the parent (net profit (loss))	millions of €	8,001	4,176	4,158
Adjusted weighted average number of ordinary shares outstanding (basic/diluted)	millions	4,972	4,813	4,743
Earnings per share from continuing operations (basic/diluted)	€	1.52	0.82	0.85
Earnings per share from discontinued operation (basic/diluted)	€	0.09	0.04	0.03
Earnings per share (basic/diluted)	€	1.61	0.87	0.88

In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented changes to its accounting practices with respect to the recognition of gross vs. net revenues, effective the start of the third quarter of 2022. Prior-year comparatives were adjusted retrospectively.

As a result of the agreement concluded on July 13, 2022, from the third quarter of 2022, the GD tower companies are recognized in the consolidated financial statements as a discontinued operation. Prior-year comparatives were adjusted retrospectively.

Consolidated statement of comprehensive income

millions of €	2022	2021	2020
Profit (loss)	9,482	6,103	6,747
Items not subsequently reclassified to profit or loss (not recycled)			
Gains (losses) from the remeasurement of equity instruments	(46)	112	62
Gains (losses) from the remeasurement of defined benefit plans	1,841	1,426	(1,358)
Income taxes relating to components of other comprehensive income	(835)	(261)	142
	961	1,278	(1,154)
Items subsequently reclassified to profit or loss (recycled), if certain reasons are given			
Exchange differences on translating foreign operations			
Recognition of other comprehensive income in income statement	0	61	0
Change in other comprehensive income (not recognized in income statement)	4,071	5,142	(6,578)
Gains (losses) from the remeasurement of debt instruments			
Recognition of other comprehensive income in income statement	1,037	417	491
Change in other comprehensive income (not recognized in income statement)	(1,060)	(497)	(481)
Gains (losses) from hedging instruments (designated risk components)			
Recognition of other comprehensive income in income statement	123	17	431
Change in other comprehensive income (not recognized in income statement)	762	296	(1,446)
Gains (losses) from hedging instruments (hedging costs) ^a			
Recognition of other comprehensive income in income statement	1	2	2
Change in other comprehensive income (not recognized in income statement)	(51)	60	(30)
Share of profit (loss) of investments accounted for using the equity method			
Recognition of other comprehensive income in income statement	0	0	0
Change in other comprehensive income (not recognized in income statement)	0	0	1
Income taxes relating to components of other comprehensive income	(231)	(81)	283
	4,654	5,417	(7,327)
Other comprehensive income	5,615	6,694	(8,481)
Total comprehensive income	15,097	12,798	(1,734)
Total comprehensive income attributable to			
Owners of the parent	11,272	8,010	(496)
Non-controlling interests	3,825	4,788	(1,238)

^a The hedging costs relate entirely to cross-currency basis spreads. For further information, please refer to Note 42 "Financial instruments and risk management."

Consolidated statement of changes in equity

millions of €

	Issued capital and reserves attributable to owners of the parent					
	Equity contributed			Consolidated shareholders' equity generated		
	Number of shares thousands	Issued capital	Treasury shares	Capital reserves	Retained earnings including carry-forwards	Net profit (loss)
Balance at January 1, 2020	4,761,459	12,189	(47)	55,029	(38,709)	3,867
Changes in the composition of the Group						
Transactions with owners				7,356		
Unappropriated profit (loss) carried forward					3,867	(3,867)
Dividends					(2,846)	
Capital increase at Deutsche Telekom AG						
Capital increase from share-based payment				256		
Share buy-back/shares held in a trust deposit			1			
Profit (loss)						4,158
Other comprehensive income					(1,218)	
Total comprehensive income						
Transfer to retained earnings					1	
Balance at December 31, 2020	4,761,459	12,189	(46)	62,640	(38,905)	4,158
Balance at January 1, 2021	4,761,459	12,189	(46)	62,640	(38,905)	4,158
Changes in the composition of the Group						
Transactions with owners				(183)		
Unappropriated profit (loss) carried forward					4,158	(4,158)
Dividends					(2,846)	
Capital increase at Deutsche Telekom AG	225,000	576		1,063		
Capital increase from share-based payment				253		
Share buy-back/shares held in a trust deposit			9			
Profit (loss)						4,176
Other comprehensive income					1,125	
Total comprehensive income						
Transfer to retained earnings					110	
Balance at December 31, 2021	4,986,459	12,765	(37)	63,773	(36,358)	4,176
Balance at January 1, 2022	4,986,459	12,765	(37)	63,773	(36,358)	4,176
Changes in the composition of the Group						
Transactions with owners				(2,598)		
Unappropriated profit (loss) carried forward					4,176	(4,176)
Dividends					(3,182)	
Capital increase at Deutsche Telekom AG						
Capital increase from share-based payment				357		
Share buy-back/shares held in a trust deposit			2			
Profit (loss)						8,001
Other comprehensive income					892	
Total comprehensive income						
Transfer to retained earnings					(17)	
Balance at December 31, 2022	4,986,459	12,765	(35)	61,532	(34,489)	8,001

Issued capital and reserves attributable to owners of the parent								Total	Non-controlling interests	Total share-holders' equity
Total other comprehensive income										
Translation of foreign operations	Revaluation surplus	Equity instruments measured at fair value through other comprehensive income (IFRS 9)	Debt instruments measured at fair value through other comprehensive income (IFRS 9)	Hedging instruments: designated risk components (IFRS 9)	Hedging instruments: hedging costs (IFRS 9)	Investments accounted for using the equity method	Taxes			
(808)	(21)	101	(6)	130	51	0	(69)	31,707	14,524	46,231
								0	17,329	17,329
(339)			12	380			(109)	7,299	5,967	13,266
								0	0	0
								(2,846)	(215)	(3,061)
								0	0	0
								256	262	517
								1	0	1
								4,158	2,589	6,747
(2,945)		62	(6)	(733)	(27)	1	213	(4,654)	(3,827)	(8,481)
								(496)	(1,238)	(1,734)
	7	(7)						0	0	0
(4,092)	(14)	156	0	(223)	24	0	34	35,922	36,628	72,550
(4,092)	(14)	156	0	(223)	24	0	34	35,922	36,628	72,550
								0	(181)	(181)
				5			(1)	(179)	(48)	(227)
								0	0	0
(83)				(64)			19	1,511	(2,358)	(847)
								253	252	505
								9	0	9
								4,176	1,927	6,103
2,427		107	(37)	227	62		(77)	3,833	2,861	6,694
								8,010	4,788	12,798
	6	(120)					3	0	0	0
(1,747)	(7)	143	(37)	(56)	86	0	(22)	42,679	38,790	81,469
(1,747)	(7)	143	(37)	(56)	86	0	(22)	42,679	38,790	81,469
								0	(583)	(583)
57			(3)	(37)			12	(2,569)	(3,428)	(5,997)
								0	0	0
								(3,182)	(197)	(3,379)
								0	0	0
								357	355	711
								2	0	2
								8,001	1,481	9,482
1,911		(45)	(10)	787	(50)		(214)	3,271	2,344	5,615
								11,272	3,825	15,097
	7	12					(2)	0	0	0
221	0	109	(50)	695	35	0	(227)	48,558	38,762	87,320

Consolidated statement of cash flows

millions of €	Note	2022	2021	2020
Profit (loss) before income taxes	37	11,703	7,918	8,677
Depreciation, amortization and impairment losses		27,827	27,482	25,829
(Profit) loss from financial activities		4,455	5,139	4,128
Profit (loss) on the disposal of fully consolidated subsidiaries		(2,661)	(130)	(10)
(Income) loss from the sale of stakes accounted for using the equity method		(71)	(13)	0
Other non-cash transactions		1,508	226	(857)
(Gains) losses from the disposal of intangible assets and property, plant and equipment		(76)	161	368
Change in assets carried as operating working capital		(600)	(1,475)	(2,702)
Change in other operating assets		(813)	(1,059)	(509)
Change in provisions		117	(152)	20
Change in liabilities carried as operating working capital		789	241	(2,108)
Change in other operating liabilities		(60)	(260)	(239)
Income taxes received (paid)		(902)	(893)	(690)
Dividends received		11	8	6
Net payments from entering into, canceling or changing the terms and conditions of interest rate derivatives		0	(1)	(2,207)
Cash generated from operations		41,228	37,191	29,706
Interest paid		(6,756)	(6,158)	(7,252)
Interest received		1,347	1,138	1,289
Net cash from operating activities		35,819	32,171	23,743
Of which: from discontinued operation		712	808	646
Cash outflows for investments in				
Intangible assets		(7,551)	(12,749)	(5,756)
Property, plant and equipment		(16,563)	(13,616)	(12,938)
Non-current financial assets		(683)	(336)	(566)
Payments for publicly funded investments in the broadband build-out		(377)	(436)	(507)
Proceeds from public funds for investments in the broadband build-out		435	420	431
Changes in cash and cash equivalents in connection with the acquisition of control of subsidiaries and associates		(52)	(1,617)	(5,028)
Proceeds from disposal of				
Intangible assets		3	2	3
Property, plant and equipment		436	137	233
Non-current financial assets		173	352	112
Changes in cash and cash equivalents in connection with the loss of control of subsidiaries and associates		4,208	352	1,094
Net change in short-term investments and marketable securities and receivables		(2,335)	89	273
Other		1	0	(2)
Net cash (used in) from investing activities		(22,306)	(27,403)	(22,649)
Of which: from discontinued operation		(277)	(296)	(204)
Proceeds from issue of current financial liabilities		9,686	4,431	19,018
Repayment of current financial liabilities		(15,528)	(18,040)	(34,939)
Proceeds from issue of non-current financial liabilities		4,534	12,925	34,131
Repayment of non-current financial liabilities		0	0	(1,699)
Dividend payments (including to other shareholders of subsidiaries)		(3,385)	(3,145)	(3,067)
Principal portion of repayment of lease liabilities		(4,951)	(6,458)	(5,371)
Cash inflows from transactions with non-controlling entities		29	14	53
Cash outflows from transactions with non-controlling entities		(5,823)	(506)	(565)
Other		0	0	0
Net cash (used in) from financing activities		(15,438)	(10,779)	7,561
Of which: from discontinued operation		(192)	(193)	(153)
Effect of exchange rate changes on cash and cash equivalents		93	620	(1,036)
Changes in cash and cash equivalents associated with non-current assets and disposal groups held for sale		(18)	68	(73)
Net increase (decrease) in cash and cash equivalents		(1,850)	(5,323)	7,547
Cash and cash equivalents, at the beginning of the year		7,617	12,939	5,393
Cash and cash equivalents, at the end of the year		5,767	7,617	12,939

As a result of the agreement concluded on July 13, 2022, from the third quarter of 2022, the GD tower companies are recognized in the consolidated financial statements as a discontinued operation. The consolidated statement of cash flows continues to include the discontinued operation in the Group Development operating segment. The top line of the consolidated statement of cash flows is profit before income taxes, which includes the profit of both the continuing operations and the discontinued operation. In the consolidated statement of cash flows, the contributions by the GD tower companies are each stated in a separate "of which" line item.

Notes to the consolidated financial statements

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Summary of accounting policies

General information

Deutsche Telekom AG (hereinafter referred to as “Deutsche Telekom” or the “Group”) is one of the world’s leading service providers in the telecommunications and information technology sector. Deutsche Telekom offers its customers all kinds of products and services for connected life and work. The Group reports on the operating segments Germany, United States, Europe, Systems Solutions, and Group Development, as well as on the Group Headquarters & Group Services segment.

The Company was entered into the commercial register of the Bonn District Court (Amtsgericht – HRB 6794) as a stock corporation under the name Deutsche Telekom AG on January 2, 1995.

The Company has its registered office in Bonn, Germany. Its address is Deutsche Telekom AG, Friedrich-Ebert-Allee 140, 53113 Bonn.

The Declaration of Conformity with the German Corporate Governance Code required pursuant to § 161 of the German Stock Corporation Act (Aktiengesetz – AktG) has been released and made available to shareholders. The Declaration of Conformity can also be found on the website of Deutsche Telekom in accordance with § 161 AktG.

| [Declaration of Conformity](#)

The shares of Deutsche Telekom AG are traded on the Frankfurt/Main Stock Exchange as well as on other stock exchanges.

The annual financial statements as well as the consolidated financial statements of Deutsche Telekom AG, which have an unqualified audit opinion from Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Düsseldorf, are published in the Federal Gazette (Bundesanzeiger). The Annual Report is available on Deutsche Telekom’s website.

| [Publications](#)

The consolidated financial statements of Deutsche Telekom for the 2022 financial year were released for publication by the Board of Management on February 14, 2023.

Basis of preparation

The consolidated financial statements of Deutsche Telekom are prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union (EU), as well as with the regulations under commercial law as set forth in § 315e (1) of the German Commercial Code (Handelsgesetzbuch – HGB). The term IFRS is consistently used in the following.

The financial year corresponds to the calendar year. The consolidated statement of financial position includes comparative amounts for one reporting date. The consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity, and the consolidated statement of cash flows include two comparative years.

Presentation in the statement of financial position differentiates between current and non-current assets and liabilities, which – where required – are broken down further by their respective maturities in the notes to the consolidated financial statements. The consolidated income statement is presented using the total cost method. Here, the costs incurred in the financial year are broken down by cost type and the costs capitalized under inventories as well as under intangible assets and property, plant and equipment are presented separately as changes in inventories or own capitalized costs. The consolidated financial statements are prepared in euros.

The financial statements of Deutsche Telekom AG and its subsidiaries included in the consolidated financial statements were prepared using uniform group accounting policies.

The financial statements are prepared on a going concern basis.

Initial application of standards, interpretations, and amendments in the financial year

Pronouncement	Title	To be applied by Deutsche Telekom from	Changes	Expected impact on the presentation of Deutsche Telekom's results of operations and financial position
IFRSs endorsed by the EU				
Amendments to IAS 16	Proceeds before Intended Use	Jan. 1, 2022	The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. The definition of the costs of testing is specified. Revenue and cost that relate to items produced that are not an output of the entity's ordinary activities must be presented separately. The line item in the statement of comprehensive income that includes such revenue must be stated.	No material impact.
Amendments to IAS 37	Onerous Contracts – Cost of Fulfilling a Contract	Jan. 1, 2022	The amendment clarifies that the cost of fulfilling a contract includes all directly attributable costs. The cost of fulfilling the contract includes both the incremental costs of fulfilling that contract (such as direct wage and material costs) and an allocation of other costs that relate directly to fulfilling contracts. In addition, it is clarified that before a provision for an onerous contract is established, an entity should recognize any impairment loss that has occurred on assets used in (previously: dedicated to) fulfilling the contract.	No material impact.
Amendments to IFRS 3	Reference to the Conceptual Framework	Jan. 1, 2022	A reference was included in IFRS 3 to the revised 2018 Conceptual Framework for Financial Reporting. Requirement that, for identifying liabilities within the scope of IAS 37 or IFRIC 21, an acquirer should apply IAS 37 or IFRIC 21 (instead of the Conceptual Framework) to identify the liabilities it has assumed in a business combination. Addition of an explicit statement that an acquirer should not recognize contingent assets acquired in a business combination.	No material impact.
Annual Improvements Project	Annual Improvements to IFRSs 2018–2020 Cycle	Jan. 1, 2022	Revision of specific aspects in IFRS 1, IFRS 9, IFRS 16, and IAS 41.	No material impact.

Standards, interpretations, and amendments issued, but not yet to be applied

Pronouncement	Title	To be applied by Deutsche Telekom from	Changes	Expected impact on the presentation of Deutsche Telekom's results of operations and financial position
IFRSs endorsed by the EU				
IFRS 17	Insurance Contracts	Jan. 1, 2023	IFRS 17 governs the accounting for insurance contracts and replaces IFRS 4.	No material impact.
Amendments to IFRS 17	Insurance Contracts	Jan. 1, 2023	The initial application of IFRS 17 is postponed until January 1, 2023. The fundamental principles under IFRS 17 remain unaffected. The amendments to the standard, which refer to specific topics, are aimed at helping entities implement the standard and, at the same time, avoiding a significant loss of useful information. The option for companies to delay application of IFRS 9 until the initial application of IFRS 17 has also been extended until January 1, 2023.	No material impact.
Amendments to IFRS 17	Initial Application of IFRS 17 and IFRS 9 – Comparative Information	Jan. 1, 2023	Supplementary transition option relating to comparatives in the first reporting year, which allows for the option of a different classification pursuant to IFRS 9 (classification overlay) for the comparative periods in the year of first-time application of both standards. In addition, for financial assets that relate to insurance contracts, existing classification options under IFRS 9 can be exercised again if IFRS 9 was applied prior to the first-time application of IFRS 17.	No impact.

^a For standards not yet endorsed by the EU, the date of first-time adoption scheduled by the IASB is assumed for the time being as the likely date of first-time adoption.

Pronouncement	Title	To be applied by Deutsche Telekom from	Changes	Expected impact on the presentation of Deutsche Telekom's results of operations and financial position
Amendments to IAS 1 and IFRS Practice Statement 2	Presentation of Financial Statements	Jan. 1, 2023	The amendments to IAS 1 will require entities to disclose their material accounting policies in the future rather than their significant accounting policies. The amendments to IFRS Practice Statement 2 "Making Materiality Judgements" contain guidance on applying materiality judgments to accounting policy disclosures.	No material impact.
Amendments to IAS 8	Definition of Accounting Estimates	Jan. 1, 2023	The amendments relate to the definition of accounting estimates. It is clarified how entities can distinguish between changes to accounting policies and to accounting estimates.	No material impact.
Amendments to IAS 12	Deferred Tax related to Assets and Liabilities arising from a Single Transaction	Jan. 1, 2023	IAS 12 provides for exemptions to the recognition of deferred taxes in specific cases. It was previously unclear as to whether the initial recognition exemptions also apply for transactions in which the initial recognition of an asset and a liability gives rise to equal taxable and deductible temporary differences. The exemptions apply specifically to leases and restoration obligations. The IASB now clarifies that the exemption relating to the recognition of deferred taxes is not applicable in the aforementioned configuration.	No material impact.
IFRSs not yet endorsed by the EU^a				
Amendments to IAS 1	Classification of Liabilities as Current or Non-current	Jan. 1, 2024	The amendments clarify that the classification of liabilities as current or non-current should be based on rights that are in existence at the end of the reporting period. The amendment also clarifies the definition of settlement of a liability.	No material impact.
Amendments to IAS 1	Non-current Liabilities with Covenants	Jan. 1, 2024	The amendments clarify that covenants in loan agreements with which an entity is required to comply only after the reporting date do not affect the classification of a liability on the reporting date as current or non-current. By contrast, covenants with which an entity must comply on or before the reporting date affect the classification.	No material impact expected.
Amendments to IFRS 16	Lease Liability in a Sale and Leaseback	Jan. 1, 2024	The amendments require a seller-lessee to subsequently measure lease liabilities arising from a sale and leaseback transaction in a way that it does not recognize any amount of the gain or loss that relates to the right of use it retains. The requirements for initial measurement of the right-of-use asset have not been amended. By contrast, the change to the subsequent measurement of the lease liability requires variable lease payments that do not depend on an index or interest rate to also be considered in the initial measurement of the lease liability from a sale and leaseback transaction.	No material impact expected.

^a For standards not yet endorsed by the EU, the date of first-time adoption scheduled by the IASB is assumed for the time being as the likely date of first-time adoption.

Changes in accounting policies and changes in the reporting structure

Deutsche Telekom made the following changes to its accounting policies or reporting structure in the reporting period:

Gross vs. net recognition of revenues – change in the principal/agent consideration. In cases where Deutsche Telekom is in an intermediary position between a supplier and a customer, it must be assessed whether Deutsche Telekom itself supplies the relevant product or provides the service requested by the customer as a principal or merely acts as an agent for the supplier. The outcome determines whether Deutsche Telekom must recognize revenue on a gross basis (as a principal) or net (as an agent) of the costs incurred to the supplier, i.e., only in the amount of the remaining margin. The determining factor is control over the specified good or service. Depending on the facts and circumstances, the specified good that a company controls as principal may also be a right to the third party's good or service. For Deutsche Telekom, the question arises particularly in the case of branded digital products (e.g., streaming services, software licenses, cloud-based software as a service) provided by and purchased from third parties and sold to customers as part of Deutsche Telekom's product portfolio.

Under Deutsche Telekom's previous interpretation, for considering itself to be principal it was sufficient that Deutsche Telekom obtains from the supplier a contractual, enforceable right to purchase the supplier's predefined products "on demand" at any time at predefined prices and to resell them to customers in its own name and for its own account at a price determined at its own discretion. In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to distinguishing between gross and net revenues, effective the start of the third quarter of 2022. In considering the change in policy, Deutsche Telekom determines that it only acts as a principal and thus recognizes revenues on a gross basis in the aforementioned cases if the customer does not enter into any contractual relationship with the third-party supplier, Deutsche Telekom bears primary responsibility for product acceptance and customer support, and is in a position to set the price for the customer. In contrast to its previous accounting practice, the application of the new policy results in a decline both in revenues and in goods and services purchased of EUR 1.3 billion in each case for the 2022 financial year, and of EUR 1.0 billion in each case for the prior year.

Reassignment of the security business. Effective July 1, 2022, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security GmbH and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment in order to maintain a consistent focus on implementing the Group strategy pillar "Lead in business productivity." Prior-year comparatives in both of the segments affected have accordingly been adjusted with retrospective effect in segment reporting.

Accounting policies

Key assets and liabilities shown in the consolidated statement of financial position are measured as follows:

Items in the statement of financial position	Measurement principle
Assets	
Current assets	
Cash and cash equivalents	Amortized cost
Trade receivables	Depending on the underlying business model in each case: at amortized cost, at fair value through other comprehensive income with recycling to profit or loss, or at fair value through profit or loss
Contract assets	Amortized cost
Current recoverable income taxes	Amount expected to be recovered from the taxation authorities, using the tax rates that have been enacted or substantively enacted by the end of the reporting period
Other financial assets	
Originated loans and other receivables	Depending on the underlying business model in each case: at amortized cost, at fair value through other comprehensive income with recycling to profit or loss, or at fair value through profit or loss
Derivative financial assets	At fair value through profit or loss or, in the case of certain hedging relationships, at fair value through other comprehensive income with recycling to profit or loss
Inventories	Lower of net realizable value and cost
Non-current assets and disposal groups held for sale	Lower of carrying amount or fair value less costs of disposal (including allocable liabilities)
Non-current assets	
Intangible assets	
Of which: with finite useful lives	Amortized cost or lower recoverable amount
Of which: with indefinite useful lives (including goodwill)	Cost or lower recoverable amount (impairment-only approach)
Property, plant and equipment	Amortized cost or lower recoverable amount
Right-of-use assets	Amortized cost or lower recoverable amount
Capitalized contract costs	Amortized cost or lower recoverable amount
Investments accounted for using the equity method	Pro rata value of the investment's equity carried forward or lower recoverable amount
Other financial assets	
Originated loans and other receivables	Depending on the underlying business model in each case: at amortized cost, at fair value through other comprehensive income with recycling to profit or loss, or at fair value through profit or loss
Equity instruments	Fair value through other comprehensive income without recycling to profit or loss
Derivative financial assets	At fair value through profit or loss or, in the case of specific hedge accounting, at fair value through other comprehensive income with recycling to profit or loss
Deferred tax assets	Non-discounted amount measured at the tax rates that are expected to apply to the period when the asset is realized or the liability settled

Items in the statement of financial position	Measurement principle
Liabilities	
Current liabilities	
Financial liabilities	
Non-derivative interest-bearing and non-interest-bearing liabilities	Amortized cost
Derivative financial liabilities	At fair value through profit or loss or, in the case of certain hedging relationships, at fair value through other comprehensive income with recycling to profit or loss
Lease liabilities	Amortized cost
Trade payables	Amortized cost
Income tax liabilities	Amount expected to be paid to the taxation authorities, using the tax rates that have been enacted or substantively enacted by the end of the reporting period
Other provisions	Present value of the settlement amount
Contract liabilities	Amortized cost
Non-current liabilities	
Financial liabilities	
Non-derivative interest-bearing and non-interest-bearing liabilities	Amortized cost
Derivative financial liabilities	At fair value through profit or loss or, in the case of certain hedging relationships, at fair value through other comprehensive income with recycling to profit or loss
Lease liabilities	Amortized cost
Provisions for pensions and other employee benefits	Actuarial projected unit credit method
Other provisions	Present value of the settlement amount
Contract liabilities	Amortized cost
Deferred tax liabilities	Non-discounted amount measured at the tax rates that are expected to apply to the period when the asset is realized or the liability settled

The material principles on recognition and measurement set out below were applied uniformly to all accounting periods presented in these consolidated financial statements.

Intangible assets

Intangible assets with finite useful lives, including 5G, LTE, UMTS, and GSM licenses, are measured at cost and generally amortized on a straight-line basis over their useful lives. Such assets are impaired if their recoverable amount, which is measured at the higher of fair value less costs of disposal and value in use, is lower than the carrying amount. Indefinite-lived intangible assets (mobile communications licenses granted by the Federal Communications Commission in the United States (FCC licenses)) are carried at cost. While FCC licenses are issued for a fixed time, renewals of FCC licenses have occurred routinely and at negligible costs. Moreover, Deutsche Telekom has determined that there are currently no legal, regulatory, contractual, competitive, economic, or other factors that limit the useful lives of the FCC licenses, and therefore treats the FCC licenses as an indefinite-lived intangible asset. They are not amortized, but tested for impairment annually or whenever there are indications of impairment and, if necessary, written down to the recoverable amount. If the reasons for recognizing the original impairment loss no longer apply, impairment losses are reversed taking amortization into account, i.e., not exceeding the value that would have been applied if no impairment losses had been recognized in prior periods.

Intangible assets may also be acquired in connection with a frequency or spectrum exchange. The costs of intangible assets acquired in such a barter transaction are measured at fair value if the swap has commercial substance and the fair value of the asset received and the asset given up is reliably measurable. If the exchange transaction lacks commercial substance or the fair value of neither the asset received nor the asset given up is reliably measurable, the carrying amount of the asset given up is used as the acquisition costs of the asset received.

Limited-term spectrum leases normally satisfy the recognition criteria because the lessors fulfill their performance obligations on entering into the contract, which means there are no more executory contracts. Acquired television, film, and sports rights (media broadcasting rights) are recognized if the content is sufficiently developed to satisfy the identifiability criterion.

On initial recognition, the intangible asset and the corresponding financial liability are measured only on the basis of the minimum contract term. Where a right of termination exists, the period beyond the effective date of the earliest possible termination is not considered on initial recognition. Where a right of renewal exists, the renewal period is not considered on initial recognition.

The useful lives and the amortization methods of the intangible assets are reviewed at least at each financial year-end. If expectations differ from previous estimates, the changes are recognized as changes in accounting estimates in accordance with IAS 8.

Amortization of mobile communications licenses begins as soon as the related network is ready for use. The useful lives of mobile communications licenses are determined based on several factors, including the term of the licenses granted by the respective regulatory body in each country, the availability and expected cost of renewing the licenses, as well as the development of future technologies.

The useful lives of Deutsche Telekom's most important mobile communications licenses are as follows:

Mobile communications licenses	Years
FCC licenses	Indefinite
5G licenses	19 to 23
LTE licenses	6 to 25
UMTS licenses	17 to 19
GSM licenses	7 to 27

Expenditures for internally generated intangible assets incurred during the development phase are capitalized if they meet the criteria for recognition as assets, and are amortized over their useful lives. Research expenditures are expensed as incurred. Development is the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems, or services prior to the commencement of commercial production or use. Examples of activities typically included in development are the design, construction, and testing of pre-production or pre-use prototypes and models involving new technology. The development phase is deemed complete when the IT department has formally documented that the capitalized asset is ready for its intended use.

Goodwill is not amortized, but is tested for impairment based on the recoverable amount of the cash-generating unit to which the goodwill is allocated (impairment-only approach). The impairment test is carried out on a regular basis at the end of each financial year, as well as whenever there are indications that a carrying amount of the cash-generating unit is impaired.

Property, plant and equipment

Property, plant and equipment is carried at cost less straight-line depreciation, and impairment losses, if applicable. The depreciation period is based on the expected useful life of the assets. Items of property, plant and equipment are depreciated pro rata temporis in the year of acquisition. The residual values, useful lives, and the depreciation methods of the assets are reviewed at least at each financial year-end. If expectations differ from previous estimates, the changes are recognized as changes in accounting estimates in accordance with IAS 8. In addition to directly attributable costs, the costs of internally developed assets include proportionate indirect material and labor costs, as well as administrative expenses relating to production or the provision of services. In addition to the purchase price and costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management, costs also include the estimated costs for dismantling and removing the asset, and restoring the site on which it is located. If an item of property, plant and equipment consists of several components with different estimated useful lives, those components that are significant are depreciated over their individual useful lives. Maintenance and repair costs are expensed as incurred. If an asset is owned and a portion is used as an item of property, plant and equipment while another physically distinct portion of the owned asset is leased under an operating lease (e.g., office floors of a building or individual optical fibers of a cable), the portion of the asset that is leased is not presented separately.

Public investment grants reduce the cost of the property, plant and equipment for which the grants were made.

Investment grants are recognized when there is reasonable assurance that the entity will comply with the conditions attached to them, and the grants will be received in the full amount. If this reasonable assurance already exists when the contract is being concluded, the grant is recognized in full under other financial assets upon conclusion of the agreement, with a matching non-financial other liability for the build-out obligation. In subsequent periods, the financial asset measured at amortized cost is reduced upon receipt of the payments. The other liability is derecognized on a pro rata basis as the build-out progresses, reducing the carrying amount of the publicly funded property, plant and equipment. If there is not yet reasonable assurance, only the installment payments received are recognized, with a matching non-financial other liability. As soon as there is reasonable assurance, outstanding grants are recognized under other financial assets, and the carrying amounts of the other liability and the publicly funded property, plant and equipment are adjusted in accordance with the actual build-out progress. All grants received are recognized in net cash used in/from investing activities.

On disposal of an item of property, plant and equipment or when no future economic benefits are expected from its use or disposal, the carrying amount of the item is derecognized. The gain or loss arising from the disposal of an item of property, plant and equipment is the difference between the net disposal proceeds, if any, and the carrying amount of the item and is recognized as other operating income or other operating expenses when the item is derecognized. The useful lives of the main asset classes are shown in the table below:

Asset classes	Years ^a
Buildings	25 to 50
Technical equipment and machinery	2 to 35
Other equipment, operating and office equipment	2 to 23

^a The useful lives indicated represent the maximum number of years as specified by the Group. The actual useful lives may be shorter due to contractual arrangements or other specific factors such as time and location.

Leasehold improvements are depreciated over the shorter of their useful lives or terms of the lease.

Borrowing costs

Borrowing costs that are directly attributable to the acquisition, construction, or production of a qualifying asset are capitalized as part of the cost of that asset. Deutsche Telekom defines qualifying assets as construction projects or other assets for which a period of at least twelve months is necessary in order to get them ready for their intended use or sale. Borrowing costs relating to assets measured at fair value and to inventories that are manufactured or produced in large quantities on a repetitive basis are not capitalized.

Impairments of intangible assets, items of property, plant and equipment, and right-of-use assets

Impairments are identified by comparing the carrying amount with the recoverable amount. If individual assets do not generate future cash flows independently of other assets, recoverability is assessed on the basis of the larger cash-generating unit to which the assets belong. At each reporting date, Deutsche Telekom assesses whether there is any indication that an asset may be impaired. If any such indication exists, the recoverable amount of the asset or cash-generating unit must be determined. In addition, annual impairment tests are carried out for intangible assets with indefinite useful lives (goodwill and FCC licenses) at regular intervals. For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the cash-generating units that are expected to benefit from the synergies of the combination. If the carrying amount of the cash-generating unit to which goodwill is allocated exceeds its recoverable amount, goodwill allocated to this cash-generating unit must be reduced in the amount of the difference. Impairment losses for goodwill must not be reversed. If the impairment loss recognized for the cash-generating unit exceeds the carrying amount of the allocated goodwill, the additional amount of the impairment loss is to be distributed on a pro rata basis to the assets allocated to the cash-generating unit. The fair values or values in use (if measurable) of the individual assets are to be considered to be the minimum values. If the reasons for previously recognized impairments no longer exist, the impairment losses on the assets concerned (with the exception of goodwill) must be reversed.

The recoverable amount of a cash-generating unit is measured at the higher of fair value less costs of disposal and the value in use. The recoverable amount is generally determined by means of a discounted cash flow (DCF) calculation, unless it can be determined on the basis of a market price. These DCF calculations use projections that are based on financial budgets approved by management covering a ten-year period and are also used for internal purposes. The planning horizon reflects the assumptions for short- to mid-term market developments. Cash flows beyond the ten-year period are extrapolated using appropriate growth rates. For the key assumptions on which management has based its calculation of the recoverable amount, please refer to the explanations provided under "Judgments and estimates," further on in this section.

Inventories

Inventories are carried at cost at initial recognition and are subsequently measured at the lower of cost and net realizable value. Cost comprises all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition. Cost is measured using the weighted average cost method. Net realizable value is the estimated standalone selling price in the ordinary course of business less the estimated costs of completion and the necessary estimated selling expenses.

Non-current assets and disposal groups held for sale

Non-current assets and disposal groups held for sale are classified as such if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. These assets are measured at the lower of the carrying amount and fair value less costs of disposal and classified as non-current assets and disposal groups held for sale. Such assets are no longer depreciated. Impairment of such assets is recognized if fair value less costs of disposal is lower than the carrying amount. If fair value less costs of disposal subsequently increases, the impairment loss previously recognized must be reversed. The reversal of impairment losses is limited to the impairment losses previously recognized for the assets concerned. If the requirements for the classification of assets as held for sale are no longer met, the assets may no longer be shown as held for sale. The assets are to be measured at the lower of the carrying amount that would have applied if the asset had not been classified as held for sale, and the recoverable amount at the date at which the requirements for the classification as held for sale are no longer met.

Employee benefits

Deutsche Telekom maintains **defined benefit pension plans** in various countries on the basis of the pensionable compensation of its employees and their length of service. Some of these pension plans are financed through external pension funds and some through incorporation in a contractual trust agreement (CTA). Provisions for pensions are actuarially measured using the projected unit credit method for defined benefit pension plans, taking into account not only the pension obligations and vested pension rights known at the reporting date, but also expected future salary and benefit increases. The interest rate used to determine the present value of the obligations is generally set on the basis of the yields on high-quality corporate bonds in the respective currency area. The return on plan assets and interest expenses resulting from the unwinding of the discount are reported in profit/loss from financial activities. Service cost is classified as operating expenses. Past service cost resulting from a change in the pension plan are immediately recognized in the income statement in the period in which the change took effect. Gains and losses arising from adjustments and changes in actuarial assumptions are recognized immediately and in full in the period in which they occur outside profit or loss within equity. Some Group entities grant defined contribution plans to their employees in accordance with statutory or contractual requirements, with the payments being made to state or private pension insurance funds. Under defined contribution plans, the employer does not assume any other obligations above and beyond the payment of contributions to an external fund. The amount of the future pension payments will exclusively depend on the contribution made by the employer (and their employees, if applicable) to the external fund, including income from the investment of such contributions. The amounts payable are expensed when the obligation to pay the amounts is established, and classified as expenses.

Up until December 31, 2012, Deutsche Telekom maintained a joint pension fund, **Bundes-Pensions-Service für Post und Telekommunikation e.V.**, Bonn (Federal Pension Service for Post and Telecommunications – BPS-PT), together with Deutsche Post AG and Deutsche Postbank AG for civil-servant pension plans. BPS-PT made pension and allowance payments to retired employees and their surviving dependents who are entitled to pension payments as a result of civil-servant status. The German Act on the Reorganization of the Civil Service Pension Fund (Gesetz zur Neuordnung der Postbeamtenversorgungskasse – PVKNeuG) transferred the functions of BPS-PT relating to civil-servant pensions (organized within the Civil Service Pension Fund) to the Federal Posts and Telecommunications Agency (Federal Agency) (Bundesanstalt für Post und Telekommunikation, Bonn. BAnst PT) effective January 1, 2013. The level of Deutsche Telekom AG's payment obligations to the Civil Service Pension Fund is defined under § 16 of the German Act on the Legal Provisions for the Former Deutsche Bundespost Staff (Postpersonalrechtsgesetz). Deutsche Telekom AG has been legally obligated since 2000 to make an annual contribution to the special pension fund amounting to 33 % of the pensionable gross emoluments of active civil servants and the notional pensionable gross emoluments of civil servants on leave of absence. Deutsche Telekom is not required to fulfill any other obligations in respect of pensions for civil servants. The payment obligations are therefore to be considered defined contribution plans.

In the past, Deutsche Telekom AG and its domestic subsidiaries agreed on **phased retirement arrangements** with varying terms and conditions, predominantly based on what is known as the block model. Two types of obligations, both measured at their present value in accordance with actuarial principles, arise and are accounted for separately. The first type of obligation relates to the cumulative outstanding settlement amount, which is recorded on a pro rata basis during the active or working phase. The cumulative outstanding settlement amount is based on the difference between the employee's remuneration before entering phased retirement (including the employer's social security contributions) and the remuneration for the part-time service (including the employer's social security contributions, but excluding top-up payments). The second type of obligation relates to the employer's obligation to make top-up payments plus an additional contribution to the statutory pension scheme. Top-up payments are often hybrid in nature, i.e., although the agreement is often considered a form of compensation for terminating the employment relationship at an earlier date, payments to be made at a later date are subject to the performance of work in the future. Despite having the characteristics of severance payments, the top-up payments must be recognized ratably over the vesting period due to their dependency on the performance of work in the future. If the block model is used, the vesting period for top-up payments starts when the employee is granted the entitlement to participate in the phased retirement program and ends upon entry into the passive phase (leave from work).

Obligations arising from the granting of termination benefits are recognized when Deutsche Telekom does not have a realistic possibility of withdrawal from the granting of the corresponding benefits. **Severance payments for employees and obligations arising in connection with early retirement arrangements** in Germany are mainly granted in the form of offers to the employees to leave the Company voluntarily. As a rule, such obligations are not recognized before the employees have accepted an offer from the Company, unless the Company is prevented by legal or other restrictions from withdrawing its offer at an earlier date. Obligations arising from the sole decision by the Company to shed jobs are recognized when the Company has announced a detailed formal plan to terminate employment relationships. If termination benefits are granted in connection with restructuring measures within the meaning of IAS 37, a liability under IAS 19 is recognized at the same time as a restructuring provision. Where termination benefits fall due more than twelve months after the reporting date, the expected amount to be paid is discounted to the reporting date. If the timing or the amount of the payment is still uncertain at the reporting date, the obligations are reported under other provisions.

Other provisions

Other provisions are recognized for current legal or constructive obligations to third parties that are uncertain with regard to their timing or their amount. Provisions are recognized for these obligations provided they relate to past transactions or events, will more likely than not require an outflow of resources to settle, and this outflow can be reliably measured. Provisions are carried at their expected settlement amount, taking into account all identifiable risks and uncertainties. The settlement amount is calculated on the basis of a best estimate; suitable estimation methods and sources of information are used depending on the characteristics of the obligation. In the case of a number of similar obligations, the group of obligations is treated as one single obligation. The expected value method is used as the estimation method. If there is a range of potential events with the same probability of occurrence, the average value is taken. Individual obligations (e.g., legal and litigation risks) are regularly evaluated based on the most probable outcome, provided an exceptional probability distribution does not mean that other estimates would lead to a more appropriate evaluation. The measurement of provisions is based on past experience, current costing, and price information, as well as estimates and reports from experts. If experience or current costing or price information is used to determine the settlement amount, these values are extrapolated to the expected settlement date. Suitable price trend indicators (e.g., construction price indexes or inflation rates) are used for this purpose. Provisions are discounted when the effect of the time value of money is material. Provisions are discounted using pre-tax market interest rates that reflect the term of the obligation and the risk associated with it (insofar as not already taken into consideration in the calculation of the settlement amount). Reimbursement claims are not netted against provisions; they are recognized separately as soon as their realization is virtually certain.

Provisions for decommissioning, restoration, and similar obligations arising from the acquisition of property, plant and equipment are offset by a corresponding increase in the capitalized cost of the relevant asset. Changes at a later date in estimates of the amount or timing of payments or changes to the interest rate applied in measuring such obligations also result in retrospective increases or decreases in the carrying amount of the relevant item of property, plant and equipment. These in turn change the depreciation of the asset to be recognized in the future, which leads to the changes in estimates being recognized in profit or loss over the remaining useful life. Where the decrease in the amount of a provision exceeds the carrying amount of the related asset, the excess is recognized immediately in profit or loss.

Financial instruments

Financial instruments are recognized as soon as Deutsche Telekom becomes a party to the contractual regulations of the financial instrument. However, in the case of regular way purchase or sale, the settlement date is relevant for the initial recognition and derecognition. This is the day on which the asset is delivered to or by Deutsche Telekom. In general, financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the entity currently has a right to offset the recognized amounts and intends to settle on a net basis. Transferred financial assets are derecognized in full if substantially all the risks and rewards of ownership are transferred or if some of the risks and rewards of ownership are transferred (risk sharing) and the acquirer has both the legal and the practical ability to sell the assets to a third party. If, in cases where risk is shared, the acquirer is unable to sell the assets to a third party, the assets will continue to be recognized to the extent of the maximum risk retained. Financial liabilities are derecognized when the obligation specified in the contract expires or if there is a substantial modification of the terms of the contract.

Financial assets include cash and cash equivalents, trade receivables, originated loans and other receivables, investments in equity instruments, and derivative financial assets. They are measured at fair value upon initial recognition. For all financial assets not subsequently measured at fair value through profit or loss, the transaction costs directly attributable to the acquisition are taken into account plus, in the case of debt instruments held, a loss account for expected credit losses. The fair values recognized in the statement of financial position are generally based on market prices of the financial assets. If these are not available, the fair value is determined using standard valuation models on the basis of current market parameters. For the classification and measurement of debt instruments held, the respective business model for managing the debt instruments and whether the instruments have the characteristics of a standard loan, i.e., whether the cash flows are solely payments of principal and interest, is relevant. Assuming the assets have these characteristics and if the business model is to hold to collect the asset's contractual cash flows, they are measured at amortized cost. If the objective of the business model is to hold to collect and sell the contractual cash flows, they are measured at fair value through other comprehensive income with recycling to profit or loss. In all other cases, financial assets are measured at fair value through profit or loss. There may be different business models for separate portfolios of the same types of debt instruments, for example if factoring transactions exist for certain trade receivables.

Cash and cash equivalents include cash accounts and short-term cash deposits at banks. They have maturities of up to three months at initial recognition.

Trade receivables are measured at their transaction price at initial recognition. Trade receivables with a significant financing component are initially measured at fair value.

Investments in **equity instruments** represent strategic investments. Deutsche Telekom has exercised the option of generally measuring these through other comprehensive income without recycling to profit or loss. The acquisition and disposal of strategic investments is based on business policy considerations.

Dividends received are recognized immediately in profit or loss unless they constitute a repayment of capital.

Derivative financial assets that are not part of an effective hedging relationship are measured at fair value through profit or loss.

In the **consolidated statement of cash flows**, Deutsche Telekom reports cash flows from interest and dividends received as cash inflows or outflows in net cash from operating activities.

Financial liabilities are measured at fair value on initial recognition. For all financial liabilities not subsequently measured at fair value through profit or loss, the transaction costs directly attributable to the acquisition are also a component of the carrying amount.

If the contractual payment term for **liabilities to suppliers** is longer than the normal credit period in the relevant procurement market at this point in time, this liability is reported under other interest-bearing liabilities in financial liabilities instead of under trade payables. A financing agreement of this nature is shown as a non-cash transaction in the consolidated statement of cash flows and the relevant repayment of the financial liability is reported under net cash from/used in financing activities. This applies regardless of whether the supplier sells its receivable or not.

For further information on the effects on the consolidated statement of cash flows, please refer to Note 37 "[Notes to the consolidated statement of cash flows](#)."

Derivative financial liabilities that are not part of an effective hedging relationship are measured at fair value through profit or loss.

Deutsche Telekom has not yet made use of the option to designate financial instruments upon initial recognition as **at fair value through profit or loss**.

At initial recognition, debt instruments that are not measured at fair value through profit or loss are measured including a loss allowance account for expected **credit losses**. For trade receivables with and without a significant financing component, contract assets, and lease assets, the loss allowance is calculated at an amount equal to the lifetime expected credit losses. For all other instruments, the loss allowance is determined at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition. Otherwise, the loss allowance is calculated at an amount equal to twelve-month expected credit losses. In this case, losses incurred later than twelve months after the reporting date would therefore not be considered.

When determining the amount of loss allowances for financial assets, Deutsche Telekom applies impairment models that are based on the historical probability of default and supplemented by the relevant future-oriented parameters. For debt instruments traded in an active market, publicly available market data is used to determine the loss allowance for expected credit losses.

The loss allowance takes adequate account of the future expected credit risk; write-offs lead to the derecognition of the respective receivables. Financial assets are grouped together on the basis of similar credit risk characteristics, tested collectively for impairment, and written off, if necessary. Loss allowances for trade receivables are managed by the portfolio managers of the individual business entities which have their own policies, procedures, and controls for managing the customer default risk and take account of the local circumstances in the respective market. They consider internal credit ratings and empirical data on the customers' solvency in addition to customer-specific risks, and make use of any available external ratings and estimates by collection agencies. The expected amount of a loss allowance is generally determined using a provision matrix and will increase over time taking into account how long the balances have been past due. The loss allowance rates are updated at regular intervals and adjusted to reflect current conditions and economic forecasts. For receivables and contract assets paid in installments a weighted loss rate is calculated, which reflects the period in which the amounts to be paid by the customer become due. A receivable is deemed past due if the customer has not made the payment by the contractually agreed due date. In some cases, impairments are recognized using allowance accounts. The decision of whether to account for credit risks using an allowance account or by directly reducing the receivable will depend on the reliability of the risk assessment and is also the responsibility of the respective business entity.

Receivables are derecognized if the efforts to collect them are not successful and the receivable balance is deemed to be uncollectible.

Deutsche Telekom uses **derivatives** to hedge the interest rate and currency risks resulting from its operating, financing, and investing activities. The Company does not hold or issue derivatives for speculative trading purposes. Derivatives are carried at their fair value upon initial recognition and also for subsequent measurement. The fair value of traded derivatives is equal to their market price, which can be positive or negative. If there is no market price available, the fair value is determined using standard financial valuation models.

The fair value of derivatives is the price that Deutsche Telekom would receive or have to pay if the financial instrument were transferred at the reporting date. This is calculated on the basis of the counterparties' relevant exchange rates and interest rates at the reporting date. Calculations are made using average rates. In the case of interest-bearing derivatives, a distinction is made between the clean price and the dirty price (full fair value). In contrast to the clean price, the dirty price also includes the interest accrued. The fair values carried correspond to the dirty price.

Embedded derivatives are separated from financial liabilities and other non-financial contracts that are not measured at fair value through profit or loss if the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract. These derivatives must then be recognized separately and measured at fair value through profit or loss. Derivatives embedded in financial assets do not need to be separated, however. In such cases, the entire instrument is rather to be measured at fair value provided the cash flows from the instrument are not solely payments of principal and interest.

Recording the changes in the fair values – either in profit or loss or directly in equity – depends on whether or not the derivative is part of an effective hedging relationship as set out in IFRS 9. If hedge accounting is not applied, the changes in the fair values of the derivatives must be recognized immediately in profit or loss. If, on the other hand, effective hedge accounting exists, the hedge will be recognized as such.

Deutsche Telekom applies hedge accounting to hedged items in the statement of financial position and future cash flows, thus reducing income statement volatility. A distinction is made between fair value hedges, cash flow hedges, and hedges of a net investment in a foreign operation depending on the nature of the hedged item. Hedging relationships are exclusively accounted for in accordance with the requirements of IFRS 9. Deutsche Telekom has exercised the option of designating cross-currency basis spreads as hedging costs rather than as part of the hedging relationship and presenting them separately in equity. To hedge the currency risk of an unrecognized firm commitment, Deutsche Telekom makes use of the option to recognize it as a cash flow hedge rather than a fair value hedge. In the case of fair value hedges, the cumulative adjustments to the carrying amount of the hedged item are amortized when the hedging relationship has been discontinued.

IFRS 9 sets out strict requirements on the use of hedge accounting. Deutsche Telekom complies with these requirements by documenting, at the inception of a hedge, both the relationship between the financial instrument used as the hedging instrument and the hedged item, as well as the risk management objective and the risk strategy of the hedge. This involves concretely assigning the hedging instruments to the corresponding assets or liabilities or (firmly committed/highly probable) future transactions and also assessing the effectiveness of the hedging instruments designated. The effectiveness of existing hedging relationships is monitored on an ongoing basis. If the criteria for applying hedge accounting are no longer met, the hedging relationship will be de-designated immediately.

Deutsche Telekom does not use hedge accounting in accordance with IFRS 9 to hedge the foreign-currency exposure of recognized monetary assets and liabilities, because the gains and losses on the hedged item from currency translation that are recognized in profit or loss in accordance with IAS 21 are shown in the income statement together with the gains and losses on the derivatives used as hedging instruments.

Contingencies (contingent liabilities and assets)

Contingencies (contingent liabilities and assets) are potential liabilities or assets arising from past events whose existence will be confirmed by the occurrence or non-occurrence of one or more uncertain future events not entirely within the control of Deutsche Telekom. Contingent liabilities are also present obligations that arise from past events for which an outflow of resources embodying economic benefits is not probable or for which the amount of the obligation cannot be measured with sufficient reliability. Contingent liabilities are only recognized at their fair value if they were assumed in the course of a business combination. Contingent liabilities not assumed in the course of a business combination are not recognized. Contingent assets are not recognized. However, when the realization of income is virtually certain, then the related asset is no longer a contingent asset, but it is recognized as an asset. Information on contingent liabilities is disclosed in the notes to the consolidated financial statements, unless the possibility of an outflow of resources embodying economic benefits is remote. The same applies to contingent assets where an inflow of economic benefits is probable.

Leases

A lease is a contract in which the lessor conveys the right to use an asset for a period of time to the lessee in exchange for consideration, typically a payment or series of payments. The scope of IFRS 16 applies to standard lease, rental, and tenancy agreements as well as agreements in which the lessee is granted other rights to use assets, such as certain easements. A lease only exists if the contract conveys the right to control the use of an identified asset to the lessee. The lessee has control when it has the right to obtain substantially all of the economic benefits from use of the identified asset and the right to direct the use of the identified asset.

Lessee. At the commencement date of the lease, a lessee recognizes a right-of-use asset and a lease liability in the statement of financial position for all leases. The right-of-use asset is measured applying the cost model and the lease liability is measured at the present value of the future lease payments. This measurement concept also applies to leases for which the underlying asset is of low value and to short-term leases for which the lease term is no longer than twelve months. Non-lease components are not separated from lease components, i.e., all non-lease payments due under the contract are also recognized in the statement of financial position. This practical expedient does not include contracts relating to data centers, which due to their special requirements in terms of equipment and premises form their own separate class of underlying asset. For this class of assets, the non-lease payments are recognized as an expense. IAS 38 is applied for leases of intangible assets rather than IFRS 16.

The lease liability is recognized at the present value of the future lease payments to be made over the reasonably certain lease term. Lease payments are all of the fixed and in-substance fixed payments, less any future lease incentives payable by the lessor. Variable lease payments that depend on an index or a rate, amounts expected to be payable under residual value guarantees, and payment for the exercise of reasonably certain purchase and termination options are also measured and recognized as part of the lease liability. The series of payments is discounted at the interest rate implicit in the lease or, if that rate cannot be readily determined, at the lessee's incremental borrowing rate. The incremental borrowing rate is determined by deriving benchmark interest rates for a period of up to 30 years from maturity-related risk-free interest rates. On this basis, an adjustment is carried out to account for credit-risk premiums, country risks, and interest rate differentials between a bond financing arrangement and the financing of individual lease transactions. All other variable payments are recognized as an expense. The lease liability is subsequently measured using the effective interest method.

The cost of the right-of-use asset comprises: the amount of the initial measurement of the lease liability; any lease payments made at or before the commencement date, less any lease incentives received from the lessor; any initial direct costs incurred for obtaining the lease; the costs for preparing the leased asset for its intended use; and an estimate of any future dismantling and restoration costs. The right-of-use asset is subsequently depreciated on a straight-line basis over the lease term and, if applicable, reduced by any impairment losses. If ownership of the leased asset is transferred to the lessee at the end of the lease term, or if it is reasonably certain that a purchase or put option will be exercised, the right-of-use asset is depreciated from the commencement date to the end of the useful life of the underlying asset.

The lease term is the period during which it is reasonably certain that an underlying asset will be used by the lessee. The lease term includes the non-cancelable period of a lease together with periods covered by options to extend the lease, if their exercise is reasonably certain, and periods covered by termination options, if it is reasonably certain that the termination option will not be exercised. This estimate is reassessed either upon the occurrence of an event or a significant change in circumstances that is within the control of the lessee and affects a change in lease term. The lease term will be revised if an extension option not previously included in the entity's determination of the lease term is exercised or a termination option not previously included in the entity's determination of the lease term is not exercised. The revision of the lease term leads to a change in the future series of lease payments and therefore to a remeasurement of the lease liability using a revised current discount rate. The amount of the resulting difference is recognized outside profit or loss as an adjustment to the right-of-use asset or is offset against it. Derecognition amounts that exceed the carrying amount of the right-of-use asset are recognized as an income in profit or loss.

A lease modification that substantially increases the scope of the original lease is accounted for as a separate lease if both the lessee is granted an additional right to use one or more underlying assets and the consideration for the lease increases by an amount commensurate with the stand-alone price for the increase in scope that the lessee would otherwise have to pay for use if it had leased these assets from a third party under a separate lease.

For lease modifications that increase the scope of a lease but are not accounted for as a separate lease, the required remeasurement of the lease liability is accounted for outside profit or loss as an adjustment to the carrying amount of the right-of-use asset and the lease liability for the existing lease. If a lease modification decreases the scope of the lease, the lessee also remeasures both the right-of-use asset and the lease liability and recognizes any gain or loss in profit or loss. The modified amounts are measured at the modification date with a revised discount rate.

Lessor. If a lease does not transfer substantially all risks and rewards incidental to ownership of an underlying asset to the lessee (**operating lease**), the leased asset is recognized in the statement of financial position by the lessor. Measurement of the leased asset is then based on the accounting policies applicable to the underlying asset. The lease payments, including contractually defined future changes in the lease payments, are recognized in profit or loss by the lessor. Contractually defined future changes in the lease payments during the term of the lease are recognized as lease revenue on a straight-line basis over the lease term, which is assessed at the commencement date of the contract. Where extension options exist, the exercise of those extension options that are reasonably certain is initially taken into account at the time the lease is concluded. If, contrary to the original expectation, these options are exercised or not exercised during the lease term, the previously assessed term will be revised and taken into account in the recognition of future lease revenue from operating lease transactions.

If substantially all risks and rewards incidental to ownership of the underlying leased asset are transferred to the lessee (**finance lease**), the lessor recognizes at the commencement date, in place of the leased asset, a finance lease receivable at an amount equal to the net investment in the lease. The net investment is defined as the discounted aggregate of future lease payments and any unguaranteed residual value accruing to the lessor (gross investment). The lease payments made by the lessees are split into an interest component and a principal component using the effective interest method. In subsequent measurement, the lease receivable is reduced by the principal lease payments received. The interest component of the payments received is recognized as finance income over the lease term in the consolidated income statement.

Under business models in which Deutsche Telekom is classified as a manufacturer or dealer lessor within the meaning of IFRS 16, revenue from finance leases is recognized at the date at which the asset is made available for use to the lessee at the fair value of the underlying leased asset or, if lower, the present value of the payments including any guaranteed residual value and presented as lease revenue. The selling profit or loss from the finance lease is realized in the amount of the difference between the revenue and the carrying amount of the underlying asset less the present value of the unguaranteed residual value. The finance income (interest income) is subsequently also presented as lease revenue.

For sale and leaseback transactions, if there is a transfer of control within the meaning of IFRS 15, Deutsche Telekom as the seller-lessee measures the right-of-use asset arising from the leaseback at the proportion of the previous carrying amount of the asset that relates to the right of use retained by the seller-lessee. Any gain or loss that relates to the rights transferred to the buyer-lessor is recognized in profit or loss. If there is no transfer of control, the seller-lessee recognizes the transaction as a financing transaction. While the transaction is legally subject to a lease contract, it is not accounted for as a lease and the underlying asset is not derecognized.

Share-based payment programs

Equity-settled share-based payment transactions are measured at fair value on the grant date. The fair value of the obligation is recognized as personnel costs over the vesting period and offset against capital reserves. For equity-settled share-based payment transactions, the fair value is determined using internationally accepted valuation techniques, such as the Black-Scholes model or the Monte Carlo model. For cash-settled share-based payment transactions, the goods and services acquired and the liability incurred are recognized at the fair value of the liability. The fair value of the liability has to be newly determined at each reporting date and at the settlement date, and the changes in the fair value have to be recognized in profit and loss, until the liability is settled.

Net revenue, contract assets and liabilities/contract costs

Revenues include all revenues from the ordinary business activities of Deutsche Telekom. Ordinary activities do not only refer to the core business but also to other recurring sales of goods or rendering of services. However, gains from sales of items of property, plant and equipment or intangible assets are not classified as revenue but as other operating income. All ancillary income in connection with the delivery of goods and rendering of services in the course of an entity's ordinary activities is also presented as revenue. Examples include dunning fees, contractual penalties, and default interest. Income from interest added back from long-term customer receivables and contract assets is also considered ancillary income in the course of an entity's ordinary activities where the underlying receivables or contract assets have resulted in the recognition of revenue. Revenues are recorded net of value-added tax and other taxes collected from customers that are remitted to governmental authorities. They are recognized in accordance with the provision of goods or services, provided that collectability of the consideration is probable. For service contracts with a continuous service provision, the contractually agreed total consideration is recognized as revenue on a straight-line basis over the minimum contract term, regardless of the payment pattern.

A **contract asset** must be recognized when Deutsche Telekom recognized revenue for fulfillment of a contractual performance obligation before the customer paid consideration or before – irrespective of when payment is due – the requirements for billing and thus the recognition of a receivable exist.

A **contract liability** must be recognized when the customer paid consideration or a receivable from the customer is due before Deutsche Telekom fulfilled a contractual performance obligation and thus recognized revenue. In a customer contract, contract liabilities must be set off against contract assets.

Multiple-element arrangements involving the delivery or provision of multiple products or services must be separated into distinct performance obligations, each with its own separate revenue contribution that is recognized as revenue on fulfillment of the obligation to the customer. At Deutsche Telekom, this especially concerns the sale or lease of a mobile handset or other telecommunications equipment combined with the conclusion of a mobile or fixed-network telecommunications contract. The total transaction price of the bundled contract is allocated among the individual performance obligations based on their relative – possibly estimated – standalone selling prices, i.e., based on a ratio of the standalone selling price of each separate element to the aggregated standalone selling prices of the contractual performance obligations. As a result, the revenue to be recognized for products (often delivered in advance) such as mobile handsets that are sold at a subsidized price in combination with a long-term service contract is higher than the amount billed or collected. This leads to the recognition of what is known as a contract asset – a receivable arising from the customer contract that has not yet legally come into existence – in the statement of financial position. The contract asset is reversed and reduced over the remaining minimum contract period, reducing revenue from the other performance obligations (in this case: mobile service revenues) compared with the amounts billed. In contrast to the amounts billed, this results in higher revenue from the sale of goods and merchandise and lower revenue from the provision of services.

Customer activation fees and other advance one-time payments by the customer that do not constitute consideration for a separate performance obligation are deferred as contract liabilities and recognized as revenue over the minimum contract term or, in exceptional cases (e.g., in the case of contracts that can be terminated at any time) over the expected contract period. The same applies to fees for installation and set-up activities that do not have an independent value for the customer.

As distinct from promotional offers, **options to purchase additional goods or services free of charge or at a discount** are separate performance obligations (material rights) for which part of the revenue is deferred as a contract liability until the option is exercised or expires, providing the discount on future purchases is an implicit component of the consideration for the current contract and is also significant. The measure of significance is whether the decision by the (average) customer to enter into the current contract is likely to have been significantly influenced by their right to the future discount. Offers for volume discounts for the purchase of additional core products of an entity (e.g., a discount offered on an additional fixed-network contract for mobile customers) are considered by Deutsche Telekom as promotional offers for which customers do not (implicitly) pay as part of the current contract.

Long-term customer receivables (e.g., arising from sales of handsets in installments), contract assets (e.g., arising from the subsidized sale of a handset in connection with the conclusion of a long-term customer contract), or contract liabilities (e.g., arising from a prepayment by the customer) are recognized at present value if the **financing component** is significant in relation to the total contract value (i.e., including those performance obligations that do not contain a financing component). The discount rate also reflects the customer credit risk. Deutsche Telekom makes use of the option not to recognize a significant financing component if the period between when a good or service is transferred to the customer and when the customer pays for that good or service will be one year or less.

Payments to customers including credits or subsequent discounts are recognized as a reduction in revenue unless the payment constitutes consideration for a distinct good or service from the customer, for which the fair value can be reasonably estimated.

Gross vs. net recognition of revenues. In cases where a company is in an intermediary position between another supplier/vendor (e.g., manufacturer, wholesaler) and a customer, it must be assessed whether the company itself supplies the relevant product or provides the service requested by the customer as the principal or whether the company merely acts as the agent for the supplier. The determining factor is control over the specified good or service prior to transfer to the customer. The outcome determines whether the company must recognize revenue on a gross basis (as a principal) or net of the costs incurred to the supplier (as an agent), i.e., only in the amount of the remaining margin. For Deutsche Telekom, the question arises particularly in the case of (branded) digital products (e.g., streaming services, software licenses, cloud-based software as a service) provided by and purchased from third parties and sold to customers as part of Deutsche Telekom's product portfolio. As a rule, Deutsche Telekom considers itself to be the principal in the aforementioned cases provided the customer does not enter into any contractual relationship with the third-party supplier and Deutsche Telekom bears primary responsibility for product acceptance and customer support, and is in the position to set the sale price.

Contract costs comprise the incremental costs of obtaining a contract (mainly sales commission paid to employees and third-party retailers in the direct and indirect sales channel) and the costs to fulfill a contract. These must be capitalized if it can be assumed that the costs will be compensated by future revenue from the contract. Incremental costs of obtaining a contract are additional costs that would not have been incurred had the contract not been concluded. Costs to fulfill a contract are costs relating directly to a contract that are incurred after contract inception and serve the purpose of fulfilling the contract but are incurred prior to fulfillment and cannot be capitalized under any other standard. Deutsche Telekom makes use of the option to immediately recognize contract costs whose amortization period would not be more than one year as an expense.

The capitalized contract costs are generally recognized on a straight-line basis over the expected contract period. The expenses are disclosed in Deutsche Telekom's income statement, not under depreciation and amortization but – depending on the sales channel – as goods and services purchased or personnel costs.

In the **indirect sales channel**, third-party retailers often arrange service contracts on behalf of and for the account of Deutsche Telekom (as the agent) in connection with the sale of subsidized handsets in their own name and for their own account (as the principal). In such cases, the retailers receive commission in an amount that explicitly or implicitly compensates them for the handset subsidy granted. As in the case of multiple-element arrangements in the direct sales channel, the customer ultimately covers the handset subsidy by paying a price above the standalone selling price for the service contract. Deutsche Telekom considers this an implicit promise to the customer that on conclusion of this service contract they will be able to purchase a handset at a discounted price. The only difference between this promise and the purchase of a service in the direct sales channel is that it is not Deutsche Telekom that is granting the discount as part of a multiple-element arrangement but a third-party retailer that is compensated for it by Deutsche Telekom through the commission it receives for arranging the service contract. As, from an economic substance perspective, these payments constitute indirect payments by Deutsche Telekom to customers, the portion of the commission payments attributable to the (implicit) cost reimbursements to the retailer is not capitalized as contract costs but as a contract asset and is therefore recognized as a reduction of the service revenues over the contract term rather than as an expense. This ensures that the amount of the service revenues generated with retail customers for identical rate plans does not depend on the type of sales channel.

Depending on the business model, **revenue recognition** at Deutsche Telekom is as follows:

The **mobile and fixed-network business** of the Germany, United States, and Europe operating segments includes mobile services, narrow- and broadband access to the fixed network and the internet, television via internet, connection and roaming fees billed to other fixed-network and mobile operators (wholesale business), and sales or lease of mobile handsets, other telecommunications equipment, and accessories, as well as in the United States operating segment reinsurance for terminal equipment insurance policies and extended warranties offered to mobile customers. Revenue generated from the use of voice and data communications as well as television via internet is recognized upon rendering of the agreed service. The services rendered relate to use by customers (e.g., call minutes), availability over time (e.g., monthly flat rates), or other agreed rate plans. Revenue and expenses associated with the sale of telecommunications equipment and accessories are recognized when the products are delivered, provided there are no unfulfilled company obligations that affect the customer's final acceptance of the arrangement. Revenue from the lease of mobile handsets and telecommunications equipment that is not considered a sale in economic terms is recognized monthly as the entitlement to the fees accrued. Advertising revenues are recognized in the period in which the advertisements are exhibited.

Trade-in rights for used handsets which are granted to customers upon contract conclusion under the condition of a new purchase transaction (including renewal of an existing service contract) do not constitute repurchase arrangements; however, if the repurchase prices exceed the fair value of the handsets these rights must be recognized as separate performance obligations for which part of the contractual revenue is deferred until they are exercised or expire.

Particularly in the mobile communications business, the timing of payments for mobile handsets purchased in connection with the conclusion of a service contract differs from the timing of the delivery and hence from revenue recognition. Where a significant financing component exists, revenue is measured at the present value. Whereas the sale of subsidized handsets in connection with the conclusion of (long-term) service contracts in the consumer business is still common in the Germany operating segment and also to some extent in the Europe operating segment, handsets are not sold at a discount at all, or only to a limited extent, in the United States and to some extent in the Europe operating segments; payment-by-installment models or lease models are offered to customers instead. In both the subsidy model and the payment-by-installment model, an asset must thus be recognized at the date of revenue recognition and is generally settled over a 24-month service contract term through payments made by the customer. The only difference is that with the subsidy model it is a contract asset that is repaid through the portion of the monthly bill that exceeds the allocated monthly service revenues. By contrast, the payment-by-installment model involves an existing legal customer receivable that is settled based on an installment plan – separately from the monthly billing for telecommunications services.

The **Systems Solutions** operating segment provides, among other things, IT services and network services for corporate customers including IT outsourcing services and the sale of hardware including desktop services. Revenue from service contracts is recognized as the service is performed, i.e., normally on a pro rata basis over the contract term. Revenue from service contracts billed on the basis of time and material used is recognized at the contractual hourly rates as labor hours are delivered and direct expenses are incurred.

Revenue from hardware sales or sales-type leases is recognized when the product is shipped to the customer, provided there are no unfulfilled company obligations that affect the customer's final acceptance of the arrangement. Any costs of these obligations are recognized when the corresponding revenue is recognized.

Revenue from construction contracts and construction-type service contracts (or elements of service contracts), for which a defined output is promised (e.g., IT developments), is recognized using the percentage-of-completion method. The measure of progress or stage of completion of a contract is generally determined as the percentage of cost incurred up until the reporting date relative to the total estimated cost at the reporting date (cost-to-cost method). In particular for complex outsourcing contracts with corporate customers, a reliable estimate of the total cost and therefore of the stage of completion is not possible in many cases, so revenue is only recognized in the amount of the contract costs expensed. This means that a proportionate profit is not realized until the contract has been completed (zero-profit method).

Revenue from non-sales-type rentals and leases is recognized on a straight-line basis over the lease term.

Income taxes

Income taxes include current income taxes as well as deferred taxes. Current and deferred tax assets and liabilities must be recognized where they are probable. They are measured in accordance with the tax laws applicable or already announced as of the reporting date, provided said announcement has the effect of actual enactment. Where uncertain tax assets or uncertain tax liabilities are recognized because they are probable, these must be measured at their most probable amount. In exceptional cases the expected value is considered. Where current and deferred taxes are recognized, they must be reported as income or expense except to the extent that the tax arises from a transaction which is recognized outside the consolidated income statement, either in other comprehensive income or directly in equity, or in connection with a business combination. Current tax assets and current tax liabilities and deferred tax assets and deferred tax liabilities are offset in the statement of financial position if Deutsche Telekom has a legally enforceable right to set off current tax assets against current tax liabilities, has an intention to settle net, and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority.

Current tax assets and current tax liabilities must be recognized in the amount that Deutsche Telekom expects to settle with or recover from the tax authorities. They include liabilities/receivables for the current period as well as for prior periods.

Deferred taxes are recognized for temporary differences between the carrying amounts in the consolidated statement of financial position and the tax base, as well as for tax loss carryforwards and tax credits. As an exception to this principle, a deferred tax liability is not recognized for temporary differences if the deferred tax liability arises from the initial recognition of an asset or a liability in a transaction which is not a business combination and, at the time of the transaction, affects neither IFRS accounting profit (before taxes) nor taxable profit/tax loss. Nor is a deferred tax liability recognized for temporary differences arising from the initial recognition of goodwill. A deferred tax liability is generally recognized for temporary differences associated with investments in subsidiaries, joint arrangements, and associates, unless Deutsche Telekom is able to control the timing of the reversal of the temporary difference and it is probable that the temporary differences will not reverse in the foreseeable future.

Judgments and estimates

The presentation of the results of operations or financial position in the consolidated financial statements is dependent upon and sensitive to the accounting policies, assumptions, and estimates. The actual amounts may differ from those estimates. The following critical accounting estimates and related assumptions and uncertainties inherent in accounting policies applied are essential to understand the underlying financial reporting risks and the effects that these accounting estimates, assumptions, and uncertainties may have on the consolidated financial statements.

Measurement of **property, plant and equipment, and intangible assets** involves the use of estimates for determining the fair value at the acquisition date, provided they were acquired in a business combination. Furthermore, the expected useful lives of these assets must be estimated. The determination of the fair values of assets and liabilities, as well as of the useful lives of the assets is based on management's judgment. The measurement of intangible assets acquired in barter transactions is based on management's judgment as to whether a barter transaction has commercial substance. For this, an analysis is performed to determine to what extent the future cash flows (risk, timing, and amount) are expected to change as a consequence of the transaction. Information from external experts is obtained for this analysis and for the determination of the fair values of assets.

The determination of **impairments of property, plant and equipment, intangible assets, and right-of-use assets** involves the use of estimates that include, but are not limited to, the cause, timing, and amount of the impairment. Impairment is based on a large number of factors, such as changes in current competitive conditions, expectations of growth in the telecommunications industry, increased cost of capital, changes in the future availability of financing, technological obsolescence, discontinuance of services, current replacement costs, prices paid in comparable transactions, and other changes in circumstances that may indicate an impairment. Management is required to make significant judgments concerning the identification and validation of impairment indicators, as well as the estimation of future cash flows and the determination of fair values for assets (or groups of assets), applicable discount rates, useful lives, and residual values of the relevant assets. Specifically, the estimation of cash flows underlying the fair values from the mobile business considers the continued investment in network infrastructure required to generate future revenue growth through the offering of new data products and services, for which only limited historical information on customer demand is available. If the demand for these products and services did not materialize as expected, this would result in less revenue, less cash flow, and potential impairment. In addition, when determining fair values, further planning uncertainties that reflect the risks of macroeconomic development could adversely affect future results of operations. Inflation, energy prices, and expectations of inflation and energy price rises as well as their impact on revenue (when passed on to customers) and costs are included in impairment tests via the planning approved by management. Risk management also identifies new risks and additionally takes into account any such risks that would have a significant impact and change an impairment test.

The determination of the **recoverable amount of a cash-generating unit** involves the use of estimates by management. Methods used to calculate the recoverable amount include discounted cash flow-based methods and methods that use market prices as a basis. The discounted cash flow valuations refer to projections that are based on financial plans that have been approved by management and are also used for internal purposes. The chosen planning horizon reflects the assumptions for short- to medium-term market developments and is selected to achieve a steady state in the business outlook that is necessary for calculating the perpetual annuity. This steady state will only be reached based on the planning horizon selected, in particular due to the sometimes long investment cycles in the telecommunications industry and the investments planned and expected in the long run to acquire and extend spectrum licenses. Cash flows beyond the internal mid-term planning are extrapolated using appropriate growth rates defined separately for each cash-generating unit. These growth rates are based on real growth and inflation expected in the long term for the countries in which the respective unit operates. To achieve the sustainable growth rates set for the period of the perpetual annuity, additional sustainable investments derived specifically for each cash-generating unit are taken into account. The key assumptions on which management has based its calculation of the recoverable amount include the following assumptions that were primarily derived from internal sources and are based on past experience and extended by current internal expectations, and that are underscored by external market data and estimates: development of revenue, customer acquisition and retention costs, churn rates, capital expenditure, market share, and growth rates. Discount rates are determined on the basis of external figures derived from the market, taking account of the risks associated with the cash-generating unit (market and country risks). Any future changes in the aforementioned assumptions could have a significant impact on the fair values of the cash-generating units. Changes in the assumptions may have a negative impact, as a result of future macroeconomic trends, continued intense competition, further possible legislation changes (e.g., as part of national austerity programs), and regulatory intervention.

Management recognizes **allowances for (doubtful) accounts** to account for expected losses resulting from payment default of customers. When evaluating the adequacy of an allowance for (doubtful) accounts, management bases its estimates on the aging of accounts receivable balances and historical write-off experience, customer creditworthiness, and changes in customer payment terms. If the financial condition of customers were to deteriorate, actual write-offs might be higher than expected.

In each tax jurisdiction in which Deutsche Telekom operates, management must make judgments for the calculation of **current and deferred taxes**. This is relevant, for example, when it comes to a decision on recognizing deferred tax assets because it must be probable that a taxable profit will be available against which the deductible temporary differences, loss carryforwards, and tax credits can be utilized. In addition to the estimate of future earnings, various factors are used to assess the probability of the future utilization of deferred tax assets, including past results of operations, the reliability of planning, and tax planning strategies. The period used for the assessment of the recoverability depends on the circumstances at the respective Group company and typically is in a range of five to ten years.

Pension obligations for benefits to non-civil servants are generally satisfied by defined benefit plans. Pension benefit costs for non-civil servants are determined in accordance with actuarial valuations, which rely on assumptions regarding the discount rate, the expected salary increase rate, the expected pension trend, and life expectancy. In the event that changes in the assumptions regarding these parameters are required, the future amounts of the pension benefit costs may be affected materially.

Deutsche Telekom is obligated, under the German Federal Posts and Telecommunications Agency Reorganization Act (Gesetz zur Reorganisation der Bundesanstalt für Post und Telekommunikation Deutsche Bundespost), to pay for its share of any operating cost shortfalls between the income of the **Civil Service Health Insurance Fund** (Postbeamtenkrankenkasse) and benefits paid. The Civil Service Health Insurance Fund provides services mainly in cases of illness, birth, or death for its members, who are civil servants employed by or retired from Deutsche Telekom AG, Deutsche Post AG, and Deutsche Postbank AG, and their relatives. When Postreform II came into effect, participation in the Civil Service Health Insurance Fund was closed to new members. The insurance premiums collected by the Civil Service Health Insurance Fund must not exceed the insurance premiums imposed by alternative private health insurance enterprises for comparable insurance benefits, and, therefore, do not reflect the changing age distribution of the participants in the fund. Deutsche Telekom recognizes provisions in the amount of the actuarially determined present value of Deutsche Telekom's share in the fund's future deficit, using a discount rate and making assumptions about life expectancies and projections for contributions and future increases in general health care costs in Germany. Since the calculation of these provisions involves long-term projections over periods of more than 50 years, the present value of the liability may be highly sensitive even to small variations in the underlying assumptions.

Deutsche Telekom exercises considerable judgment in measuring and recognizing **provisions** and **contingent liabilities** related to pending litigation or other outstanding claims subject to negotiated settlement, mediation, arbitration, or government regulation. Judgment is necessary in assessing the likelihood that a pending claim will succeed, or a liability will arise, and to quantify the possible range of the final settlement. Provisions are recognized for losses from executory contracts, provided a loss is considered probable and can be reasonably estimated. Because of the inherent uncertainties in this evaluation process, actual losses may be different from the originally estimated provision. In addition, significant estimates are involved in the determination of provisions related to taxes and litigation risks. These estimates are subject to change as new information becomes available, primarily with the support of internal specialists or with the support of outside consultants, such as actuaries or legal counsel. Revisions to the estimates of these losses from executory contracts may significantly affect future results of operations.

Revenue recognition, contract assets and liabilities/contract costs

The determination of the **transaction price** may also be subject to estimates and assumptions, especially in the case of variable consideration, e.g., performance bonuses paid out at the end of a contract. Since their inclusion can lead over time to the recognition of revenue that must be partially reversed in subsequent periods if the conditions for payment are not met, variable payment components can only be included in the transaction price if it is highly probable that there will be an entitlement to payment. Where the variable consideration leads to a reduction in the payment entitlement or a repayment obligation on the part of Deutsche Telekom (e.g., in the case of volume discounts), the fixed contractual payment must be set lower accordingly. In the case of variable discounts, the non-inclusion of the variable consideration means that these as-yet unknown discounts are generally taken into account with a reducing effect on the transaction price.

The standalone selling prices of individual products or services that are part of **multiple-element arrangements** are complex to determine, because some of the elements are price-sensitive and, thus, volatile in a competitive marketplace. In many cases, standalone selling prices can also not be observed for the company's own products. Due to the fact that comparability is generally not completely assured, the use of market prices for similar products is subject to an element of uncertainty, as is an estimate using a cost-plus-margin approach. Changes in estimates of standalone selling prices can significantly influence the allocation of the transaction price for the entire multiple-element arrangement among the individual performance obligations and therefore affect both the financial position, i.e., the carrying amount of contract assets and contract liabilities, and the current and future results of operations.

One-time payments by the customer for contracts that can be terminated at any time are recognized over an expected contract period, the length of which depends on the period over which, from a commercial perspective, the customer is expected to renew or not terminate the contract on a monthly basis.

Contract costs are deferred and generally recognized as expense over the expected contract period. The estimate of the expected average contract period is based on historical customer turnover. However, this is subject to fluctuations and has only limited informative value with regard to future customer behavior, particularly if new products are rolled out. If management's estimates are revised, material differences may result in the amount and timing of expenses for subsequent periods.

The significance of **material rights** is an estimate that is based on both quantitative and qualitative factors. This is ultimately a matter of judgment, even though it is supported by quantitative facts. Depending on the decision as to whether or not the customer has a material right to be deferred, there may be material differences in the amount and timing of revenues for the current and subsequent periods.

Gross vs. net recognition of revenues. The assessment of whether Deutsche Telekom presents revenue gross as the principal or net after deduction of costs as the agent, i.e., only in the amount of the remaining margin, requires an analysis of both the legal form and the substance of contracts. After all of the relevant facts and circumstances of the individual case have been weighed up, in many cases the decision also involves a degree of discretion, even if a uniform Group method of assessment is applied. Depending on the conclusion reached, there may be material differences in the amounts of revenues and expenses for the current and subsequent periods. This has no bearing on profit/loss from operations, however.

Extension and termination options for the lessee

Extension and termination options are included in many lease arrangements across the Deutsche Telekom Group. Local teams are responsible for managing their individual leases. As a result, lease contracts include a wide range of different terms and conditions.

The main population of lease contracts in the Deutsche Telekom Group comprises arrangements for cell site infrastructure, land/ground underneath the infrastructure, switch sites, office buildings, and retail stores, which are mainly located in the United States and Germany. The length of the lease term in these contracts is the main factor in measuring the lease liabilities.

The majority of cell site leases in the United States have an initial non-cancelable term of 5 to 15 years, with several renewal options that can extend the lease term from five to 35 years. Cell site leases in Germany, on the other hand, typically have an initial non-cancelable period of 1 to 15 years, during which the lease cannot be terminated. After the initial period of time, the lease extends automatically if neither party terminates the lease or if Deutsche Telekom, as lessee, exercises an extension option, which is typically for five years. Leases can be extended on up to three occasions. The majority of extension options are exercisable by the relevant business units of the Deutsche Telekom Group.

In **determining the lease term**, management applies judgment and considers all facts and circumstances that create an economic incentive for Deutsche Telekom to exercise an extension option, or not to exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if Deutsche Telekom is reasonably certain to exercise an option to extend the lease, or not to exercise an option to terminate the lease.

In determining the duration of leases of cell site space, land/ground, switch sites, office buildings, and retail stores, which are the most relevant lease contracts in the Deutsche Telekom Group, the following are the most relevant factors that are considered:

- Rapidly advancing and ever-changing technology in the telecommunications industry requires flexible lease contracts, i.e., management tries to minimize longer periods during which the contracts cannot be canceled.
- When determining whether an extension of a lease contract is reasonably certain, in addition to any significant penalties for terminating (or not extending) the lease, business plans and the business model are considered, e.g., cost/benefit analysis, consolidation plans for the mobile network and office facilities, new mobile network standards, significance of the property for the underlying operations, replacement or usage of additional technology, as well as the availability and cost of alternative locations.
- Often leasehold improvements can be used in alternative locations. In many cases, the costs of moving or replacing the asset or initial construction costs are not the main factor considered when determining whether to extend or not to extend the lease.
- Significant investments made in a location, e.g., construction of towers and masts on the leased land, are economic penalties typically considered when determining the lease term.

After having considered all of the factors above, for cell site contracts in the United States as of the lease commencement date, Deutsche Telekom concluded that it is generally not reasonably certain that an option to extend the lease term beyond the initial non-cancelable lease term will be exercised. For cell site contracts – including the land/ground underneath the infrastructure – in Germany, a lease term of 10 to 15 years is considered reasonably certain. Extension options after that period are typically not considered reasonably certain at commencement of the lease. Payments associated with these optional periods are not included in the measurement of the lease liabilities.

Most extension options for office and shop leases are not included in the lease liability because Deutsche Telekom could replace the leased assets without significant cost or business disruption.

Exposure to future additional cash outflows will only arise when an extension option (not determined to be reasonably certain) is exercised or when a termination option (determined to be reasonably certain) is not exercised.

After the commencement date, the likelihood of exercising an option is only reassessed if a significant event or a significant change in circumstances occurs that affects this judgment, and this is within the control of the lessee. Deutsche Telekom reassesses the lease term when an option is exercised (or not exercised) or Deutsche Telekom becomes obligated to exercise or not to exercise it.

For further information on undiscounted future lease payments, please refer to Note 13 "[Financial liabilities and lease liabilities.](#)"

Consolidation methods

Subsidiaries

Subsidiaries are companies that are directly or indirectly controlled by Deutsche Telekom. Control only exists if an investor has power over the investee, is exposed to variable returns or has rights to variable returns, and is able to use its power to affect the amount of variable returns. The existence and effect of substantive potential voting rights that are currently exercisable or convertible, including potential voting rights held by other Group companies, are considered when assessing whether an entity is controlled.

All subsidiaries are included in the consolidated financial statements, unless the costs of preparing the reporting required for inclusion by means of full consolidation would outweigh the benefits of such reporting, which is primarily the case for subsidiaries which an operating segment or the Group considers to be insignificant based on the following criterion: the sum of all unconsolidated subsidiaries must not account for more than 1% of the Group's total assets, revenue, profit/loss for the year, contingent assets/liabilities, and other financial obligations. If the 1% limit is exceeded, Deutsche Telekom determines which companies are to be included in the consolidated financial statements, taking the long-term development of the investment and consolidation effects into account. Aside from the quantitative criteria, qualitative criteria will also be used to assess the materiality of an entity for the consolidated group. Excluding a subsidiary must not significantly change the segment result or the Group's profit/loss for the year, nor may other significant trends be ignored. Subsidiaries that are not included in the consolidated financial statements due to their subordinate significance are recognized under other assets.

Income and expenses of a subsidiary are included in the consolidated financial statements from the acquisition date and remain included in the consolidated financial statements until the date on which the parent company ceases to control the subsidiary. If necessary, the subsidiaries' accounting principles will be aligned with the uniform accounting principles applied by the Deutsche Telekom Group. Intercompany income and expenses, receivables and liabilities, and profits or losses are eliminated.

Upon loss of control, a gain or loss from the disposal of the subsidiary is recognized in the consolidated income statement in the amount of the difference between (i) the proceeds from the disposal of the subsidiary, the fair value of the remaining shares, the carrying amount of the non-controlling interests, and the cumulative amounts of other comprehensive income attributable to the subsidiary, and (ii) the carrying amount of the subsidiary's net assets to be disposed of.

Joint operations, joint ventures, and associates

Joint arrangements, in which two or more parties have joint control over an activity, must be classified as either joint operations or joint ventures.

A **joint operation** is characterized by the fact that the parties that have joint control of the arrangement (joint operators) have rights to the assets, and obligations for the liabilities, relating to the arrangement. A joint operator accounts for the assets, liabilities, revenues and expenses relating to its interest in the joint operation as well as its share of the joint assets, liabilities, revenues, and expenses.

In a **joint venture**, on the other hand, the parties that have joint control of the arrangement (partners) have rights to the net assets of the entity. **Associates** are companies on which Deutsche Telekom has a significant influence, and that are neither subsidiaries nor joint ventures. As with joint ventures, associates are accounted for using the **equity method**.

Investments in joint ventures and associates that are included in the consolidated financial statements using the equity method are recognized at cost at the time of acquisition. The carrying amount of the investment may include goodwill as the positive difference between the cost of the investment and Deutsche Telekom's proportionate share in the fair values of the entity's identifiable net assets. If necessary, the accounting principles of joint ventures and associates will be aligned with the uniform accounting principles applied by the Deutsche Telekom Group. The carrying amount of the investment accounted for using the equity method is tested for impairment provided there are indications of impairment. If the carrying amount of the investment exceeds its recoverable amount, an impairment loss must be recognized in the amount of the difference. The recoverable amount is measured at the higher of fair value less costs of disposal and value in use.

Upon loss of significant influence, a gain or loss from the disposal of the joint venture/associate is recognized in the amount of the difference between (i) the proceeds from the disposal of the shares, the fair value of the remaining shares, and the cumulative amounts of other comprehensive income attributable to the joint venture or associate, and (ii) the carrying amount of the investment to be disposed of.

The materiality assessment for jointly controlled entities and associates is generally performed using the same methods as for subsidiaries, but is limited to the criteria of profit/loss for the year, contingent assets and liabilities, and other financial obligations.

Business combinations

A business combination exists when Deutsche Telekom obtains control of another entity. All business combinations must be accounted for using the acquisition method. The cost of an acquired subsidiary is measured at the fair value of the consideration transferred, i.e., the sum of the assets transferred, liabilities assumed, and equity instruments issued. Transaction costs are generally recognized as expense. The acquisition cost is allocated to the acquired assets, liabilities, and contingent liabilities. The identifiable assets acquired and the liabilities and contingent liabilities assumed are recognized in full at their fair values at the acquisition date, regardless of the level of the investment held by Deutsche Telekom.

Goodwill arising in a business combination is measured as the excess of the aggregate of the cost of acquisition, the amount of any non-controlling interest in the acquiree, and, in a business combination achieved in stages, the fair value of the equity interest held by Deutsche Telekom in the acquiree prior to the acquisition date over the fair value of the net assets acquired. Any difference arising on the revaluation of equity interests previously held by Deutsche Telekom is recognized in profit or loss.

For all business combinations there is an option in relation to the measurement of the non-controlling interests. These can be recognized either directly at their fair value (i.e., the non-controlling interest in the enterprise value of the acquiree) or at the non-controlling interest in the fair value of the net assets acquired. As a result, in the first case, the non-controlling interests also have a share in the goodwill arising from the business combination, while in the second case the non-controlling interest is limited to the remeasured assets and liabilities and the goodwill is therefore recognized only as the amount attributable to Deutsche Telekom.

Transactions relating to the further acquisition or sale of equity interests with other shareholders that do not affect Deutsche Telekom's controlling interest do not lead to any change in goodwill. The difference between the fair value of the consideration transferred or received (i.e., the purchase price of the interests) and the carrying amount of the equity attributable to the non-controlling interests must be offset directly against consolidated shareholders' equity in capital reserves or increases the capital reserves.

Changes in the composition of the Group and other transactions

In the 2022 financial year, Deutsche Telekom conducted the following transactions, which had an impact on the composition of the Group. Other changes to the composition of the Group not shown here were of no material significance for Deutsche Telekom's consolidated financial statements.

Sale of T-Mobile Netherlands

On September 6, 2021, Deutsche Telekom and Tele2 signed an agreement to sell T-Mobile Netherlands to WP/AP Telecom Holdings IV, a private equity consortium advised by Apax Partners and Warburg Pincus. The transaction was consummated on March 31, 2022 after obtaining the necessary approvals from the authorities and satisfying the other closing conditions. The sale price is based on an enterprise value of EUR 5.1 billion. The cash proceeds – based on Deutsche Telekom's overall shareholding of 75 % – amounted to EUR 3.6 billion. The gain on deconsolidation resulting from the sale amounted to EUR 0.9 billion. Until the transaction was closed, the entity had been assigned to the Group Development operating segment. As of December 31, 2021, the assets and liabilities of T-Mobile Netherlands were classified as held for sale on account of the specific intention to sell them.

Joint venture GlasfaserPlus with IFM

On November 5, 2021, Deutsche Telekom had announced that IFM Global Infrastructure Fund would acquire a stake of 50 % in GlasfaserPlus GmbH, a fiber-optic build-out entity. The sale of a 50 % stake in GlasfaserPlus was consummated on February 28, 2022, after the EU Commission had approved the transaction on January 25, 2022 and the other closing conditions had been satisfied. The sale price was EUR 0.9 billion. The first tranche of the purchase price of EUR 0.4 billion was paid upon completion of the transaction. The remainder will arise in stages upon achieving certain build-out milestones. In this connection, a contingent consideration receivable of EUR 0.5 billion was recognized under other financial assets upon completion of the transaction. The resulting joint venture is to build out an additional 4 million gigabit-capable FTTH lines in rural and development areas by 2028. Following the loss of control as a result of the transaction, the GlasfaserPlus entities were deconsolidated as of February 28, 2022. Until the transaction was closed, the entity had been assigned to the Germany operating segment. The resulting gain on deconsolidation of EUR 1.7 billion is included in other operating income. The portion of the gain on deconsolidation attributable to the shares in the GlasfaserPlus entities remaining at Deutsche Telekom at the date when control was lost, calculated at their fair value, amounted to EUR 0.9 billion. The stakes in the joint venture have been included in the consolidated financial statements in the Germany operating segment using the equity method since February 28, 2022. The carrying amount of the investment amounted to EUR 0.5 billion as of December 31, 2022.

For summarized financial information on the joint venture, as well as a reconciliation to the carrying amount of the investment, please refer to Note 10 "Investments accounted for using the equity method."

For further information on the carrying amount of the contingent consideration, please refer to Note 42 "Financial instruments and risk management."

New limited partners admitted to infrastructure fund DIV II

In August and September 2022, Digital Transformation Capital Partners (DTCP Infra) admitted new investors to the investment company Digital Infrastructure Vehicle II SCSp SICAV-RAIF (DIV II). As a result, Deutsche Telekom's share in DIV II decreased from 66.67 % to 41.25 %. At the same time, an advisory committee has been set up, which will comprise up to ten of the most important investors. By admitting new limited partners, Deutsche Telekom lost control over DIV II. As a result, the entity was deconsolidated on August 2, 2022. Until the transaction was closed, the entity had been assigned to the Group Development operating segment. The resulting gain on deconsolidation of EUR 0.1 billion is included in other operating income. Since then, the stake retained by the Group of 41.25 % has been included in the consolidated financial statements as an associate using the equity method in the Group Development operating segment. The carrying amount of the investment amounted to EUR 0.3 billion as of December 31, 2022. There are plans to admit further investors. In the future, Deutsche Telekom's stake is expected to fall to around 25 %, in line with the target structure.

For summarized financial information on the associate, as well as a reconciliation to the carrying amount of the investment, please refer to Note 10 "Investments accounted for using the equity method."

The composition of the Deutsche Telekom Group changed as follows in the 2022 financial year:

	Domestic	International	Total
Consolidated subsidiaries			
January 1, 2022	62	314	376
Additions	4	31	35
Disposals (including mergers)	3	55	58
December 31, 2022	63	290	353
Associates accounted for using the equity method			
January 1, 2022	4	12	16
Additions	1	3	4
Disposals	0	6	6
December 31, 2022	5	9	14
Joint ventures accounted for using the equity method			
January 1, 2022	5	5	10
Additions	8	0	8
Disposals	1	2	3
December 31, 2022	12	3	15
Total			
January 1, 2022	71	331	402
Additions	15	34	49
Disposals (including mergers)	6	63	69
December 31, 2022	80	302	382

The following transactions will change the composition of the Deutsche Telekom Group in the future.

Agreement with DigitalBridge and Brookfield on the Group's cell tower business in Germany and Austria and recognition of the GD tower companies as a discontinued operation

On July 13, 2022, Deutsche Telekom agreed to sell a 51.0 % stake in the companies comprising its tower assets in Germany and Austria, assigned to the Group Development operating segment (GD tower companies), to DigitalBridge and Brookfield. The preliminary sale price is based on an enterprise value of EUR 17.5 billion. The estimated cash proceeds from the transaction are expected to be EUR 10.7 billion. Since closing of the transaction on February 1, 2023, Deutsche Telekom has lost control over the GD tower companies. All necessary regulatory approvals had been duly granted and all other closing conditions met. Since the transaction was consummated so close to the date of preparing the consolidated financial statements, it is not yet possible to provide any information on the financial impact of the transaction. In future, the stake retained by Deutsche Telekom of 49.0 % will be included in the consolidated financial statements using the equity method. Once the transaction was consummated, Deutsche Telekom leased back most of the sold passive network infrastructure in Germany and Austria under a sale and leaseback arrangement.

As a result of the agreement dated July 13, 2022, the GD tower companies are recognized in the consolidated financial statements as of December 31, 2022 as a discontinued operation. The consolidated income statement has been adjusted accordingly with retrospective effect. Thus the contributions by the GD tower companies are no longer included in the individual items of the consolidated income statement. Instead, profit or loss after taxes is recognized in the item "Profit/loss after taxes from discontinued operation." Assets and the directly associated liabilities are shown as "held for sale" in the consolidated statement of financial position. In the consolidated statement of cash flows, the contributions by the GD tower companies are each stated in a separate "of which" line item.

Agreement with Cogent to sell the U.S. wireline business

On September 6, 2022, T-Mobile US reached an agreement with Cogent Infrastructure (Cogent) on the sale of T-Mobile US' fiber-optic-based wireline business. Under the agreement, Cogent will take over all shares in the entity that holds all of the assets and liabilities related to the former Sprint's fiber-optic-based wireline network. The sale price is USD 1 and is subject to customary adjustments laid down in the purchase agreement. In addition, upon completion of the transaction, T-Mobile US undertakes to enter into a separate agreement on IP transit services, according to which T-Mobile US will pay a total of USD 700 million to Cogent. The transaction is subject to approval by the authorities as well as other closing conditions. The assets and liabilities of the wireline business have been reported in the consolidated statement of financial position as "held for sale" since September 30, 2022. The transaction is expected to be completed by mid-2023. In connection with the agreement concluded, T-Mobile US recognized an impairment loss of EUR 0.4 billion in total on the underlying assets in the second half of 2022. Furthermore, liabilities totaling EUR 0.7 billion were recognized in connection with payment obligations entered into as part of the transaction. These liabilities included, under financial liabilities, the present value of the future payments for IP transit services. Since a specific use for these services has not been identified, the corresponding expense has already been recognized in full in the reporting period under other operating expenses.

Other transactions that had no effect on the composition of the Group

OTE share buy-back

The extraordinary shareholders' meeting of OTE S.A. on January 18, 2022 resolved to retire 8,638,512 treasury shares, which had been acquired as part of a share buy-back program, with a corresponding capital reduction of around EUR 24 million. The shares were retired from the Athens Stock Exchange on February 22, 2022. As a result, Deutsche Telekom's share in OTE increased from 48.29 % to 49.22 %.

The shareholders' meeting of OTE S.A. on May 25, 2022 resolved to retire another 5,617,282 treasury shares, which had been acquired as part of a share buy-back program, with a corresponding capital reduction of around EUR 16 million. The shares were retired from the Athens Stock Exchange on July 12, 2022. As a result, Deutsche Telekom's share in OTE increased from 49.22 % to 49.85 % as of July 12, 2022.

The extraordinary shareholders' meeting of OTE S.A. on November 1, 2022 resolved to retire another 8,818,730 treasury shares, which had been acquired as part of a share buy-back program, with a corresponding capital reduction of around EUR 25 million. The shares were retired from the Athens Stock Exchange on November 29, 2022. As a result, Deutsche Telekom's share in OTE increased from 49.85 % to 50.86 % as of November 29, 2022.

Increase of the stake in T-Mobile US

In keeping with the declared strategic goal of securing control of T-Mobile US in the long term, on April 12, 2022, Deutsche Telekom acquired a total of around 21.2 million additional T-Mobile US shares from SoftBank for a purchase price of USD 2.4 billion (EUR 2.2 billion). To this end, Deutsche Telekom exercised a further portion of the stock options it had received from SoftBank in June 2020 to purchase shares in T-Mobile US. This gives a weighted average price of around USD 113 per T-Mobile US share. Upon its completion, the transaction increased Deutsche Telekom's stake in T-Mobile US by 1.7 percentage points. The fair value of the consideration transferred (within the meaning of the IFRSs) amounts to EUR 2.7 billion and comprises a cash payment of EUR 2.2 billion and the fair value of the exercised stock options at the time of exercising of EUR 0.5 billion. The acquisition was made using cash proceeds from the sale of T-Mobile Netherlands.

For the presentation of the effects in connection with the partial exercise and subsequent measurement of the stock options, please refer to Notes 19 "Shareholders' equity," 11 "Other financial assets," and 42 "Financial instruments and risk management."

Share buy-back program at T-Mobile US

On September 8, 2022, T-Mobile US announced that its Board of Directors has authorized a share buy-back program for up to USD 14.0 billion (USD 3.0 billion of which by the end of 2022) of the company's common stock through September 30, 2023. Repurchases are expected to be made from available cash on hand and proceeds of one or more debt issuances or other borrowings, based on the company's evaluation of market conditions and other factors. The specific timing, price, and size of repurchases will depend on prevailing stock prices, general economic and market conditions, and other considerations. By December 31, 2022, T-Mobile US had bought back approximately 21.4 million shares with a total volume of USD 3.0 billion (EUR 3.0 billion) under this program.

For further information on the stake in T-Mobile US and the percentage of voting rights, please refer to the section "[Principal subsidiaries](#)."

Principal subsidiaries

The Group's principal subsidiaries are presented in the following table:

Name and registered office		Deutsche Telekom share %	Net revenue ^{a, b} millions of €	Profit (loss) from operations ^a millions of €	Shareholders' equity ^a millions of €	Average number of employees	Assigned to segment
Telekom Deutschland GmbH, Bonn, Germany	Dec. 31, 2022/2022	100.00	22,208	5,181	9,614	3,750	Germany
	Dec. 31, 2021/2021	100.00	21,772	4,852	7,762	3,816	
T-Systems International GmbH, Frankfurt/Main, Germany	Dec. 31, 2022/2022	100.00	2,134	(335)	884	6,180	Systems Solutions
	Dec. 31, 2021/2021	100.00	2,214	(365)	716	6,661	
T-Mobile US, Inc., Bellevue, Washington, United States ^{c, d}	Dec. 31, 2022/2022	48.14	75,436	7,470	71,681	69,056	United States
	Dec. 31, 2021/2021	46.75	67,791	7,217	67,259	70,793	
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece ^c	Dec. 31, 2022/2022	50.86	3,455	579	2,525	11,048	Europe
	Dec. 31, 2021/2021	48.29	3,743	865	2,652	13,736	
Hrvatski Telekom d.d., Zagreb, Croatia ^{c, d}	Dec. 31, 2022/2022	53.02	984	140	2,147	4,320	Europe
	Dec. 31, 2021/2021	52.17	982	106	2,179	4,668	
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary ^{c, d}	Dec. 31, 2022/2022	61.39	1,907	277	2,173	6,741	Europe
	Dec. 31, 2021/2021	59.21	1,933	259	2,243	6,933	
Slovak Telekom a.s., Bratislava, Slovakia ^{c, d}	Dec. 31, 2022/2022	100.00	806	200	1,564	3,046	Europe
	Dec. 31, 2021/2021	100.00	787	161	1,548	3,211	
T-Mobile Austria Holding GmbH, Vienna, Austria ^{c, d}	Dec. 31, 2022/2022	100.00	1,391	139	2,786	1,789	Europe
	Dec. 31, 2021/2021	100.00	1,346	93	3,168	1,876	
T-Mobile Czech Republic a.s., Prague, Czech Republic ^{c, d}	Dec. 31, 2022/2022	100.00	1,226	377	2,155	3,141	Europe
	Dec. 31, 2021/2021	100.00	1,121	317	2,040	3,229	
T-Mobile Polska S.A., Warsaw, Poland ^{c, d}	Dec. 31, 2022/2022	100.00	1,413	86	1,872	3,682	Europe
	Dec. 31, 2021/2021	100.00	1,421	91	1,940	3,895	

^a IFRS figures of the respective subgroup.

^b The prior-year comparatives were adjusted retrospectively to take account of changes to the principal/agent policy regarding the recognition of gross and net revenues as of the third quarter of 2022.

^c Consolidated subgroup.

^d Indirect shareholding of Deutsche Telekom AG.

In accordance with § 313 HGB, the full statement of investment holdings, which forms part of the notes to the consolidated financial statements, is published in the company register together with the consolidated financial statements. It is available upon request from Deutsche Telekom AG, Bonn, Investor Relations, and on Deutsche Telekom's website (www.telekom.com) under Investor Relations. Furthermore, the statement of investment holdings includes a full list of all subsidiaries that exercise simplification options in accordance with § 264 (3) HGB or disclosure simplification options in accordance with § 264b HGB.

The following table shows the non-controlling interests for principal subsidiaries:

Name and registered office		Percentage of shareholding for non-controlling interests %	Percentage of voting rights for non-controlling interests %	Cumulative non-controlling interests ^a millions of €	Dividends paid out to non-controlling interests millions of €
T-Mobile US, Inc., Bellevue, Washington, United States ^{b, c}	Dec. 31, 2022/2022	51.86	47.33	36,332	0
	Dec. 31, 2021/2021	53.25	47.98	35,640	0
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece ^b	Dec. 31, 2022/2022	49.14	42.86	1,022	124
	Dec. 31, 2021/2021	51.71	45.12	1,129	219
Hrvatski Telekom d.d., Zagreb, Croatia ^{b, c}	Dec. 31, 2022/2022	46.98	46.98	806	40
	Dec. 31, 2021/2021	47.83	47.83	831	41
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary ^{b, c}	Dec. 31, 2022/2022	38.61	38.61	564	27
	Dec. 31, 2021/2021	40.79	40.79	605	27

^a IFRS figures at the level of the consolidated financial statements of Deutsche Telekom.

^b Consolidated subgroup.

^c Indirect shareholding of Deutsche Telekom AG.

Deutsche Telekom held 48.14 % of the shares in T-Mobile US as of the reporting date. Taking the treasury shares held by T-Mobile US into account, Deutsche Telekom had a 49.0 % stake in T-Mobile US as of December 31, 2022. Due to a proxy agreement concluded with SoftBank and the fact that persons nominated by Deutsche Telekom hold a majority on the Board of Directors of the company, T-Mobile US is being included in the consolidated financial statements of Deutsche Telekom as a fully consolidated subsidiary. The proportion of T-Mobile US shares for which Deutsche Telekom can exercise voting rights totaled around 52.7 % as of December 31, 2022.

Deutsche Telekom held 50.86 % of the shares in the OTE group at the reporting date. In accordance with shareholder agreements between Deutsche Telekom and the Hellenic Republic, Deutsche Telekom controls around 57.1 % of the voting rights.

Summarized financial information for subsidiaries with significant non-controlling interests:

millions of €							
Name and registered office		Current assets ^a	Non-current assets ^a	Current liabilities ^a	Non-current liabilities ^a	Profit (loss) ^a	Total comprehensive income ^a
T-Mobile US, Inc., Bellevue, Washington, United States ^{b, c}	Dec. 31, 2022/2022	20,901	194,680	24,040	119,860	2,206	6,711
	Dec. 31, 2021/2021	21,532	175,248	21,671	107,851	2,508	7,714
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece ^b	Dec. 31, 2022/2022	1,359	4,504	1,878	1,461	385	416
	Dec. 31, 2021/2021	1,434	4,619	1,984	1,417	603	615
Hrvatski Telekom d.d., Zagreb, Croatia ^{b, c}	Dec. 31, 2022/2022	732	1,744	240	90	82	76
	Dec. 31, 2021/2021	709	1,779	208	101	80	89
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary ^{b, c}	Dec. 31, 2022/2022	671	3,315	766	1,047	170	20
	Dec. 31, 2021/2021	691	3,482	800	1,129	174	149

^a IFRS figures of the respective subgroup.

^b Consolidated subgroup.

^c Indirect shareholding of Deutsche Telekom AG.

millions of €				
Name and registered office		Net cash from operating activities ^a	Net cash (used in) from investing activities ^a	Net cash (used in) from financing activities ^a
T-Mobile US, Inc., Bellevue, Washington, United States ^{b, c}	2022	23,569	(16,165)	(8,978)
	2021	19,663	(19,816)	(3,042)
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece ^b	2022	1,318	(508)	(853)
	2021	1,204	(320)	(842)
Hrvatski Telekom d.d., Zagreb, Croatia ^{b, c}	2022	346	(146)	(194)
	2021	381	(207)	(191)
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary ^{b, c}	2022	514	(281)	(244)
	2021	548	(288)	(345)

^a IFRS figures of the respective subgroup.

^b Consolidated subgroup.

^c Indirect shareholding of Deutsche Telekom AG.

Structured entities

Deutsche Telekom processes factoring transactions by means of structured entities.

For further information, please refer to Note 42 "Financial instruments and risk management."

Since 2014, Deutsche Telekom has consolidated four structured leasing SPEs, and since 2018 two more such SPEs, for real estate as well as operating and office equipment at two sites for the operation of data centers in Germany. The two data centers were built under the management of an external leasing company and are operated by T-Systems International GmbH. Apart from the contractual obligations to make lease payments to the leasing SPEs, Deutsche Telekom has no obligation to give them further financial support.

T-Mobile USA Tower LLC and T-Mobile West Tower LLC, which are included in the consolidated financial statements as investments accounted for using the equity method, are also structured entities.

For further information, please refer to Note 10 "Investments accounted for using the equity method."

Joint operations

On the basis of a contractual arrangement concluded by T-Mobile Polska S.A., Deutsche Telekom combined the activities for the planning, building, and operation of the Polish mobile communications network with a partner in 2011 to generate savings. Deutsche Telekom recognizes its share (50 %) of the corresponding assets in line with the economic substance in the consolidated statement of financial position.

Currency translation

Foreign-currency transactions are translated into the functional currency at the exchange rate at the date of transaction. At the reporting date, monetary items are translated at the closing rate, and non-monetary items are translated at the exchange rate at the date of transaction. Exchange rate differences are recognized in profit or loss.

The assets and liabilities of Group entities whose functional currency is not the euro are translated into euros from the local currency using the middle rates at the reporting date. The income statements and corresponding profit or loss of foreign-currency denominated Group entities are translated at monthly average exchange rates for the period. The differences that arise from the use of both rates are recognized directly in equity.

The exchange rates of certain key currencies changed as follows:

€	Annual average rate			Rate at the reporting date	
	2022	2021	2020	Dec. 31, 2022	Dec. 31, 2021
100 Czech korunas (CZK)	4.07089	3.89888	3.78060	4.14345	4.02124
100 Croatian kuna (HRK)	13.27140	13.28220	13.26560	13.27230	13.30760
1,000 Hungarian forints (HUF)	2.55675	2.78908	2.84691	2.49707	2.70845
100 Macedonian denars (MKD)	1.62314	1.62324	1.62187	1.62299	1.62339
100 Polish zlotys (PLN)	21.33620	21.90100	22.51210	21.34570	21.75600
1 U.S. dollar (USD)	0.94930	0.84568	0.87553	0.93655	0.88285

Development of the economic environment and the associated impact

The **macroeconomic challenges** currently facing society, politics, and business are multi-faceted and often interdependent, such as the rise in energy prices, the general energy supply shortage, the coronavirus pandemic, the ongoing high rate of inflation, rising interest rate levels, the devaluation of the euro, geopolitical tensions, and the war in Ukraine. This gives rise to substantial uncertainty in terms of global economic development. Deutsche Telekom is aware that, in view of the current developments, it is only possible to extrapolate past experience to the future to a limited extent. Deutsche Telekom is constantly reassessing the challenges and takes them into account in its consolidated financial statements and financial reporting, e.g., when determining the impairment of goodwill, the recognition of deferred taxes, and the measurement of provisions and financial instruments.

Deutsche Telekom's business activities and hence its results of operations and financial position are not significantly impacted yet by the consequences of the **war in Ukraine**. Deutsche Telekom does not operate any mobile or voice networks in Russia or Ukraine. Neither does a stop on gas deliveries from Russia directly impact on the Group's network operations. Deutsche Telekom is discontinuing its developer activities in Russia. Possible future effects on the measurement of individual assets and liabilities are being analyzed on an ongoing basis. Indirect effects on Deutsche Telekom arise primarily from increased energy prices in the Europe operating segment. The Group's main energy costs are secured by long-term hedging transactions, especially in the United States and Germany operating segments. It has also secured the main financing requirements there with long-term fixed interest rates. The medium- and long-term effects on global economic development cannot be assessed with certainty.

The **coronavirus pandemic** continues to have implications for the global economy in the reporting year. Business activities and thus the results of operations and financial position of Deutsche Telekom were impacted by the coronavirus pandemic in various business areas, affecting revenue and earnings, although not to any significant extent. Although the pandemic has only had a limited negative impact on the telecommunications sector so far, if the pandemic were to re-escalate, it could lead to further supply-side shortages. Possible future effects on the measurement of individual assets and liabilities are being analyzed on an ongoing basis. Based on experience so far, the coronavirus pandemic is expected to continue to have only a limited impact on Deutsche Telekom's business going forward.

Impact of climate change

In the 2022 financial year, Deutsche Telekom analyzed potential sustainability risks in the areas of climate change and scarcity of resources. Climate change risks are already visible in the form of increasingly extreme weather conditions. Such storm events can damage the infrastructure and disrupt network operation with direct or indirect effects on operations. The risk is assessed in relation to the continuation of operations as part of risk management and is managed at an operational level in the business units. Deutsche Telekom can take further action to help prevent climate change and to conserve resources by reducing its own CO₂ emissions. For this reason, in 2021 Deutsche Telekom set itself the target of cutting CO₂ emissions across the Group (Scope 1 and 2) to net zero by 2025.

For further information, please refer to the combined management report in the sections [“Combined non-financial statement”](#) and [“Risk and opportunity management.”](#)

Deutsche Telekom did not identify any key risks to its business model in the area of either climate change or scarcity of resources and, as such, also does not currently anticipate any significant impacts from such risks on its business model or on the presentation of its results of operations or financial position.

Notes to the consolidated statement of financial position

1 Cash and cash equivalents

In the reporting period, cash and cash equivalents decreased by EUR 1.9 billion to EUR 5.8 billion.

For further information, please refer to Note 37 [“Notes to the consolidated statement of cash flows.”](#)

Cash and cash equivalents have an original maturity of less than three months and mainly comprise fixed-term bank deposits. They also include small amounts of cash-in-hand and checks. Deutsche Telekom obtained cash collateral of EUR 156 million (December 31, 2021: EUR 1,616 million) on the basis of collateral contracts as surety for potential credit risks arising from derivative transactions.

As of December 31, 2022, Deutsche Telekom reported cash and cash equivalents of EUR 87 million (December 31, 2021: EUR 36 million) that is not freely available to Deutsche Telekom, mainly relating to asset-backed securities issued by T-Mobile US, as well as cash balances held by the subsidiaries in Russia. These cash balances are not fully available for use by Deutsche Telekom AG or other Group companies.

2 Trade receivables

At EUR 16.8 billion, trade receivables increased by EUR 1.5 billion against the 2021 year-end level. In the United States operating segment, the increase in receivables was mainly due to exchange rate effects, as well as to customer additions for the Equipment Installment Plan. The carrying amount in the Germany operating segment also increased, mainly as a result of the termination of factoring agreements. The carrying amount was reduced by higher allowances of customer receivables, in particular in the United States operating segment. These resulted from higher receivables and potential future macroeconomic effects. Furthermore, wholesale receivables in the United States declined.

Of the total of trade receivables, EUR 14,013 million (December 31, 2021: EUR 12,462 million) is due within one year. As of the reporting date, trade receivables with a carrying amount of EUR 858 million were pledged as collateral in connection with asset-backed securities issued by T-Mobile US.

For information on allowances, credit ratings, and write-offs of receivables as well as on factoring agreements, please refer to Note 42 [“Financial instruments and risk management.”](#)

3 Contract assets

The carrying amount of contract assets stood at EUR 2.4 billion as of December 31, 2022, up EUR 0.4 billion against the prior-year level. Contract assets relate to receivables that have not yet legally come into existence, which arise from the earlier – as compared to billing – recognition of revenue, in particular from the sale of goods and merchandise under long-term multiple-element arrangements (e.g., mobile contract plus handset). Receivables from long-term construction contracts are also recognized under contract assets. Of the total contract assets, EUR 0.3 billion related to contract assets in connection with long-term construction contracts (December 31, 2021: EUR 0.2 billion).

In connection with the increased marketing of the Equipment Installment Plan in the United States operating segment, contract assets increased by EUR 235 million. Under this plan, discounts are granted on the purchase of a handset on the condition of a minimum service contract term. By contrast, contract assets were reduced by EUR 40 million in the reporting year (2021: EUR 51 million) due to a change in the business model in Poland from subsidized terminal equipment business to a business model that does not provide for handsets to be sold at a discount. In the Germany operating segment, the carrying amounts increased by EUR 0.1 billion.

For information on allowances of contract assets, please refer to Note 42 “Financial instruments and risk management.”

4 Inventories

millions of €	Dec. 31, 2022	Dec. 31, 2021
Raw materials and supplies	130	53
Work in process	34	19
Finished goods and merchandise	2,474	2,783
	2,639	2,855

The carrying amount of inventories decreased by EUR 0.2 billion compared to December 31, 2021 to EUR 2.6 billion, due to the sale of terminal equipment in consequence of the impending market launch of new handset models, and warehouse closures at former Sprint sites in the United States operating segment. By contrast, inventories increased in the Germany and Europe operating segments, partly as a preventive measure in connection with the prevailing supply chain uncertainties. Exchange rate effects, in particular from the translation of U.S. dollars into euros, also had an increasing effect.

Write-downs of EUR 39 million (2021: EUR 23 million, 2020: EUR 42 million) on the net realizable value were recognized in profit or loss in 2022. The carrying amount of inventories expensed during the reporting period was EUR 22,722 million (2021: EUR 22,532 million, 2020: EUR 16,693 million).

Finished goods and merchandise primarily comprise retail products (e.g., terminal equipment and accessories) not manufactured by Deutsche Telekom and services rendered but not yet invoiced, primarily to business customers.

5 Non-current assets and disposal groups held for sale and liabilities directly associated with non-current assets and disposal groups held for sale

As of December 31, 2022, current assets recognized in the consolidated statement of financial position included EUR 4.7 billion (December 31, 2021: EUR 4.9 billion) in non-current assets and disposal groups held for sale. Current liabilities in the consolidated statement of financial position included liabilities directly associated with non-current assets and disposal groups held for sale of EUR 3.3 billion as of December 31, 2022 (December 31, 2021: EUR 1.4 billion). The change in carrying amounts resulted from the transactions described below.

millions of €

	Dec. 31, 2022					Dec. 31, 2021				
	GD tower companies	T-Mobile US wireline business	T-Mobile US spectrum	Other	Total	T-Mobile Netherlands B.V.	Glasfaser Plus GmbH	T-Mobile US spectrum	Other	Total
Non-current assets and disposal groups held for sale										
Cash and cash equivalents		26			26	8	3			11
Trade receivables	14	32			46	396				396
Inventories	11				11	44				44
Other current assets	7	9			16	64				64
Intangible assets	524	30	65		619	2,253	120	27	5	2,405
Of which: goodwill	523				523	876	120		2	998
Property, plant and equipment	1,573	192		28	1,793	746			18	764
Right-of-use assets	2,043	47			2,090	612				612
Deferred tax assets	71				71	414				414
Other non-current assets	6	6			12	117			29	146
Total	4,249	342	65	28	4,684	4,654	123	27	52	4,856
Liabilities directly associated with non-current assets and disposal groups held for sale										
Financial liabilities	14				14					0
Current lease liabilities	184	56			240					0
Trade and other payables	87	59			146	324				324
Other current provisions	28				28	81				81
Other current liabilities	26	4			30	247				247
Non-current lease liabilities	1,798	234			2,032	634				634
Provisions and similar obligations	26				26					0
Other non-current provisions	689	33			722	32				32
Deferred tax liabilities	61				61	39				39
Other non-current liabilities	45	3			48	8				8
Total	2,958	389	0	0	3,347	1,365	0	0	0	1,365

As of December 31, 2022, the carrying amounts included the reclassified assets and liabilities of the GD tower companies in the Group Development operating segment, and of the T-Mobile US wireline business in the United States operating segment. Both these entities were classified as held for sale as of December 31, 2022 on account of purchase agreements signed but not yet consummated.

The assets and liabilities of both entities were measured at the lower of the carrying amount and fair value less costs of disposal. The fair values were determined on the basis of the sale agreements concluded with the contracting parties.

For further information on the aforementioned business transactions, please refer to the section “Changes in the composition of the Group and other transactions” under “Summary of accounting policies.”

In 2022, transactions were agreed between T-Mobile US and several competitors for the exchange of mobile spectrum licenses in order to improve mobile network coverage. In the prior year, similar transactions were agreed between T-Mobile US and two competitors for the exchange of mobile spectrum licenses, which were consummated in the reporting year. The measurements use parameters that are not observable on the market (Level 3 inputs).

As of December 31, 2021, the carrying amounts included the reclassified assets and liabilities of T-Mobile Netherlands B.V. in the Group Development operating segment, and of GlasfaserPlus GmbH in the Germany operating segment.

For further information on the disposals consummated in the reporting year, please refer to the section “Changes in the composition of the Group and other transactions” under “Summary of accounting policies.”

No reversals of impairments of the carrying amounts of the non-current assets and disposal groups held for sale were recognized either in the reporting year or in the prior year.

6 Intangible assets

millions of €

	Internally generated intangible assets	Acquired intangible assets		
		Total	Acquired concessions, industrial and similar rights and assets	LTE licenses
Cost				
At December 31, 2020	9,195	116,766	1,801	6,789
Currency translation	505	8,072	43	(15)
Changes in the composition of the Group	0	659	(21)	0
Additions	612	10,075	455	286
Disposals	(609)	(2,654)	(773)	(75)
Change from non-current assets and disposal groups held for sale	(664)	(2,849)	(15)	(1,093)
Reclassifications	1,344	1,973	128	(0)
At December 31, 2021	10,383	132,041	1,618	5,893
Currency translation	397	6,598	10	(79)
Changes in the composition of the Group	(1)	18	14	0
Additions	702	4,175	412	9
Disposals	(789)	(1,658)	(148)	(210)
Change from non-current assets and disposal groups held for sale	(10)	(95)	(0)	0
Reclassifications	1,458	1,683	(4)	(32)
At December 31, 2022	12,141	142,762	1,901	5,582
Accumulated amortization and impairment losses				
At December 31, 2020	(5,707)	(23,908)	(1,311)	(2,759)
Currency translation	(345)	(840)	(35)	7
Changes in the composition of the Group	0	7	13	0
Additions (amortization)	(1,599)	(4,869)	(424)	(410)
Additions (impairment)	(63)	(42)	0	0
Disposals	608	2,596	773	75
Change from non-current assets and disposal groups held for sale	607	1,593	1	505
Reclassifications	(53)	34	(55)	2
Reversal of impairment losses	0	0	0	0
At December 31, 2021	(6,552)	(25,429)	(1,038)	(2,581)
Currency translation	(278)	(563)	(5)	19
Changes in the composition of the Group	0	(4)	(12)	0
Additions (amortization)	(1,858)	(4,894)	(324)	(352)
Additions (impairment)	(95)	(52)	(0)	(1)
Disposals	789	1,573	148	210
Change from non-current assets and disposal groups held for sale	4	26	0	0
Reclassifications	(56)	(39)	1	4
Reversal of impairment losses	0	1	0	0
At December 31, 2022	(8,046)	(29,382)	(1,230)	(2,700)
Net carrying amounts				
At December 31, 2021	3,832	106,611	580	3,313
At December 31, 2022	4,095	113,380	671	2,882

Acquired intangible assets					Goodwill	Advance payments and intangible assets under development	Total
UMTS licenses	GSM licenses	FCC licenses (T-Mobile US)	5G licenses	Other acquired intangible assets			
1,375	1,247	76,736	2,635	26,184	37,115	1,962	165,038
5	1	6,806	0	1,233	1,655	54	10,286
0	0	5	0	675	890	0	1,548
0	0	8,353	0	979	0	3,091	13,778
(178)	(11)	0	0	(1,618)	0	(9)	(3,273)
(641)	(10)	(26)	(233)	(831)	(1,884)	(47)	(5,445)
167	29	(0)	47	1,603	0	(3,287)	30
727	1,256	91,873	2,449	28,225	37,775	1,764	181,963
1	(2)	5,736	1	931	1,234	22	8,252
0	0	0	0	5	41	(1)	59
0	0	2,902	3	848	(0)	3,875	8,752
0	(33)	0	(1)	(1,266)	0	(30)	(2,478)
0	0	(61)	0	(33)	(527)	(7)	(639)
0	2	0	117	1,599	(0)	(3,105)	36
728	1,223	100,450	2,569	30,309	38,524	2,518	195,945
(1,289)	(697)	(2,282)	(55)	(15,515)	(17,295)	(62)	(46,972)
(4)	(1)	(198)	0	(610)	(834)	0	(2,020)
0	0	0	0	(7)	0	0	7
(44)	(54)	0	(97)	(3,839)	0	0	(6,468)
0	(4)	0	0	(38)	0	(51)	(155)
178	11	0	0	1,559	0	(0)	3,204
480	10	0	12	585	886	0	3,086
(0)	(1)	0	0	89	0	21	3
0	0	0	0	0	0	0	0
(679)	(737)	(2,480)	(139)	(17,774)	(17,243)	(91)	(49,315)
(0)	1	(151)	(0)	(428)	(633)	(0)	(1,475)
0	0	0	0	8	0	0	(4)
(25)	(54)	0	(129)	(4,011)	0	0	(6,752)
0	(18)	0	0	(33)	0	(33)	(180)
0	31	0	0	1,184	0	1	2,363
0	0	(4)	0	30	0	0	30
0	0	0	(2)	(41)	0	83	(12)
0	1	0	0	0	0	0	1
(704)	(777)	(2,635)	(271)	(21,066)	(17,876)	(40)	(55,344)
48	519	89,393	2,310	10,450	20,531	1,673	132,647
24	446	97,815	2,299	9,243	20,647	2,478	140,600

The carrying amount of intangible assets increased by EUR 8.0 billion to EUR 140.6 billion, mainly due to additions of EUR 8.8 billion, EUR 2.9 billion of which related to the acquisition of mobile spectrum and resulted almost entirely from the licenses acquired at the FCC Auction 110 in the United States. Another EUR 0.3 billion related to advance payments and intangible assets under development in connection with FCC Auction 108. The licenses acquired have yet to be assigned by the FCC. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 6.8 billion. Positive effects from changes in the composition of the Group contributed EUR 0.1 billion to the increase in the carrying amount, while amortization and impairment losses of EUR 6.9 billion reduced it. This includes impairment losses of EUR 0.2 billion. The reclassification of assets worth EUR 0.6 billion to non-current assets and disposal groups held for sale also reduced the carrying amount. These relate to the agreements on the sale of the Group's cell tower business in Germany and Austria (GD tower companies) and of the wireline business in the United States. Disposals decreased the carrying amount by EUR 0.1 billion.

For further information on amortization and impairment losses, please refer to Note 27 "[Depreciation, amortization and impairment losses.](#)"

For further information on the aforementioned business transactions, please refer to the section "[Changes in the composition of the Group and other transactions](#)" under "Summary of accounting policies."

Deutsche Telekom had commitments for the acquisition of intangible assets in the amount of EUR 5.4 billion (December 31, 2021: EUR 2.0 billion) as of the reporting date. The majority of this related to commitments entered into by T-Mobile US.

For further information, please refer to Note 41 "[Other financial obligations.](#)"

Expenditure on research and development recognized as an expense by Deutsche Telekom amounted to EUR 30.3 million in the reporting year (2021: EUR 32.5 million).

Impairment losses recognized in the 2022 financial year **on intangible assets, property, plant and equipment, and right-of-use assets** totaled EUR 1.2 billion (2021: EUR 0.3 billion). This was the result of the following effects:

Impairment losses on non-current assets in the United States operating segment. In the second quarter of 2022, T-Mobile US decommissioned the former Sprint's 3G CDMA network and began switching off the former Sprint's 4G LTE network, which was completed in the third quarter of 2022. Until now, the operation of these networks has been supported by Sprint's own fiber-optic-based wireline network. The assets of this wireline network, which mainly comprise land and buildings, communication systems and network technology, fiber-optic cable equipment and right-of-use assets, therefore had to be grouped together with the mobile assets for the purposes of the impairment test and were thus part of the United States cash-generating unit. Due to the decommissioning of Sprint's mobile networks, the assets of Sprint's fiber-optic-based wireline network now generate cash inflows independently of the assets of the mobile business. As such, they are no longer assigned to the United States cash-generating unit. This resulted in an ad hoc impairment test of the fiber-optic-based wireline assets as of June 30, 2022. The fair value of the assets was determined using the combination of cost, income, and market-value-based approaches, including assumptions of the market participants. The value was calculated using Level 3 input parameters. A discount rate of 7.5 % was used. The recoverable amount of the assets, calculated as fair value less costs of disposal, was EUR 452 million below the carrying amount and stood at EUR 649 million. EUR 228 million of the impairment loss recognized in this connection related to property, plant and equipment, EUR 201 million to right-of-use assets, and EUR 23 million to intangible assets.

On September 6, 2022, T-Mobile US reached an agreement with Cogent on the sale of the fiber-optic-based wireline business of the former Sprint. The sale price is USD 1 and is subject to customary adjustments laid down in the purchase agreement. As a result of the purchase agreement concluded, the assets of the wireline business were reclassified as of September 30, 2022 to non-current assets and disposal groups held for sale. This required a remeasurement of these assets at the lower of carrying amount and fair value based on the purchase price less costs of disposal, which resulted in an impairment loss of EUR 375 million as of the date of the reclassification. EUR 300 million of the impairment loss related to property, plant and equipment, EUR 71 million to right-of-use assets, and EUR 4 million to intangible assets.

Impairment losses on non-current assets in the Systems Solutions operating segment and in the Group Headquarters & Group Services segment. In the 2022 financial year, impairment losses on intangible assets and property, plant and equipment totaling EUR 144 million were recognized in the Systems Solutions cash-generating unit. These related to follow-up investments in connection with assets previously impaired in the 2020 and 2021 financial years. Furthermore, despite the business outlook remaining positive, the substantial increase in the cost of capital in the reporting year prompted further impairment losses to be recognized on non-current assets at the end of 2022. The recoverable amount – determined as fair value less costs of disposal – was calculated at EUR 478 million, which is EUR 351 million lower than the carrying amount of the Systems Solutions cash-generating unit. The fair values of the individual assets were set as the lower limit for the amount of the impairment loss. An external expert opinion was obtained to determine the fair values of the individual assets. The value was calculated using Level 3 input parameters. A discount rate of 8.42 % was used. EUR 86 million of the impairment loss recognized in this connection in the Systems Solutions operating segment related to intangible assets, and EUR 24 million to property, plant and equipment. Another EUR 33 million related to intangible assets recognized in the Group Headquarters & Group Services segment that are subject to use by the Systems Solutions operating segment and are allocated to the Systems Solutions cash-generating unit for the purposes of impairment testing.

In the 2021 financial year, impairment losses on intangible assets and property, plant and equipment totaling EUR 200 million were recognized. This was a consequence of several factors, including the ad hoc impairment testing carried out in the Systems Solutions cash-generating unit, in the prior year and related to follow-up investments. Despite the marginal improvement in the business outlook, the increase in the cost of capital in the financial year prompted further impairment losses to be recognized on non-current assets in the Systems Solutions cash-generating unit at the end of 2021. The recoverable amount – determined as fair value less costs of disposal – was calculated at EUR 186 million, which is EUR 328 million lower than the carrying amount of the Systems Solutions cash-generating unit. The fair values of the individual assets were set as the lower limit for the amount of the impairment loss. An external expert opinion was obtained to determine the fair values of the individual assets. The value was calculated using Level 3 input parameters. A discount rate of 6.22 % was used. EUR 118 million of the impairment loss recognized in this connection in the Systems Solutions operating segment related to intangible assets, and EUR 61 million to property, plant and equipment. Another EUR 21 million related to intangible assets in the Group Headquarters & Group Services segment that are subject to use by the Systems Solutions operating segment and are allocated to the Systems Solutions cash-generating unit for the purposes of impairment testing.

Impairment losses on non-current assets in the Europe operating segment (Romania). In the 2022 financial year, impairment losses on intangible assets and property, plant and equipment totaling EUR 117 million were recognized. These related to the Romania cash-generating unit, which operates in the structurally challenging and highly competitive Romanian market. In addition, high energy prices and sharp rises in interest rates had a negative impact on the enterprise value. The value in use was calculated at EUR 41 million, which is EUR 116 million lower than the carrying amount of the cash-generating unit. A discount rate of 9.48 % was used. EUR 85 million of the impairment loss related to property, plant and equipment and EUR 32 million to intangible assets.

In the 2022 financial year, the **carrying amount of goodwill in cash-generating units** in the operating segments increased by EUR 0.1 billion to EUR 20.6 billion. This was the result of the following effects:

United States operating segment. The increase in goodwill of EUR 0.7 billion compared with December 31, 2021 primarily relates to exchange rate effects from the translation of U.S. dollars into euros. A further acquisition of a company was immaterial for the United States operating segment.

Europe operating segment. Changes in goodwill in the cash-generating units Poland, Hungary, the Czech Republic, and Croatia resulted from exchange rate effects.

Group Development operating segment. Goodwill declined by EUR 0.5 billion in the Deutsche Funkturm and Magenta Telekom Infra cash-generating units on account of the agreed sale of the GD tower companies. As of December 31, 2022, this item was recognized as “held for sale” in the consolidated statement of financial position.

For further information on the agreed sale of the GD tower companies, please refer to the section [“Changes in the composition of the Group and other transactions”](#) under “Summary of accounting policies” and to Note 5 [“Non-current assets and disposal groups held for sale and liabilities directly associated with non-current assets and disposal groups held for sale.”](#)

Disclosures on annual impairment tests. As of December 31, 2022, Deutsche Telekom carried out its annual impairment tests on the goodwill and intangible assets with an indefinite useful life (in particular, FCC licenses in the United States) assigned to the cash-generating units.

The recoverable amounts to be identified for the impairment tests were largely determined on the basis of the fair values less costs of disposal. With the exception of the United States cash-generating unit (Level 1 measurement), these figures were calculated using the net present value method. The main parameters are shown in the following table. The impairment tests on goodwill as of December 31, 2022 did not result in any need for impairment in the cash-generating units. Likewise no need for impairment had been identified in the cash-generating units at the reporting date of the prior year.

The recoverable amounts at the cash-generating units Croatia, Montenegro, and North Macedonia were determined using the value in use. The market price of an active and liquid market (share price) of T-Mobile US was used to determine the fair value less costs of disposal in the case of the United States cash-generating unit. The measurements of all other cash-generating units, as for the value in use, are founded on projections for a ten-year projection period that are based on financial plans that have been approved by management and are also used for internal purposes. The chosen planning horizon reflects the assumptions for short- to medium-term market developments and is selected to achieve a steady state in the business outlook that is necessary for calculating the perpetual annuity. This steady state can only be established based on this planning horizon, in particular due to the sometimes long investment cycles in the telecommunications industry and the investments planned and expected in the long run to acquire and extend the rights of spectrum use. Cash flows beyond the internal mid-term planning are extrapolated using appropriate growth rates defined separately for each cash-generating unit. These growth rates are based on real growth and inflation expected in the long term for the countries in which the respective unit operates. To achieve the sustainable growth rates set for the period of the perpetual annuity, additional sustainable investments derived specifically for each cash-generating unit are taken into account. The key assumptions on which management has based its determination of the recoverable amount include the following assumptions that were primarily derived from internal sources and are based on past experience and extended to include internal expectations, and that are underscored by external market data and estimates: development of revenue, customer acquisition and retention costs, churn rates, capital expenditure, market share, and growth rates. Discount rates are determined on the basis of external figures derived from the market, taking account of the market and country risks associated with the cash-generating unit. Any significant future changes in the aforementioned assumptions would have an impact on the fair values of the cash-generating units. Changes in the assumptions may have a negative impact, as a result of future macroeconomic trends, continued intense competition, further possible legislation changes (e.g., as part of national austerity programs), and regulatory intervention.

For further information on the determination of the recoverable amounts of the cash-generating units, please refer to the section "[Accounting policies](#)" under "Summary of accounting policies."

The following table provides an overview of the main factors affecting the measurement and the classification of the input parameters (levels) used to determine the recoverable amounts in accordance with IFRS 13.

		Goodwill carrying amount millions of €	Impairment millions of €	Detailed planning period years	Discount rates ^a %	Sustainable growth rate p. a. Ø in %	Level allocation of input parameters ^b
Germany	2022	4,845	0	10	4.48	0.0	Level 3
	2021	4,845	0	10	3.19	0.0	Level 3
United States	2022	11,345	0	n.a.	n.a.	n.a.	Level 1
	2021	10,654	0	n.a.	n.a.	n.a.	Level 1
Europe							
Poland	2022	186	0	10	7.47	1.0	Level 3
	2021	189	0	10	6.17	1.0	Level 3
Hungary	2022	827	0	10	9.09	1.0	Level 3
	2021	900	0	10	7.24	1.0	Level 3
Czech Republic	2022	836	0	10	6.50	1.0	Level 3
	2021	812	0	10	5.24	1.0	Level 3
Croatia	2022	506	0	10	7.16	1.0	Value in use
	2021	508	0	10	5.75	1.0	Value in use
Slovakia	2022	423	0	10	5.81	1.0	Level 3
	2021	424	0	10	3.95	1.0	Level 3
Greece	2022	422	0	10	6.23	1.0	Level 3
	2021	422	0	10	4.91	1.0	Level 3
Austria	2022	613	0	10	5.67	1.0	Level 3
	2021	613	0	10	4.16	1.0	Level 3
Other ^c	2022	53	0	10	8.75–8.98	1.0	Value in use
	2021	53	0	10	7.42–7.48	1.0	Value in use
Group Development							
Deutsche Funkturm ^d	2022						
	2021	259	0	10	4.15	1.0	Level 3
Magenta Telekom Infra ^d	2022						
	2021	264	0	10	4.69	1.0	Level 3
Group Headquarters & Group Services							
Deutsche Telekom IT	2022	590	0	10	8.61	1.0	Level 3
	2021	590	0	10	6.94	1.0	Level 3
Deutsche Telekom in total	2022	20,647	0				
	2021	20,531	0				

^a Discount rate consistently after taxes. The discount rate before taxes for the calculation of the value in use amounts to 8.54 % (2021: 6.92 %) for Croatia, and 10.08 to 10.17 % (2021: 8.32 to 8.33 %) for "Other."

^b Level of input parameters in the case of fair value less costs of disposal.

^c This includes goodwill from the cash-generating units Montenegro and North Macedonia.

^d Reclassification of goodwill to non-current assets and disposal groups held for sale due to the agreed sale of GD tower companies.

The sensitivity analyses for the need for impairment resulting from a change in the main parameters affecting measurement did not result in any different need for impairment for any cash-generating unit to which goodwill is allocated. Changes of plus or minus 50 basis points in the discount rate and in the sustainable growth rate, and of 5 percentage points in net cash flows, were each analyzed separately.

7 Property, plant and equipment

millions of €					
	Land and equivalent rights, and buildings including buildings on land owned by third parties	Technical equipment and machinery	Other equipment, operating and office equipment	Advance payments and construction in progress	Total
Cost					
At December 31, 2020	18,503	144,769	10,244	4,745	178,261
Currency translation	456	3,491	252	191	4,390
Changes in the composition of the Group	36	(17)	(0)	5	25
Additions	187	3,638	487	11,149	15,461
Disposals	(1,100)	(10,111)	(828)	(98)	(12,137)
Change from non-current assets and disposal groups held for sale	(430)	(914)	(110)	(143)	(1,597)
Reclassifications	547	9,503	910	(10,526)	433
At December 31, 2021	18,197	150,360	10,956	5,322	184,835
Currency translation	371	2,552	187	155	3,265
Changes in the composition of the Group	(0)	(1)	(4)	(4)	(9)
Additions	887	3,042	387	13,899	18,215
Disposals	(460)	(23,332)	(819)	(188)	(24,800)
Change from non-current assets and disposal groups held for sale	(1,435)	(1,709)	(2,905)	(175)	(6,223)
Reclassifications	894	11,412	878	(12,066)	1,118
At December 31, 2022	18,454	142,324	8,680	6,943	176,401
Accumulated depreciation and impairment losses					
At December 31, 2020	(11,207)	(99,198)	(6,864)	(17)	(117,286)
Currency translation	(206)	(1,910)	(147)	(0)	(2,263)
Changes in the composition of the Group	(0)	52	1	1	54
Additions (depreciation)	(792)	(12,748)	(1,055)	0	(14,595)
Additions (impairment)	(11)	(53)	(13)	(15)	(92)
Disposals	1,059	8,720	741	4	10,525
Change from non-current assets and disposal groups held for sale	185	566	97	12	860
Reclassifications	68	(225)	(111)	0	(269)
Reversal of impairment losses	1	0	0	0	1
At December 31, 2021	(10,903)	(104,796)	(7,351)	(15)	(123,065)
Currency translation	(159)	(1,490)	(102)	(0)	(1,751)
Changes in the composition of the Group	0	2	5	0	8
Additions (depreciation)	(804)	(11,153)	(1,067)	(0)	(13,023)
Additions (impairment)	(115)	(496)	(50)	(7)	(668)
Disposals	343	22,714	659	2	23,717
Change from non-current assets and disposal groups held for sale	1,026	1,604	2,046	2	4,677
Reclassifications	4	(558)	(14)	(0)	(568)
Reversal of impairment losses	1	0	0	0	2
At December 31, 2022	(10,607)	(94,172)	(5,874)	(19)	(110,672)
Net carrying amounts					
At December 31, 2021	7,294	45,564	3,605	5,307	61,770
At December 31, 2022	7,847	48,152	2,806	6,925	65,729

The carrying amount of property, plant and equipment increased by EUR 4.0 billion compared to December 31, 2021 to EUR 65.7 billion. Additions of EUR 18.2 billion for the upgrade and build-out of the network and in connection with the broadband/fiber-optic build-out and mobile infrastructure build-out increased the carrying amount. The modification of the arrangements between T-Mobile US and Crown Castle for existing cell sites increased the carrying amount by EUR 0.8 billion. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 1.5 billion. Reclassifications of lease assets upon expiry of the contractual lease term to property, plant and equipment, in the United States operating segment in particular, increased the carrying amount by EUR 0.6 billion, while depreciation and impairment losses of EUR 13.7 billion had an offsetting effect. This includes impairment losses of EUR 0.7 billion, mainly relating to the impairment test described below of the former Sprint's fiber-optic-based wireline assets carried out in the second quarter of 2022 and the corresponding sale agreed in the third quarter of 2022. The reclassification of assets worth EUR 1.5 billion to non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States. Disposals of EUR 1.1 billion also reduced the carrying amount.

For further information on the aforementioned business transactions, please refer to the section [“Changes in the composition of the Group and other transactions”](#) under [“Summary of accounting policies.”](#)

For further information on depreciation, amortization and impairment losses, please refer to Notes 6 [“Intangible assets”](#) and 27 [“Depreciation, amortization and impairment losses.”](#)

Deutsche Telekom had commitments for the acquisition of property, plant and equipment in the amount of EUR 6.8 billion as of the reporting date (December 31, 2021: EUR 5.9 billion). Restoration obligations of EUR 0.5 billion were recognized as of December 31, 2022 (December 31, 2021: EUR 0.7 billion), mainly attributable to restoration obligations of T-Mobile US.

For further information, please refer to Note 41 [“Other financial obligations.”](#)

8 Right-of-use assets – lessee relationships

millions of €

	Land and equivalent rights, and buildings including buildings on land owned by third parties	Technical equipment and machinery	Other equipment, operating and office equipment	Total
Carrying amounts of right-of-use assets by class of underlying asset				
At December 31, 2020	6,638	23,552	111	30,302
Currency translation	175	1,882	1	2,058
Changes in the composition of the Group	1	256	(1)	256
Additions	1,601	3,844	41	5,486
Disposals	(251)	(154)	(14)	(419)
Depreciation	(1,476)	(4,607)	(51)	(6,134)
Impairment losses	(10)	(26)	0	(37)
Reclassifications	(1)	(197)	0	(198)
Reversal of impairment losses	0	0	0	0
Change from non-current assets and disposal groups held for sale	(510)	0	(28)	(537)
At December 31, 2021	6,168	24,550	60	30,777
Currency translation	104	1,907	0	2,011
Changes in the composition of the Group	(2)	0	0	(2)
Additions	1,016	9,463	34	10,513
Disposals	(126)	(147)	(2)	(275)
Depreciation	(1,302)	(5,564)	(30)	(6,896)
Impairment losses	(18)	(289)	0	(308)
Reclassifications	138	(723)	0	(585)
Reversal of impairment losses	0	0	0	0
Change from non-current assets and disposal groups held for sale	(1,530)	20	0	(1,510)
At December 31, 2022	4,449	29,217	61	33,727

The carrying amount of the right-of-use assets increased by EUR 3.0 billion compared to December 31, 2021 to EUR 33.7 billion. This increase was driven by additions of EUR 10.5 billion, primarily as a result of the modification to existing leases agreed between T-Mobile US and Crown Castle in January 2022, mainly concerning the lease of Crown Castle's cell sites. This agreement includes a modification of the monthly lease payments for existing cell sites and an extension of the non-cancelable lease term until December 31, 2033 (with additional extension options). The modification of the arrangements resulted in an increase of USD 7.3 billion (EUR 6.6 billion) each in the right-of-use assets and in lease liabilities, and an increase of USD 0.9 billion (EUR 0.8 billion) each in property, plant and equipment and in other financial liabilities for contract components that, due to their financing character, do not fall under the scope of IFRS 16. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 2.0 billion. Depreciation, amortization and impairment losses of EUR 7.2 billion reduced the carrying amount. This included a EUR 1.6 billion increase in depreciation and amortization due to a reduction in the useful life of leased network technology for cell sites in the United States operating segment following the business combination of T-Mobile US and Sprint. This also includes impairment losses of EUR 0.3 billion, mainly relating to the impairment test of the former Sprint's fiber-optic-based wireline assets, which was carried out in the second quarter of 2022, and the corresponding sale agreed in the third quarter of 2022. The reclassification of assets worth EUR 1.5 billion to non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States. Reclassifications of lease assets upon expiry of the contractual lease term to property, plant and equipment, in the United States operating segment in particular, also reduced the carrying amount by EUR 0.6 billion. Disposals of EUR 0.3 billion also reduced the carrying amount.

For further information on the aforementioned business transactions, please refer to the section "[Changes in the composition of the Group and other transactions](#)" under "Summary of accounting policies."

For further information on depreciation, amortization and impairment losses, please refer to Notes 6 "[Intangible assets](#)" and 27 "[Depreciation, amortization and impairment losses](#)."

For information on corresponding lease liabilities, please refer to Note 13 "[Financial liabilities and lease liabilities](#)."

The right-of-use assets recognized in the statement of financial position relate in particular to leases for cell sites, network infrastructure, and real estate in the United States operating segment.

Leases can include extension and termination options that can have a substantial impact on the period of depreciation of the right-of-use assets if it is deemed to be reasonably certain that extension options will be exercised or termination options will not be exercised.

For further information, please refer to the section "[Accounting policies](#)" under "Summary of accounting policies."

The right-of-use assets for land and equivalent rights, and buildings including buildings on land owned by third parties include right-of-use assets related to data centers with a carrying amount of EUR 117 million (December 31, 2021: EUR 147 million). The corresponding additions amounted to EUR 7 million (2021: EUR 62 million) and the depreciation to EUR 38 million (2021: EUR 34 million). In addition, the right-of-use assets for technical equipment and machinery also include right-of-use assets related to data centers with a carrying amount of EUR 18 million (December 31, 2021: EUR 23 million). The corresponding depreciation amounted to EUR 5 million in the reporting year (2021: EUR 7 million).

No significant gains or losses from sale and leaseback transactions were recorded in the reporting year. In the prior year, the gain from the sale-and-leaseback transaction in connection with the combination of the cell tower business in the Netherlands and the set-up of an infrastructure fund totaled EUR 0.1 billion, EUR 12 million of which was recognized directly in profit or loss. The remainder was to be released to profit or loss over the residual useful lives of the right-of-use assets recognized at T-Mobile Netherlands. In the reporting year, the remainder was recognized directly in profit or loss as part of the deconsolidation as a result of the sale of T-Mobile Netherlands on March 31, 2022.

For further information, please refer to the section "[Accounting policies](#)" under "Summary of accounting policies."

9 Capitalized contract costs

millions of €		Dec. 31, 2022	Dec. 31, 2021
Costs of obtaining a contract		3,194	2,574
Costs to fulfill a contract		11	11
		3,205	2,585

As of December 31, 2022, the carrying amount of capitalized contract costs stood at EUR 3.2 billion and was thus EUR 0.6 billion higher than at the end of the prior year. This increase was attributable in particular to a higher level of capitalized costs of obtaining a contract in postpaid customer business in the United States and Germany operating segments. The costs of obtaining a contract mainly include sales commissions paid to employees and third-party retailers in the direct and indirect sales channel. Overall, capitalized contract costs of EUR 2,343 million (2021: EUR 1,832 million) were written down on a straight-line basis over the estimated customer retention period. Exchange rate effects, primarily from the translation from U.S. dollars into euros, increased the carrying amount.

10 Investments accounted for using the equity method

Deutsche Telekom publishes the following information on significant investments included in the consolidated financial statements using the equity method:

Name and registered office	Deutsche Telekom share		Percentage of voting rights		Assigned to segment	Fair value of the investment, if a listed market price is available	
	Dec. 31, 2022 %	Dec. 31, 2021 %	Dec. 31, 2022 %	Dec. 31, 2021 %		Dec. 31, 2022 millions of €	Dec. 31, 2021 millions of €
JP Hrvatske telekomunikacije d.d. Mostar, Mostar, Bosnia-Herzegovina ^a	39.10	39.10	39.10	39.10	Europe	19	28
GlasfaserPlus Holding GmbH & Co. KG, Cologne, Germany ^b	50.00	n.a.	50.00	n.a.	Germany	n.a.	n.a.
T-Mobile USA Tower LLC, Wilmington, United States ^c	100.00	100.00	100.00	100.00	United States	n.a.	n.a.
T-Mobile West Tower LLC, Wilmington, United States ^c	100.00	100.00	100.00	100.00	United States	n.a.	n.a.
Digital Infrastructure Vehicle II SCSp SICAV-RAIF, Senningerberg, Luxembourg ^d	41.25	n.a.	41.25	n.a.	Group Development	n.a.	n.a.
Cellnex Netherlands B.V., Utrecht, Netherlands ^e	n.a.	37.65	n.a.	37.65	Group Development	n.a.	n.a.

^a Indirect shareholding via Hrvatski Telekom d.d., Croatia (Deutsche Telekom AG's share: 53.02 %).

^b Indirect shareholding via Telekom Deutschland GmbH (Deutsche Telekom AG's share: 100.00 %). The shareholding has been included in Deutsche Telekom's consolidated financial statements using the equity method since February 28, 2022.

^c Indirect shareholding via T-Mobile US, Inc., United States (Deutsche Telekom AG's share: 48.14 %).

^d The shareholding has been included in Deutsche Telekom's consolidated financial statements using the equity method since August 2, 2022.

^e Disposal as a result of the deconsolidation of DIV II as of August 2, 2022. Previously, the stake in Cellnex Netherlands B.V. was indirectly included in the consolidated financial statements through the investment in DIV II as an investment accounted for using the equity method.

Description of the nature of the activities of the joint arrangement or associate

JP Hrvatske telekomunikacije d.d. (HT Mostar d.d.), a joint venture between Hrvatski Telekom d.d. and the state of Bosnia-Herzegovina, provides mobile and fixed-network telecommunications services in Bosnia-Herzegovina.

GlasfaserPlus Holding GmbH & Co. KG with its subsidiary GlasfaserPlus GmbH (GlasfaserPlus entities), a joint venture between Deutsche Telekom and the IFM Global Infrastructure Fund, is engaged in the planning, construction, and operation of fiber-optic network infrastructure to the building or user (FTTH), and offering bitstream access products to wholesale customers to serve end customers on the mass market.

For further information on the transaction with GlasfaserPlus, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

T-Mobile USA Tower LLC and T-Mobile West Tower LLC are structured entities founded by T-Mobile US in each of which it holds a 100 % stake for the purpose of contributing cell sites in accordance with a framework agreement signed in 2012 between T-Mobile US and Crown Castle International Corp., Houston, United States, concerning the leasing and use of the cell sites. The sole right to continue to use and lease out these sites was transferred to Crown Castle. T-Mobile US continues to operate its mobile equipment on these cell towers and, to this end, leases back the required capacity from Crown Castle. Previously unused infrastructure is thus available for Crown Castle to lease to third parties. In return, the owners of the land on which the cell towers are built will no longer receive lease payments from T-Mobile US for those cell towers that were contributed to the two associates and those companies that were disposed of. Both entities were deconsolidated as of the date of the closing of the transaction in 2012, because Crown Castle independently operates the cell towers, generates revenues from leasing out the sites for an average of 27 years, and determines the finance and business activities of both entities that are relevant for consolidation purposes. It is expected that the leasing of tower space will allow Crown Castle to generate sufficient ongoing profits and cash flows to be able to meet its contractual obligations. Thus Deutsche Telekom has only a significant influence and includes these companies in the consolidated financial statements as associates. Under certain conditions, T-Mobile US will continue to be held liable for any default in the lease payment by Crown Castle to the owners of the underlying land of the cell sites. The agreement includes an extremely low maximum guarantee amount for Deutsche Telekom, since in the unlikely event that this case occurs, T-Mobile US could take over the further use of the relevant cell sites or alternatively terminate the contracts with the owners of the cell site land at short notice. At closing, T-Mobile US established an immaterial cash reserve in the entities sufficient to fund the payment of ongoing administrative expenses not payable by Crown Castle. Aside from the guarantee and the payment of administrative expenses, there is no other funding obligation by T-Mobile US.

Digital Infrastructure Vehicle II SCSp SICAV-RAIF (DIV II) is an investment company with a portfolio of shareholdings in companies engaged in the development and operation of digital infrastructure projects, such as mobile infrastructure, fiber-optic networks, data centers, and related fields, with a focus on Europe.

For further information on the associate DIV II and on the admission of new limited partners to the infrastructure fund, please refer to the section [“Changes in the composition of the Group and other transactions”](#) under [“Summary of accounting policies.”](#)

The following tables provide summarized financial information on the main companies included in the consolidated financial statements and accounted for using the equity method. The data is not based on the stakes attributable to Deutsche Telekom AG, but represents the shareholdings on an assumed 100 % basis.

Summarized financial information on the main entities accounted for using the equity method

millions of €

	HT Mostar d.d.		GlasfaserPlus ^a	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021
Current assets	69	38	82	n.a.
Of which: cash and cash equivalents	24	10	61	n.a.
Non-current assets	143	173	299	n.a.
Current liabilities	31	26	199	n.a.
Of which: financial liabilities	3	3	70	n.a.
Non-current liabilities	11	15	0	n.a.
Of which: financial liabilities	10	10	0	n.a.
Net revenue	41	39	0	n.a.
Profit (loss)	0	0	4	n.a.
Other comprehensive income	0	0	0	n.a.
Total comprehensive income	0	0	4	n.a.
Depreciation, amortization and impairment losses	(10)	(10)	0	n.a.
Interest income	0	0	0	n.a.
Interest expense	0	0	(10)	n.a.
Income taxes	0	0	(4)	n.a.
Dividends paid to Deutsche Telekom	0	0	0	n.a.

^a Consolidated subgroup.

millions of €

	T-Mobile USA Tower LLC		T-Mobile West Tower LLC	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021
Current assets	0	0	0	0
Non-current assets	158	138	211	184
Current liabilities	0	0	0	0
Non-current liabilities	0	0	0	0
Net revenue	0	0	0	0
Profit (loss)	0	0	0	0
Other comprehensive income	0	0	0	0
Total comprehensive income	0	0	0	0
Dividends paid to Deutsche Telekom	0	0	0	0

millions of €	DIV II ^a	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021
Current assets	3	n.a.
Of which: cash and cash equivalents	3	n.a.
Non-current assets	577	n.a.
Current liabilities	2	n.a.
Of which: financial liabilities	0	n.a.
Non-current liabilities	0	n.a.
Of which: financial liabilities	0	n.a.
Net revenue	0	n.a.
Profit (loss)	18	n.a.
Other comprehensive income	0	n.a.
Total comprehensive income	18	n.a.
Depreciation, amortization and impairment losses	0	n.a.
Dividends paid to Deutsche Telekom	0	n.a.

^a As financial data of DIV II as of December 31, 2022 was not yet available in its entirety to Deutsche Telekom at the date of preparation, the interim financial statements of DIV II as of September 30, 2022 were used as a basis for the summarized financial information and for the reconciliation statement to the carrying amount reported in Deutsche Telekom's consolidated statement of financial position.

Reconciliation to the carrying amount included in the consolidated statement of financial position

millions of €	HT Mostar d.d.		GlasfaserPlus ^a	
	2022	2021	2022	2021
Net assets as of January 1^b	171	170	n.a.	n.a.
Net assets as of date of inclusion in the consolidated financial statements using the equity method ^b	n.a.	n.a.	182	n.a.
Profit (loss)	0	0	0	n.a.
Other comprehensive income	0	0	0	n.a.
Exchange rate effects	(1)	1	0	n.a.
Net assets as of December 31	170	171	182	n.a.
Share of net assets attributable to Deutsche Telekom as of December 31	66	67	91	n.a.
Goodwill – equity method	0	0	886	n.a.
Impairment	(19)	0	(517)	n.a.
Other reconciliation effects	(15)	(17)	(4)	n.a.
Carrying amount as of December 31	32	50	456	n.a.

^a Consolidated subgroup.

^b The shareholding in GlasfaserPlus has been included in the consolidated financial statements using the equity method since February 28, 2022.

millions of €	T-Mobile USA Tower LLC		T-Mobile West Tower LLC	
	2022	2021	2022	2021
Net assets as of January 1	138	117	185	157
Profit (loss)	11	11	15	14
Other comprehensive income	0	0	0	0
Dividends paid	0	0	0	0
Exchange rate effects	8	10	11	14
Net assets as of December 31	157	138	211	185
Share of net assets attributable to Deutsche Telekom as of December 31	157	138	211	185
Adjustment of carrying amount	0	0	0	0
Other reconciliation effects	0	0	0	0
Carrying amount as of December 31	157	138	211	185

millions of €	DIV II ^a	
	2022	2021
Net assets as of January 1^b	n.a.	n.a.
Net assets as of date of inclusion in the consolidated financial statements using the equity method ^b	578	n.a.
Profit (loss)	0	n.a.
Other comprehensive income	0	n.a.
Dividends paid	0	n.a.
Net assets as of December 31	578	n.a.
Share of net assets attributable to Deutsche Telekom as of December 31	238	n.a.
Other reconciliation effects	43	n.a.
Carrying amount as of December 31	281	n.a.

^a As financial data of DIV II as of December 31, 2022 was not yet available in its entirety to Deutsche Telekom at the date of preparation, the interim financial statements of DIV II as of September 30, 2022 were used as a basis for the summarized financial information and for the reconciliation statement to the carrying amount reported in Deutsche Telekom's consolidated statement of financial position.

^b The shareholding has been included in Deutsche Telekom's consolidated financial statements using the equity method since August 2, 2022.

In the 2022 and 2021 financial years, the consolidated financial statements did not include any unrecognized losses in connection with investments accounted for using the equity method.

Summarized aggregate financial information on non-significant entities accounted for using the equity method

The figures relate to the interests attributable to Deutsche Telekom.

millions of €	Joint ventures		Associates	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021
Total carrying amounts	60	56	121	112
Total share in profit (loss)	(1)	(34)	(13)	(5)
Other comprehensive income	0	0	0	0
Total comprehensive income	(1)	(34)	(13)	(5)

11 Other financial assets

millions of €	Dec. 31, 2022		Dec. 31, 2021	
	Total	Of which: current	Total	Of which: current
Originated loans and receivables	4,315	3,894	3,426	3,026
Other receivables – publicly funded projects	2,019	723	1,794	743
Debt instruments – measured at fair value through profit or loss	646	5	233	6
Derivative financial assets	2,273	153	2,762	189
Of which: derivatives with a hedging relationship	1,034	64	1,560	89
Of which: derivatives without a hedging relationship	1,239	90	1,202	100
Equity instruments – measured at fair value through profit or loss	3	0	3	0
Equity instruments – measured at fair value through other comprehensive income	446	0	437	0
Lease assets	205	90	228	88
Other	3	0	4	0
	9,910	4,865	8,888	4,051

The carrying amount of current and non-current other financial assets increased by EUR 1.0 billion compared to December 31, 2021 to EUR 9.9 billion.

The net total of originated loans and receivables increased by EUR 0.9 billion to EUR 4.3 billion, with the carrying amount of cash collateral deposited increasing by EUR 0.9 billion. Group companies deposited cash collateral of EUR 2 million as of December 31, 2022 (December 31, 2021: EUR 90 million) in connection with auctions for the planned acquisition of spectrum licenses. At the reporting date, cash and cash equivalents of EUR 63 million when translated into euros (December 31, 2021: EUR 76 million) were pledged as collateral for liabilities with the right of creditors to priority repayment in the event of default. Collateral agreements as surety for potential credit risks arising from derivative transactions in connection with forward-payer swaps gave rise to receivables of EUR 1,411 million as of the reporting date (December 31, 2021: EUR 423 million).

In connection with receivables from grants still to be received from funding projects for the broadband build-out in Germany, the carrying amount of other receivables increased by EUR 0.2 billion to EUR 2.0 billion.

The carrying amount of debt instruments measured at fair value through profit or loss increased by EUR 0.4 billion to EUR 0.6 billion. A contingent consideration receivable was recorded in connection with the sale of a 50 % stake in GlasfaserPlus. As the remainder of the purchase price, this receivable will fall due in stages upon achieving certain build-out milestones and, as of December 31, 2022, amounted to EUR 0.4 billion.

The carrying amount of derivatives with a hedging relationship decreased by EUR 0.5 billion to EUR 1.0 billion, due on the one hand to the decrease in positive fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. On the other hand, the fair values of interest rate and currency derivatives in cash flow hedges increased, primarily as a result of the significant rise in the interest rate level.

The carrying amount of derivatives without a hedging relationship remained stable overall at EUR 1.2 billion. This is due on the one hand to a EUR 0.2 billion increase in the carrying amount of interest and currency derivatives. In connection with the stock options received from SoftBank to purchase shares in T-Mobile US, the carrying amount of the stock options recorded a net increase of EUR 0.1 billion against December 31, 2021. This was attributable to an increase of EUR 0.6 billion from positive measurement effects in connection with the development of the T-Mobile US share price and the amortization in full from the initial measurement of the stock options at fair value. On the other hand, this was offset by the derecognition of the exercised options in April 2022. At the time of exercising the stock options, they had a fair value of EUR 0.5 billion. The carrying amount of the derivatives without a hedging relationship decreased by EUR 0.3 billion in connection with negative measurement effects from derivatives embedded in bonds issued by T-Mobile US. The carrying amount of energy forward agreements embedded in contracts remained stable against December 31, 2021.

For further information on allowances, stock options, and the credit ratings of originated loans and receivables, please refer to Note 42 "Financial instruments and risk management."

12 Other assets

The carrying amount of current and non-current other assets increased by EUR 0.2 billion to EUR 3.3 billion. As of December 31, 2022, the carrying amount included various advance payments, totaling EUR 2.7 billion (December 31, 2021: EUR 2.6 billion), mainly including advance payments in connection with agreements on services for certain mobile communications equipment that do not fall under the scope of IFRS 16. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised the carrying amount by EUR 0.1 billion.

13 Financial liabilities and lease liabilities

The following table shows the composition and maturity structure of **financial liabilities** as of December 31, 2022:

	Dec. 31, 2022				Dec. 31, 2021			
	Total	Due within 1 year	Due > 1 year ≤ 5 years	Due > 5 years	Total	Due within 1 year	Due > 1 year ≤ 5 years	Due > 5 years
Bonds and other securitized liabilities	93,802	9,377	26,709	57,715	93,857	5,941	24,673	63,242
Liabilities to banks	4,122	1,442	1,627	1,053	4,003	1,540	1,646	817
	97,924	10,819	28,336	58,768	97,860	7,481	26,319	64,059
Liabilities with the right of creditors to priority repayment in the event of default	2,925	750	2,006	168	3,248	463	2,288	496
Other interest-bearing liabilities	7,526	1,130	3,010	3,387	7,826	2,753	2,315	2,758
Liabilities from deferred interest ^a	999	999	0	0	1,012	1,012	0	0
Other non-interest-bearing liabilities ^a	769	583	172	14	816	486	145	185
Derivative financial liabilities	2,889	108	797	1,984	703	47	625	31
	15,107	3,570	5,985	5,552	13,607	4,762	5,374	3,471
Financial liabilities	113,030	14,389	34,321	64,320	111,466	12,243	31,693	67,530
Lease liabilities	38,792	5,126	13,984	19,682	33,133	5,040	13,517	14,577

^a Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

The carrying amount of current and non-current financial liabilities increased by EUR 1.6 billion compared with year-end 2021 to EUR 113.0 billion, primarily due to the factors described below. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised the carrying amount by EUR 4.3 billion.

The carrying amount of bonds and other securitized liabilities decreased by EUR 0.1 billion in total. Exchange rate effects increased the carrying amount of bonds and other securitized liabilities by EUR 3.9 billion. The carrying amount was also increased by senior notes issued by T-Mobile US in the reporting year with a total volume of USD 3.0 billion (EUR 3.0 billion) with terms ending between 2033 and 2062 and bearing interest of between 5.2 and 5.8 %, and by asset-backed securities (ABS notes) with a volume of USD 0.8 billion (EUR 0.8 billion). The net change of EUR 2.3 billion in commercial paper also increased the carrying amount. Repayments by T-Mobile US of bonds with a total volume of USD 2.8 billion (EUR 2.7 billion) and in the Group of EUR bonds with a volume of EUR 2.6 billion and a GBP bond with a volume of GBP 0.7 billion (EUR 0.8 billion) reduced the carrying amount. In addition, the carrying amount decreased by EUR 3.5 billion in connection with measurement effects from derivatives with a hedging relationship, the offsetting entry for which is posted under bonds and other securitized liabilities. This is mainly due to the decline in fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. The subsequent measurement under the effective interest method reduced the carrying amount by EUR 0.3 billion.

The carrying amount of liabilities to banks increased by EUR 0.1 billion compared with December 31, 2021 to EUR 4.1 billion. The carrying amount was increased by new borrowings of EUR 0.7 billion and the net increase of EUR 0.2 billion in the balance of short-term borrowings. Exchange rate effects increased the carrying amount by EUR 0.1 billion. It was reduced by repayments of EUR 0.5 billion and a decrease of EUR 0.2 billion in connection with measurement effects from derivatives with a hedging relationship.

The liabilities with the right of creditors to priority repayment in the event of default of EUR 2.9 billion (December 31, 2021: EUR 3.2 billion) relate primarily to bonds issued by Sprint. Collateral was provided for these bonds, hence they constitute a separate class of financial instruments. Repayments in the reporting period in the amount of EUR 0.5 billion when translated into euros reduced the carrying amount. Exchange rate effects increased the carrying amount by EUR 0.1 billion. At the reporting date, cash and cash equivalents with a carrying amount of EUR 63 million (December 31, 2021: EUR 76 million) when translated into euros were pledged as collateral for these bonds.

The carrying amount of other interest-bearing liabilities decreased by EUR 0.3 billion compared with December 31, 2021 to EUR 7.5 billion. In connection with cash collateral received for derivative financial instruments – primarily forward-payer swaps – the carrying amount of other interest-bearing liabilities decreased by EUR 1.5 billion. By contrast, the modification of the arrangements between T-Mobile US and Crown Castle regarding cell sites increased the carrying amount by EUR 0.8 billion. In addition, liabilities recognized by T-Mobile US for future payments for IP transit services in connection with the agreement on the sale of the wireline business increased the carrying amount by EUR 0.6 billion. Exchange rate effects, especially from the translation of U.S. dollars into euros, increased the carrying amount of other interest-bearing liabilities by EUR 0.1 billion.

For further information on cash collateral, please refer to Note 42 [“Financial instruments and risk management.”](#)

For further information on the modification of the arrangements between T-Mobile US and Crown Castle, please refer to Note 8 [“Right-of-use assets – lessee relationships.”](#)

For further information on the agreement on the sale of the wireline business in the United States, please refer to the section [“Changes in the composition of the Group and other transactions”](#) under “Summary of accounting policies.”

The carrying amount of derivative financial liabilities increased by EUR 2.2 billion to EUR 2.9 billion. Negative measurement effects of derivatives with a hedging relationship increased the carrying amount, mainly due to the increase in negative fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. The carrying amount was reduced by positive measurement effects from a forward transaction to hedge the price of acquiring T-Mobile US shares in the future.

For further information on derivative financial liabilities, please refer to Note 42 [“Financial instruments and risk management.”](#)

Deutsche Telekom has established ongoing liquidity management. To ensure the Group's and Deutsche Telekom AG's solvency and financial flexibility at all times, Deutsche Telekom maintains a liquidity reserve in the form of credit lines and cash. This liquidity reserve is to cover the capital market maturities of the next 24 months at any time. Since the business combination between T-Mobile US and Sprint, T-Mobile US has pursued its own separate financing and liquidity strategy.

At December 31, 2022, Deutsche Telekom (excluding T-Mobile US) had standardized bilateral credit agreements with 21 banks for a total of EUR 12.6 billion. As of December 31, 2022, EUR 0.2 billion of these credit lines had been utilized. Pursuant to the credit agreements, the terms and conditions depend on Deutsche Telekom's rating. The bilateral credit agreements have an original maturity of 36 months and can, after each period of 12 months, be extended by a further 12 months to renew the maturity of 36 months. From today's perspective, access to the international debt capital markets is not jeopardized.

Furthermore, bilateral credit lines with an aggregate total volume of USD 7.5 billion (EUR 7.0 billion) plus a cash balance of USD 4.6 billion (EUR 4.3 billion) were available to T-Mobile US as of December 31, 2022. None of these credit lines had been utilized as of December 31, 2022.

The carrying amount of current and non-current **lease liabilities** increased by EUR 5.7 billion to EUR 38.8 billion compared with December 31, 2021. This increase primarily relates to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase in the carrying amounts of lease liabilities of EUR 6.6 billion. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised the carrying amount by EUR 2.1 billion. The reclassification of lease liabilities to liabilities directly associated with non-current assets and disposal groups held for sale reduced the carrying amount by EUR 1.8 billion. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States. The carrying amount was further reduced, in part in connection with the decommissioning of former Sprint cell sites and the closure of some former Sprint shops in the United States operating segment. The carrying amount was also reduced by declines in the Group Headquarters & Group Services segment and in the Systems Solutions operating segment.

For further information on lessee relationships, please refer to Note 8 “[Right of use assets – lessee relationships.](#)”

For further information on the modification of the arrangements between T-Mobile US and Crown Castle, please also refer to Note 8 “[Right-of-use assets – lessee relationships.](#)”

In the reporting year and in the previous year, there were no significant expenses for variable lease payments that were not included in the measurement of lease liabilities.

As of December 31, 2022, future payment obligations for leases that have not yet begun and which are not taken into account in the measurement of lease liabilities amounted to EUR 0.2 billion (December 31, 2021: EUR 0.1 billion).

The following tables show the contractually agreed (undiscounted) interest payments and repayments of the non-derivative financial liabilities, the lease liabilities, and the derivatives with positive and negative fair values:

millions of €							
	Carrying amount Dec. 31, 2022	Cash flows in 2023			Cash flows in 2024		
		Fixed interest rate	Variable interest rate	Repayment	Fixed interest rate	Variable interest rate	Repayment
Non-derivative financial liabilities							
Bonds, other securitized liabilities, liabilities to banks, and similar liabilities.	(97,924)	(2,825)	0	(9,809)	(3,374)	0	(5,505)
Liabilities with the right of creditors to priority repayment in the event of default	(2,925)	(129)	0	(750)	(89)	0	(836)
Other interest-bearing liabilities	(7,526)	(221)	(1)	(1,110)	(197)	(0)	(948)
Liabilities from deferred interest	(999)			(999)			
Other non-interest-bearing liabilities	(769)	(0)	(0)	(597)	0	0	(117)
Lease liabilities	(38,792)	(1,409)	(0)	(5,132)	(1,262)	0	(4,592)
Derivative financial liabilities and assets							
Derivative financial liabilities:							
Currency derivatives without a hedging relationship	(41)			(56)			0
Currency derivatives in connection with cash flow hedges	(10)			(7)			0
Currency derivatives in connection with net investment hedges							
Embedded derivatives without a hedging relationship	(55)			(3)			(6)
Other derivatives without a hedging relationship	(108)		(151)	4		(80)	132
Interest rate derivatives without a hedging relationship	(163)	46	(90)	0	25	(31)	0
Interest rate derivatives in connection with fair value hedges	(2,477)	595	(806)	(22)	559	(735)	0
Interest rate derivatives in connection with cash flow hedges	(34)	(83)	59	0	(83)	59	0
Derivative financial assets^a:							
Currency derivatives without a hedging relationship	50			50			
Currency derivatives in connection with cash flow hedges	26			25			
Embedded derivatives without a hedging relationship	200			28			22
Other derivatives without a hedging relationship	12			11			24
Interest rate derivatives without a hedging relationship	457	(42)	188	34	(21)	125	22
Interest rate derivatives in connection with fair value hedges							
Interest rate derivatives in connection with cash flow hedges	1,008	(73)	254	0	(78)	214	0
Financial guarantees and loan commitments							(430)

^a Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year. Prior-year comparatives were adjusted retrospectively.

For information on the guarantees to Glasfaser NordWest, please refer to Note 44 "Related party disclosures."

millions of €	Cash flows in 2025–2027			Cash flows in 2028–2032			Cash flows in 2033 and thereafter		
	Fixed interest rate	Variable interest rate	Repayment	Fixed interest rate	Variable interest rate	Repayment	Fixed interest rate	Variable interest rate	Repayment
Non-derivative financial liabilities									
Bonds, other securitized liabilities, liabilities to banks, and similar liabilities.	(8,685)	0	(22,519)	(8,501)	0	(37,562)	(12,755)	0	(23,207)
Liabilities with the right of creditors to priority repayment in the event of default	(101)	0	(1,155)	(1)	0	(86)	0	0	0
Other interest-bearing liabilities	(427)	(0)	(1,919)	(1,114)	(0)	(3,415)	(23)	0	(134)
Liabilities from deferred interest									
Other non-interest-bearing liabilities	0	0	(28)	0	0	(26)	0	0	(1)
Lease liabilities	(2,979)	0	(9,495)	(2,933)	0	(19,344)	(70)	0	(242)
Derivative financial liabilities and assets									
Derivative financial liabilities:									
Currency derivatives without a hedging relationship			0			0			0
Currency derivatives in connection with cash flow hedges			0			0			0
Currency derivatives in connection with net investment hedges									
Embedded derivatives without a hedging relationship			(14)			(29)			(3)
Other derivatives without a hedging relationship			7			(8)			(13)
Interest rate derivatives without a hedging relationship	29	(32)	(54)	39	(19)	(33)	0	77	(6)
Interest rate derivatives in connection with fair value hedges	1,534	(1,899)	(12)	1,401	(1,710)	82	1,742	(2,623)	(3)
Interest rate derivatives in connection with cash flow hedges	(248)	176	0	(432)	293	9	(698)	481	0
Derivative financial assets^a:									
Currency derivatives without a hedging relationship									
Currency derivatives in connection with cash flow hedges									
Embedded derivatives without a hedging relationship			68			139			73
Other derivatives without a hedging relationship			32			(13)			(35)
Interest rate derivatives without a hedging relationship	(7)	322	76	0	380	67	0	951	211
Interest rate derivatives in connection with fair value hedges									
Interest rate derivatives in connection with cash flow hedges	(141)	328	0	(239)	305	390	(1,016)	938	8
Financial guarantees and loan commitments									

^a Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year. Prior-year comparatives were adjusted retrospectively.

millions of €	Carrying amount Dec. 31, 2021	Cash flows in				2032 and thereafter
		2022	2023	2024–2026	2027–2031	
Non-derivative financial liabilities						
Bonds, other securitized liabilities, liabilities to banks, and similar liabilities.	(97,860)	(9,276)	(10,519)	(27,005)	(47,984)	(33,850)
Liabilities with the right of creditors to priority repayment in the event of default	(3,248)	(526)	(829)	(1,718)	(422)	0
Other interest-bearing liabilities	(7,826)	(2,725)	(820)	(1,421)	(2,498)	(64)
Liabilities from deferred interest	(1,012)	(1,012)	0	0	0	0
Other non-interest-bearing liabilities	(816)	(487)	(120)	(26)	(178)	(7)
Lease liabilities	(33,133)	(5,607)	(5,334)	(11,289)	(16,735)	(503)
Derivative financial liabilities and assets						
Derivative financial liabilities:						
Currency derivatives without a hedging relationship	(15)	(13)	0	0	0	0
Currency derivatives in connection with cash flow hedges	(1)	(3)	0	0	0	0
Embedded derivatives without a hedging relationship	(7)	(8)	(1)	(3)	(20)	(8)
Other derivatives without a hedging relationship	(455)	(22)	(22)	(421)	0	0
Interest rate derivatives without a hedging relationship	(109)	(27)	(17)	(18)	3	74
Interest rate derivatives in connection with fair value hedges	(11)	17	13	47	34	133
Interest rate derivatives in connection with cash flow hedges	(105)	(61)	(61)	(132)	0	0
Derivative financial assets^a:						
Currency derivatives without a hedging relationship	44	42	0	0	0	0
Currency derivatives in connection with cash flow hedges	17	14	0	0	0	0
Embedded derivatives without a hedging relationship	191	26	20	38	68	62
Other derivatives without a hedging relationship	3	2	1	1	0	0
Interest rate derivatives without a hedging relationship	235	67	16	104	75	165
Interest rate derivatives in connection with fair value hedges	1,195	371	368	951	887	945
Interest rate derivatives in connection with cash flow hedges	348	113	47	136	354	55

^a This does not include payments that Deutsche Telekom would have to make or would receive in the event of exercising options to buy or sell company shares. It is unclear whether, when, and to what extent such options will be exercised. This mainly relates to the stock options to buy shares in T-Mobile US received from SoftBank. If Deutsche Telekom were to exercise the maximum number of these stock options, it would have to make a payment of EUR 4,342 million (December 31, 2021: EUR 5,509 million) when translated into euros, based on the share price at the reporting date. For further information on these stock options, please refer to Note 42 "Financial instruments and risk management" in the disclosures on financial liabilities assigned to Level 3. Deutsche Telekom also holds other immaterial options to buy or sell company shares.

All instruments held at December 31, 2022 and for which payments were already contractually agreed were included. Planning data for future, new liabilities were not included. Amounts in foreign currency were each translated at the closing rate at the reporting date. The variable interest payments arising from the financial instruments were calculated using the last interest rates fixed before December 31, 2022. Financial liabilities that can be repaid at any time are always assigned to the earliest possible time period. In accordance with § 2 (4) of the German Act on the Transformation of the Deutsche Bundespost Enterprises into the Legal Structure of Stock Corporation (Stock Corporation Transformation Act – Postumwandlungsgesetz), the Federal Republic is guarantor of all Deutsche Telekom AG's liabilities that were already outstanding as at January 1, 1995. At December 31, 2022, this figure was a nominal EUR 0.1 billion (December 31, 2021: EUR 0.1 billion).

14 Trade and other payables

millions of €	Dec. 31, 2022	Dec. 31, 2021
Trade payables	11,981	10,396
Other liabilities	54	56
	12,035	10,452

The carrying amount of trade and other payables increased by EUR 1.6 billion year-on-year to EUR 12.0 billion, due in particular to the sharp rise in procurement volumes in the United States, Germany, and Europe operating segments. In the United States operating segment, liabilities increased in connection with the acquisition of non-current assets and vis-à-vis terminal equipment vendors. The increase was also driven in part by exchange rates. The reclassification to liabilities directly associated with non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States.

Of the total of trade and other payables, EUR 11,981 million (December 31, 2021: EUR 10,396 million) is due within one year.

15 Provisions for pensions and other employee benefits

Defined benefit plans

The Group's pension obligations are based on direct and indirect pension commitments mainly in Germany, the United States, and Switzerland. Deutsche Telekom's provisions for pensions are comprised as follows:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Defined benefit liability	4,150	6,134
Defined benefit asset	(40)	(54)
Net defined benefit liability (asset)	4,109	6,080
Of which: provisions for direct commitments	3,883	5,622
Of which: provisions for indirect commitments	226	458

Defined benefit liabilities are disclosed under non-current liabilities in the consolidated statement of financial position. The defined benefit asset is recognized under other non-current assets in the consolidated statement of financial position.

The decrease in defined benefit liabilities compared with the prior year was mainly due to the higher discount rate, which was partially offset by the development of the fair values of plan assets. All this resulted in an actuarial gain of EUR 1.8 billion from the remeasurement of defined benefit plans to be recognized directly in equity.

Calculation of net defined benefit liabilities/assets

millions of €	Dec. 31, 2022	Dec. 31, 2021
Present value of the obligations fully or partially funded by plan assets	9,977	11,825
Plan assets at fair value	(6,265)	(7,937)
Defined benefit obligations in excess of plan assets	3,712	3,888
Present value of the unfunded obligations	345	2,150
Defined benefit liability (asset) according to IAS 19.63	4,057	6,038
Effect of asset ceiling (according to IAS 19.64)	52	42
Net defined benefit liability (asset)	4,109	6,080

millions of €	2022	2021
Net defined benefit liability (asset) as of January 1	6,080	7,665
Service cost	263	148
Net interest expense (income) on the net defined benefit liability (asset)	83	89
Remeasurement effects	(1,839)	(1,423)
Pension benefits paid directly by the employer	(419)	(378)
Employer contributions to plan assets	(46)	(80)
Changes attributable to business combinations/transfers of operation/acquisitions and disposals	(18)	10
Reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale	(29)	0
Administration costs actually incurred (paid from plan assets)	0	0
Exchange rate fluctuations for plans in foreign currency	34	48
Net defined benefit liability (asset) as of December 31	4,109	6,080

Assumptions for the measurement of defined benefit obligations

Key assumptions for the measurement of the defined benefit obligations are the discount rate, the salary increase rate, the pension increase rate, and life expectancy. The following table shows the assumptions for the Group's relevant defined benefit obligations (Germany, United States, Switzerland) on which the measurement as of December 31 of the respective year is based. The assumptions made as of December 31 of the respective prior year are used to measure the expected pension expense (defined benefit cost) of a given financial year.

%		Dec. 31, 2022	Dec. 31, 2021	Dec. 31, 2020
Discount rate	Germany	4.13	1.18	0.85
	United States	5.59	3.05	2.75
	Switzerland	2.42	0.33	0.07
Salary increase rate	Germany	2.50	2.50	2.50
	United States ^a	n.a.	4.25	4.25
	Switzerland	1.60	1.00	1.00
Pension increase rate	Germany (general)	2.10	1.70	1.50
	Germany (according to articles of association)	1.00	1.00	1.00
	United States	n.a.	n.a.	n.a.
	Switzerland	0.10	0.10	0.10

^a The salary increase rate in the United States has no impact on the amount of the pension obligations, since all commitments are frozen.

years		Dec. 31, 2022	Dec. 31, 2021
Duration	Germany	9.7	12.3
	United States	11.2	13.6
	Switzerland	12.3	14.9

The following biometric assumptions were essential for the measurement of pension obligations:

Germany: Heubeck 2018G, Switzerland: BVG 2020 Generational, United States: Pri-2012 tables. In Switzerland, the generally recognized demographic assumptions used when measuring pension obligations were revised as part of a regular review in 2020, and applied for the first time in 2021. This resulted in actuarial gains in 2021 of EUR 6 million or 2.6 % of the Swiss obligations.

The aforementioned discount rates were used as of December 31, 2022 when calculating the present value of defined benefit obligations, taking into account future salary increases. The rates were determined in line with the average weighted duration of the respective obligation.

The discount rate is determined based on the yields of high-quality corporate bonds with AA rating, mapped in a yield curve showing the corresponding spot rates. The underlying method is routinely reviewed and refined as required (e.g., further development of the bond markets, automation of the availability of corresponding data in terms of quantity and quality).

Development of defined benefit obligations

millions of €	2022	2021
Defined benefit obligations as of January 1	13,975	14,362
Current service cost	226	235
Interest cost	205	179
Remeasurement effects	(3,625)	(421)
Of which: experience-based adjustments	27	15
Of which: adjusted financial assumptions ^a	(3,653)	(451)
Of which: adjusted demographic assumptions	1	15
Total benefits actually paid	(573)	(483)
Contributions by plan participants	4	4
Changes attributable to business combinations/transfers of operation/acquisitions and disposals	(18)	10
Past service cost (due to plan amendments/curtailments) ^b	(3)	(87)
Settlements	40	0
Reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale	(29)	0
Taxes to be paid as part of pensions	0	0
Exchange rate fluctuations for plans in foreign currency	120	176
Defined benefit obligations as of December 31	10,322	13,975
Of which: active plan participants	3,983	5,596
Of which: plan participants with vested pension rights who left the Group	2,151	2,982
Of which: benefit recipients	4,188	5,397

^a In 2021, in addition to the majority of discount-rate adjustments, the effect from adjusted financial assumptions also includes adjusted assumptions regarding the payment of VAP pension entitlements, resulting in actuarial losses of EUR 93 million.

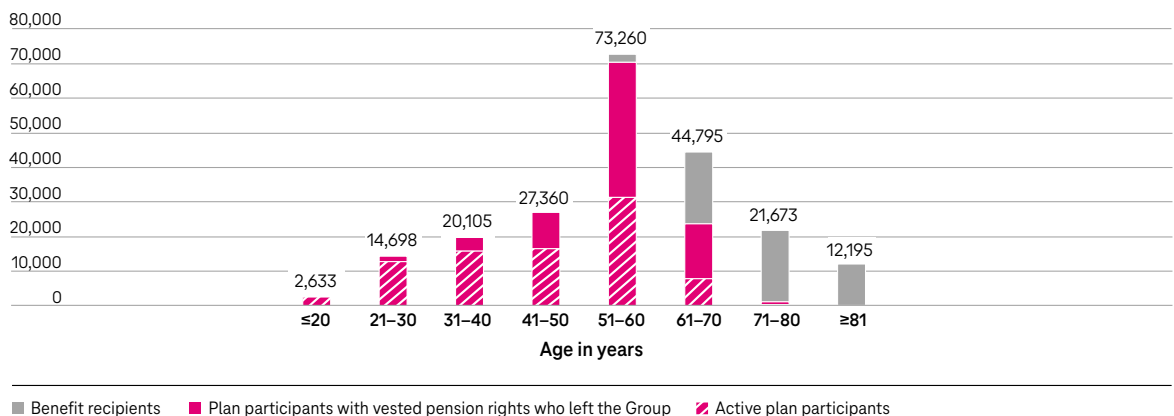
^b The past service cost due to plan amendments in 2021 relates primarily to a restructuring of risk benefits in Germany (please refer to the following section "Global Pension Policy and description of the plans").

Distribution of obligations relating to Deutsche Telekom's most significant plans

millions of €	Dec. 31, 2022				Dec. 31, 2021			
	Germany	United States	Switzerland	Other plans	Germany	United States	Switzerland	Other plans
Defined benefit obligations	8,308	1,481	200	333	11,316	1,905	230	525
Plan assets at fair value	(4,690)	(1,162)	(252)	(161)	(6,007)	(1,346)	(271)	(313)
Effect of asset ceiling	0	0	52	0	0	0	42	0
Net defined benefit liability (asset)	3,618	319	0	172	5,309	559	0	212

The following comments on the age structure and sensitivity analysis, as well as on descriptions of plans and the risks associated with them, relate to the relevant pension obligations (Germany, United States, and Switzerland).

Age structure of plan participants in the most significant pension plans



Sensitivity analysis for the defined benefit obligations

The following sensitivity analysis describes the effects of possible adjustments in the material actuarial assumptions for measurement on the defined benefit obligations determined as of December 31, 2022. A change in the measurement assumptions to the extent described below, with otherwise unchanged assumptions, would have impacted the defined benefit obligations as of December 31, 2022 as follows:

millions of €

	Increase (decrease) of the defined benefit obligations as of Dec. 31, 2022			Increase (decrease) of the defined benefit obligations as of Dec. 31, 2021		
	Germany	United States	Switzerland	Germany	United States	Switzerland
Increase of discount rate by 100 basis points	(695)	(144)	(16)	(1,224)	(234)	(25)
Decrease of discount rate by 100 basis points	822	172	19	1,499	291	31
Increase of salary increase rate by 50 basis points	0	0	1	1	0	1
Decrease of salary increase rate by 50 basis points	0	0	(1)	0	0	(1)
Increase of pension increase rate by 25 basis points	4	0	4	5	0	5
Decrease of pension increase rate by 25 basis points	(4)	0	(1)	(5)	0	(2)
Life expectancy increase by 1 year	160	38	4	288	56	6
Life expectancy decrease by 1 year	(158)	(39)	(4)	(288)	(57)	(6)

The sensitivity analysis was carried out separately for the discount rate, the salary increase rate, and the pension increase rate. For this purpose, further actuarial evaluations were made for both the increase and for the decrease of the assumptions. It can be assumed that the life expectancy of the plan members will not change significantly within a year. Nevertheless, the effect of a change in life expectancy on the obligations was additionally determined from a risk perspective. Evaluations were carried out based on the assumption that the life expectancy of the plan members aged 65 would increase or decrease by one year. The life expectancy of the remaining plan members was adjusted accordingly. Variations in the assumed retirement age or turnover rates would only have an immaterial effect, especially in Germany.

Global Pension Policy and description of the plans

Deutsche Telekom manages its pension commitments based on the Group-wide Global Pension Policy. It ensures on a worldwide basis that Group minimum standards regarding the granting and management of company pension benefits are complied with, plans are harmonized, and financial and other risks to the core business are avoided or reduced. In addition, the policy provides guidelines for the implementation and management of pension commitments and defines requirements for the launch, adjustment, and closure of corresponding plans. The regulations and provisions laid down in this Group policy take into account the national differences in state pension and other commitments under labor, tax, and social law and the common business practices in the area of pension commitments.

Defined benefit plans based on final salaries in the Group have largely been replaced by plans with contribution-based promises to minimize the risks involved. In addition, a corporate CTA (Deutsche Telekom Trust e.V.) is used in Germany for additional funding of pension obligations. A CTA is a legally structured trust agreement to cover unfunded pension commitments with plan assets, and to provide greater protection against insolvency for these assets.

In **Germany** there are commitments for pension and disability benefits for a majority of employees as well as pension benefits for their surviving dependents. As part of a reorganization of the company pension plan, a capital account plan was introduced across Germany in 1997 for active employees. Furthermore, in subsequent years, commitments acquired through company acquisitions were also transferred to the capital account plan scheme. The capital account plan is an employer-financed, contribution-based benefit promise. The salary-linked contributions granted annually earn interest in advance for each year of provision up to age 60, calculated using age-based factors, converting the contribution into a guaranteed insured amount. The advance interest rate currently stands at 3.50 % p. a. (target interest rate for the capital account plan).

The period for providing these contributions to the capital accounts plan is initially limited to ten future contribution years. The contribution period will be extended automatically every year by a further year, unless terminated. The insured amounts accumulated over the period of active service are paid out if an insured event arises, primarily in the form of a lump sum. Hence there is only a limited longevity risk for these commitments. Based on the payment guidelines and the structure of the capital account plan, the employer can plan for this, and there is only a small risk inherent in the plan with regard to the volatility of remuneration dynamics.

In October 2020, Deutsche Telekom and the ver.di trade union had agreed to gradually restructure the collectively agreed risk benefits (death in the active phase and/or disability) in the company pension scheme for employees covered and not covered by collective agreements in Germany. Under the previous structure, the pension credit accrued through the capital account plan was paid out in the case of a risk event. The revised rules abolish this in favor of paying out a sum equivalent to an annual target salary of the employee. Grandfather clauses have been included for employees who have worked for the company for longer periods and part-time employees. These changes took effect in October 2021. As a result of the change from an annual (pro rata) contribution to payment of a lump sum, the employer has since then granted the risk benefit irrespective of the employee's length of service with the company. Risk benefit payments are thus directly recognized as expenses in the payout year. Provisions recognized according to the previous rules under provisions for pensions and other employee benefits for entitlements after the restructuring takes effect were measured under the new rules using the respective discount rate at the transition date and reversed through profit or loss in the fourth quarter of 2020 for employees covered by collective agreements and in the first quarter of 2021 for employees not covered by collective agreements.

In addition, in Germany there are various closed legacy commitments, which generally provide for old-age and disability benefits as well as benefits for surviving dependents in the form of life-long pensions. The commitments predominantly comprise the overall pension of the supplementary retirement pensions institution (Versorgungsanstalt der Deutschen Bundespost – VAP) that takes into account the statutory pension. Most of the plan members of these commitments are former employees with vested rights and retirees for whom the amount of benefits has already been determined. So the VAP overall pension scheme continues to apply to former employees who were already retired or who had left with vested claims in 1997.

To the extent that defined benefit plans in Germany grant annuities, the future adjustment for these pensions, except for insignificant exceptions, is bindingly defined in the existing benefit regulations. A change in the assumptions for the general pension trend in Germany therefore only has an immaterial impact on the defined benefit obligations.

As a change in life expectancy mainly impacts on the obligations from legacy pension commitments and, since 1997, commitments have been granted in the form of capital, the significance of the risk resulting from the change in life expectancy is expected to decline for the Group over subsequent years.

To cover pension obligations over the long term, Deutsche Telekom has transferred funds to a corporate CTA and a corporate pension fund.

The main pension plans in the **United States** comprise medical plans, life insurance (for pensioners and active employees), and pension commitments. The commitments have been entirely frozen and replaced by contribution plans (401(k) plans) within the meaning of IAS 19 for future vested rights.

The pension commitments in the United States mainly relate to two defined benefit plans: the Sprint Retirement Pension Plan (SRPP) and the Supplemental Executive Retirement Plan (SERP). The benefit amount under the SRPP is calculated primarily on the basis of 1.5 % of the beneficiary's total salary up to December 31, 2005. Furthermore, the additional SERP was set up for contributions above the tax exemption limits for the relevant eligible persons. Both plans have been frozen since December 31, 2005, such that plan participants have not been able to earn any more vested rights since that date.

The SRPP is financed through a pension fund within the framework of U.S. regulations. The level of financing of the SRPP is regularly reviewed, with the company paying additional contributions into the pension fund on top of the minimum contributions if necessary, depending on the financing status.

Under the medical plans, the Company grants allowances for medical care after retirement to top up statutory benefits. In addition to the existing pensioners, there is a small group of active employees who are near retirement, who can also access benefits from these plans.

Under the life insurance policies, the Company pays a benefit in the event of the death of a pensioner (basic coverage for pensioners prior to 2004) of 50 % of the final allowable income drawn (taking into account a cap for the maximum amount payable).

In addition, the Company grants defined benefit plans for individuals abroad. The majority of these benefits comprise benefits prescribed by law in the respective countries or benefits under the FAP (Financial Accumulation Plan – a capital account plan). Almost all of these individual commitments have likewise been frozen.

Under the company pension system in **Switzerland**, a defined benefit plan is in place that is financed by employer and employee contributions (within the meaning of IAS 19). This plan is granted by the legally independent T-Systems pension fund. As is often the case in Switzerland, the companies grant higher benefits than legally required. The Swiss Federal Law on Occupational Retirement, Surviving Dependents' and Disability Pension (Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge – BVG) sets out minimum requirements for the pay to be insured, the age-based contributions, and a minimum annuity factor for the obligatory portion of the accrued retirement assets to be annuitized. In addition, the Swiss Federal Council defines a minimum interest rate for the obligatory retirement assets (2023: 1.00 %, 2022: 1.00 %).

The foundation board (Stiftungsrat) presides over the Swiss pension fund. It ensures the day-to-day running of the pension fund and decides on fundamental aspects, such as the amount and the structure of the pension benefits and the asset investment strategy. The foundation board is equally composed of employer and employees' representatives.

Due to the minimum yield for the obligatory retirement assets, a risk exists for the plans in Switzerland that additional resources would have to be allocated to the pension fund if it were to be underfinanced. The pension fund offers the plan members the option to choose a life-long pension instead of a one-time payment. This option gives rise to longevity and investment risks, since at the time of retirement, assumptions must be made regarding life expectancy and return on assets. As of January 1, 2018, T-Systems Schweiz decided to apply the risk-sharing method when measuring its pension obligations. The measurement of obligations was changed such that employee participation in funding a possible deficit can be taken into account when measuring the employer's obligation. The general option for employee participation in funding a deficit is covered by Art. 28 of the pension regulations.

Development of plan assets at fair value

millions of €	2022	2021
Plan assets at fair value as of January 1	7,937	6,698
Changes attributable to business combinations/transfers of operation/acquisitions and disposals	0	0
Interest income on plan assets (calculated using the discount rate)	123	90
Amount by which the actual return exceeds (falls short of) the interest income on plan assets (remeasurement)	(1,779)	1,040
Contributions by employer	46	80
Contributions by plan participants	4	4
Benefits actually paid from plan assets	(155)	(105)
Settlements	0	0
Administration costs	0	0
Tax payments	0	0
Exchange rate fluctuations for plans in foreign currency	89	130
Plan assets at fair value as of December 31	6,265	7,937

Breakdown of plan assets at fair value by investment category

millions of €	Dec. 31, 2022	Of which: price in an active market	Of which: price without an active market	Dec. 31, 2021	Of which: price in an active market	Of which: price without an active market
Equity securities	3,829	3,829	0	5,346	5,346	0
Of which: shares in BT	1,510	1,510	0	2,414	2,414	0
Debt securities	1,954	1,954	0	2,030	2,030	0
Real estate	85	12	73	85	13	72
Derivatives	0	0	0	2	2	0
Investment funds	12	12	0	40	40	0
Asset-backed securities	0	0	0	0	0	0
Structured debt instruments	0	0	0	1	1	0
Cash and cash equivalents	119	119	0	64	64	0
Other	264	235	29	370	328	43
Plan assets at fair value	6,265	6,162	102	7,937	7,823	115

The investment policy and risk management is set in line with the risk and development characteristics of the pension obligations. On the basis of a systematic, integrated asset/liability management analysis, potential results from different investment portfolios, which can cover a large number of asset classes, are compared with the stochastically simulated development of the pension obligations, thereby explicitly considering the relative development of plan assets against the pension obligations. The investment strategy is mainly characterized by the objective of satisfying obligations from granted pension commitments on time by systematically setting up and professionally managing a suitable portfolio for the plan assets. It essentially aims to establish a widely diversified investment portfolio that generates a risk profile appropriate to the overall objective, by means of corresponding risk factors and diversification. The management of investments is subject to continuous monitoring to ensure active risk management. Cost-efficient investment management is effected by means of professional portfolio management involving external service providers.

At the reporting date, the plan assets at fair value included shares amounting to EUR 5 million (December 31, 2021: EUR 5 million) and bonds amounting to EUR 6 million (December 31, 2021: EUR 10 million) issued by Deutsche Telekom AG and its subsidiaries.

Development of the effect of the asset ceiling

millions of €		
	2022	2021
Effect of asset ceiling as of January 1	42	2
Interest expense on asset ceiling (recognized in the income statement)	0	0
Changes in asset ceiling ((gains) losses recognized in equity)	8	38
Currency gain (loss)	3	2
Effect of asset ceiling as of December 31	52	42

Breakdown of defined benefit costs in the income statement^a

millions of €				
	Disclosure in income statement	2022	2021	2020
Current service cost	Personnel costs	225	234	256
Past service cost (due to plan amendments/curtailments)	Personnel costs	(3)	(87)	(223)
Settlements	Personnel costs	40	0	8
Service cost		262	147	40
Interest cost	Other financial income (expense)	205	179	183
Interest income on plan assets (calculated using the discount rate)	Other financial income (expense)	(123)	(90)	(98)
Interest expense on the effect of the asset ceiling	Other financial income (expense)	0	0	0
Net interest expense (income) on net defined benefit liability (asset)		83	89	85
Defined benefit cost		344	236	126
Administration costs actually incurred (paid from plan assets)	Personnel costs	0	0	0
Total amounts recognized in profit or loss		344	236	126

^a As a result of the agreement concluded on July 13, 2022, since the third quarter of 2022, the GD tower companies have been recognized in the consolidated financial statements as a discontinued operation. The consolidated income statement has been adjusted accordingly with retrospective effect.

Amounts recognized in the consolidated statement of comprehensive income

millions of €			
	2022	2021	2020
Remeasurement ((gain) loss recognized in other comprehensive income in the financial year)	(1,839)	(1,423)	1,358
Of which: remeasurement due to a change in defined benefit obligations	(3,625)	(421)	663
Of which: remeasurement due to a change in plan assets	1,779	(1,040)	702
Of which: remeasurement due to changes in the effect of asset ceiling (according to IAS 19.64)	8	38	(7)

Total benefit payments expected

millions of €					
	2023	2024	2025	2026	2027
Benefits paid from pension provisions	260	538	629	704	612
Benefits paid from plan assets	247	114	115	118	122
Total benefits expected	508	652	745	823	734

Since 2018, benefit payments for direct pension commitments have also been funded using CTA assets. Furthermore, Deutsche Telekom reserves the right to claim reimbursement from CTA assets in the following year, as required, for payments made directly by the employer. The last time this happened was in 2018.

For 2023, Deutsche Telekom does not plan any allocations to plan assets at fair value in Germany. Deutsche Telekom is planning an international allocation of at least EUR 40 million in 2023.

Defined contribution plans

The employer's contribution paid to the statutory pension scheme (Deutsche Rentenversicherung) in Germany in the 2022 financial year totaled EUR 0.4 billion (2021: EUR 0.4 billion, 2020: EUR 0.4 billion). Group-wide, EUR 157 million (2021: EUR 191 million, 2020: EUR 164 million) from current contributions for additional defined contribution plans was recognized in the consolidated income statement in 2022.

Civil-servant retirement arrangements at Deutsche Telekom

An expense of EUR 302 million was recognized in the 2022 financial year (2021: EUR 343 million, 2020: EUR 374 million) for the annual contribution to the Civil Service Pension Fund, which generally amounts to 33 % of the pensionable gross emoluments of active civil servants and the notional pensionable gross emoluments of civil servants on leave of absence. The present value of future payment obligations was EUR 0.9 billion as of the reporting date (December 31, 2021: EUR 1.1 billion, December 31, 2020: EUR 1.8 billion) and is shown under other financial obligations.

For further information, please refer to Note 41 "Other financial obligations."

16 Other provisions

millions of €

	Provisions for termination benefits	Other provisions for personnel costs	Provisions for restoration obligations	Provisions for litigation risks	Provisions for sales and procurement support	Miscellaneous other provisions	Total
At December 31, 2020	302	4,382	2,778	317	557	697	9,033
Of which: current	302	1,992	46	288	557	454	3,638
Transfer resulting from changes in accounting standards	0	0	0	0	0	0	0
Changes in the composition of the Group	0	0	29	27	0	7	64
Currency translation adjustments	4	93	126	7	18	8	257
Addition	38	2,830	452	143	491	266	4,220
Use	(113)	(1,830)	(265)	(54)	(483)	(181)	(2,926)
Reversal	(199)	(316)	(53)	(38)	(25)	(98)	(729)
Interest effect	0	(220)	(45)	2	0	0	(264)
Other changes	100	(224)	(32)	0	0	(36)	(192)
At December 31, 2021	133	4,714	2,990	405	558	663	9,463
Of which: current	47	2,260	236	381	558	420	3,903
Transfer resulting from changes in accounting standards	0	0	0	0	0	0	0
Changes in the composition of the Group	0	(1)	0	0	0	0	(1)
Currency translation adjustments	3	39	105	5	7	6	165
Addition	95	2,428	757	359	708	619	4,965
Use	(130)	(2,008)	(997)	(63)	(515)	(303)	(4,017)
Reversal	(3)	(215)	(153)	(123)	(10)	(72)	(577)
Interest effect	0	(825)	(166)	2	0	(1)	(990)
Other changes	0	(97)	(675)	(2)	0	(31)	(805)
At December 31, 2022	97	4,034	1,861	582	749	881	8,204
Of which: current	51	2,156	272	556	749	629	4,412

The carrying amount of current and non-current other provisions decreased by EUR 1.3 billion compared with December 31, 2021 to EUR 8.2 billion, due in particular to the significant rise in interest rate levels in the reporting year. By contrast, exchange rate effects, primarily from the translation from U.S. dollars into euros, increased the carrying amount. Other provisions developed as follows:

Provisions for termination benefits and other provisions for personnel costs include, among other components, provisions for staff restructuring. These have developed as follows in the 2022 financial year:

millions of €							
	Jan. 1, 2022	Changes in the composition of the Group	Addition	Use	Reversal	Other changes	Dec. 31, 2022
Severance and voluntary redundancy models	133	0	95	(130)	(3)	3	97
Phased retirement	1,001	0	722	(516)	(2)	(201)	1,005
	1,134	0	817	(646)	(5)	(198)	1,102
Of which: current	315						341

Other provisions for personnel costs declined by EUR 0.7 billion, mainly due to a decrease of EUR 0.5 billion in the carrying amount of the provision recognized for the Civil Health Insurance Fund (Postbeamtenkrankenkasse – PBeaKK). This is primarily due to a significant increase in the interest rate level. In addition, the provisions for leave not taken and performance-related remuneration components declined. Other provisions for personnel costs also include provisions for deferred compensation and allowances, as well as for anniversary gifts.

The provisions for restoration obligations decreased by EUR 1.1 billion. These include the estimated costs for dismantling and removing assets, and restoring the sites on which they are located. The estimated costs are included in the costs of the relevant assets. The decrease is mainly attributable to reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale, in particular as a result of the agreed sale of the GD tower companies. The decrease also resulted from the increase in the interest rate level.

By contrast, the provisions for litigation risks increased by a net amount of EUR 0.2 billion, mainly in connection with the proceedings pending in consequence of the cyberattack on T-Mobile US in August 2021. The provisions for litigation risks primarily relate to possible settlements attributable to pending lawsuits.

Provisions for sales and procurement support increased by EUR 0.2 billion. These provisions are recognized for dealer commissions and market development funds (advertising subsidies, and refunds).

Miscellaneous other provisions increased by EUR 0.2 billion. They include a large number of low-value individual items, such as provisions related to executory contracts, the disposal of businesses and site closures, in particular in prior financial years, as well as warranty and environmental damage provisions.

For further information on litigation risks from pending lawsuits, please refer to Note 39 “Contingencies.”

In the measurement of the other provisions, Deutsche Telekom is exposed to interest rate fluctuations, which is why the effect of a possible change in the interest rate on the principal non-current provisions was simulated. The other, non-staff-related provisions are discounted using maturity-related discount rates specific to the respective currency area. To this end, Deutsche Telekom determines discount rates with maturities of up to 30 years. In 2022, the discount rates ranged from 2.69 to 3.93 % (2021: from 0.00 to 1.59 %) in the euro currency area and from 5.20 to 6.78 % (2021: from 1.14 to 4.14 %) in the U.S. dollar currency area. If the discount rate were increased by 50 basis points with no other change in the assumptions, the present value of the principal other non-current provisions would decrease by EUR 49 million (December 31, 2021: EUR 160 million). If the discount rate were decreased by 50 basis points with no other change in the assumptions, the present value of the principal other non-current provisions would increase by EUR 50 million (December 31, 2021: EUR 174 million).

17 Other liabilities

millions of €				
	Dec. 31, 2022	Of which: current	Dec. 31, 2021	Of which: current
Early retirement	781	323	877	352
Deferred revenue	46	21	71	37
Liabilities from other taxes	1,915	1,915	1,877	1,877
Other deferred revenue	209	83	328	195
Liabilities from severance payments	51	50	59	58
Liabilities – publicly funded projects	1,739	397	1,579	473
Miscellaneous other liabilities	841	623	752	592
	5,582	3,412	5,543	3,584

The carrying amount of current and non-current other liabilities increased by EUR 0.1 billion to EUR 5.6 billion. Liabilities from early retirement arrangements for civil servants exist vis-à-vis the Civil Service Pension Fund and arise from payment obligations under agreements that had already been concluded. The obligations are payable in up to seven annual installments following retirement. "Liabilities – publicly funded projects" increased by EUR 0.2 billion, in particular due to existing build-out obligations in connection with grants still to be received from funding projects for the broadband build-out in the Germany operating segment.

18 Contract liabilities

The carrying amount of current and non-current contract liabilities increased year-on-year from EUR 2.2 billion to EUR 2.5 billion. These substantially include deferred revenues. The increase resulted from higher contract liabilities in the United States, Germany, and Europe operating segments. EUR 73 million of the increase in contract liabilities resulted from the marketing of a new business model in connection with the Equipment Installment Plan in the United States operating segment.

Revenue of EUR 2,794 million (2021: EUR 2,573 million) from contract liabilities that were still outstanding as of December 31, 2021 was realized in the reporting year. Of the total of contract liabilities, EUR 1,868 million (December 31, 2021: EUR 1,668 million) is due within one year.

For further information on the business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

19 Shareholders' equity

Issued capital

As of December 31, 2022, the share capital of Deutsche Telekom AG totaled EUR 12,765 million. The share capital is divided into 4,986,458,596 no par value registered shares.

	2022		2021	
	thousands	%	thousands	%
Federal Republic of Germany – Berlin, Germany	689,601	13.8	689,601	13.8
KfW Bankengruppe – Frankfurt/Main, Germany	829,179	16.6	829,179	16.6
Free float	3,467,679	69.6	3,467,679	69.6
Of which: BlackRock, Inc. – Wilmington, DE, United States ^a	234,194		234,194	
Of which: SoftBank Group Corp. – Tokyo, Japan ^b	225,000		225,000	
	4,986,459	100.0	4,986,459	100.0

^a According to the last notification from BlackRock published on September 22, 2017, the reporting threshold of 3 % of the voting rights was exceeded. The stake in Deutsche Telekom AG was thus 4.92 % of the voting rights on September 15, 2017. In connection with the capital increase carried out on September 28, 2021 against contribution in kind, the stake decreased to 4.70 % of the voting rights, on the assumption of an unchanged number of shares.

^b According to the last notification from SoftBank published on October 7, 2021, the reporting threshold of 3 % of the voting rights was exceeded. The stake in Deutsche Telekom AG was thus 4.51 % of the voting rights on October 7, 2021.

Treasury shares. The amount of issued capital assigned to treasury shares was approximately EUR 35 million at December 31, 2022. This equates to 0.3 % of share capital. 13,757,255 treasury shares were held at December 31, 2022.

The shareholders' meeting resolved on April 1, 2021 to authorize the Board of Management to purchase shares in the Company by March 31, 2026, with the amount of share capital accounted for by these shares totaling up to EUR 1,218,933,400.57, provided the shares to be purchased on the basis of this authorization in conjunction with the other shares of the Company that the Company has already purchased and still possesses or are to be assigned to it under § 71d and § 71e AktG do not at any time account for more than 10 % of the Company's share capital. Moreover, the requirements under § 71 (2) sentences 2 and 3 AktG must be complied with. Shares shall not be purchased for the purpose of trading in treasury shares. This authorization may be exercised in full or in part. The purchase can be carried out in partial tranches spread over various purchase dates within the authorization period until the maximum purchase volume is reached. Dependent Group companies of Deutsche Telekom AG within the meaning of § 17 AktG or third parties acting for the account of Deutsche Telekom AG or for the account of dependent Group companies of Deutsche Telekom AG within the meaning of § 17 AktG are also entitled to purchase the shares. The shares are purchased through the stock exchange in adherence to the principle of equal treatment (§ 53a AktG). Shares can instead also be purchased by means of a public purchase or share exchange offer addressed to all shareholders, which, subject to a subsequently approved exclusion of the right to offer shares, must also comply with the principle of equal treatment.

The shares may be used for one or several of the purposes permitted by the authorization granted by the shareholders' meeting on April 1, 2021 under item 7 on the agenda. The shares may also be used for purposes involving an exclusion of subscription rights. In addition, they may be sold on the stock market or by way of an offer to all shareholders, or withdrawn. The shares may be used to fulfill the rights of Board of Management members to receive shares in Deutsche Telekom AG, which the Supervisory Board has granted to these members as part of the arrangements governing the remuneration of the Board of Management, on the basis of a decision by the Supervisory Board to this effect. Furthermore, under the authorization granted on April 1, 2021, the Board of Management is authorized to offer and/or grant shares to employees of Deutsche Telekom AG and of lower-tier affiliated companies as well as to managing board members of lower-tier affiliated companies; this also includes the authorization to offer or grant shares free of charge or on other special conditions.

Under the resolution of the shareholders' meeting on April 1, 2021, the Board of Management is also authorized to acquire the shares through the use of equity derivatives.

No treasury shares were acquired in the reporting period and in the prior year. Currently, the treasury shares for participants of the Share Matching Plan and of the employee share program Shares2You are issued from the pool of shares previously held in a trust deposit.

As part of the acquisition of VoiceStream Wireless Corp., Bellevue, and Powertel, Inc., Bellevue, in 2001, Deutsche Telekom AG issued new shares from authorized capital to a trustee, for the benefit of holders of warrants, options, and conversion rights, among others. These options or conversion rights expired in full in the 2013 financial year. As a result, the trustee no longer had any obligation to fulfill any claims in accordance with the purpose of the deposit. The trust relationship was terminated at the start of 2016 and the deposited shares were transferred free of charge to a custody account of Deutsche Telekom AG. On the basis of authorization by the shareholders' meetings on May 25, 2016 and April 1, 2021, the treasury shares acquired free of charge may be used for the same purposes as the treasury shares acquired for a consideration. In the reporting year, 708 thousand previously deposited shares were reallocated for issue to eligible participants of the Share Matching Plan (prior year: 3,462 thousand shares).

For matching shares from the Share Matching Plan and for free shares from the employee share program Shares2You, treasury shares are transferred free of charge to the custody accounts of employees of Deutsche Telekom AG. In cases where treasury shares are transferred to the custody accounts of employees of other Group companies, the costs have been transferred at fair value to the respective Group company since the 2016 financial year. Where treasury shares were transferred to the custody accounts of employees that were bought by way of the personal investment as part of the employee share program Shares2You, a conversion rate of EUR 18.78 per share was used. The conversion is determined using the lowest price at which a trade actually took place on an official German exchange on the date of conversion.

In all months of the reporting year, except for September, treasury shares (760 thousand in total) were reallocated and transferred to the custody accounts of eligible participants (prior year: 3,485 thousand treasury shares). As of December 31, 2022, disposals of treasury shares resulting from the transfers in the reporting period accounted for 0.02 %, or EUR 1,947 thousand, of share capital. Gains on disposal arising from transfers of treasury shares amounted to EUR 12,225 thousand. The transfers of treasury shares increased the capital reserve by EUR 10,278 thousand. In the reporting year, 367 thousand treasury shares with a fair value of EUR 6,737 thousand were billed to other Group companies.

Voting rights. Each share entitles the holder to one vote. These voting rights are restricted, however, in relation to treasury shares (at December 31, 2022: around 14 million in total).

Authorized capital and contingent capital. Authorized capital and contingent capital comprised the following components as of December 31, 2022:

	Amount millions of €	No par value shares thousands	Purpose
2022 Authorized capital	3,830	1,495,938	Capital increase against cash contribution/contribution in kind until April 6, 2027
2018 Contingent Capital	1,200	468,750	Servicing convertible bonds and/or bonds with warrants issued on or before May 16, 2023

Changes in the composition of the Group, transactions with owners, and capital increase.

The following table shows the changes in the composition of the Group, the development of transactions with owners, and the capital increase made against contribution in kind in the prior year:

	2022			2021		
	Issued capital and reserves attributable to owners of the parent	Non-controlling interests	Total shareholders' equity	Issued capital and reserves attributable to owners of the parent	Non-controlling interests	Total shareholders' equity
Changes in the composition of the Group	0	(583)	(583)	0	(181)	(181)
Sale of T-Mobile Netherlands	0	(583)	(583)	0	0	0
Sale of Telekom Romania Communications	0	0	0	0	(170)	(170)
Other effects	0	0	0	0	(11)	(11)
Transactions with owners	(2,569)	(3,428)	(5,997)	(179)	(48)	(227)
T-Mobile US share buy-back/share-based payment	(978)	(1,994)	(2,972)	(157)	165	9
Increase of the stake in T-Mobile US	(1,493)	(1,178)	(2,672)	0	0	0
Magyar Telekom share buy-back	15	(53)	(38)	9	(38)	(29)
OTE share buy-back	(100)	(190)	(290)	(62)	(131)	(193)
Hrvatski Telekom share buy-back	(2)	(22)	(24)	(1)	(12)	(13)
T-Mobile Netherlands sale and leaseback	0	0	0	33	(33)	0
Other effects	(10)	9	(1)	0	0	0
Capital increase of Deutsche Telekom AG	0	0	0	1,511	(2,358)	(847)

Changes in the composition of the Group in connection with the sale of T-Mobile Netherlands reduced the carrying amount of shareholders' equity by EUR 0.6 billion. Transactions with owners decreased the carrying amount of shareholders' equity by EUR 6.0 billion, mainly in connection with the further acquisition of T-Mobile US shares to increase the stake and with the share buy-back program underway at T-Mobile US.

In connection with the agreement concluded on September 6, 2021 between Deutsche Telekom AG and SoftBank for the acquisition of around 45.4 million T-Mobile US shares, an increase in issued capital was entered in the commercial register and executed on September 28, 2021 by issuing 225 million no-par-value shares at the lowest issue price of EUR 2.56 per share against contribution in kind. Issued capital was increased by EUR 576 million in total. The number of Deutsche Telekom AG's outstanding shares increased as a result from 4,761 million to 4,986 million shares.

The non-cash capital increase was executed by SoftBank contributing 45.4 million T-Mobile US shares to Deutsche Telekom AG in return for the transfer of 225 million Deutsche Telekom AG shares from the 2017 authorized capital. Because T-Mobile US was already included in Deutsche Telekom's consolidated financial statements as a fully consolidated subsidiary, the increase in the stake merely led to a decrease in the non-controlling interests in consolidated shareholders' equity by EUR 2,358 million and to an increase in the share of equity held by the owners of the parent company by a net total of EUR 1,511 million.

In order to acquire the some 45.4 million T-Mobile US shares, on September 23, 2021, Deutsche Telekom AG exercised some of the stock options received from SoftBank in June 2020. On the exercise date, these stock options had a fair value of EUR 847 million. This amount was recognized directly in equity as part of the consideration (within the meaning of the IFRSs) paid to SoftBank, as a result of the derecognition of the exercised options (issued capital and reserves attributable to owners of the parent). The carrying amount of other financial assets decreased as a result.

Non-controlling interests: total other comprehensive income

Total other comprehensive income of non-controlling interests primarily comprises remeasurement effects as part of the acquisition of the OTE group totaling EUR 0.3 billion (December 31, 2021: EUR 0.3 billion), as well as currency translation effects of EUR 1.8 billion (December 31, 2021: EUR 0.3 billion), and remeasurement losses recognized directly in equity in connection with forward-payer swaps concluded for borrowings at T-Mobile US, which were terminated prematurely in April 2020.

Notes to the consolidated income statement

As a result of the agreement concluded on July 13 2022, since the third quarter of 2022, the GD tower companies have been recognized in the consolidated financial statements as a discontinued operation. The consolidated income statement has been adjusted accordingly with retrospective effect. Thus the contributions by the GD tower companies are no longer included in the individual items of the consolidated income statement. Instead, profit or loss after taxes is disclosed in aggregate form in the item "Profit/loss after taxes from discontinued operation."

For further information on the business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

20 Net revenue

Net revenue breaks down into the following revenue categories:

millions of €	2022	2021	2019 ^a
Revenue from the rendering of services	92,028	84,153	78,997
Germany	20,770	20,304	19,887
United States	58,578	49,850	45,147
Europe	9,117	9,319	9,367
Systems Solutions	3,045	2,958	2,969
Group Development	420	1,635	1,545
Group Headquarters & Group Services	98	87	81
Revenue from the sale of goods and merchandise	19,932	19,626	16,078
Germany	2,588	2,431	2,216
United States	15,517	15,153	11,922
Europe	1,646	1,558	1,484
Systems Solutions	62	66	66
Group Development	118	417	389
Group Headquarters & Group Services	1	1	1
Revenue from the use of entity assets by others	2,237	3,831	4,871
Germany	588	694	815
United States	1,334	2,785	3,631
Europe	182	197	203
Systems Solutions	14	24	78
Group Development	0	2	5
Group Headquarters & Group Services	119	130	139
Net revenue^a	114,197	107,610	99,946

^a Revenue includes interest income of EUR 589 million in the reporting year, calculated using the effective interest method (2021: EUR 276 million, 2020: EUR 278 million). This income is primarily attributable to accrued interest on receivables in connection with handsets sold under installment plans in the United States operating segment.

In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to distinguishing between gross and net revenues, effective the start of the third quarter of 2022. Prior-year comparatives were adjusted retrospectively.

For further information on the aforementioned business transactions, please refer to the section "Changes in accounting policies and changes in the reporting structure" under "Summary of accounting policies."

Net revenue for the reporting year was EUR 114.2 billion, up EUR 6.6 billion on the prior-year level. The United States operating segment in particular contributed to the positive revenue trend with an increase, mainly due to exchange rate effects. The Germany operating segment also recorded a positive development on the back of increased mobile and fixed-network service revenues. Contrasting developments were recorded in the Europe operating segment (mainly due to the sale of the Romanian fixed-network business on September 30, 2021) and in the Group Development operating segment (mainly due to the sale of T-Mobile Netherlands on March 31, 2022).

For information on changes in net revenue, please refer to the section "Development of business in the Group" in the combined management report.

The total transaction price attributable to performance obligations that have (partially) not been fulfilled at the end of the reporting year (hereinafter: outstanding transaction price) amounts to EUR 25.6 billion (2021: EUR 20.0 billion).

The portion of the outstanding transaction price attributable to performance obligations that have not been fulfilled or not yet completely fulfilled at the end of the reporting year is generally recognized as revenue over the remaining term of the service contracts concluded. Since most service contracts – unless they can be canceled at any time – have a minimum contract term of 24 months, an average remaining term of approximately 12 months can be assumed, provided the course of business in the mass business remains virtually unchanged. The disclosures only refer to transactions within the scope of IFRS 15, i.e., they do not include portions of the transaction price being allocated to performance obligations outside the scope of the standard, e.g., leases.

Deutsche Telekom generally makes use of the practical expedients in IFRS 15, according to which outstanding performance obligations under contracts with an expected original term of no more than one year and revenues recognized in accordance with the billed amounts are exempt from the disclosure requirement. Individual subsidiaries deviate from this general approach and have not made use of these practical expedients for groups of contracts with similar characteristics.

Service concession arrangements

Satellitic NV, Machelen, Belgium, is a fully consolidated subsidiary of Deutsche Telekom and on July 25, 2014 signed a contractual arrangement with Viapass, the public agency responsible for toll collection in Belgium, for the set-up, operation, and financing of an electronic toll collection system. After Viapass accepted the system on March 30, 2016, the set-up phase was completed on March 31, 2016. The subsequent operation phase has a duration of 12 years, with the additional option for Viapass to extend the term three times by 1 year. Satellitic has no entitlement to the toll revenue collected but receives contractually agreed fees for setting up and operating the system. Viapass is authorized to terminate the arrangement giving notice of six months with payment of reasonable compensation. In the event of regular or premature termination of the agreement, Satellitic has an obligation to hand over to Viapass, on request, material assets for the operation of the toll collection system that have not yet passed to the ownership of Viapass; in such an event, however, the software platform for toll collection would not be handed over to Viapass. The agreement was classified as a service concession arrangement within the meaning of IFRIC 12. Since the start of the operation phase on April 1, 2016, the separate fees for operation and maintenance services have been recognized as revenue in the respective periods, which totaled EUR 85 million in the reporting year (2021: EUR 75 million, 2020: EUR 79 million).

21 Other operating income

millions of €	2022	2021	2020
Income from the reversal of impairment losses on non-current assets	2	1	1,661
Income from the disposal of non-current assets	448	115	125
Income from reimbursements	136	138	150
Income from insurance compensation	369	86	73
Income from ancillary services	25	21	19
Miscellaneous other operating income	3,673	938	845
Of which: gains resulting from deconsolidations and from the sale of stakes accounted for using the equity method	2,732	214	10
	4,653	1,300	2,873

Income from the disposal of non-current assets of EUR 0.2 billion resulted from the further optimization of the real estate portfolio in the Group Headquarters & Group Services segment and of EUR 0.1 billion from the sale of IP addresses related to the former Sprint's fiber-optic-based wireline network in the United States. Income from insurance compensation of EUR 0.2 billion resulted from refunds from insurance companies in connection with damage sustained in the catastrophic flooding in North Rhine-Westphalia and Rhineland-Palatinate in July 2021 and of EUR 0.1 billion from refunds from insurance companies for expenses arising in connection with the cyberattack on T-Mobile US in August 2021. Gains resulting from deconsolidations and from the sale of stakes accounted for using the equity method of EUR 1.7 billion were attributable to the loss of control over the GlasfaserPlus entities. The sale of T-Mobile Netherlands resulted in a gain on deconsolidation of EUR 0.9 billion, which was determined taking the repayment of internal shareholder loans and the net assets on the date of deconsolidation into account. The loss of control over DIV II gave rise to a gain on deconsolidation of EUR 0.1 billion. In the prior year, gains resulting from deconsolidations and from the sale of stakes accounted for using the equity method were attributable to the sale of the Dutch cell tower company T-Mobile Infra to DIV II and its subsequent contribution into Cellnex NL in connection with the combination of the cell tower business in the Netherlands. Other operating income also includes a payment of EUR 0.2 billion in connection with the settlement of a series of patent disputes between T-Mobile US and a competitor as well as a large number of individual items at marginal amounts.

For further information on the aforementioned business transactions, please refer to the section "[Changes in the composition of the Group and other transactions](#)" under "Summary of accounting policies."

22 Changes in inventories

Changes in inventories comprise both volume- and value-based increases and decreases in inventories of finished goods and work in process. There were no significant changes in inventories in the reporting year or in prior years.

23 Own capitalized costs

Own capitalized costs amounted to EUR 2.9 billion in the reporting year (2021: EUR 2.8 billion, 2020: EUR 2.8 billion) and mainly relate to investments in network build-out and the development of platforms for cell sites.

24 Goods and services purchased

millions of €	2022	2021	2020
Expenses for raw materials and supplies	2,400	2,188	1,945
Expenses for merchandise	24,994	24,026	19,452
Expenses for services purchased	25,531	23,204	22,973
	52,926	49,418	44,370

25 Average number of employees and personnel costs

		2022	2021	2020
Group (total)		211,236	220,840	223,539
Of which: discontinued operation		760	771	741
Germany		83,406	87,276	91,512
International		127,830	133,564	132,027
Non-civil servants		202,346	210,791	212,148
Civil servants (domestic, active service relationship)		8,891	10,049	11,391
Trainees and students on cooperative degree courses		5,251	5,375	4,905
Personnel costs	millions of €	19,371	18,394	18,792
Of which: wages and salaries	millions of €	16,052	15,159	15,876
Of which: social security contributions and pension benefit costs	millions of €	3,319	3,235	2,916

The average headcount decreased by 4.3 % compared with the prior year. It decreased in Germany by 4.4 % due in particular to efficiency enhancement measures and the take-up of socially responsible instruments in connection with staff restructuring in the Germany and Systems Solutions operating segments, and in the Group Headquarters & Group Services segment. The average headcount outside of Germany also decreased by 4.3 %, driven mainly by the sale of Telekom Romania Communications as of September 30, 2021 and of T-Mobile Netherlands as of March 31, 2022. In Europe, we continued to drive forward the socially responsible staff restructuring. Increased recruitment in the Systems Solutions operating segment had an offsetting effect. In the United States, the headcount was reduced as a result of targeted rationalization to cut costs, in part as a consequence of the business combination with Sprint.

Personnel costs increased by EUR 1.0 billion year-on-year to EUR 19.4 billion. The increase is in particular attributable to the United States operating segment, with EUR 0.9 billion relating to exchange rate effects and with EUR 0.3 billion relating to higher integration costs as a result of the business combination with Sprint and other restructuring expenses. Due to the sale of T-Mobile Netherlands as of March 31, 2022, personnel costs decreased by EUR 0.1 billion in the Group Development operating segment. In the Germany, Europe and the United States operating segments and in the Group Headquarters & Group Services segment, lower headcounts resulted in a reduction in personnel costs. The agreed salary increases from the collective agreements concluded in 2022 in Germany and abroad had an offsetting effect. Restructuring expenses remained unchanged, which had a negative effect of EUR 0.1 billion as compared with the prior year, when the reversal of a provision for personnel costs had a positive impact.

26 Other operating expenses

millions of €	2022	2021	2020
Impairment losses on financial assets	1,235	637	862
Gains (losses) from the write-off of financial assets measured at amortized cost	24	122	188
Other	5,124	3,502	3,443
Of which: legal and audit fees	784	615	509
Of which: losses from asset disposals	356	267	488
Of which: income (losses) from the measurement of factoring receivables	2	4	6
Of which: other taxes	584	496	452
Of which: cash and guarantee transaction costs	622	547	490
Of which: insurance expenses	169	138	117
Of which: miscellaneous other operating expenses	2,606	1,434	1,382
Of which: losses resulting from deconsolidations and from the sale of stakes accounted for using the equity method	0	70	0
	6,383	4,261	4,493

The year-on-year increase in impairment losses on financial assets was mainly attributable to allowances of customer receivables primarily in the United States operating segment. These resulted from higher receivables and potential future macroeconomic effects. Expenses for legal and audit fees included, among other factors, expenses in connection with the proceedings brought in consequence of the cyberattack on T-Mobile US in August 2021. Miscellaneous other operating expenses included expenses of EUR 0.7 billion in connection with the payment obligations entered into under the agreement to sell the wireline business in the United States. This item also includes expenses of EUR 0.5 billion for data storage in data centers, in cloud applications or other IT services, and of EUR 0.3 billion for regulatory duties in the United States. It also includes other administrative expenses and fees totaling EUR 0.1 billion.

27 Depreciation, amortization and impairment losses

The following table provides a breakdown of depreciation, amortization and impairment losses:

millions of €	2022	2021	2020
Amortization and impairment of intangible assets	6,931	6,621	6,997
Of which: impairment losses	180	155	525
Of which: impairment losses on mobile licenses	19	4	152
Of which: amortization of mobile licenses	559	606	1,140
Depreciation and impairment of property, plant and equipment	13,603	14,498	13,567
Of which: impairment losses	668	92	210
Depreciation and impairment of right-of-use assets	7,102	5,972	4,971
Of which: impairment losses	308	37	63
	27,635	27,091	25,534

Impairment losses break down as follows:

millions of €	2022	2021	2020
Intangible assets	180	155	525
Of which: in connection with the ad hoc impairment tests of assets of the fiber-optic-based fixed network in the United States	27	0	0
Of which: in connection with the ad hoc impairment test in the Systems Solutions cash-generating unit ^a	119	140	343
Of which: in connection with the ad hoc impairment test in the Romania cash-generating unit	32	0	126
Of which: goodwill from the year-end impairment test	0	0	26
Property, plant and equipment	668	92	210
Of which: in connection with the ad hoc impairment tests of assets of the fiber-optic-based fixed network in the United States	528	0	0
Of which: in connection with the ad hoc impairment test in the Systems Solutions cash-generating unit	24	60	127
Of which: in connection with the ad hoc impairment test in the Romania cash-generating unit	85	0	34
Right-of-use assets	308	37	63
Of which: in connection with the ad hoc impairment tests of assets of the fiber-optic-based fixed network in the United States	272	0	0
	1,156	284	798

^a Of the impairment losses, EUR 33 million (2021: EUR 21 million; 2020: EUR 44 million) relates to intangible assets in the Group Headquarters & Group Services segment that are subject to use by the Systems Solutions operating segment and are allocated to the Systems Solutions cash-generating unit for the purposes of impairment testing.

Depreciation, amortization and impairment losses on intangible assets, property, plant and equipment, and right-of-use assets increased by EUR 0.5 billion year-on-year to EUR 27.6 billion.

Depreciation and amortization decreased by EUR 0.3 billion to EUR 26.5 billion. In the Group Development operating segment, depreciation and amortization were down on the prior-year level in connection with the fact that T-Mobile Netherlands had been held for sale until it was sold and accordingly the related depreciation and amortization had been suspended, and in connection with its subsequent sale. Depreciation on property, plant and equipment in the United States operating segment declined due to the ongoing strategic withdrawal from the terminal equipment lease business. By contrast, in the United States operating segment, a reduction in the useful life of leased network technology for cell sites following the business combination of T-Mobile US and Sprint increased depreciation of the corresponding right-of-use assets by EUR 1.6 billion. The agreement concluded between T-Mobile US and Crown Castle on a modification of existing arrangements, mainly concerning the lease of Crown Castle's cell sites, also had an increasing effect on depreciation and amortization.

Impairment losses, by contrast, increased by EUR 0.9 billion to EUR 1.2 billion, of which EUR 0.9 billion related to the United States operating segment, mainly in connection with assets of the former Sprint's fiber-optic-based fixed network. These impairment losses arose in part in connection with the sale of the business agreed in September 2022. Further impairment losses of EUR 0.1 billion related to the Systems Solutions operating segment and the Group Headquarters & Group Services segment. These related to follow-up investments in connection with assets previously impaired in the 2020 and 2021 financial years. Furthermore, despite the business outlook remaining positive, the substantial increase in the cost of capital in the reporting year prompted further impairment losses to be recognized on non-current assets at the end of 2022. In addition, impairment losses of EUR 0.1 billion related to the Europe operating segment in connection with non-current assets in the Romanian fixed-network business. The Romanian national company continues to operate in the structurally challenging and highly competitive Romanian market at prices that are low compared with other countries. In addition, high energy prices and sharp rises in interest rates had a negative impact on the enterprise value. The impairment losses recognized in the prior year amounted to EUR 0.3 billion and related primarily to the Systems Solutions operating segment and the Group Headquarters & Group Services segment.

For further information, please refer to Notes 6 "Intangible assets," 7 "Property, plant and equipment," and 8 "Right-of-use assets – lessee relationships."

28 Profit/loss from operations

Profit from operations (EBIT) in the Group increased from EUR 12.6 billion to EUR 15.4 billion, up EUR 2.8 billion against the prior year.

For information on the development of EBIT, please refer to the section "Development of business in the Group" in the combined management report.

29 Finance costs

millions of €	2022	2021	2020
Interest income	387	611	589
Interest expense	(5,679)	(5,027)	(4,617)
	(5,292)	(4,416)	(4,029)
Of which: from leases	(1,515)	(1,130)	(974)
Of which: from financial instruments relating to measurement categories in accordance with IFRS 9			
Debt instruments measured at amortized cost	42	176	190
Debt instruments measured at fair value through other comprehensive income	0	0	0
Debt instruments measured at fair value through profit or loss	61	11	16
Financial liabilities measured at amortized cost ^a	(3,839)	(3,453)	(3,235)

^a Interest expense calculated according to the effective interest method and adjusted for accrued interest from derivatives recognized in the reporting year that were used as hedging instruments against interest rate-based changes in the fair values of financial liabilities measured at amortized cost in the reporting year for hedge accounting in accordance with IFRS 9 (2022: interest income of EUR 273 million and interest expense of EUR 284 million; 2021: interest income of EUR 417 million and interest expense of EUR 284 million; 2020: interest income of EUR 377 million and interest expense of EUR 101 million).

Finance costs increased from EUR 4.4 billion to EUR 5.3 billion, primarily due to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase in the carrying amounts of lease liabilities. Furthermore, the interest capitalized as part of acquisition costs decreased, especially in the United States operating segment. In the Group Headquarters & Group Services segment, the interest expense for variable-interest financial liabilities increased as a result of the rise in interest rates in the reporting year. In connection with the premature termination of forward-payer swaps by T-Mobile US at the start of April 2020 and the associated losses recorded directly in equity, reclassifications to profit or loss of EUR 0.2 billion were made (2021: EUR 0.2 billion).

Interest of EUR 125 million (2021: EUR 211 million, 2020: EUR 334 million) was capitalized as part of acquisition costs in the reporting year. The amount was calculated on the basis of an interest rate in the average range between 3.4 % at the start of the year and 3.4 % at the end of the year (2021: between 3.6 and 3.4 %, 2020: between 3.2 and 3.6 %) applied across the Group.

Interest payments (including capitalized interest) of EUR 6.9 billion (2021: EUR 6.4 billion, 2020: EUR 7.6 billion) were made in the reporting year.

Accrued interest payments from derivatives (interest rate swaps) that were designated as hedging instruments in a fair value hedge in accordance with IFRS 9 are netted per swap contract and recognized as interest income or interest expense depending on the net amount. Finance costs are assigned to the measurement categories on the basis of the hedged item. Only financial liabilities were hedged in the reporting period.

30 Share of profit/loss of associates and joint ventures accounted for using the equity method

millions of €	2022	2021	2020
Share of profit (loss) of joint ventures	(540)	(34)	(16)
Share of profit (loss) of associates	15	(68)	6
	(524)	(102)	(11)

The share of profit/loss of associates and joint ventures included in the consolidated financial statements using the equity method decreased by EUR 0.4 billion compared with the prior year to EUR -0.5 billion. The main factor in this was an impairment loss of EUR 517 million recognized in the reporting year on the carrying amount of the stake in GlasfaserPlus. The impairment loss was triggered by the current macroeconomic developments and the associated sharp rise in interest rates. The recoverable amount was determined based on Level 3 input parameters and confirmed by an external multiple evaluation. A discount rate of 5.37 % was used. The prior-year figure included an impairment loss of EUR 58 million recognized on the carrying amount of the stake in Stratospheric Platforms Ltd.

For further information, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies," and Note 10 "Investments accounted for using the equity method."

31 Other financial income/expense

millions of €	2022	2021	2020
Income from investments (without share of profit (loss) of associates and joint ventures accounted for using the equity method)	5	4	12
Gains (losses) from financial instruments	784	(593)	628
Interest component from measurement of provisions and liabilities	590	167	(509)
Impairment losses on other financial assets	0	(13)	0
Gains (losses) from the write-off of other financial assets measured at amortized cost	0	0	0
	1,379	(435)	131

Other financial income/expense increased by EUR 1.8 billion year-on-year to income of EUR 1.4 billion, with gains/losses from financial instruments increasing by EUR 1.4 billion to a gain of EUR 0.8 billion. This was attributable in particular to positive measurement effects from a forward transaction to hedge the price of acquiring T-Mobile US shares in the future and positive measurement effects from the amortization and subsequent measurement of the stock options received from SoftBank in June 2020 to buy shares in T-Mobile US. Less pronounced negative measurement effects from derivatives of T-Mobile US embedded in bonds compared with the prior-year period also contributed to this. The interest component from the measurement of provisions and liabilities increased by EUR 0.4 billion to EUR 0.6 billion. This increase was mainly attributable to the subsequent measurement using actuarial principles of the present value of the provision recognized for the Civil Service Health Insurance Fund.

EUR -226 million (2021: EUR -282 million, 2020: EUR 341 million) of gains/losses from financial instruments related to currency translation effects, including gains/losses from derivatives used as hedges in foreign-currency hedge accounting, and EUR 1,010 million (2021: EUR -310 million, 2020: EUR 287 million) to gains/losses from other derivatives as well as measurements of equity investments.

As a rule, all income/expense components including interest income and expense from financial instruments classified as at fair value through profit or loss in accordance with IFRS 9 are reported under gains/losses from financial instruments.

For further information on financial instruments, please refer to Note 42 "Financial instruments and risk management."

32 Income taxes

Income taxes in the consolidated income statement

A tax expense of EUR 1.9 billion was recorded in the 2022 financial year. The tax amount reflects the shares of the different countries in profit before income taxes and their respective national tax rates. However, the effective tax rate was reduced by the realization of tax-free income from the sale of T-Mobile Netherlands and the shares in GlasfaserPlus. Taxes were furthermore reduced by deferred tax effects in the United States operating segment. In the prior-year period, a tax expense of EUR 1.7 billion had been recorded despite substantially lower profit/loss before income taxes.

The following table provides a breakdown of income taxes in Germany and internationally:

millions of €	2022	2021	2020
Current taxes	1,035	908	854
Germany	603	219	321
International	432	690	533
Deferred taxes	902	823	1,004
Germany	(11)	581	144
International	913	242	860
	1,937	1,732	1,858

Deutsche Telekom's combined income tax rate for 2022 amounts to 31.4 % (2021: 31.4 %, 2020: 31.4 %). It consists of corporate income tax at a rate of 15.0 %, the solidarity surcharge of 5.5 % on corporate income tax, and trade tax at an average multiplier of 445 % (2021: 445 %, 2020: 445 %).

Reconciliation of the effective tax rate. Income taxes of EUR -1,937 million (as expense) in the reporting year (2021: EUR -1,732 million (as expense), 2020: EUR -1,858 million (as expense)) are derived as follows from the expected income tax expense/benefit that would have arisen had the statutory income tax rate of the parent company (combined income tax rate) been applied to profit/loss before income taxes:

millions of €	2022	2021	2020
Profit (loss) before income taxes	10,977	7,628	8,458
Expected income tax expense (benefit) (Income tax rate applicable to Deutsche Telekom AG: 2022: 31.4 %, 2021: 31.4 %, 2020: 31.4 %)	3,447	2,395	2,656
Adjustments to expected tax expense (benefit)			
Effect of changes in statutory tax rates	(16)	(39)	(139)
Tax effects from prior years	(157)	(41)	38
Tax effects from other income taxes	37	(178)	297
Non-taxable income	(829)	(106)	(32)
Tax effects from equity investments	150	27	8
Non-deductible expenses	77	153	192
Permanent differences	(309)	73	(458)
Goodwill impairment losses	1	0	(6)
Tax effects from loss carryforwards	63	(36)	1
Tax effects from additions to and reductions of local taxes	49	53	59
Adjustment of taxes to different foreign tax rates	(575)	(570)	(755)
Other tax effects	0	1	(3)
Income tax expense (benefit) according to the consolidated income statement	1,937	1,732	1,858
Effective income tax rate	% 18	23	22

Current income taxes in the consolidated income statement

The following table provides a breakdown of current income taxes:

millions of €	2022	2021	2020
Current income taxes	1,035	908	854
Of which: current tax expense	1,093	914	659
Of which: prior-period tax expense	(58)	(5)	195

Deferred taxes in the consolidated income statement

Deferred taxes developed as follows:

millions of €	2022	2021	2020
Deferred tax expense (benefit)	902	823	1,004
Of which: from temporary differences	3,030	1,143	2,818
Of which: from loss carryforwards	(2,161)	(337)	(1,891)
Of which: from tax credits	33	17	77

Income taxes in the consolidated statement of financial position

Current income taxes in the consolidated statement of financial position

millions of €	Dec. 31, 2022	Dec. 31, 2021
Recoverable taxes	213	321
Tax liabilities	(801)	(549)
Current taxes recognized in other comprehensive income:		
Hedging instruments	(252)	(252)

Deferred taxes in the consolidated statement of financial position

millions of €	Dec. 31, 2022	Dec. 31, 2021
Deferred tax assets	8,316	7,906
Deferred tax liabilities	(22,800)	(19,809)
	(14,484)	(11,903)
Of which: recognized in other comprehensive income:		
Gains (losses) from the remeasurement of defined benefit plans	491	1,328
Revaluation surplus	142	120
Hedging instruments	272	502
Recognized in other comprehensive income before non-controlling interests	905	1,950
Non-controlling interests	(190)	(250)
	715	1,700

Development of deferred taxes

millions of €	Dec. 31, 2022	Dec. 31, 2021
Deferred taxes recognized in the statement of financial position	(14,484)	(11,903)
Difference to prior year	(2,581)	(2,615)
Of which: recognized in income statement	(936)	(838)
Of which: recognized in other comprehensive income	(1,039)	(474)
Of which: recognized in capital reserves	22	(121)
Of which: acquisitions (disposals) (including assets and disposal groups held for sale)	48	(325)
Of which: currency differences	(676)	(857)

Development of deferred taxes on loss carryforwards

millions of €

	Dec. 31, 2022	Dec. 31, 2021
Deferred taxes on loss carryforwards before allowances	6,570	4,190
Difference to prior year	2,380	82
Of which: recognition (derecognition)	2,268	(153)
Of which: acquisitions (disposals) (including assets and disposal groups held for sale)	12	(42)
Of which: currency differences	100	277

Deferred taxes relate to the following key items in the statement of financial position, loss carryforwards, and tax credits:

millions of €

	Dec. 31, 2022		Dec. 31, 2021	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Current assets	2,541	(1,467)	2,199	(1,438)
Trade receivables	1,577	(51)	1,362	(235)
Inventories	173	0	89	0
Other assets	782	(428)	742	(391)
Contract assets	8	(988)	6	(812)
Non-current assets	3,654	(38,396)	3,388	(31,692)
Intangible assets	613	(21,506)	392	(20,690)
Property, plant and equipment	907	(6,599)	1,338	(1,991)
Other financial assets	2,132	(9,872)	1,656	(8,634)
Capitalized contract costs	2	(418)	2	(377)
Current liabilities	2,234	(1,435)	2,495	(1,355)
Financial liabilities	568	(138)	603	(105)
Trade and other payables	115	(18)	167	(99)
Other provisions	557	(200)	371	(115)
Other liabilities	906	(961)	1,097	(958)
Contract liabilities	88	(118)	257	(78)
Non-current liabilities	14,845	(3,762)	13,328	(3,169)
Financial liabilities	3,254	(1,510)	2,946	(1,086)
Provisions for pensions and other employee benefits	1,642	(1,798)	1,919	(1,758)
Other provisions	855	(253)	1,089	(251)
Other liabilities	8,998	(125)	7,269	(20)
Contract liabilities	96	(76)	105	(54)
Retained earnings	8	(181)	0	0
Tax credits	337	0	334	0
Loss carryforwards	6,026	0	3,741	0
Interest and other carryforwards	1,111	0	265	0
Total	30,756	(45,240)	25,750	(37,654)
Of which: non-current	26,517	(42,261)	21,709	(34,807)
Netting	(22,440)	22,440	(17,844)	17,844
Recognition	8,316	(22,800)	7,906	(19,809)

The loss carryforwards amount to:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Loss carryforwards for corporate income tax purposes	25,346	15,312
Expiry within		
1 year	0	0
2 years	5	3
3 years	2	3
4 years	4	7
5 years	21	3
After 5 years	1,479	1,449
Unlimited carryforward period	23,835	13,847

Loss carryforwards and temporary differences for which no deferred taxes were recorded amount to:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Loss carryforwards for corporate income tax purposes	1,722	1,769
Expiry within		
1 year	0	0
2 years	5	2
3 years	2	0
4 years	4	5
5 years	18	2
After 5 years	923	1,018
Unlimited carryforward period	770	742
Temporary differences in corporate income tax	492	429

In addition, no deferred taxes are recognized on trade tax loss carryforwards of EUR 145 million (December 31, 2021: EUR 117 million) and on temporary differences for trade tax purposes in the amount of EUR 3 million (December 31, 2021: EUR 6 million). Furthermore, apart from corporate income tax loss carryforwards, no deferred taxes amounting to EUR 140 million (December 31, 2021: EUR 163 million) were recognized for other foreign income tax loss carryforwards and, apart from temporary differences for trade tax purposes, no deferred taxes amounting to EUR 5 million (December 31, 2021: EUR 7 million) were recognized for other foreign income taxes.

No deferred tax assets were recognized on the aforementioned tax loss carryforwards and temporary differences as it is not probable that taxable profit will be available in the foreseeable future against which these tax loss carryforwards can be utilized.

A positive tax effect in the amount of EUR 3 million (2021: EUR 3 million, 2020: EUR 3 million) attributable to the utilization of tax loss carryforwards on which deferred tax assets had not yet been recognized was recorded in the reporting year.

The write-up of deferred tax assets resulted in a positive effect of EUR 47 million in the reporting year (2021: EUR 427 million).

The increase in tax loss carryforwards is attributable to the utilization of accelerated tax depreciation allowances in the United States. The increase in deferred tax assets to be recognized on these additional tax loss carryforwards is offset by a corresponding increase in deferred tax liabilities recognized for temporary differences in property, plant and equipment at T-Mobile US.

Deferred tax assets from the business combination of T-Mobile US with Sprint were recognized for the first time. Their recognition was mainly attributable to legal entities restructuring, which resulted in the reutilization of loss carryforwards acquired in particular.

No deferred tax liabilities were recognized on temporary differences in connection with equity interests in subsidiaries amounting to EUR 543 million (December 31, 2021: EUR 721 million) as it is unlikely that these differences will be recognized in the near future.

Disclosure of tax effects relating to each component of other comprehensive income

millions of €

	2022			2021			2020		
	Before tax amount	Tax (expense) benefit	Net of tax amount	Before tax amount	Tax (expense) benefit	Net of tax amount	Before tax amount	Tax (expense) benefit	Net of tax amount
Items not subsequently reclassified to profit or loss (not recycled)									
Gains (losses) from the remeasurement of defined benefit plans	1,841	(839)	1,002	1,426	(256)	1,170	(1,358)	142	(1,216)
Gains (losses) from the remeasurement of equity instruments	(46)	5	(41)	112	(5)	107	62	0	62
Share of profit (loss) of investments accounted for using the equity method	0	0	0	0	0	0	0	0	0
	1,796	(835)	961	1,538	(261)	1,278	(1,296)	142	(1,154)
Items subsequently reclassified to profit or loss (recycled), if certain reasons are given									
Exchange differences on translating foreign operations									
Recognition of other comprehensive income in income statement	0	0	0	61	0	61	0	0	0
Change in other comprehensive income (not recognized in income statement)	4,071	0	4,071	5,142	0	5,142	(6,578)	0	(6,578)
Gains (losses) from the remeasurement of debt instruments									
Recognition of other comprehensive income in income statement	1,037	3	1,040	417	(36)	381	491	(26)	465
Change in other comprehensive income (not recognized in income statement)	(1,060)	21	(1,039)	(497)	64	(433)	(481)	30	(451)
Gains (losses) from hedging instruments (IAS 39 until December 2017, designated risk component)									
Recognition of other comprehensive income in income statement	123	(28)	95	17	3	20	431	(130)	301
Change in other comprehensive income (not recognized in income statement)	762	(242)	520	296	(92)	204	(1,446)	400	(1,046)
Gains (losses) from hedging instruments (IFRS 9 from January 2018, hedging costs)									
Recognition of other comprehensive income in income statement	1	0	1	2	(1)	1	2	(1)	1
Change in other comprehensive income (not recognized in income statement)	(51)	16	(35)	60	(19)	41	(30)	10	(20)
Share of profit (loss) of investments accounted for using the equity method									
Recognition of other comprehensive income in income statement	0	0	0	0	0	0	0	0	0
Change in other comprehensive income (not recognized in income statement)	0	0	0	0	0	0	1	0	1
	4,884	(231)	4,654	5,498	(81)	5,417	(7,610)	283	(7,327)
Other comprehensive income	6,680	(1,065)	5,615	7,036	(342)	6,694	(8,906)	425	(8,481)
Profit (loss)			9,482			6,103			6,747
Total comprehensive income			15,097			12,798			(1,734)

33 Profit/loss after taxes from discontinued operation

The following table provides a breakdown of profit/loss after taxes from the discontinued operation:

millions of €	2022	2021	2020
Net revenue	216	201	192
Other operating income	20	(1)	6
Changes in inventories	9	1	0
Own capitalized costs	25	27	22
Goods and services purchased	756	718	556
Personnel costs	(75)	(69)	(61)
Other operating expenses	(14)	(10)	17
EBITDA	937	868	733
Depreciation, amortization and impairment losses	(192)	(391)	(295)
Profit (loss) from operations (EBIT)	745	477	438
Finance costs	(42)	(185)	(196)
Share of profit (loss) of associates and joint ventures accounted for using the equity method	2	0	(2)
Other financial income (expense)	21	(2)	(22)
Profit (loss) from financial activities	(18)	(186)	(220)
Profit (loss) before income taxes	727	290	218
Income taxes	(284)	(83)	(72)
Profit (loss) after taxes from discontinued operation	443	207	147

Value contributions by GD tower companies are presented separately in the income statement of the discontinued operation. Since Deutsche Telekom will continue to use the sold, passive network infrastructure after consummation of the transaction, the intragroup elimination of income and expenses between the discontinued operation and continuing operations are disclosed at the level of the discontinued operation. So, for example, goods and services purchased include eliminations of intragroup onward charging of purchased services of GD tower companies mainly to Telekom Deutschland GmbH. In this way, the net effect is that internal cost allocations are no longer included in Deutsche Telekom's consolidated financial statements. Due to continuing contractual relationships, the corresponding expenses for purchased services will continue to be incurred after the sale of the GD tower companies.

Depreciation and amortization were suspended for the GD tower companies, which have been held for sale since July 13, 2022 in accordance with IFRS 5.

For further information on the discontinued operation, please refer to the section "[Changes in the composition of the Group and other transactions.](#)"

34 Profit/loss attributable to non-controlling interests

millions of €	2022	2021	2020
T-Mobile US	1,146	1,408	2,287
Hrvatski Telekom	39	38	26
Hellenic Telecommunications Organization (OTE)	193	337	189
Magyar Telekom	71	73	58
T-Mobile Netherlands Holding B.V.	33	75	39
Other	0	(4)	(10)
	1,481	1,927	2,589

35 Dividend per share

For the 2022 financial year, the Board of Management and Supervisory Board will propose to the shareholders' meeting a dividend of EUR 0.70 for each no par value share carrying dividend rights. On the basis of this payout volume, total dividends in the amount of EUR 3,481 million would be appropriated to the no par value shares carrying dividend rights as of February 14, 2023. The final amount of the total dividend payment depends on the number of no par value shares carrying dividend rights as of the date of the resolution on the appropriation of net income as adopted on the day of the shareholders' meeting.

A dividend of EUR 0.64 for the 2021 financial year for each no par value share carrying dividend rights was paid out in 2022.

36 Earnings per share

Basic and diluted earnings per share are calculated in accordance with IAS 33 as follows:

		2022	2021	2020
Profit (loss) from continuing operations attributable to the owners of the parent (net profit (loss))	millions of €	7,558	3,969	4,011
Profit (loss) from discontinued operation attributable to the owners of the parent (net profit (loss))	millions of €	443	207	147
Profit (loss) attributable to the owners of the parent (net profit (loss))	millions of €	8,001	4,176	4,158
Number of ordinary shares issued	millions	4,986	4,831	4,761
Treasury shares	millions	(14)	(17)	(18)
Adjusted weighted average number of ordinary shares outstanding (basic/diluted)	millions	4,972	4,813	4,743
Earnings per share from continuing operations (basic/diluted)	€	1.52	0.82	0.85
Earnings per share from discontinued operation (basic/diluted)	€	0.09	0.04	0.03
Earnings per share (basic/diluted)	€	1.61	0.87	0.88

The calculation of earnings per share (basic/diluted) is based on the time-weighted number of all ordinary shares outstanding. Furthermore, the weighted average number of ordinary shares outstanding is determined by deducting the weighted average number of treasury shares held by Deutsche Telekom AG. There are currently no significant diluting effects.

Other disclosures

37 Notes to the consolidated statement of cash flows

Net cash from operating activities

Net cash from operating activities increased by EUR 3.6 billion year-on-year to EUR 35.8 billion. The strong business performance both in the United States and outside of the United States provided the basis for the positive trend. Exchange rate effects also had an increasing effect on net cash from operating activities. By contrast, higher cash outflows in connection with the integration of Sprint in the United States and an increase of EUR 0.4 billion in net interest payments had a decreasing effect. Factoring agreements of EUR 0.1 billion had a positive impact on net cash from operating activities in the 2022 financial year. In the prior year, factoring agreements had had negative effects of EUR 0.1 billion.

Deutsche Telekom defines operating working capital as the total of trade receivables, inventories, and trade and other payables. The positive effect on the change in assets carried as operating working capital is mainly attributable to the smaller increase of receivables under the Equipment Installment Plan compared with the prior year, and the reduction of stock levels of terminal equipment in the United States operating segment. In the 2022 financial year, the reduction in the stock levels of mobile terminal equipment was primarily driven by the extensive market launch of new models and the warehouse closures at former Sprint sites. The positive effect on the change in liabilities carried as operating working capital mainly resulted from lower cash outflows to terminal equipment manufacturers and to other suppliers in the United States operating segment.

For further information on individual assets carried as working capital, please refer to Note 2 "[Trade receivables](#)" and Note 4 "[Inventories](#)."

For further information, please refer to Note 14 "[Trade and other payables](#)."

Net cash used in/from investing activities

millions of €	2022	2021	2020
Cash outflows for investments in intangible assets	(7,551)	(12,749)	(5,756)
Cash outflows for investments in property, plant and equipment	(16,563)	(13,616)	(12,938)
Payments for publicly funded investments in the broadband build-out	(377)	(436)	(507)
Proceeds from public funds for investments in the broadband build-out	435	420	431
Net cash flows for collateral deposited and hedging transactions	(2,346)	89	268
Changes in cash and cash equivalents in connection with the consummated business combination of T-Mobile US and Sprint	0	0	(4,767)
Of which: cash and cash equivalents acquired from Sprint ^a	0	0	1,997
Of which: repayment of Sprint loans pursuant to change-in-control clause	0	0	(6,764)
Changes in cash and cash equivalents in connection with the acquisition of Shentel at T-Mobile US	0	(1,588)	0
Cash outflows for the acquisition of shares in Simpel ^b	0	0	(255)
Other changes in cash and cash equivalents in connection with the acquisition of control of subsidiaries and associates	(52)	(29)	0
Changes in cash and cash equivalents in connection with the sale of the 75 % stake in T-Mobile Netherlands ^c	3,642	0	0
Changes in cash and cash equivalents in connection with the sale of the 50 % stake in GlasfaserPlus ^d	432	0	0
Changes in cash and cash equivalents in connection with the loss of control over DIVII ^e	108	0	0
Changes in cash and cash equivalents in connection with the contribution of the stake in T-Mobile Infra into Cellnex Netherlands ^f	0	135	0
Changes in cash and cash equivalents in connection with the sale of the stake in Telekom Romania Communications ^g	0	202	0
Changes in cash and cash equivalents associated with the sale of Sprint's prepaid business to DISH ^h	0	0	1,072
Changes in cash and cash equivalents in connection with the loss of control of subsidiaries and associates	26	37	22
Proceeds from the disposal of property, plant and equipment, and intangible assets	439	116	236
Other	(499)	16	(456)
Net cash used in investing activities	(22,306)	(27,403)	(22,649)
Of which: from discontinued operation	(277)	(296)	(204)

^a Also includes a payment of EUR 93 million received in relation to a cost allocation from SoftBank in connection with CPUC.

^b Includes, in addition to the purchase price of EUR 259 million, inflows of cash and cash equivalents in the amount of EUR 4 million.

^c Includes, in addition to the cash inflow for the sale of the business operation of EUR 3,671 million, outflows of cash and cash equivalents in the amount of EUR 29 million.

^d Includes, in addition to the cash inflow of EUR 441 million for the sale of the 50 % stake, outflows of cash and cash equivalents in the amount of EUR 9 million.

^e Includes, in addition to the cash inflow of EUR 111 million in connection with the loss of control, outflows of cash and cash equivalents in the amount of EUR 3 million.

^f Includes, in addition to the cash inflow for the sale of the business operation of EUR 113 million (cash inflow of EUR 118 million less outflows of cash and cash equivalents of EUR 5 million), the cash inflow from the sale-and-leaseback transaction of EUR 23 million.

^g Includes, in addition to the cash inflow for the sale of the business operation of EUR 292 million, outflows of cash and cash equivalents in the amount of EUR 89 million.

^h Of the overall purchase price payment of EUR 1,208 million, EUR 136 million are recognized under net cash from/used in financing activities. This relates to receivables from customers in connection with the Equipment Installment Plan in Sprint's sold prepaid business.

At EUR 24.1 billion, cash outflows for investments in intangible assets and property, plant and equipment were EUR 2.3 billion lower than in the prior year. In the United States operating segment, FCC mobile licenses were acquired for a total of EUR 3.0 billion and in the Europe operating segment, mobile spectrum licenses were acquired for a total of EUR 0.1 billion in the reporting period. Another EUR 0.1 billion was paid in this connection in the United States operating segment in the 2021 financial year as an advance payment and included in prior-year cash outflows for investments in intangible assets and property, plant and equipment. In the prior year, this item had included cash outflows for the acquisition of mobile spectrum licenses of EUR 8.3 billion in the United States operating segment and of EUR 0.1 billion in the Europe operating segment. Excluding investments in mobile spectrum licenses, cash outflows for investments in intangible assets and property, plant and equipment were up EUR 3.0 billion year-on-year. This change was primarily attributable to an increase in the United States operating segment as a result of the accelerated build-out of the 5G network, the integration of Sprint, and exchange rate effects. In the Germany operating segment, cash outflows for investments in intangible assets and property, plant and equipment increased by EUR 0.3 billion as a result of the continued fiber-optic and 5G build-out. A decline in the Group Development operating segment had an offsetting effect of EUR 0.3 billion, mainly due to the sale of T-Mobile Netherlands and lower build-out volumes by GD Towers.

The contractually promised government grants from publicly funded projects for the broadband build-out in Germany were recognized in full as receivables. They reduce the cost of the relevant property, plant and equipment. The grants received and payments made for the build-out continue to be recognized in net cash used in/from investing activities; however, they are not part of cash capex, because the payments made do not result in additions to property, plant and equipment. Since the payments are not made at the same point in time as the proceeds are received, the net amounts can be positive or negative in the individual periods.

Interest payments (including capitalized interest) of EUR 6.9 billion (2021: EUR 6.4 billion; 2020: EUR 7.6 billion) were made in the 2022 financial year. Capitalized interest of EUR 0.1 billion (2021: EUR 0.2 billion, 2020: EUR 0.3 billion) was reported within cash capex in net cash used in/from investing activities, together with the associated assets.

Net cash used in/from financing activities

millions of €	2022	2021	2020
Repayment of bonds	(6,127)	(10,430)	(8,399)
Dividend payments (including to other shareholders of subsidiaries)	(3,385)	(3,145)	(3,067)
Repayment of financial liabilities from financed capex and opex	0	(108)	(358)
Repayment of EIB loans	(523)	(1,093)	(193)
Net cash flows for hedging transactions	121	0	(4)
Principal portion of repayment of lease liabilities	(4,951)	(6,458)	(5,371)
Repayment of financial liabilities for media broadcasting rights	(387)	(338)	(375)
Cash flows from continuing involvement factoring, net	24	(72)	(77)
Loans taken out with the EIB	749	0	425
Issuance of bonds	3,783	12,678	9,202
Commercial paper, net	2,280	0	0
Overnight borrowings from banks	209	0	0
Repayment of liabilities from 5G spectrum acquired in Germany	(195)	(195)	(110)
Repayment of liabilities from 5G spectrum acquired in the Netherlands	0	(204)	0
Repayment of liabilities with the right of creditors to priority repayment in the event of default	(500)	(888)	(559)
Changes in cash and cash equivalents in connection with the sale and leaseback of the passive mobile infrastructure of T-Mobile Infra	0	242	0
Issue of senior secured notes in connection with the acquisition of Sprint	0	0	20,942
Raising of secured term loan in connection with the acquisition of Sprint	0	0	3,562
Repayment of secured term loan in connection with the acquisition of Sprint	0	0	(3,389)
Raising of bridge loan facility in connection with the acquisition of Sprint	0	0	17,405
Repayment of bridge loan facility in connection with the acquisition of Sprint	0	0	(17,493)
Repayment of Sprint loans (raised prior to acquisition by T-Mobile US)	0	0	(3,572)
Cash inflows from transactions with non-controlling entities			
T-Mobile US stock options	7	9	42
Cellnex Netherlands capital contributions	17	4	0
Toll4Europe capital contributions	0	0	11
Other cash inflows	6	1	0
	29	14	53
Cash outflows from transactions with non-controlling entities			
Increase of the stake in T-Mobile US	(2,210)	0	0
T-Mobile US share buy-back/ share-based payment	(3,196)	(261)	(391)
OTE share buy-back	(294)	(190)	(142)
Other payments	(124)	(54)	(32)
	(5,823)	(506)	(565)
Other	(743)	(276)	(495)
Net cash (used in) from financing activities	(15,438)	(10,779)	7,561
Of which: from discontinued operation	(192)	(193)	(153)

Non-cash transactions in the consolidated statement of cash flows

In the 2022 financial year, Deutsche Telekom leased assets totaling EUR 11.1 billion, mainly network equipment, cell sites, and land and buildings. These assets will subsequently be recognized in the statement of financial position under right-of-use assets as well as non-current assets and disposal groups held for sale, and the related liabilities under lease liabilities and liabilities directly associated with non-current assets and disposal groups held for sale. Future repayments of the liabilities will be recognized in net cash used in/from financing activities. In the 2022 financial year, EUR 6.6 billion related to the modification of the arrangements with Crown Castle, resulting in an increase in the same amount in the carrying amount of the right-of-use assets and the lease liabilities. Excluding this effect, asset leases were down EUR 1.2 billion against the prior year. This decline was mainly due to the reduction in the number of cell sites in the United States operating segment due to the decommissioning of Sprint's wireless network. The modification of the arrangements also increased property, plant and equipment and other financial liabilities by EUR 0.8 billion each for contractual components that, due to their financing character, do not fall under the scope of IFRS 16.

For further information on the modification of the arrangements between T-Mobile US and Crown Castle, please refer to Note 8 "Right-of-use assets – lessee relationships."

Consideration for the acquisition of broadcasting rights is paid by Deutsche Telekom in accordance with the terms of the contract on the date of its conclusion or spread over the term of the contract. Financial liabilities of EUR 0.5 billion were recognized in the 2022 financial year for future consideration for acquired broadcasting rights (2021: EUR 0.5 billion). The payment of the consideration will be recognized in net cash used in/from financing activities.

In the United States operating segment, EUR 0.3 billion was recognized for mobile terminal equipment under property, plant and equipment in the 2022 financial year (2021: EUR 1.0 billion). This relates to the terminal equipment lease model at T-Mobile US, under which customers do not purchase the devices but lease them. The cash outflows are presented under net cash from operating activities. The decline was primarily due to the withdrawal from the terminal equipment lease model.

The carrying amounts of the financial liabilities associated with net cash used in/from financing activities, divided into carrying amount changes having and not having an effect on cash flows, developed as follows in the reporting year:

	As of Jan. 1, 2022	Of which: payments to be disclosed in net cash used in/from financing activities ^a	Total carrying amount changes having an effect on cash flows	Changes in the composition of the Group
Bonds and other securitized liabilities	93,857	93,857	(850)	0
Liabilities to banks	4,003	3,640	227	0
	97,860	97,497	(623)	0
Liabilities with the right of creditors to priority repayment in the event of default	3,248	3,248	285	0
Other interest-bearing liabilities	7,826	6,567	(1,303)	1
Liabilities from deferred interest ^b	1,012	0	0	0
Other non-interest-bearing liabilities ^b	816	187	26	(190)
Derivative financial liabilities	703	179	(5)	0
	13,607	10,181	(997)	(189)
Financial liabilities	111,466	107,678	(1,620)	(189)
Lease liabilities	33,133	33,133	(4,951)	0
Derivative financial assets	2,762	(324)	(114)	0

^a Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

^b Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

millions of €

Carrying amount changes not having an effect on cash flows							Carrying amount on Dec. 31, 2022 of the payments to be disclosed in net cash from/used in financing activities ^a	As of Dec. 31, 2022
Currency translation	Fair value	Carrying amount changes according to the effective interest method	Other	Total carrying amount changes not having an effect on cash flows	Carrying amount on Dec. 31, 2022 of the payments to be disclosed in net cash from/used in financing activities ^a			
Bonds and other securitized liabilities	3,908	(3,458)	(329)	675	796	93,802	93,802	
Liabilities to banks	11	(174)	28	0	(135)	3,732	4,122	
	3,919	(3,632)	(301)	675	661	97,534	97,924	
Liabilities with the right of creditors to priority repayment in the event of default	146	0	(30)	(725)	(609)	2,925	2,925	
Other interest-bearing liabilities	121	0	167	1,278	1,567	6,831	7,526	
Liabilities from deferred interest ^b	0	0	0	0	0	0	999	
Other non-interest-bearing liabilities ^b	0	0	0	0	(190)	22	769	
Derivative financial liabilities	0	(10)	0	0	(10)	165	2,889	
	267	(10)	137	553	758	9,943	15,107	
Financial liabilities	4,186	(3,642)	(164)	1,228	1,419	107,477	113,030	
Lease liabilities	2,128	0	0	8,481	10,609	38,792	38,792	
Derivative financial assets	0	561	0	0	561	123	2,273	

^a Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

^b Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

Total carrying amount changes having an effect on cash flows of EUR -6.5 billion reported in net cash used in/from financing activities deviate from net cash used in/from financing activities due in particular to the dividend entitlements of Deutsche Telekom AG's shareholders having an effect on cash flows, the interest paid in connection with financial liabilities reported in cash generated from operations, and the changes in non-controlling interests having an effect on cash flows. The other carrying amount changes in lease liabilities not having an effect on cash flows are mainly attributable to additions in connection with the recognition of right-of-use assets. The other carrying amount changes in financial liabilities not having an effect on cash flows include additions of EUR 0.5 billion for the acquisition of broadcasting rights.

In the 2022 financial year, Deutsche Telekom made total interest payments of EUR 6.9 billion to service interest obligations. This figure includes interest payments for derivative and non-derivative financial liabilities, interest payments for lease liabilities, and interest payments recognized under intangible assets and property, plant and equipment. The above reconciliation only shows the carrying amounts of the financial liabilities, lease liabilities, and derivative financial assets allocated to net cash used in/from financing activities.

For further information, please refer to the previous section "Non-cash transactions in the consolidated statement of cash flows."

The carrying amounts of the financial liabilities disclosed in net cash used in/from financing activities, divided into carrying amount changes having and not having an effect on cash flows, developed as follows in 2021:

	As of Jan. 1, 2021	Of which: payments to be disclosed in net cash used in/from financing activities ^a	Total carrying amount changes having an effect on cash flows	Changes in the composition of the Group
Bonds and other securitized liabilities	87,702	87,702	2,091	(4)
Liabilities to banks	5,257	4,581	(888)	(21)
	92,959	92,283	1,203	(25)
Liabilities with the right of creditors to priority repayment in the event of default	3,886	3,886	(811)	0
Other interest-bearing liabilities	7,696	6,526	(1,389)	(3)
Liabilities from deferred interest ^b	1,035	0	0	0
Other non-interest-bearing liabilities ^b	667	3	48	136
Derivative financial liabilities	864	827	(6)	0
	14,149	11,242	(2,158)	133
Financial liabilities	107,108	103,525	(955)	108
Lease liabilities	32,715	32,715	(6,458)	285
Derivative financial assets	4,038	(142)	(1)	0

^a Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

^b Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

	Carrying amount changes not having an effect on cash flows					Carrying amount on Dec. 31, 2021 of the payments to be disclosed in net cash used in/ from financing activities ^a	As of Dec. 31, 2021
	Currency translation	Fair value	Carrying amount changes according to the effective interest method	Other	Total carrying amount changes not having an effect on cash flows		
Bonds and other securitized liabilities	5,325	(1,000)	(235)	(23)	4,063	93,857	93,857
Liabilities to banks	0	(51)	29	(11)	(54)	3,640	4,003
	5,325	(1,051)	(206)	(34)	4,009	97,497	97,860
Liabilities with the right of creditors to priority repayment in the event of default	283	0	(32)	(77)	174	3,248	3,248
Other interest-bearing liabilities	198	0	174	1,060	1,429	6,567	7,826
Liabilities from deferred interest ^b	0	0	0	0	0	0	1,012
Other non-interest-bearing liabilities ^b	1	0	0	0	137	187	816
Derivative financial liabilities	0	(642)	0	0	(642)	179	703
	483	(642)	142	983	1,099	10,181	13,607
Financial liabilities	5,808	(1,693)	(64)	949	5,108	107,678	111,466
Lease liabilities	2,225	0	0	4,366	6,876	33,133	33,133
Derivative financial assets	0	(181)	0	0	(181)	(324)	2,762

^a Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

^b Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

38 Segment reporting

Deutsche Telekom reports on five operating segments, as well as on the Group Headquarters & Group Services segment. Three operating segments are distinguished by region (Germany, United States, Europe), one by customers and products (Systems Solutions), and another by tasks (Group Development). For three operating segments, business activities are assigned by customer and product (Germany, Systems Solutions, United States), while one operating segment allocates its activities on a regional basis (Europe) and another allocates them by equity investment (Group Development).

The **Germany** operating segment comprises all fixed-network and mobile business activities for consumers and business customers, including separate sales entities in Germany to allow a customer-centric sales approach. Furthermore, the security business in Germany, Austria, Switzerland, Hungary, and Slovakia has been merged in this segment since the reporting year. Another focus is on the wholesale business to provide telecommunications services for other carriers. Build-out of the mobile and fixed networks is managed by the Technology business unit in this segment.

The **United States** operating segment combines all mobile activities in the U.S. market. T-Mobile US offers services, terminal equipment, and accessories for consumers. In addition, the company sells devices to dealers and other third-party distributors for resale. In addition to wireless communications services, T-Mobile US also provides complementary products, including high-speed internet, device protection, and wireline communication services.

The **Europe** operating segment comprises all fixed-network and mobile operations of the national companies in Greece, Hungary, Poland, the Czech Republic, Croatia, Slovakia, Austria, North Macedonia, and Montenegro. As of September 30, 2021, OTE consummated the sale of its 54 % stake in Telekom Romania Communications to Orange Romania. Since the transaction, Deutsche Telekom has been focusing on mobile operations in Romania. Besides traditional B2C fixed-network and mobile business, most of the national companies also offer ICT solutions for business customers.

The **Systems Solutions** operating segment offers business customers a focused product and solution portfolio under the T-Systems brand. With its horizontal offerings for advisory services, cloud computing, and digitalization solutions, T-Systems addresses the growth areas in the information technology market. Data sovereignty and security solutions are at the core of the product options, supplemented with strategic partnerships. Focused vertical offerings penetrate deep into the value chains of selected industries (automotive, healthcare, public sector, and transportation).

The goal of the **Group Development** operating segment is to actively manage entities and equity investments to grow their value. In this context, the subsidiary T-Mobile Netherlands was sold on March 31, 2022. Within the segment, the GD Towers business entity comprises the German and Austrian cell tower businesses. On July 13, 2022, an agreement was signed for the sale of 51.0 % of the shares in this entity. The investment management group Deutsche Telekom Capital Partners; Comfort Charge, which is a provider of e-mobility charging infrastructure; and the Group functions of Mergers & Acquisitions and strategic Portfolio Management are also assigned to Group Development.

The **Group Headquarters & Group Services** segment comprises all Group units that cannot be allocated directly to one of the operating segments, and also reports on the Board of Management department for Technology and Innovation. Group Headquarters defines strategic aims for the Group, ensures they are met, and becomes directly involved in selected Group projects. Group Services provides services to the entire Group; in addition to typical services provided by Deutsche Telekom Services Europe, such as financial accounting, human resources services, and operational procurement, Group Services also includes the placement services of personnel services provider Vivento. Further units are Group Supply Services (GSUS) for real estate management and strategic procurement, and MobilitySolutions, which is a full-service provider for fleet management and mobility services.

Changes to the segment and organizational structure in 2022

Effective July 1, 2022, Deutsche Telekom Security GmbH and the **security business** in Germany, Austria, Switzerland, Hungary, and Slovakia were reassigned from the Systems Solutions operating segment to the Germany operating segment. As of the third quarter of 2022, the prior-year comparatives were adjusted retrospectively. As a result of the agreement concluded on July 13, 2022, the **GD tower companies**, which operate the cell tower business in Germany and Austria in the Group Development operating segment, were recognized for the first time in the interim consolidated financial statements as of September 30, 2022 as a discontinued operation. Likewise as of the third quarter of 2022, the prior-year comparatives were adjusted retrospectively. In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to the recognition of **gross vs. net revenues**, effective the start of the third quarter of 2022. The prior-year comparatives for revenue and goods and services purchased were adjusted accordingly with retrospective effect.

For further information, please refer to the section "Summary of accounting policies" under "[Changes in accounting policies and changes in the reporting structure.](#)"

The business segments presented are reviewed at regular intervals by the Deutsche Telekom Board of Management in terms of the allocation of resources and their earnings performance.

The measurement principles for Deutsche Telekom's segment reporting structure are based primarily on the IFRSs adopted in the consolidated financial statements. Deutsche Telekom evaluates the segments' performance based on revenue and profit/ loss from operations (EBIT), among other factors. Revenue generated and goods and services exchanged between segments are calculated on the basis of market prices. Services provided by Deutsche Telekom IT are generally charged at cost. Development services are not charged, but capitalized at segment level in accordance with the internal control logic. In accordance with the segments' control logic, intragroup leases are not capitalized by the lessee, but instead recognized as periodic expenses. In accordance with the Company's own principles of segment management, when loans with embedded derivatives are granted internally to Group entities, the derivative component is recognized separately also in the creditor company's financial statements and measured at fair value through profit or loss. Segment assets and liabilities include all assets and liabilities that are carried in the financial statements prepared by the segments and included in the consolidated financial statements. Segment investments include additions to intangible assets, property, plant and equipment, and right-of-use assets. Where entities accounted for using the equity method are directly allocable to a segment, their shares of profit or loss after income taxes and their carrying amounts are reported in that segment's accounts. All of the performance indicators shown in the following tables are presented exclusively from the segments' perspective: The effects of intersegment transactions are eliminated and presented in aggregate form in the reconciliation line.

The following table shows the performance indicators used by Deutsche Telekom to evaluate the operating segments' performance as well as additional segment-related indicators:

millions of €

		Net revenue	Inter-segment revenue	Total revenue	Profit (loss) from operations (EBIT)	Depreciation and amortization	Impairment losses	Interest income
Germany	2022	23,912	593	24,505	7,006	(4,005)	(14)	32
	2021	23,391	659	24,050	4,956	(4,006)	(15)	4
	2020	22,886	826	23,712	3,959	(4,458)	(64)	4
United States	2022	75,429	7	75,436	7,470	(18,371)	(866)	75
	2021	67,789	2	67,791	7,217	(18,292)	(46)	16
	2020	60,701	1	60,702	9,187	(15,574)	(91)	24
Europa	2022	10,944	214	11,158	1,724	(2,444)	(128)	27
	2021	11,074	220	11,294	1,814	(2,561)	(15)	21
	2020	11,054	197	11,251	1,278	(2,648)	(227)	23
Systems Solutions	2022	3,106	705	3,811	(110)	(228)	(111)	35
	2021	3,032	727	3,759	(247)	(243)	(178)	9
	2020	3,099	812	3,911	(524)	(337)	(371)	7
Group Development	2022	828	880	1,708	1,911	(195)	0	6
	2021	2,333	832	3,165	1,084	(706)	0	2
	2020	2,202	681	2,883	562	(780)	0	1
Group Headquarters & Group Services	2022	193	2,214	2,407	(1,837)	(1,439)	(37)	868
	2021	193	2,322	2,515	(1,764)	(1,434)	(30)	1,204
	2020	196	2,360	2,556	(1,655)	(1,259)	(45)	1,237
Total from continuing operations and the discontinued operation	2022	114,413	4,612	119,025	16,164	(26,682)	(1,156)	1,043
	2021	107,811	4,763	112,574	13,060	(27,242)	(284)	1,256
	2020	100,139	4,876	105,015	12,807	(25,056)	(798)	1,296
Reconciliation	2022	0	(4,612)	(4,612)	(5)	11	0	(662)
	2021	0	(4,763)	(4,763)	(3)	45	0	(805)
	2020	0	(4,876)	(4,876)	(3)	25	0	(882)
Consolidated total from continuing operations and the discontinued operation	2022	114,413	0	114,413	16,159	(26,671)	(1,156)	381
	2021	107,811	0	107,811	13,057	(27,197)	(284)	451
	2020	100,139	0	100,139	12,804	(25,031)	(798)	414
Discontinued operation	2022	(216)	(938)	(1,154)	(745)	192	0	6
	2021	(201)	(887)	(1,088)	(477)	391	0	160
	2020	(192)	(737)	(929)	(438)	295	0	175
Reconciliation	2022	0	938	938	0	0	0	0
	2021	0	887	887	0	0	0	0
	2020	0	736	736	0	0	0	0
Group total	2022	114,197	0	114,197	15,414	(26,479)	(1,156)	387
	2021	107,610	0	107,610	12,580	(26,806)	(284)	611
	2020	99,946	0	99,946	12,366	(24,736)	(798)	589

^a Cash outflows for investments in intangible assets (excluding goodwill) and property, plant and equipment, as shown in the statement of cash flows.

^b The average number of employees was adjusted retrospectively for 2020 in the Germany operating segment and the Group Headquarters & Group Services segment.

Interest expense	Share of profit (loss) of associates and joint ventures accounted for using the equity method	Income taxes	Segment assets	Segment liabilities	Segment investments	Investments accounted for using the equity method	Net cash from operating activities	Net cash used in/ from investing activities	Of which: cash capex ^a	Net cash used in/ from financing activities	Average number of employees ^b
(372)	(516)	(7)	49,366	33,167	4,995	511	9,424	(1,940)	(4,399)	(7,521)	60,443
(350)	(15)	(5)	46,535	33,188	4,450	33	8,615	(4,214)	(4,119)	434	63,174
(283)	(6)	(6)	45,223	32,832	4,305	34	8,006	(4,193)	(4,195)	(3,930)	68,782
(4,438)	24	(409)	215,581	143,900	28,446	368	23,569	(16,165)	(16,340)	(8,978)	69,056
(3,776)	8	(325)	196,781	129,522	25,035	323	19,663	(19,816)	(18,594)	(3,042)	70,793
(3,384)	13	(1,292)	176,765	117,681	26,735	296	13,501	(14,001)	(10,394)	8,469	65,015
(130)	(18)	(379)	23,449	8,202	2,469	36	3,775	(1,639)	(1,872)	(2,485)	34,621
(137)	0	(425)	24,135	8,284	2,570	54	3,739	28	(1,905)	(3,776)	38,404
(189)	0	(210)	27,034	9,172	2,911	54	3,725	(3,244)	(2,216)	(655)	42,359
(52)	(2)	(50)	4,087	3,240	261	23	117	(226)	(221)	284	26,643
(25)	(1)	(40)	3,993	3,503	326	23	158	(138)	(235)	96	25,878
(25)	1	(32)	3,988	3,650	315	23	106	(432)	(231)	488	27,791
(74)	(30)	(50)	6,444	8,572	318	365	756	(3,887)	(343)	(1,770)	1,289
(280)	(66)	(45)	10,700	6,587	1,303	491	1,356	(809)	(572)	(635)	2,721
(271)	(21)	33	9,212	11,220	1,392	122	1,101	(1,020)	(699)	(215)	2,664
(1,311)	20	(1,324)	40,522	55,067	1,165	15	7,981	964	(973)	(4,180)	19,183
(1,287)	(27)	(977)	38,851	58,470	1,116	14	4,058	(3,922)	(1,007)	(7,805)	19,870
(1,364)	0	(424)	48,047	63,188	1,222	14	1,727	5,227	(990)	(6,035)	16,928
(6,377)	(522)	(2,219)	339,449	252,148	37,654	1,318	45,622	(22,893)	(24,148)	(24,650)	211,236
(5,855)	(101)	(1,817)	320,995	239,554	34,800	938	37,589	(28,871)	(26,432)	(14,728)	220,840
(5,516)	(13)	(1,931)	310,269	237,743	36,880	543	28,166	(17,663)	(18,725)	(1,878)	223,539
662	0	(2)	(40,859)	(40,878)	(174)	0	(9,803)	587	34	9,212	0
803	(1)	2	(39,368)	(39,395)	(75)	0	(5,418)	1,468	66	3,949	0
878	1	2	(45,352)	(45,376)	(32)	0	(4,423)	(4,986)	31	9,439	0
(5,715)	(522)	(2,221)	298,590	211,270	37,480	1,318	35,819	(22,306)	(24,114)	(15,438)	211,236
(5,052)	(102)	(1,815)	281,627	200,159	34,725	938	32,171	(27,403)	(26,366)	(10,779)	220,840
(4,638)	(12)	(1,929)	264,917	192,367	36,848	543	23,743	(22,649)	(18,694)	7,561	223,539
36	(2)	284	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
25	0	83	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
21	2	72	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
0	(1)	(1)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
(5,679)	(524)	(1,937)	298,590	211,270	37,480	1,318	35,819	(22,306)	(24,114)	(15,438)	211,236
(5,027)	(102)	(1,732)	281,627	200,159	34,725	938	32,171	(27,403)	(26,366)	(10,779)	220,840
(4,617)	(11)	(1,858)	264,917	192,367	36,848	543	23,743	(22,649)	(18,694)	7,561	223,539

Information on geographic areas. The Group's non-current assets and net revenue are shown by region: Germany, Europe (excluding Germany), North America, and other countries. The North America region comprises the United States and Canada. The Europe (excluding Germany) region covers the entire European Union (excluding Germany) and the other countries in Europe. Other countries include all countries that are not Germany or in Europe (excluding Germany) or North America. Non-current assets are allocated to the regions according to the location of the assets in question. Non-current assets encompass intangible assets; property, plant and equipment; right-of-use assets; capitalized contract costs; investments accounted for using the equity method; as well as other non-current assets. Net revenue is allocated according to the location of the respective customers' operations.

millions of €

	Non-current assets			Net revenue		
	Dec. 31, 2022	Dec. 31, 2021	Dec. 31, 2020	2022	2021	2020
Germany	41,257	42,928	42,941	25,057	24,550	24,277
International	204,829	187,158	170,295	89,140	83,061	75,669
Europe (excluding Germany)	18,412	19,941	23,075	13,202	14,810	14,427
North America	186,340	167,122	147,115	75,406	67,795	60,782
Other countries	76	95	106	532	456	460
Group	246,086	230,086	213,236	114,197	107,610	99,946

Information on products and services. Revenue generated with external customers for groups of comparable products and services developed as follows:

millions of €

	Net revenue		
	2022	2021	2020
Telecommunications	108,671	102,793	94,943
ICT solutions	4,985	4,549	4,756
Other	540	268	247
	114,197	107,610	99,946

39 Contingencies

As part of its ordinary business activities, Deutsche Telekom is involved in various proceedings both in and out of court with government agencies, competitors, and other parties, the outcome of which often cannot be reliably anticipated. As of the reporting date, the Group was exposed to contingent liabilities amounting to EUR 0.1 billion (December 31, 2021: EUR 0.1 billion) and to contingent assets amounting to EUR 0.0 billion (December 31, 2021: EUR 0.0 billion) that, on the basis of the information and estimates available, do not fulfill the requirements for recognition as liabilities or assets in the statement of financial position. Litigation provisions include the costs of legal counsel services and any probable losses. Deutsche Telekom does not believe that any additional costs arising from legal counsel services or the results of proceedings will have a material adverse effect on the results of operations and financial position of the Group. The aforementioned total contingent liabilities only include individual cases that do not have any significant impact on their own. In the event that, in extremely rare cases, Deutsche Telekom comes to the conclusion that the disclosures required by IAS 37 could seriously undermine the outcome of the relevant proceedings, these disclosures will not be made.

Contingent liabilities

On the basis of the information and estimates available, the following issues do not fulfill the requirements for recognition as liabilities in the statement of financial position. As it is not possible to estimate the amount of the contingent liabilities or the group of contingent liabilities with sufficient reliability in each case due to the uncertainties described below, they have not been included in the aforementioned total contingent liabilities.

Claims relating to charges for the shared use of cable ducts. In 2012, Kabel Deutschland Vertrieb und Service GmbH (today Vodafone Deutschland GmbH (VDG)) filed a claim against Telekom Deutschland GmbH to reduce the annual charge for the rights to use cable duct capacities. In similar proceedings, the then Unitymedia Hessen GmbH & Co. KG, Unitymedia NRW GmbH, and Kabel BW GmbH (today all Vodafone West) filed claims against Telekom Deutschland GmbH in January 2013, demanding that it cease charging the plaintiffs more than a specific and precisely stated amount for the shared use of cable ducts, including in the future. The claims were rejected by the Frankfurt Higher Regional Court (VDG) and by the Düsseldorf Higher Regional Court (Vodafone West) and an appeal was not allowed in both cases. In response to the complaints of the plaintiffs against non-allowance of appeal, the Federal Court of Justice allowed the appeal by VDG to the extent that it relates to claims dating from January 1, 2012; the appeal by Vodafone West was allowed to the extent that it relates to claims dating from January 1, 2016. The claims were rejected with legally binding effect for the time periods prior to this. In a ruling on December 14, 2021, the Federal Court of Justice referred the proceedings concerning the remaining claims back to the responsible Higher Regional Courts for a new hearing and decision. VDG has since updated its claim, which it now puts at around EUR 749 million plus interest for the period from January 2012 to December 2021. The plaintiff Vodafone West has also updated its claim, which it now puts at around EUR 418 million plus interest for the period from January 2016 to June 2022. At present the financial impact of both these proceedings cannot be assessed with sufficient certainty.

Sprint Merger class action. On June 1, 2021, a shareholder class action and derivative action was filed in the Delaware Court of Chancery against Deutsche Telekom AG, SoftBank, T-Mobile US, and all of our officers and directors at that time, asserting a breach of fiduciary duties relating to the purchase price amendment to the Merger Agreement, as well as SoftBank's subsequent monetization of its T-Mobile US shares. On October 29, 2021, the complaint was amended. The amended complaint is directed at the same defendants and the same underlying transactions as in the original action; however, it includes additional submission on alleged facts. At present the financial impact of these proceedings cannot be assessed with sufficient certainty.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in August 2021. In August 2021, T-Mobile US confirmed that their systems had been subject to a criminal cyberattack that compromised data of millions of their customers, former customers, and prospective customers. With the assistance of outside cybersecurity experts, T-Mobile US located and closed the unauthorized access to their systems and identified customers whose information was impacted and notified them, consistent with state and federal requirements. As a result of the cyberattack, numerous consumer class actions including mass arbitrations were filed against T-Mobile US. The class actions brought before the federal courts were consolidated into one action in December 2021. The plaintiffs are claiming damages in an as yet unspecified amount. On July 22, 2022, T-Mobile US entered into an agreement to settle the consumer class action in the Federal Court for USD 350 million. In addition, T-Mobile US has committed to spending a total of USD 150 million in 2022 and 2023 on data security and related technologies. The settlement is subject to final court approval. T-Mobile US expects that the settlement of the consumer class action, if approved by the court, together with further settlements already or still to be concluded with consumers, will satisfy essentially all claims asserted to date by current, former, and potential customers affected by the cyberattack in 2021. T-Mobile US has recognized corresponding provisions for risks in the statement of financial position of around USD 0.3 billion (EUR 0.3 billion).

Furthermore, in November 2021, a derivative action was brought against the members of the Board of Directors of T-Mobile US and against T-Mobile US as nominal defendant. This action has since been withdrawn. In September 2022, a further purported shareholder filed a new derivative action against the members of the Board of Directors of T-Mobile US and against T-Mobile US as nominal defendant alleging claims for breach of fiduciary duties relating to the company's cybersecurity practices. It is currently not possible to estimate the resultant financial risk with sufficient certainty.

In addition, inquiries have been made by various government agencies, law enforcement and other state authorities, with which T-Mobile US is cooperating in full. At present the financial impact of these proceedings cannot be assessed with sufficient certainty.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in January 2023. On January 5, 2023 T-Mobile US identified that a bad actor was obtaining data through an application programming interface (API). Based on the company's preliminary investigation, the affected API was only able to provide a limited set of customer account data, including name, billing address, email address, telephone number, date of birth, T-Mobile account number, and information such as the number of lines on the account and plan features. The preliminary results of the investigation indicate that, in total, around 37 million current postpaid and prepaid customer accounts were affected, although many of these accounts did not include the full data set. Based on an initial assessment, T-Mobile US assumes that the attacker retrieved data via the affected API for the first time from or around November 25, 2022. The company continues to investigate the incident and, in accordance with federal and state requirements, has notified those individuals whose data was affected. In connection with this cyberattack, consumer class actions were filed against T-Mobile US and official inquiries were submitted to the company, to which it will respond and, as a result of which, it may incur substantial expenses. It is currently not possible to estimate the resultant financial risk with sufficient certainty.

Patents and licenses. Like many other large telecommunications and internet providers, Deutsche Telekom is exposed to a growing number of intellectual property rights disputes. There is a risk that Deutsche Telekom may have to pay license fees and/or compensation; Deutsche Telekom is also exposed to a risk of cease-and-desist orders, for example relating to the sale of a product or the use of a technology.

Anti-trust and consumer protection proceedings. Deutsche Telekom and its subsidiaries are subject to proceedings under anti-trust law in various jurisdictions, which may also lead to civil follow-on claims. Taken individually, none of the proceedings has a material impact. Deutsche Telekom believes the respective allegations and claims for damages are unfounded. The outcome of the proceedings cannot be foreseen at this point in time.

Claims for damages against Slovak Telekom following a European Commission decision to impose fines. The European Commission decided on October 15, 2014 that Slovak Telekom had abused its market power on the Slovak broadband market and as a result imposed fines on Slovak Telekom and Deutsche Telekom AG, which were paid in full in January 2015. After the General Court of the European Union partially overturned the European Commission’s decision in 2018 and reduced the fines by a total of EUR 13 million, the legal recourse following the ruling of the European Court of Justice on March 25, 2021 is exhausted. Following the decision of the European Commission, competitors filed damage actions against Slovak Telekom with the civil court in Bratislava. These claims seek compensation for alleged damages due to Slovak Telekom’s abuse of a dominant market position, as determined by the European Commission. A further claim was filed with the court in the reporting period, such that there are now three claims pending, amounting to a total of EUR 219 million plus interest. It is currently not possible to estimate the financial impact with sufficient certainty.

Claims for damages against Deutsche Telekom AG, including due to insolvency of Phones4U. Phones4U was an independent British mobile retailer, which declared insolvency in 2014. The insolvency administrator is pursuing claims before the High Court of Justice in London against the mobile providers active on the UK market at that time and their parent companies on the grounds of alleged collusion in violation of anti-trust law and breach of contract. Deutsche Telekom AG, which at that time held 50 % of the mobile company EE Limited, has rejected the claims as unsubstantiated. The High Court of Justice in London heard testimony from several witnesses and experts in the period between mid-May and the end of July 2022 with a view to establishing the legal basis for a claim. Phones4U is still seeking damages in an as yet undisclosed amount. It is currently not possible to estimate the financial impact with sufficient certainty.

Tax risks. In many countries, Deutsche Telekom is subject to the applicable tax regulations. Risks can arise from changes in local taxation laws or case law and different interpretations of existing provisions. As a result, they can affect Deutsche Telekom’s tax expense and benefits as well as tax receivables and liabilities.

40 Lessor relationships

Finance leases. Deutsche Telekom is a lessor in connection with finance leases. Essentially, these relate to the leasing of routers and other hardware, which Deutsche Telekom provides to its customers for data and telephone network solutions.

The following table shows how the amount of the net investment in a finance lease is determined:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Lease payments	215	240
Unguaranteed residual value	1	2
Gross investment	215	242
Unearned finance income	(10)	(13)
Net investment (present value of the lease payments)	205	228

The following table presents the gross investment amounts and the present value of payable lease payments:

Maturity	Dec. 31, 2022		Dec. 31, 2021	
	Gross investment	Present value of lease payments	Gross investment	Present value of lease payments
Within 1 year	94	90	93	88
In 1 to 2 years	77	73	78	72
In 2 to 3 years	24	23	45	44
In 3 to 4 years	10	10	15	15
In 4 to 5 years	5	4	6	5
After 5 years	6	6	5	5
	215	205	242	228

Operating leases. Deutsche Telekom is a lessor in connection with operating leases. The underlying leases mainly relate to mobile terminal equipment in the United States operating segment, cell sites, building and co-location space, and unbundled local loop lines. By contrast, contracts on the provision of the latest generation of modems/routers to consumers in the fixed-network mass market do not satisfy the definition of a lease, where modem and router features are incorporated in one device.

Where terminal equipment is leased in the United States operating segment, customers are entitled to receive a new device once per month during the term of the lease. On receipt of the new device or at the end of the contract, the customer either returns or purchases the equipment. The purchase price at the end of the lease is set at the commencement of the lease and is equal to the estimated residual value of the equipment. The purchase price is based on the type of equipment and the advance payment. The contracts do not contain any residual value guarantees or variable lease payments, nor do they contain any restrictions or covenants. Terminal equipment returned by customers is prepared for sale in the secondary market or for use as a replacement for defective devices. This reduces the residual value risk of the returned equipment.

The leasing of local loop lines and space to wholesale fixed-network customers (e.g., co-location space) is also classified as a lease. The regulator requires Deutsche Telekom to make co-location space and unbundled local loop lines available to competitors. In contrast to unregulated products, the residual value risk for these assets is rather low because competitors are economically dependent on the use of these assets. In the unlikely event that co-location space and unbundled local loop lines are not leased, Deutsche Telekom will try to find new tenants for the vacant space or unleased lines. In the case of its own cell sites, Deutsche Telekom will also strive to continue leasing – where possible – all of the free space that it does not itself occupy. The aim here is to reduce the vacancy rate of unused space as far as possible by re-letting and to spread the cost.

Operating leases exist for the following items of property, plant and equipment:

millions of €				
	Land and buildings	Technical equipment and machinery	Other equipment, operating and office equipment	Total
Cost				
At December 31, 2020	2	6,318	2	6,322
Currency translation	0	352	0	352
Changes in the composition of the Group	0	0	0	0
Additions	0	1,134	0	1,134
Disposals	0	(3,733)	0	(3,733)
Change from non-current assets and disposal groups held for sale	0	0	0	0
Reclassifications	20	167	2	189
At December 31, 2021	22	4,239	3	4,264
Currency translation	0	202	0	202
Changes in the composition of the Group	0	0	0	0
Additions	0	467	1	468
Disposals	0	(2,477)	0	(2,477)
Change from non-current assets and disposal groups held for sale	0	(4)	0	(4)
Reclassifications	0	9	1	10
At December 31, 2022	22	2,437	6	2,465
Accumulated depreciation and impairment losses				
At December 31, 2020	(1)	(2,156)	(1)	(2,157)
Currency translation	0	(157)	0	(157)
Changes in the composition of the Group	0	0	0	0
Additions (depreciation)	(1)	(2,716)	(1)	(2,718)
Additions (impairment)	0	0	0	0
Disposals	0	2,521	0	2,521
Change from non-current assets and disposal groups held for sale	0	0	0	0
Reclassifications	(18)	(92)	0	(109)
Reversal of impairment losses	0	0	0	0
At December 31, 2021	(20)	(2,599)	(2)	(2,621)
Currency translation	0	(133)	0	(133)
Changes in the composition of the Group	0	0	0	0
Additions (depreciation)	(1)	(1,201)	(1)	(1,203)
Additions (impairment)	0	0	0	0
Disposals	0	2,106	0	2,106
Change from non-current assets and disposal groups held for sale	0	4	0	4
Reclassifications	0	3	0	3
Reversal of impairment losses	0	0	0	0
At December 31, 2022	(21)	(1,819)	(3)	(1,843)
Net carrying amounts				
At December 31, 2021	2	1,640	2	1,644
At December 31, 2022	2	618	3	622

The maturity analysis of the lease payments arising from operating leases is as follows:

millions of €		
Maturity	Dec. 31, 2022	Dec. 31, 2021
Within 1 year	549	771
In 1 to 2 years	357	371
In 2 to 3 years	259	255
In 3 to 4 years	271	268
In 4 to 5 years	218	219
After 5 years	845	861
	2,500	2,745

The reduction in lease payments of EUR 0.2 billion is mainly the result of the strategic withdrawal from the terminal equipment lease business in the United States operating segment. Of the EUR 2.5 billion of lease payments, as of December 31, 2022, EUR 1.9 billion related to DFMG Deutsche Funkturm GmbH, which is part of the GD tower companies held for sale. This entity leases cell sites to third parties.

For further information on the aforementioned business transaction, please refer to the section “Changes in the composition of the Group and other transactions” under “Summary of accounting policies.”

41 Other financial obligations

The following table provides an overview of Deutsche Telekom’s other financial obligations:

millions of €	Dec. 31, 2022			
	Total	Due within 1 year	Due > 1 year ≤ 5 years	Due > 5 years
Purchase commitments regarding property, plant and equipment	6,835	6,092	576	167
Purchase commitments regarding intangible assets	5,427	4,916	510	1
Firm purchase commitments for inventories	4,448	4,435	13	0
Other purchase commitments and similar obligations	25,757	13,376	9,257	3,124
Payment obligations to the Civil Service Pension Fund	945	72	803	70
Obligations from the acquisition of interests in other companies	178	178	0	0
Miscellaneous other obligations	13	8	5	0
	43,603	29,077	11,164	3,362

Other purchase commitments and similar obligations mainly comprise obligations for the procurement of services, such as maintenance and servicing, IT services, marketing measures, and outsourcing. Of the total EUR 43.6 billion of other financial obligations, EUR 0.2 billion related to DFMG Deutsche Funkturm GmbH, which is part of the GD tower companies held for sale.

42 Financial instruments and risk management

For further information on financial instruments, please refer in particular to Note 2 “Trade receivables,” Note 11 “Other financial assets,” Note 13 “Financial liabilities and lease liabilities,” Note 29 “Finance costs,” and Note 31 “Other financial income/expense.”

Carrying amounts, amounts recognized, and fair values by class and measurement category

millions of €

	Measurement category in accordance with IFRS 9	Carrying amount Dec. 31, 2022	Amounts recognized in the statement of financial position in accordance with IFRS 9			Amounts recognized in the statement of financial position in accordance with IFRS 16	Fair value Dec. 31, 2022 ^b
			Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss		
Assets							
Cash and cash equivalents	AC	5,767	5,767				
Trade receivables							
At amortized cost	AC	6,926	6,926				
At fair value through other comprehensive income	FVOCI	9,841		9,841			9,841
Other financial assets							
Originated loans and other receivables							
At amortized cost	AC	6,337	6,337				6,347
Of which: collateral paid	AC	1,484	1,484				
Of which: publicly funded projects	AC	2,019	2,019				
At fair value through other comprehensive income	FVOCI	0	0	0			0
At fair value through profit or loss	FVTPL	646			646		646
Equity instruments							
At fair value through other comprehensive income	FVOCI	446		446			446
At fair value through profit or loss	FVTPL	3			3		3
Derivative financial assets							
Derivatives without a hedging relationship	FVTPL	1,239			1,239		1,239
Of which: termination rights embedded in bonds issued	FVTPL	117			117		117
Of which: energy forward agreements	FVTPL	204			204		204
Of which: options received from third parties for the purchase or sale of shares in subsidiaries and associates	FVTPL	402			402		402
Derivatives with a hedging relationship	n.a.	1,034			1,034	0	1,034
Lease assets	n.a.	205				205	
Cash and cash equivalents and trade receivables and other financial assets directly associated with non-current assets and disposal groups held for sale	AC	75	75				
Equity instruments within non-current assets and disposal groups held for sale	FVOCI	0	0	0			0

^a For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

^b The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

millions of €

Amounts recognized in the statement of financial position in accordance with IFRS 9

	Measurement category in accordance with IFRS 9	Carrying amount Dec. 31, 2022	Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss ^a	Amounts recognized in the statement of financial position in accordance with IFRS 16	Fair value Dec. 31, 2022 ^b
Liabilities								
Trade payables	AC	12,035	12,035					
Bonds and other securitized liabilities	AC	93,802	93,802					87,642
Liabilities to banks	AC	4,122	4,122					3,926
Liabilities with the right of creditors to priority repayment in the event of default	AC	2,924	2,924					2,799
Other interest-bearing liabilities	AC	7,526	7,526					7,311
Of which: collateral received	AC	156	156					
Liabilities from deferred interest	AC	999	999					
Other non-interest-bearing liabilities	AC	769	769					
Of which: puttable shares of non-controlling interests in consolidated partnerships	AC	13	13					
Lease liabilities	n.a.	38,792					38,792	
Derivative financial liabilities								
Derivatives without a hedging relationship	FVTPL	368				368		368
Of which: energy forward agreements	FVTPL	59				59		59
Derivatives with a hedging relationship	n.a.	2,521			44	2,477		2,521
Trade payables and other financial liabilities directly associated with non-current assets and disposal groups held for sale	AC	2,431	2,431					
Of which: aggregated by measurement category in accordance with IFRS 9								
Assets								
Financial assets at amortized cost	AC	19,105	19,105					6,347
Financial assets at fair value through other comprehensive income with recycling to profit or loss	FVOCI	9,841			9,841			9,841
Financial assets at fair value through other comprehensive income without recycling to profit or loss	FVOCI	446		446				446
Financial assets at fair value through profit or loss	FVTPL	1,888				1,888		1,888
Liabilities								
Financial liabilities at amortized cost	AC	124,607	124,607	0	0	0	0	101,678
Financial liabilities at fair value through profit or loss	FVTPL	368				368		368

^a For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

^b The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

millions of €

Amounts recognized in the statement of financial position in accordance with IFRS 9

	Measurement category in accordance with IFRS 9	Carrying amount Dec. 31, 2021	Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss ^a	Amounts recognized in the statement of financial position in accordance with IFRS 16	Fair value Dec. 31, 2021 ^b
Assets								
Cash and cash equivalents	AC	7,617	7,617					
Trade receivables								
At amortized cost	AC	5,814	5,814					
At fair value through other comprehensive income	FVOCI	9,486			9,486			9,486
Other financial assets								
Originated loans and other receivables								
At amortized cost	AC	5,224	5,224					5,252
Of which: collateral paid	AC	589	589					
Of which: publicly funded projects	AC	1,794	1,794					
At fair value through other comprehensive income	FVOCI	0			0			0
At fair value through profit or loss	FVTPL	233				233		233
Equity instruments								
At fair value through other comprehensive income	FVOCI	437		437				437
At fair value through profit or loss	FVTPL	3				3		3
Derivative financial assets								
Derivatives without a hedging relationship	FVTPL	1,202				1,202		1,202
Of which: termination rights embedded in bonds issued	FVTPL	464				464		464
Of which: energy forward agreements	FVTPL	191				191		191
Of which: options received from third parties for the purchase or sale of shares in subsidiaries and associates	FVTPL	264				264		264
Derivatives with a hedging relationship	n.a.	1,560			364	1,196		1,560
Lease assets	n.a.	228					228	
Cash and cash equivalents and trade receivables and other financial assets directly associated with non-current assets and disposal groups held for sale	AC	428	428					
Equity instruments within non-current assets and disposal groups held for sale	FVOCI	29		29				29

^a For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

^b The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

millions of €

Amounts recognized in the statement of financial position in accordance with IFRS 9

	Measurement category in accordance with IFRS 9	Carrying amount Dec. 31, 2021	Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss ^a	Amounts recognized in the statement of financial position in accordance with IFRS 16	Fair value Dec. 31, 2021 ^b
Liabilities								
Trade payables	AC	10,452	10,452					
Bonds and other securitized liabilities	AC	93,857	93,857					103,397
Liabilities to banks	AC	4,003	4,003					4,090
Liabilities with the right of creditors to priority repayment in the event of default	AC	3,248	3,248					3,389
Other interest-bearing liabilities	AC	7,826	7,826					7,886
Of which: collateral received	AC	1,616	1,616					
Liabilities from deferred interest	AC	1,012	1,012					
Other non-interest-bearing liabilities	AC	816	816					
Of which: puttable shares of non-controlling interests in consolidated partnerships	AC	185	185					
Lease liabilities	n.a.	33,133					33,133	
Derivative financial liabilities								
Derivatives without a hedging relationship	FVTPL	586				586		586
Of which: energy forward agreements	FVTPL	7				7		7
Derivatives with a hedging relationship	n.a.	118			107	11		118
Trade payables and other financial liabilities directly associated with non-current assets and disposal groups held for sale	AC	1,086	1,086					
Of which: aggregated by measurement category in accordance with IFRS 9								
Assets								
Financial assets at amortized cost	AC	19,083	19,083					5,252
Financial assets at fair value through other comprehensive income with recycling to profit or loss	FVOCI	9,486			9,486			9,486
Financial assets at fair value through other comprehensive income without recycling to profit or loss	FVOCI	466		466				466
Financial assets at fair value through profit or loss	FVTPL	1,438				1,438		1,438
Liabilities								
Financial liabilities at amortized cost	AC	122,301	122,301	0	0	0	0	118,762
Financial liabilities at fair value through profit or loss	FVTPL	586				586		586

^a For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

^b The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

Trade receivables include receivables amounting to EUR 2.8 billion (December 31, 2021: EUR 2.8 billion) due in more than one year. The fair value generally equals the carrying amount.

Disclosures on fair value

When determining the fair value, it is important to maximize the use of current inputs observable in liquid markets for the financial instrument in question and minimize the use of other inputs (e.g., historical prices, prices for similar instruments, prices on illiquid markets). A three-level measurement hierarchy is defined for these purposes. If prices quoted in liquid markets are available at the reporting date for the respective financial instrument, these will be used unadjusted for the measurement (Level 1 measurement). Other input parameters are then irrelevant for the measurement. One such example is shares and bonds that are actively traded on a stock exchange. If quoted prices on liquid markets are not available at the reporting date for the respective financial instrument, but the instrument can be measured using other inputs that are observable on the market at the reporting date, a Level 2 measurement will be applied. The conditions for this are that no major adjustments have been made to the observable inputs and no unobservable inputs are used. Examples of Level 2 measurements are collateralized interest rate swaps, currency forwards, and cross-currency swaps that can be measured using current interest rates or exchange rates. If the conditions for a Level 1 or Level 2 measurement are not met, a Level 3 measurement is applied. In such cases, major adjustments must be made to observable inputs or unobservable inputs must be used.

Financial instruments not measured at fair value, the fair values of which are disclosed nevertheless

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Level 1	Level 2	Level 3 ^a	Total	Level 1	Level 2	Level 3 ^a	Total
Assets								
Originated loans and receivables		6,347		6,347		5,252		5,252
Liabilities								
Financial liabilities measured at amortized cost	82,907	18,654	117	101,678	94,637	23,661	464	118,762
Of which: bonds and other securitized liabilities	80,112	7,417	113	87,642	91,260	11,685	452	103,397
Of which: liabilities to banks		3,926		3,926		4,090		4,090
Of which: liabilities with the right of creditors to priority repayment in the event of default	2,795		4	2,799	3,377		12	3,389
Of which: other interest-bearing liabilities		7,311		7,311		7,886		7,886

^a Separation of embedded derivatives; the fair value of the entire instrument must be categorized as Level 1.

Financial instruments measured at fair value

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets								
Trade receivables								
At fair value through other comprehensive income			9,841	9,841			9,486	9,486
At fair value through profit or loss			0	0			0	0
Other financial assets – Originated loans and other receivables								
At fair value through other comprehensive income				0			0	0
At fair value through profit or loss	206	0	440	646	145	77	10	232
Equity instruments								
At fair value through other comprehensive income	9		437	446	29		437	466
At fair value through profit or loss			3	3			3	3
Derivative financial assets								
Derivatives without a hedging relationship		884	355	1,239		286	916	1,202
Derivatives with a hedging relationship		1,034		1,034		1,560		1,560
Liabilities								
Derivative financial liabilities								
Derivatives without a hedging relationship		309	59	368		579	7	586
Derivatives with a hedging relationship		2,521		2,521		118		118

Of the equity instruments measured at fair value through other comprehensive income and recognized under other financial assets, the instruments presented in the different levels constitute separate classes of financial instruments. In each case, the fair values of the total volume of equity instruments recognized as Level 1 are the price quotations at the reporting date.

The listed bonds and other securitized liabilities are assigned to Level 1 or Level 2 depending on the market liquidity of the relevant instrument. Consequently, issues denominated in euros or U.S. dollars with relatively large nominal amounts are to be classified as Level 1, the rest as Level 2. The fair values of the instruments assigned to Level 1 equal the nominal amounts multiplied by the price quotations at the reporting date. The fair values of the instruments assigned to Level 2 are calculated as the present values of the payments associated with the debts, based on the applicable yield curve and Deutsche Telekom's credit spread curve for specific currencies.

The fair values of liabilities to banks and other interest-bearing liabilities are calculated as the present values of the payments associated with the debts, based on the applicable yield curve and Deutsche Telekom's credit spread curve for specific currencies. The fair values of trade receivables and of originated loans and other receivables are calculated as the present values of the payments associated with the receivables, based on the applicable yield curve and the credit risk of the debtors.

Since there are no market prices available for the derivative financial instruments in the portfolio assigned to Level 2 due to the fact that they are not listed on the market, the fair values are calculated using standard financial valuation models, based entirely on observable inputs. The fair value of derivatives is the price that Deutsche Telekom would receive or have to pay if the financial instrument were transferred at the reporting date. Interest rates of contractual partners relevant as of the reporting date are used in this respect. The middle rates applicable as of the reporting date are used as exchange rates. In the case of interest-bearing derivatives, a distinction is made between the clean price and the dirty price. In contrast to the clean price, the dirty price also includes the interest accrued. The fair values carried correspond to the full fair value or the dirty price.

The equity instruments measured at fair value through other comprehensive income comprise a large number of investments in strategic, unlisted individual positions. Deutsche Telekom considers the chosen measurement through other comprehensive income without recycling to profit or loss to be appropriate because there are no plans to use the investments for short-term profit-taking. At the date of disposal of an investment, the total cumulative gain or loss is reclassified to retained earnings. Acquisitions and disposals are based on business policy investment decisions.

Investments in equity instruments at fair value through other comprehensive income

millions of €

	2022	2021
Fair value as of December 31	446	466
Dividends recognized in profit/loss	0	0
Of which: on investments divested in the reporting period	0	0
Of which: on investments still held at the reporting date	0	0
Fair value at the derecognition date of instruments divested in the reporting period	34	249
Cumulative gains reclassified in the reporting period from other comprehensive income to retained earnings	0	121
Of which: from the disposal of investments	0	121
Cumulative losses reclassified in the reporting period from other comprehensive income to retained earnings	12	1
Of which: from the disposal of investments	12	1

Development of the carrying amounts of the financial assets and financial liabilities assigned to Level 3

millions of €

	Equity instruments at fair value through other comprehensive income	Derivative financial assets at fair value through profit or loss: termination rights embedded in bonds issued	Derivative financial assets at fair value through profit or loss: stock options ^a	Derivative financial assets at fair value through profit or loss: energy forward agreements	Derivative financial liabilities at fair value through profit or loss: energy forward agreements	Derivative financial assets at fair value through profit or loss: put option for shares ^b	Originated loans and other receivables at fair value through profit or loss: contingent consideration receivable
Carrying amount as of January 1, 2022	437	464	222	191	(7)	22	0
Additions (including first-time classification as Level 3)	62	10	0	0	0	0	455
Decreases in fair value recognized in profit/loss (including losses on disposal)	0	(438)	0	(167)	(57)	(12)	(41)
Increases in fair value recognized in profit/loss (including gains on disposal)	0	60	548	200	7	102	1
Decreases in fair value recognized directly in equity	(148)	0	0	0	0	0	0
Increases in fair value recognized directly in equity	112	0	0	0	0	0	0
Disposals (including last classification as Level 3) ^c	(29)	0	(770)	(44)	(3)	(112)	0
Currency translation effects recognized directly in equity	2	21	0	24	1	0	0
Carrying amount as of December 31, 2022	436	117	0	204	(59)	0	415

^a The stock options were reclassified to Level 2 in the reporting period. For more details, please refer to the explanations below.

^b The put option was derecognized in the reporting period. For more details, please refer to the explanations below.

^c The disposals of stock options include the carrying amount of the options transferred from Level 3 (EUR 308 million).

The equity instruments assigned to Level 3 that are measured at fair value through other comprehensive income and carried under other financial assets are equity investments with a carrying amount of EUR 436 million measured using the best information available at the reporting date. As a rule, Deutsche Telekom considers transactions involving shares in those companies to have the greatest relevance. Transactions involving shares in comparable companies are also considered. The proximity of the relevant transaction to the reporting date, and the question of whether it was conducted at arm's length, are relevant for deciding which information is used for the measurement. Furthermore, the degree of similarity between the object being measured and comparable companies must be taken into consideration. Based on Deutsche Telekom's own assessment, the fair values of the equity investments at the reporting date could be determined with sufficient reliability. For the development of the carrying amounts in the reporting period, please refer to the table above. At the reporting date, no investments were held for sale. In the case of investments with a carrying amount of EUR 172 million, transactions involving shares in these companies took place at arm's length sufficiently close to the reporting date, which is why the share prices agreed in the transactions were to be used without adjustment for the measurement as of December 31, 2022. In the case of investments with a carrying amount of EUR 7 million, an analysis of operational indicators (especially revenue, EBIT, and liquidity) revealed that the carrying amounts were equivalent to current fair values. Due to better comparability, previous arm's length transactions involving shares in these companies are preferable to more recent transactions involving shares in similar companies. In the case of investments with a carrying amount of EUR 234 million, for which the last arm's length transactions relating to shares in these companies took place further in the past, a measurement performed more recently relating to shares in similar companies provides the most reliable representation of the fair values. Here, multiples to the reference variable of expected revenue (ranging between 2.8 and 16.1) were applied and a range of equally distributed percentiles in intervals of 16.7% around the median were taken as a basis. For each investment, the appropriate percentile was used depending on the specific circumstances. If other values had been used for the multiples and for the expected revenue amounts, the calculated fair values would have been different. These hypothetical deviations (sensitivities) are shown in the table below. In addition, non-material individual items with a carrying amount of EUR 23 million when translated into euros are included with differences in value of minor relevance.

For the development of the carrying amounts in the reporting year, please refer to the table above.

The derivatives without a hedging relationship assigned to Level 3 and carried under derivative financial assets relate to options embedded in bonds issued by T-Mobile US with a carrying amount of EUR 117 million when translated into euros. The options, which can be exercised by T-Mobile US at any time, allow early redemption of the bonds at fixed exercise prices. Observable market prices are available regularly and also at the reporting date for the bonds as entire instruments, but not for the options embedded therein. The termination rights are measured using an option pricing model. Historical interest rate volatilities of bonds issued by T-Mobile US and comparable issuers are used for the measurement because these provide a more reliable estimate at the reporting date than current market interest rate volatilities. The spread curve, which is also unobservable, was derived on the basis of current market prices of bonds issued by T-Mobile US and debt instruments of comparable issuers. Risk-free interest rates and spreads were simulated separately from each other. At the current reporting date, the following interest rate volatility and spreads were used for the various rating levels of the bonds:

Interest rate volatilities and spreads used by rating level

%	Interest volatility (absolute figure)	Spread
BBB+	0.1%–0.2%	0.3%–1.4%
BBB-	0.2%–0.5%	0.6%–2.4%
BB+/BB	0.3%–0.7%	1.1%–3.9%

For the mean reversion input, which is unobservable, 3% was used. In our opinion, the values used constitute the best estimate in each case. If other values had been used for interest rate volatility, spread curve, or mean reversion, the calculated fair values would have been different. These hypothetical deviations (sensitivities) are shown in the table below. If the risk-free interest rate had been 50 basis points higher (lower) at the reporting date, the fair value of the options would have been EUR 36 million lower (EUR 48 million higher). In the reporting period, a net expense of EUR 378 million when translated into euros was recognized under the Level 3 measurement in other financial income/expense for unrealized losses for the options in the portfolio at the reporting date. In the reporting period, no option was exercised. Please refer to the table above for the development of the carrying amounts in the reporting period. The changes in value recognized in profit or loss in the reporting period were mainly attributable to fluctuations in the interest rates and historical interest rate volatilities in absolute terms that are relevant for measurement. Due to their distinctiveness, these instruments constitute a separate class of financial instruments.

Sensitivities^a of the carrying amounts of the financial assets and financial liabilities assigned to Level 3 depending on unobservable inputs

millions of €

	Equity instruments at fair value through other comprehensive income	Derivative financial assets at fair value through profit or loss: termination rights embedded in bonds issued	Derivative financial assets at fair value through profit or loss: energy forward agreements	Derivative financial liabilities at fair value through profit or loss: energy forward agreements	Originated loans and other receivables at fair value through profit or loss: contingent consideration receivable
Multiple next-level-up quantile	80				
Multiple next-level-down quantile	(55)				
Expected revenues +10 %	20				
Expected revenues -10 %	(21)				
Interest rate volatility ^b +10 %		3			
Interest rate volatility ^b -10 %		(2)			
Spread curve ^c +50 basis points		(43)			(9)
Spread curve ^c -50 basis points		72			9
Mean reversion ^d +100 basis points		(1)			
Mean reversion ^d -100 basis points		2			
Future energy prices +10 %			41	10	
Future energy prices -10 %			(51)	(10)	
Future energy output +5 %			31	3	
Future energy output -5 %			(41)	(3)	
Future prices for renewable energy credits ^e +100 %			4	2	
Future prices for renewable energy credits ^e from zero			(14)	(2)	
Planned fiber-optic build-out is completed one year earlier than expected					18
Planned fiber-optic build-out is completed one year later than expected					(17)
Actual fiber-optic build-out is 5 % higher than planned each year					41
Actual fiber-optic build-out is 5 % lower than planned each year					(41)

^a Change in the relevant input parameter assuming all other input parameters are unchanged.

^b Interest rate volatility shows the magnitude of fluctuations in interest rates over time (relative change). The larger the fluctuations, the higher the interest rate volatility.

^c The spread curve shows, for the respective maturities, the difference between the interest rates payable by the debtor and the risk-free interest rates. A minimum of zero was set for the spread curve for the sensitivity calculation, i.e., negative spreads are not applicable.

^d Mean reversion describes the assumption that, after a change, an interest rate will revert to its average over time. The higher the selected value (mean reversion speed), the faster the interest rate will revert to its average in the measurement model.

^e Renewable energy credits is the term used for U.S. emission certificates.

With a carrying amount of EUR 200 million when translated into euros, the derivatives without a hedging relationship assigned to Level 3 and carried under derivative financial assets relate to energy forward agreements embedded in contracts entered into by T-Mobile US. The same applies to derivative financial liabilities with a carrying amount of EUR 55 million when translated into euros. These agreements consist of two components: the energy forward agreement and the acquisition of renewable energy credits by T-Mobile US. In the case of one energy forward agreement, commercial operation is set to begin in 2024; with the others, it has already begun. Under the energy forward agreements, which are accounted for separately as derivatives, T-Mobile US receives variable amounts based on the actual energy output and the then current energy prices, and pays fixed amounts per unit of energy generated from the start of commercial operations throughout the term of the contract. The energy forward agreements are measured using valuation models because no observable market prices are available. The value of the derivatives is significantly influenced by the future energy output, the future energy prices on the relevant markets, and the future prices of renewable energy credits. The main contract parameters, including the assumptions made for unobservable parameters and periods, are set out in the following table. In our opinion, these assumptions made constitute the best estimate in each case. In the view of T-Mobile US, the contracts were entered into at current market conditions, and the most appropriate parameters for the unobservable inputs were used for measurement purposes. The transaction price at inception was zero in each case. Since the unobservable inputs have a significant influence on the measurement of the derivatives, the respective amount resulting from initial measurement (day 1 gain) – with the exception of the agreements concluded by Sprint that are explained below – was deferred on initial recognition. Instead, these day 1 gains are amortized in profit or loss on a straight-line basis over the period of commercial energy production. This amortization adjusts the effects from measuring the derivatives in each accounting period using the respective valuation models and updated parameters. All amounts from the measurement of the derivatives are presented in net terms per contract in the statement of financial position (derivative financial assets/liabilities) and in the income statement (other operating income/expenses). Sprint also has agreements of this kind in its portfolio. These were concluded before the business combination with T-Mobile US and, for these agreements too, unobservable inputs have a material influence on the measurement of the derivatives. However, under the requirements for business combinations, the respective amounts resulting from the measurement are recognized as derivative financial assets, as a result of which there are no amounts yet to be amortized for these agreements. On the following reporting dates, the effects from the periodic measurement of the derivatives will be recorded in full in the income statement (other operating

expenses or other operating income). At the reporting date, the calculated fair value from Deutsche Telekom's perspective for all energy forward agreements described above is positive and amounts to EUR 288 million when translated into euros. If other values had been used for future energy prices, future energy output, or future prices of renewable energy credits, the calculated fair values would have been different. These hypothetical deviations (sensitivities) are shown in the table above. In the reporting period, net expense of EUR 7 million when translated into euros was recognized under the Level 3 measurement in other operating income/expense for unrealized losses for the derivatives for all the above energy forward agreements. Please refer to the corresponding table for the development of the carrying amounts in the reporting period. The market-price changes in the reporting period were largely attributable to changes in observable and unobservable energy prices and to interest rate effects. In addition, an impairment loss was recognized for a project which has not yet begun commercial operations because it is expected that the contractual conditions will have to be amended in favor of the other contracting party in order to ensure the realization of the project. The development of the day 1 gain yet to be amortized in the income statement in the reporting period is shown in the following table. The straight-line amortization of the day 1 gains through profit or loss over the period of commercial energy production amounts to a total of EUR 13 million per year when translated into euros. In addition, in the reporting year, similar energy forward agreements were concluded in Europe from which, however, no notable effects are expected. As of December 31, 2022, derivative financial assets of EUR 4 million when translated into euros and derivative financial liabilities of EUR 3 million when translated into euros were recognized for these agreements. Due to their distinctiveness, the energy forward agreements constitute a separate class of financial instruments.

millions of €	
	United States
Term of the contract from the start of commercial operation in years	12 to 15
End of the term of contracts for which commercial operation has already begun	2029 to 2035
Expected energy output in GWh per year	4,057
Expected energy prices per MWh for the unobservable portion of the term in €	
On-peak (i.e., times of relatively high energy demand) in €	29 to 89
Off-peak (i.e., times of relatively low energy demand) in €	24 to 74
On-peak/off-peak ratio	52 %
Length of time in years, for which energy prices are regularly observable	up to 10
Length of time in years, for which the prices of renewable energy credits are regularly observable	around 3

The derivative financial assets include acquired stock options to purchase shares in T-Mobile US with a carrying amount of EUR 368 million when translated into euros. The stock options, which can be exercised at any time, mature in 2024, can be exercised partially at fixed and partially at variable purchase prices, and are measured using an option pricing model. Due to a contractual adjustment in the reporting period, no share price volatilities calculated based on historic figures are now included in the measurement. In addition to the share price already observable on the market and the risk-free interest rates, only observable current market volatilities are now used. The figure used for the share price volatility at the current reporting date was 29.1%. Due to the exclusive use of observable input parameters, the options had to be transferred from Level 3 to Level 2 of the fair value hierarchy in the reporting period. Due to their distinctiveness, these instruments constitute a separate class of financial instruments. The transaction price at inception was zero. Since the unobservable inputs had a material influence on the measurement of the options, the fair value resulting from initial measurement of EUR 1,005 million when translated into euros (before deduction of transaction costs) was not immediately recognized. Instead, this amount was previously amortized in profit or loss over the lifetime of the options. With the assignment of the options to Level 2 of the fair value hierarchy, the remaining measurement amount not yet amortized of EUR 84 million had to be recognized in full in profit or loss. This amortization adjusted the effects from measuring the options on an ongoing basis using the valuation model and updated parameters. All amounts from the measurement of the options are presented in net terms in the statement of financial position (other derivative financial assets) and in the income statement (other financial income/expense). The market-price changes in the reporting period are largely attributable to fluctuations in the share price, the risk-free interest rate, and the volatility. The stock options were partially exercised in the reporting period. The development of the carrying amount is shown in the table above. The fair value of the stock options did not change materially between June 30, 2022 and the date of their derecognition, and the measurement effect resulting from their reclassification was immaterial. The development of the amount to be amortized in the income statement in the reporting period is shown in the following table.

For further information on the stock options, please refer to the section "[Other financial assets.](#)"

The put option acquired by DIV II in 2021 to purchase shares in Cellnex Netherlands B.V. was no longer recognized as a derivative financial asset as of the reporting date. This is because, following the loss of control over DIV II on August 2, 2022, Deutsche Telekom deconsolidated that entity, through which the shares in Cellnex Netherlands B.V. had previously been indirectly included in the consolidated financial statements using the equity method. The fair value of the put option did not change materially between June 30, 2022 and the date of derecognition. The development of the carrying amount of the put option is shown in the above table. The development of the amount to be amortized in the income statement in the reporting period is shown in the following table.

For further information on the admission of new limited partners to the infrastructure fund (DIV II), please refer to the section [“Changes in the composition of the Group and other transactions.”](#)

Development of the not yet amortized amounts

millions of €

	Energy forward agreements ^a	Stock options ^b	Put option for shares ^c
Measurement amounts on initial recognition	173	1,005	129
Measurement amounts on initial recognition (additions during the reporting period)	0	0	0
Measurement amounts amortized in profit or loss in prior periods	(29)	(328)	(19)
Measurement amounts amortized in profit or loss in the current reporting period	(11)	(122)	(19)
Currency translation adjustments	10	(49)	0
Disposals in prior periods	0	(372)	0
Disposals in the current reporting period	0	(134)	(91)
Measurement amounts not amortized as of December 31, 2022	143	0	0

^a For more details, please refer to the explanations above.

^b The stock options were reclassified to Level 2 in the reporting period. For more details, please refer to the explanations above.

^c The put option was derecognized in the reporting period. For more details, please refer to the explanations above.

The financial assets assigned to Level 3 (originated loans and other receivables) include the contingent consideration receivable from the sale of a 50 % stake in GlasfaserPlus with a carrying amount of EUR 415 million, which arises in stages upon achieving certain fiber-optic build-out milestones and is measured at fair value through profit or loss. Deutsche Telekom measures this receivable on the basis of GlasfaserPlus' current build-out plans. At the current reporting date, it can be assumed that payments will fall due from 2025 to 2029. The spread of the debtor IFM constitutes an unobservable input. At the current reporting date, values of between 1.3 % and 1.7 % were used for the discounting of the individual payments. In our opinion, the assumptions used constitute the best estimate in each case. If other assumptions had been used for the amount and due dates of the payments and for the spread, the calculated fair value would have been different. These hypothetical deviations (sensitivities) are shown in the table above. In the reporting period, a net expense of EUR 40 million was recognized under the Level 3 measurement of the receivable in other operating income/expense for unrealized discounting effects. Please refer to the table above for the development of the carrying amounts in the reporting period. The market-price change in the reporting period is largely attributable to an increase in the interest rates that are relevant for measurement. Due to its distinctiveness, this instrument constitutes a separate class of financial instruments. The other financial assets assigned to Level 3 (originated loans and other receivables) with a carrying amount of EUR 25 million relate to immaterial items for which no significant volatility in fair value is to be expected.

For further information on the joint venture GlasfaserPlus with IFM, please refer to the section [“Changes in the composition of the Group and other transactions”](#) under [“Summary of accounting policies.”](#)

For the trade receivables measured at fair value through other comprehensive income assigned to Level 3 and for the originated loans and other receivables measured at fair value through profit or loss, the main factor in determining fair value is the credit risk of the relevant counterparties. If the default rates applied as of the reporting date had been 1 % higher (lower) with no change in the reference variables, the fair values of the instruments would have been 1 % lower (higher). The financial assets assigned to Level 3 include trade receivables measured at fair value through other comprehensive income, for which the credit risk of customers constitutes an unobservable input for the measurement, with a carrying amount of EUR 9,841 million (December 31, 2021: EUR 9,486 million) when translated into euros. As a rule, a credit scoring model is used for receivables paid in installments. The cash flows are discounted on the basis of the weighted average of the original effective interest rates of the financial assets in the relevant portfolio. A weighted average credit-risk spread of 6.28 % (December 31, 2021: 4.57 % %) was applied to the respective receivables portfolios at the reporting date. The credit-risk spreads applied are derived from the expected future credit loss of the relevant portfolios and are updated on an ongoing basis. Changes in the fair value of these trade receivables are caused mainly by changes in observable Level 2 inputs (in particular market interest rates). For information on the amounts recognized in shareholders' equity and in profit/loss, please refer to the table [“Net gain/loss by measurement category.”](#)

The financial assets measured at fair value through profit or loss and assigned to Level 3 include additional options acquired from third parties for the purchase of company shares, with a carrying amount of EUR 34 million. No notable fluctuations in value are expected from these individual items. Due to their distinctiveness, these instruments each constitute a separate class of financial instruments.

Net gain/loss by measurement category

millions of €

		Recognized in profit or loss from interest and dividends	Recognized in profit or loss from subsequent measurement			Recognized directly in equity from subsequent measurement	Recognized in profit or loss from derecognition	Net gain (loss)
			At fair value	Currency translation	Impairments/ allowances			
Debt instruments measured at amortized cost	2022	42	n.a.	612	(316)	n.a.	(24)	314
	2021	176	n.a.	1,140	(288)	n.a.	(123)	905
Debt instruments measured at fair value through profit or loss	2022	61	(40)	n.a.	n.a.	n.a.	(33)	(12)
	2021	11	0	n.a.	n.a.	n.a.	3	14
Debt instruments measured at fair value through other comprehensive income	2022	0	n.a.	n.a.	(913)	(22)	(123)	(1,058)
	2021	0	n.a.	n.a.	(351)	(80)	(63)	(494)
Equity instruments measured at fair value through profit or loss	2022	0	0	n.a.	n.a.	n.a.	0	0
	2021	0	0	n.a.	n.a.	n.a.	0	0
Equity instruments measured at fair value through other comprehensive income	2022	0	n.a.	n.a.	n.a.	(46)	n.a.	(46)
	2021	0	n.a.	n.a.	n.a.	112	n.a.	112
Derivatives measured at fair value through profit or loss	2022	n.a.	1,022	n.a.	n.a.	n.a.	n.a.	1,022
	2021	n.a.	(38)	n.a.	n.a.	n.a.	n.a.	(38)
Financial liabilities measured at amortized cost	2022	(3,828)	n.a.	(829)		n.a.	n.a.	(4,657)
	2021	(3,587)	n.a.	(1,417)	(41)	n.a.	n.a.	(5,045)
	2022	(3,724)	982	(217)	(1,229)	(68)	(181)	(4,437)
	2021	(3,400)	(38)	(278)	(680)	32	(182)	(4,546)

^a The amount reported under debt instruments measured at fair value through other comprehensive income is the net amount after deduction of the effects recognized in profit or loss for impairment losses in the amount of EUR -1,036 million.

Interest from financial instruments is recognized in finance costs, dividends in other financial income/expense (income from investments).

For further information, please refer to Note 29 "Finance costs" and Note 31 "Other financial income/expense."

The other components of the net gain/loss are generally recognized in other financial income/expense, except for allowances on trade receivables that are classified as debt instruments measured at amortized cost and debt instruments measured at fair value through other comprehensive income, which are reported under other operating expenses. The loss/gain from energy forward agreements and from options received from third parties for the purchase or sale of shares in associates are reported under other operating expenses/other operating income.

For further information, please refer to Note 2 "Trade receivables."

The net gain from the subsequent measurement of financial instruments allocated to the measurement category at fair value through profit or loss (EUR 1,022 million) also includes interest and currency translation effects. The net currency translation gains on financial assets classified as debt instruments measured at amortized cost (EUR 612 million) are primarily attributable to the Group-internal transfer of foreign-currency loans taken out by Deutsche Telekom's financing company, Deutsche Telekom International Finance B.V., on the capital market. These are offset by corresponding currency translation losses on capital market liabilities of EUR 829 million. These include currency translation gains from derivatives that Deutsche Telekom used as hedging instruments for hedge accounting in foreign currency (EUR 113 million, 2021: EUR 446 million). Finance costs from financial liabilities measured at amortized cost (expense of EUR 3,828 million) primarily consist of interest expense on bonds and other (securitized) financial liabilities. The item also includes interest expense from the addition of accrued interest and interest income from interest discounted from trade payables. However, it does not include the interest expense and interest income from interest rate derivatives Deutsche Telekom used in the reporting year to hedge the fair value risk of financial liabilities.

For further information, please refer to Note 29 "Finance costs."

Principles of risk management. Deutsche Telekom is exposed in particular to risks from changes in exchange rates, interest rates, and market prices that affect its assets, liabilities, and forecast transactions. Financial risk management aims to limit these market risks through ongoing operational and finance activities. Selected derivative and non-derivative hedging instruments are used for this purpose, depending on the risk assessment. However, Deutsche Telekom only hedges the risks that affect the Group's cash flow. Derivatives are exclusively used as hedging instruments, i.e., not for trading or other speculative purposes. To reduce the credit risk, hedging instruments are generally only concluded with leading financial institutions whose credit rating is at least BBB+/Baa1. In addition, the credit risk for derivatives with a positive market value is generally minimized through collateral agreements with all core banks. Furthermore, the limits for deposits are also set and monitored on a daily basis depending on the rating, share price performance, and credit default swap level of the respective counterparty.

The fundamentals of Deutsche Telekom's financial policy are established by the Board of Management and overseen by the Supervisory Board. Group Treasury is responsible for implementing the financial policy and for ongoing risk management. Certain transactions require the prior approval of the Board of Management, which is also regularly briefed on the severity and amount of the current risk exposure.

Group Treasury regards effective management of the market risk as one of its main tasks. The main risks relate to foreign currencies and interest rates.

Currency risks. Deutsche Telekom is exposed to currency risks from its investing, financing, and operating activities. Risks from foreign currencies are hedged to the extent that they influence the Group's cash flows. Foreign-currency risks that do not influence the Group's cash flows (i.e., the risks resulting from the translation of assets and liabilities of foreign operations into the Group's reporting currency) are generally not hedged, however. Deutsche Telekom may nevertheless also hedge this foreign-currency risk under certain circumstances.

Foreign-currency risks in the area of investment result, for example, from the acquisition and disposal of investments in foreign companies. Deutsche Telekom hedges these risks. If the risk position exceeds EUR 100 million, the Board of Management must make a special decision on how the risk shall be hedged. If the risk position is below EUR 100 million, Group Treasury performs the currency hedging itself. At the reporting date, Deutsche Telekom was not exposed to any significant risks from foreign-currency transactions in the field of investments.

Foreign-currency risks in the financing area are caused by financial liabilities in foreign currency and loans in foreign currency that are issued to Group entities for financing purposes. Group Treasury hedges these risks. Cross-currency swaps and currency derivatives are used to convert financial obligations and intragroup loans denominated in foreign currencies into the Group entities' functional currencies.

At the reporting date, the foreign-currency liabilities for which currency risks were hedged mainly consisted of bonds in U.S. dollars and pounds sterling. On account of these hedging activities, Deutsche Telekom was not exposed to any significant currency risks in the area of financing at the reporting date.

The Group entities predominantly execute their operating activities in their respective functional currencies. Payments made in a currency other than the respective functional currency result in foreign-currency risks in the Group. These mainly relate to payments for telecommunications services (procurement of network technology and mobile communications equipment as well as payments to international telecommunications companies and for the provision of connection services) and IT services (procurement of IT hardware, software, and services). Deutsche Telekom generally uses currency derivatives for hedging purposes. On account of these hedging activities, Deutsche Telekom was not exposed to any significant short-term exchange rate risks from its operating activities at the reporting date.

For the presentation of market risks, IFRS 7 requires sensitivity analyses that show the effects of hypothetical changes of relevant risk variables on profit or loss and shareholders' equity. In addition to currency risks, Deutsche Telekom is exposed to interest rate risks and price risks in its investments. The periodic effects are determined by relating the hypothetical changes in the risk variables to the balance of financial instruments at the reporting date. It is assumed that the balance at the reporting date is representative for the year as a whole.

Currency risks as defined by IFRS 7 arise on account of financial instruments being denominated in a currency that is not the functional currency and being of a monetary nature; differences resulting from the translation of financial statements into the Group's presentation currency are not taken into consideration. Relevant risk variables are generally all non-functional currencies in which Deutsche Telekom has contracted financial instruments.

The currency sensitivity analyses are based on the following assumptions: major non-derivative monetary financial instruments (liquid assets, receivables, interest-bearing securities and/or debt instruments held, interest-bearing and non-interest-bearing liabilities, and lease liabilities) are either directly denominated in the functional currency or are transferred to the functional currency through the use of derivatives. Exchange rate fluctuations therefore have no effects on profit or loss, or shareholders' equity.

Equity instruments held are of a non-monetary nature and therefore are not exposed to a currency risk as defined by IFRS 7.

Interest income and interest expense from financial instruments are also either recorded directly in the functional currency or transferred to the functional currency using derivatives. For this reason, there can be no effects on the variables considered in this connection.

In the case of fair value hedges designated to hedge currency risks, the changes in the fair values of the hedged item and the hedging instrument attributable to changes in exchange rates balance out almost completely in the income statement in the same period. As a consequence, these financial instruments are not exposed to currency risks with an effect on profit or loss, or shareholders' equity, either.

Cross-currency swaps are always assigned to non-derivative hedged items, so these instruments do not have any currency effects, either.

Deutsche Telekom is therefore only exposed to currency risks from specific currency derivatives. Some of these are currency derivatives that are part of an effective cash flow hedge for hedging payment variability resulting from changes in exchange rates in accordance with IFRS 9. Volatility of exchange rates of the currencies on which these transactions are based affects the hedging reserves in shareholders' equity and the fair value of these hedging instruments. Others are currency derivatives that are neither part of one of the hedges defined in IFRS 9 nor part of a natural hedge. These derivatives are used to hedge planned transactions. Changes in exchange rates of the currencies on which such financial instruments are based affect other financial income or expense (net gain/loss from remeasurement of financial assets and liabilities to fair value).

If the euro had gained (lost) 10 % against all currencies at December 31, 2022, the hedging reserves in shareholders' equity and the fair values of the hedging instruments before taxes would have been EUR 11 million higher (lower) (December 31, 2021: EUR 13 million higher (lower)). The hypothetical effect of EUR 11 million on profit or loss primarily results from the currency sensitivities EUR/USD: EUR 13 million, EUR/GBP: EUR -5 million, and EUR/CHF: EUR 3 million. If the euro had gained (lost) 10 % against all currencies at December 31, 2022, other financial income and the fair value of the hedging instruments before taxes would have been EUR 54 million lower (higher) (December 31, 2021: EUR 31 million lower (higher)). The hypothetical effect of EUR -54 million on profit or loss primarily results from the currency sensitivities EUR/USD: EUR -126 million, EUR/PLN: EUR 23 million, and EUR/HUF: EUR 16 million.

Interest rate risks. Deutsche Telekom is exposed to interest rate risks, mainly in the euro zone and in the United States. The interest rate risks are managed as part of the interest rate management activities. For the debt position in euros a maximum variable percentage is set on an annual basis. The debt position of T-Mobile US in U.S. dollars is primarily determined through partially cancelable, fixed-income debt instruments. The composition of the liabilities portfolio (ratio of fixed to variable) is managed by issuing non-derivative financial instruments and, where necessary, also deploying derivative financial instruments.

Including derivative hedging instruments, an average of 44 % (2021: 46 %) of the debt position denominated in euros had a variable rate of interest in 2022. There were no significant fluctuations in the course of the reporting year. In U.S. dollars, the variable percentage – compared to 2021 – remained at 0 %, mainly due to the issuance of new fixed-income bonds by T-Mobile US.

Interest rate risks are presented by way of sensitivity analyses in accordance with IFRS 7. These show the effects of changes in market interest rates on interest payments, interest income and expense, other income components, and, if appropriate, shareholders' equity. The interest rate sensitivity analyses are based on the following assumptions: Changes in the market interest rates of non-derivative financial instruments with fixed interest rates only affect income if these are measured at their fair value. As such, all financial instruments with fixed interest rates that are carried at amortized cost are not subject to interest rate risk as defined in IFRS 7.

In the case of fair value hedges designated for hedging interest rate risks, the changes in the fair values of the hedged item and the hedging instrument attributable to changes in interest rates balance out almost completely in the income statement in the same period. This means that interest-rate-based changes in the measurement of the hedged item and the hedging instrument largely do not affect income and are therefore not subject to interest rate risk.

In the case of interest rate derivatives in fair value hedges, however, changes in market interest rates affect the amount of interest payments. As a consequence, they have an effect on interest income and are therefore included in the calculation of income-related sensitivities.

Changes in the market interest rate regarding financial instruments that were designated as hedging instruments in a cash flow hedge to hedge payment variability resulting from changes in interest rates affect the hedging reserve in shareholders' equity and are therefore taken into consideration in the equity-related sensitivity calculations.

Changes in market interest rates affect the interest income or expense of non-derivative variable-interest financial instruments, the interest payments of which are not designated as hedged items of cash flow hedges against interest rate risks. As a consequence, they are included in the calculation of income-related sensitivities.

In addition, changes in the market interest rate had an impact on the carrying amount of trade receivables recognized at fair value and originated loans and other receivables. However, this variability is not managed.

Changes in the market interest rate regarding interest rate derivatives (interest rate swaps, cross-currency swaps) that are not part of a hedging relationship as set out in IFRS 9 affect other financial income or expense and are therefore taken into consideration in the income-related sensitivity calculations. Currency derivatives are not exposed to interest rate risks and therefore do not affect the interest rate sensitivities.

If the market interest rates had been 100 basis points higher at December 31, 2022, profit or loss before taxes would have been EUR 270 million (December 31, 2021: EUR 272 million) lower. If the market interest rates had been 100 basis points lower at December 31, 2022, profit or loss before taxes would have been EUR 271 million (December 31, 2021: EUR 263 million) higher. The hypothetical effect of EUR 271 million/EUR -270 million on profit or loss primarily results from potential effects of EUR 263 million/EUR -263 million from interest rate derivatives. Potential effects from interest rate derivatives are partially balanced out by the contrasting performance of non-derivative financial instruments, which cannot, however, be shown due to applicable accounting standards. The effects from the options embedded in the bonds issued by T-Mobile US are not included in this simulation. The resulting sensitivities are set out in the above table "Sensitivities of the carrying amounts of the financial assets and financial liabilities assigned to Level 3 depending on unobservable inputs." However, the effects from the other financial instruments assigned to Level 3 described above are included. If the market interest rates had been 100 basis points higher (lower) at December 31, 2022, the hedging and revaluation reserves in equity before taxes would have been EUR 538 million higher (EUR 540 million lower) (December 31, 2021: EUR 129 million higher (EUR 129 million lower)).

Other price risks. As part of the presentation of market risks, IFRS 7 also requires disclosures on how hypothetical changes in risk variables affect the price of financial instruments. Important risk variables are stock exchange prices or indexes.

If the share price of T-Mobile US had been 10 % higher (lower) at December 31, 2022, the fair value of unconditional forward transactions and options held for the purchase of shares in T-Mobile US would have been EUR 346 million higher (EUR 342 million lower) (December 31, 2021: EUR 350 higher (EUR 335 million lower)). In addition, aside from the value-creating factors in the financial instruments assigned to Level 3 described above, there were no other price risks at the reporting date.

Deutsche Telekom is exposed to a credit risk from its operating activities and certain financing activities. As a rule, transactions with regard to financing activities are only concluded with counterparties that have at least a credit rating of BBB+/Baa1, in connection with an operational credit management system. At the level of operations, the outstanding debts are continuously monitored in each area, i.e., locally. Credit risks are taken into account through allowances calculated at portfolio level. The solvency of the business with corporate customers, especially international carriers, is monitored separately. In terms of the overall risk exposure from the credit risk, however, the receivables from these counterparties are not so extensive as to justify extraordinary concentrations of risk.

Maximum credit risk of financial assets^a

millions of €			2022	2021
Classes of financial instruments (IFRS 7)	Measurement category (IFRS 9)			
Originated loans and other receivables	AC		6,341	5,249
	FVOCI		0	0
	FVTPL		646	233
Cash and cash equivalents	AC		5,792	7,624
Trade receivables	AC		6,969	6,062
	FVOCI		9,841	9,633
	FVTPL		0	1
Contract assets (IFRS 15)	n.a.		2,410	2,054
Lease receivables	n.a.		205	228

^a Including the assets of the GD tower companies and of the wireline business at T-Mobile US included as of December 31, 2022, and the assets of T-Mobile Netherlands included as of December 31, 2021 under assets directly associated with non-current assets and disposal groups held for sale.

Development of allowances^a

millions of €	General approach									Simplified approach			
	12-month expected credit losses			Lifetime expected credit losses						Trade receivables	Contract assets	Lease assets	
	Stage 1 – No change in credit risk since initial recognition			Stage 2 – Significant increase in credit risk since initial recognition, not credit-impaired			Stage 3 – Credit-impaired at the reporting date (not purchased or originated credit-impaired)						
	Cash and cash equivalents	Originated loans and other receivables		Cash and cash equivalents	Originated loans and other receivables		Cash and cash equivalents	Originated loans and other receivables		AC	FVOCI	n.a.	n.a.
AC	AC	FVOCI	AC	AC	FVOCI	AC	AC	FVOCI	AC	FVOCI	n.a.	n.a.	
January 1, 2022	0	(3)	0	0	0	0	0	(15)	0	(1,225)	(357)	(38)	0
Reclassification due to a change in business model										(35)	35		
Additions								(6)		(419)	(920)	(76)	
Use										441	814	28	
Reversal										120	0	41	
Other										35	(3)		
Foreign currency effect										2	(12)		
December 31, 2022	0	(3)	0	0	0	0	0	(21)	0	(1,081)	(443)	(45)	0

^a Including the allowances of the GD tower companies and of the wireline business at T-Mobile US included as of December 31, 2022, and the allowances of T-Mobile Netherlands included under assets directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

There were no material transfers in the general approach.

Credit rating of financial assets measured at amortized cost or at fair value through other comprehensive income^a

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Contractual obligations fulfilled to date	Disruptions in performance already occurred	Non-performing	Total	Contractual obligations fulfilled to date	Disruptions in performance already occurred	Non-performing	Total
General approach (short term)								
12-month expected credit losses (stage 1)	10,257			10,257	11,291			11,291
Lifetime expected credit losses								
Significant increase in credit risk, but not credit-impaired (stage 2)		85		85		83		83
Credit-impaired at the reporting date, but not purchased or originated credit-impaired (stage 3)			64	64			52	52
	10,257	85	64	10,406	11,291	83	52	11,426
General approach (long term)								
12-month expected credit losses (stage 1)	1,716			1,716	1,449			1,449
Lifetime expected credit losses								
Significant increase in credit risk, but not credit-impaired (stage 2)		1		1		2		2
Credit-impaired at the reporting date, but not purchased or originated credit-impaired (stage 3)			0	0			1	1
	1,716	1	0	1,717	1,449	2	1	1,452
Simplified approach								
Trade receivables	16,180	649	1,063	17,892	15,161	696	1,060	16,917
Contract assets	2,386	59	9	2,454	2,056	29	8	2,093
Lease receivables	205			205	228			228
	18,771	708	1,072	20,551	17,445	725	1,068	19,238
Financial assets that are purchased or originated credit-impaired								
Receivables				0				0
	30,744	794	1,136	32,674	30,185	810	1,121	32,116

^a Including the assets of the GD tower companies and of the wireline business at T-Mobile US included as of December 31, 2022, and the assets of T-Mobile Netherlands included under assets directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

Offsetting of financial instruments

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Trade receivables	Trade payables	Derivative financial assets	Derivative financial liabilities	Trade receivables	Trade payables	Derivative financial assets	Derivative financial liabilities
Gross amounts subject to enforceable master netting arrangements or similar agreements	578	499	1,550	2,830	181	158	1,844	696
Amounts set off in the statement of financial position in accordance with IAS 32.42	(74)	(74)			(100)	(100)		
Net amounts presented in the statement of financial position	504	425	1,550	2,830	81	58	1,844	696
Amounts subject to enforceable master netting arrangements or similar agreements and not meeting all offsetting requirements in accordance with IAS 32.42	(21)	(21)	(1,548)	(2,806)	(23)	(23)	(1,831)	(664)
Of which: amounts related to recognized financial instruments	(21)	(21)	(1,414)	(1,414)	(23)	(23)	(241)	(241)
Of which: amounts related to financial collateral (including cash collateral)			(134)	(1,392)			(1,590)	(423)
Net amounts	483	404	2	24	58	35	13	32

Offsetting is applied in particular to receivables and liabilities at Deutsche Telekom AG and Telekom Deutschland GmbH for the routing of international calls via the fixed network and for roaming fees in the mobile network.

In line with the contractual provisions, in the event of insolvency all derivatives with a positive or negative fair value that exist with the respective counterparty are offset against each other, leaving a net receivable or liability. The net amounts are normally recalculated every bank working day and offset against each other. When the netting of the positive and negative fair values of all derivatives was positive from Deutsche Telekom's perspective, the counterparty provided Deutsche Telekom with cash pursuant to the collateral contracts mentioned in Note 1 "Cash and cash equivalents." The credit risk was thus further reduced.

When the netting of the positive and negative fair values of all derivatives was negative from Deutsche Telekom's perspective, Deutsche Telekom provided cash collateral to counterparties pursuant to collateral agreements. The net amounts are normally recalculated every bank working day and offset against each other. The cash collateral paid is offset by corresponding negative net derivative positions of EUR 1,392 million at the reporting date, which is why it was not exposed to any credit risks in this amount at the reporting date.

For further information, please refer to Note 11 "[Other financial assets](#)."

The collateral paid is reported under originated loans and other receivables within other financial assets. On account of its close connection to the corresponding derivatives, the collateral paid constitutes a separate class of financial assets. Likewise, the collateral received, which is reported as other interest-bearing liabilities under financial liabilities, constitutes a separate class of financial liabilities on account of its close connection to the corresponding derivatives. There were no other significant agreements reducing the maximum exposure to the credit risk of financial assets. The maximum exposure to the credit risk of the other financial assets thus corresponds to their carrying amounts.

In accordance with the terms of the bonds issued by T-Mobile US, T-Mobile US has the right to terminate the majority of bonds prematurely under specific conditions. The rights of early termination constitute embedded derivatives and are presented separately as derivative financial assets in the consolidated statement of financial position. Since they are not exposed to any credit risk, they constitute a separate class of financial instruments. Please refer to the explanations above for more information on the energy forward agreements for which no collateral is provided. There is also no credit risk on embedded derivatives held.

No collateral is provided for the options received from third parties for the purchase or sale of shares in subsidiaries and associates.

In connection with auctions for the planned acquisition of spectrum licenses, subsidiaries of Deutsche Telekom have deposited additional cash collateral of EUR 2 million when translated into euros. At the reporting date, cash and cash equivalents of EUR 63 million when translated into euros were pledged as collateral for liabilities issued by Sprint with the right of creditors to priority repayment in the event of default. This cash collateral is not exposed to any significant credit risk.

For further information, please refer to Note 13 "[Financial liabilities and lease liabilities](#)."

Liquidity risks

For further information, please refer to Note 13 "[Financial liabilities and lease liabilities](#)."

Hedge accounting

Fair value hedges. To hedge the fair value risk of fixed-income liabilities, Deutsche Telekom primarily uses interest rate swaps and forward interest rate swaps (pay variable, receive fixed) denominated in EUR and USD. Fixed-income bonds denominated in EUR and USD were designated as hedged items. The changes in the fair values of the hedged items resulting from changes in the EURIBOR or USD LIBOR swap rate are offset against the changes in the value of these interest rate swaps. In addition, cross-currency swaps mainly in the EUR/USD and EUR/GBP currency pairs, are designated as fair value hedges, which convert fixed-income foreign currency bonds into variable-interest EUR bonds to hedge the interest rate and currency risk. The changes in the fair value of the hedged items resulting from changes in the USD LIBOR and GBP SOFR swap rate as well as the USD and GBP exchange rate, are offset against the changes in the value of the cross-currency swaps. The aim of the fair value hedges is thus to transform the fixed-income bonds into variable-interest debt, thus hedging the fair value (interest rate risk and currency risk) of these financial liabilities. Credit risks are not part of the hedging and, on account of Deutsche Telekom's rating, have only an immaterial effect on the changes in the fair value of the hedged item.

Cash flow hedges – interest rate risks. Deutsche Telekom mainly uses payer interest rate swaps and forward-payer interest rate swaps (pay fixed, receive variable) to hedge the cash flow risk of existing and future debt. The interest payments to be made in the hedging period are the hedged items and are recognized in profit or loss in the same period. Hedged items may be individual liabilities, portfolios of liabilities, or combinations of liabilities and derivatives (aggregate risk exposure). The changes in the cash flows of the hedged items resulting from changes in the USD LIBOR rate and the EURIBOR rate are offset against the changes in the cash flows of the interest rate swaps. The aim of this hedging is to transform the variable-interest bonds into fixed-income debt, thus hedging the cash flows of the financial liabilities. Credit risks are not part of the hedging and, on account of Deutsche Telekom's rating, have only an immaterial effect on the changes in the fair value of the hedged item.

Cash flow hedges – currency risks. Deutsche Telekom entered into currency derivative and cross-currency swaps (pay fixed, receive variable) to hedge cash flows not denominated in a functional currency. The payments in foreign currency to be made in the hedging period are the hedged items and are recognized in profit or loss in the same period. The terms of the hedging relationships will end in the years 2023 through 2033. In the case of rolling cash flow hedges for hedging currency risks, short-term currency forwards are entered into, which are then extended by means of follow-up transactions.

At each reporting date, the effectiveness of the fair value and cash flow hedges is reviewed prospectively based on the main contractual features and determined retrospectively in the form of a statistical regression analysis; for rolling foreign currency hedges the effectiveness is reviewed using the dollar offset test. All hedging relationships were sufficiently effective as of the reporting date.

Hedging of a net investment. The hedges of the net investment in T-Mobile US against fluctuations in the U.S. dollar spot rate de-designated in prior periods did not generate any effects in 2022. The amounts recognized in total other comprehensive income would be reclassified in the event of the disposal of T-Mobile US.

Conditions of derivative financial instruments in hedging relationships

millions of €

	2023					
	Nominal amount	Average hedge rate	Average swap rate received	Average swap rate paid	Average margin paid	Average margin received
Fair value hedges						
Interest rate risk						
EURIBOR	2,025		0.6202 %	6M EURIBOR	0.3159 %	
USD LIBOR	702		2.4860 %	3M USD LIBOR	1.1020 %	
Cross-currency risk						
USD/EUR						
GBP/EUR	353	0.8506	1.2500 %	3M EURIBOR	0.4625 %	
GBP/EUR						
Other	79					
Cash flow hedges						
Currency risk						
Buy						
USD/EUR	291	1.1551				
GBP/EUR	53	0.8362				
Sell						
USD/EUR	241	1.2246				
CHF/EUR	9	1.0578				
Interest rate risk						
EURIBOR	2,025		6M EURIBOR	-0.2190 %		0.3159 %
EURIBOR	353		3M EURIBOR	-0.1380 %		0.4620 %
USD LIBOR						

millions of €						
2024-2027						
	Nominal amount	Average hedge rate	Average swap rate received	Average swap rate paid	Average margin paid	Average margin received
Fair value hedges						
Interest rate risk						
EURIBOR	6,750		1.0418 %	6M EURIBOR	0.4734 %	
USD LIBOR	1,171		3.6000 %	3M USD LIBOR	1.3635 %	
Cross-currency risk						
USD/EUR						
GBP/EUR	339	0.8853	2.5000 %	3M EURIBOR	0.6485 %	
GBP/EUR						
Other	263					
Cash flow hedges						
Currency risk						
Buy						
USD/EUR	171	1.0211				
GBP/EUR						
Sell						
USD/EUR	349	1.2355				
CHF/EUR	20	1.0578				
Interest rate risk						
EURIBOR	3,400		6M EURIBOR	-0.0750 %		0.4172 %
EURIBOR						
USD LIBOR	1,405		3M USD LIBOR	4.7500 %		2.0707 %

millions of €						
2028 and thereafter						
	Nominal amount	Average hedge rate	Average swap rate received	Average swap rate paid	Average margin paid	Average margin received
Fair value hedges						
Interest rate risk						
EURIBOR	5,050		1.6845 %	6M EURIBOR	0.9952 %	
USD LIBOR	3,854		4.3118 %	3M USD LIBOR	1.6737 %	
Cross-currency risk						
USD/EUR						
GBP/EUR	633	0.8688	3.1111 %	6M EURIBOR	0.9253 %	
GBP/EUR	292	0.8553	2.2500 %	3M EURIBOR	0.8500 %	
Other	555					
Cash flow hedges						
Currency risk						
Buy						
USD/EUR	1,758	1.3444	8.7815 %	7.7825 %		
GBP/EUR	441	0.9052	7.9316 %	7.5742 %		
Sell						
USD/EUR						
CHF/EUR						
Interest rate risk						
EURIBOR	1,782		6M EURIBOR	3.5241 %		0.7289 %
EURIBOR	2,206		3M EURIBOR	3.9842 %		1.6977 %
USD LIBOR						

Nominal and carrying amounts of derivative financial instruments in hedging relationships^a

millions of €

	2022					2021					Disclosure of the hedging instruments in the statement of financial position
	Nominal amount of the hedging instruments		Carrying amount of the hedging instruments		Change in value of the hedging instruments in the reporting period for determining ineffectiveness	Nominal amount of the hedging instruments		Carrying amount of the hedging instruments		Change in value of the hedging instruments in the reporting period for determining ineffectiveness	
	in foreign currencies	in euros	Financial assets	Financial liabilities		in foreign currencies	in euros	Financial assets	Financial liabilities		
Fair value hedges											
Interest rate risk		19,552	0	(2,101)	(3,030)		20,224	972	(3)	(957)	Other financial assets/ financial liabilities
Of which: EUR		13,825					14,825				
Of which: USD	6,115	5,727				6,115	5,399				
Of which: GBP	0	0				0	0				
Cross-currency risk		4,071	0	(376)	(596)		4,071	223	(8)	(114)	Other financial assets/ financial liabilities
Of which: USD	1,747	1,557				1,747	1,557				
Of which: GBP	1,400	1,617				1,400	1,617				
Of which: other		897					897				
Cash flow hedges											
Currency risk		3,334	466	(29)	187		4,214	321	(1)	257	Other financial assets/ financial liabilities
Buy											
USD/EUR	2,806	2,220				2,872	2,245				
GBP/EUR	447	495				1,155	1,277				
Other		0					3				
Sell											
USD/EUR	622	590				746	654				
Other		29					36				
Interest rate risk		11,171	568	(15)	582		9,606	43	(105)	67	Other financial assets/ financial liabilities
USD LIBOR	1,500	1,405				2,750	2,428				
EURIBOR		9,766					7,178				

^a In this and the following tables on hedging relationships, losses are shown as negative amounts unless explicitly stated otherwise.

Disclosures on hedged items in hedging relationships

millions of €

		Carrying amount of the hedged items (including cumulative fair value hedge adjustments)	Cumulative adjustments to the carrying amount of the existing fair value hedges	Change in the fair value of the hedged items for determining ineffectiveness in the reporting period	Remaining balance of cumulative adjustments to the carrying amount of the terminated fair value hedges	Balance of amounts recognized in other comprehensive income relating to hedged risk (existing hedging relationships) ^a	Balance of amounts recognized in other comprehensive income relating to hedged risk (terminated hedging relationships) ^a	Presentation of the hedged items in the statement of financial position
Fair value hedges								
Interest rate risk	2022	17,856	(1,975)	3,041	259	n.a.	n.a.	Financial liabilities
	2021	20,923	799	970	277	n.a.	n.a.	
Cross-currency risk	2022	3,208	(781)	622	0	n.a.	n.a.	n.a.
	2021	4,304	59	129	0	n.a.	n.a.	
Cash flow hedges								
Currency risk	2022	n.a.	n.a.	(188)	n.a.	192	7	n.a.
	2021	n.a.	n.a.	(255)	n.a.	129	8	
Interest rate risk	2022	n.a.	n.a.	(574)	n.a.	540	(1,606)	n.a.
	2021	n.a.	n.a.	(42)	n.a.	(43)	(1,847)	
Hedges of net investment								
Currency risk	2022	n.a.	n.a.	n.a.	n.a.	794	n.a.	n.a.
	2021	n.a.	n.a.	0	n.a.	794	n.a.	

^a Figures include non-controlling interests.

Gains or losses from hedging relationships

millions of €

		Hedge ineffectiveness of existing hedging relationships recognized in profit or loss	Changes in fair value recognized directly in other comprehensive income	Amounts reclassified to profit or loss from other comprehensive income due to occurrence of the hedged items (existing hedging relationships) ^a	Amounts reclassified to profit or loss from other comprehensive income due to occurrence of the hedged items (terminated hedging relationships) ^a	Total change in other comprehensive income	Presentation of the reclassified effective amounts in profit or loss	Presentation of the ineffectiveness in profit or loss
Fair value hedges								
Interest rate risk	2022	11	n.a.	n.a.	n.a.	n.a.	n.a.	Other financial income (expense)
	2021	13	n.a.	n.a.	n.a.	n.a.	n.a.	
Cross-currency risk	2022	26	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2021	15	n.a.	n.a.	n.a.	n.a.	n.a.	
Cash flow hedges								
Currency risk	2022	(1)	188	(125)	(1)	62	Net revenue/ goods and services purchased/other financial income (expense)	Other financial income (expense)
	2021	2	255	(258)	0	(4)	Interest expense	
Interest rate risk	2022	8	575	7	241	823	Interest expense	n.a.
	2021	25	42	68	207	316	Interest expense	

^a Negative amounts represent gains in the consolidated income statement.

The recorded ineffectiveness in the consolidated income statement mainly results from the different discount rates of the hedged items (fixed-income) and designated hedging instruments (fixed-income and variable-interest). Furthermore, cross-currency interest rate hedges are impacted by effects from cross-currency basis spreads, which are included in the hedging instruments, but not in the hedged items. For some hedges, the characteristics of hedging instruments and hedged items differ, resulting in ineffectiveness. In the case of interest rate hedges on highly probable future borrowings, ineffectiveness could arise if time shifts occur. The relative amounts of the ineffectiveness are not expected to increase significantly in the future. Furthermore, there are no other potential sources of ineffectiveness.

Reconciliation of total other comprehensive income from hedging relationships^a

millions of €

	Designated risk components (effective portion)			Total designated risk components	Hedging costs ^b	Total other comprehensive income
	Cash flow hedges		Hedges of net investment			
	Currency risk	Interest rate risk	Currency risk			
At January 1, 2022	137	(1,889)	794	(958)	86	(872)
Changes recognized directly in equity	188	575		763	(52)	711
Reclassification to profit or loss due to occurrence of the hedged item	(126)	248		122	1	124
At December 31, 2022	199	(1,066)	794	(73)	35	(37)

^a Figures include non-controlling interests.

^b The hedging costs relate entirely to cross-currency basis spreads.

Derivatives. The following table shows the fair values of the various derivatives. A distinction is made depending on whether these are part of an effective hedging relationship as set out in IFRS 9 (fair value hedge, cash flow hedge, net investment hedge) or not. Other derivatives can also be embedded, i.e., a component of a composite instrument that contains a non-derivative host contract.

millions of €

	Net carrying amounts Dec. 31, 2022	Net carrying amounts Dec. 31, 2021
Assets		
Interest rate swaps		
Without a hedging relationship	16	8
In connection with fair value hedges	0	972
In connection with cash flow hedges	568	43
Currency forwards/currency swaps		
Without a hedging relationship	50	44
In connection with cash flow hedges	26	17
Cross-currency swaps		
Without a hedging relationship	441	227
In connection with fair value hedges	0	223
In connection with cash flow hedges	440	305
Other derivatives in connection with cash flow hedges	0	0
Other derivatives without a hedging relationship	414	246
Embedded derivatives	317	677
Liabilities		
Interest rate swaps		
Without a hedging relationship	85	64
In connection with fair value hedges	2,101	3
In connection with cash flow hedges	15	105
Currency forwards/currency swaps		
Without a hedging relationship	41	15
In connection with cash flow hedges	10	1
In connection with net investment hedges	0	0
Cross-currency swaps		
Without a hedging relationship	78	45
In connection with fair value hedges	376	8
In connection with cash flow hedges	19	0
Other derivatives in connection with cash flow hedges	0	0
Other derivatives without a hedging relationship	108	454
Embedded derivatives	55	7

Transfer of financial assets

Factoring transactions with substantially all risks and rewards being transferred

For two factoring agreements terminated or deconsolidated as planned in the first quarter of the financial year, expenses of EUR 10 million have been recognized on a cumulative basis since commencement of the agreements.

Factoring transactions involving the splitting of significant risks and rewards as well as the transfer of control

For one factoring agreement deconsolidated in the first quarter of the financial year, expenses of EUR 7 million have been recognized on a cumulative basis since commencement of the agreement.

Factoring transactions involving the splitting of significant risks and rewards with control remaining at Deutsche Telekom

Deutsche Telekom is party to factoring agreements under which trade receivables from consumers and business customers relating to both charges already due and charges from sales of handsets payable over a period of up to two years are sold on a revolving basis. In two transactions, subsidiaries of Deutsche Telekom sell receivables to structured entities that are also subsidiaries of Deutsche Telekom and were established for the sole purpose of these factoring agreements. The required funding is provided to these structured entities in the context of Deutsche Telekom's general Group financing. These structured entities have no assets and liabilities other than those resulting from the purchase and sale of the receivables under factoring agreements. The structured entities transfer the legal role of creditor for the receivables in each case to a bank that performs this role on behalf of the respective investors who have beneficial ownership of the receivables (administrative agent). For both agreements, these investors are ten banks and six other structured entities altogether. Deutsche Telekom does not consolidate these six other structured entities because it has no control over their relevant activities. The six other structured entities are financed through the issue of commercial paper to third parties outside the Group or, alternatively, through a credit facility provided in each case by a bank. The receivables being sold are selected from the relevant portfolios, either in an automated process in compliance with the eligibility criteria set out in the receivables purchase agreement or based on the decision of the relevant structured entity taking an obligatory minimum volume into account. Receivables are sold on a daily basis and billed on a monthly basis. The purchase price up to a specific amount will be paid out immediately upon sale; remaining portions of the purchase price will only be paid to the extent that the volume of receivables sold in the relevant portfolio decreases further accordingly or the characteristics of the receivables change. In the transactions, Deutsche Telekom is obligated to buy back aged receivables and receivables for which a write-off is imminent at nominal value. Such buy-backs do not affect the allocation of the credit risk-related losses in any way, as the latter would be passed back to the buyers in line with the agreed risk allocation. The cash flows resulting from the buy-backs normally occur in the month following the buy-back. None of the structured entities has business activities other than the purchase or sale of trade receivables or other investments. In none of the transactions is Deutsche Telekom exposed to risks other than the credit risk and late-payment risk resulting from the sold receivables agreed in the respective agreement. The risks relevant for the risk assessment with respect to the sold receivables are based on the credit risk and the late-payment risk. Deutsche Telekom bears certain portions of the credit risk in the individual transactions. The other credit risk-related losses are borne by the respective buyers. The late-payment risk in all transactions continues to be borne in full by Deutsche Telekom. Substantially all the risks and rewards of ownership of the receivables were neither transferred nor retained (allocation of the material risks and rewards between Deutsche Telekom and the buyers). Deutsche Telekom continues to perform servicing for the receivables sold. The buyers have the right to transfer the servicing to third parties for no specific reason. Although Deutsche Telekom is not authorized to use the receivables sold other than in its capacity as servicer, it retains control over the receivables sold because the buyers and the structured entities do not have the practical ability to resell the purchased receivables. At the time the receivables are sold, the fair value of the expected losses is expensed. Expected future payments are presented as a component of the associated liability. Certain portions of the purchase price are initially held back and, depending on the amount of the actual defaults, are only paid to Deutsche Telekom at a later date. To the extent that such portions of the purchase price are expected to be received in the future, they are recognized at fair value. Deutsche Telekom continues to recognize the trade receivables sold to the extent of its continuing involvement, i.e., in the maximum amount with which it is still liable for the credit risk and late-payment risk inherent in the receivables sold, and recognizes a corresponding associated liability presented in liabilities to banks. The receivables and the associated liability are then derecognized in the extent to which Deutsche Telekom's continuing involvement is reduced (particularly when payment is made by the customer). The carrying amount of the receivables is subsequently reduced by the extent to which the actual losses to be borne by Deutsche Telekom resulting from the credit risk and the late-payment risk exceed the losses initially expected. This amount is recognized as an expense. Please refer to the table below for the disclosures on the continuing involvement resulting from the receivables sold.

For three factoring agreements terminated or deconsolidated as planned in the first quarter of the financial year, expenses of EUR 13 million have been recognized on a cumulative basis since commencement of the agreements.

Transfer of financial assets

millions of €

	2022					Total
	Transfer of substantially all risks and rewards		Allocation of substantially all risks and rewards			
	Partial transfer of the credit risk and full retention of the late-payment risk	Full transfer of the credit and late-payment risk	Transfer of control	Retention of control		
			Partial transfer of the credit risk and full retention of the late-payment risk	Partial or full transfer of the credit risk and full retention of the late-payment risk		
With the involvement of structured entities	Without the involvement of structured entities	With the involvement of structured entities	Without the involvement of structured entities	With the involvement of structured entities	Without the involvement of structured entities	
End of contract terms			2023–2026			
Contractual maximum volume			9,014		9,014	
Purchase prices to be paid immediately			2,107		2,107	
Volume of receivables sold as of the reporting date			2,812		2,812	
Scope of volume of receivables sold in the reporting year			658–2,138			
Provision for receivables management			0		0	
Continuing involvement						
Maximum credit risk (before credit insurance)			562		562	
Credit insurance			0		0	
Maximum late-payment risk			169		169	
Carrying amount of the continuing involvement (asset side)			525		525	
Carrying amount of the associated liability			658		658	
Fair value of the associated liability			133		133	
Buy-back agreements						
Nominal value of receivables that can be bought back at the nominal amount			2,812		2,812	
Nominal value of receivables that can be bought back at the collected amount			0		0	
Purchase price discounts recognized in profit or loss, program fees, and pro rata loss allocations						
Current reporting year			307		307	
Cumulative since commencement of the agreement			1,561		1,561	

millions of €

	2021						Total
	Transfer of substantially all risks and rewards		Allocation of substantially all risks and rewards				
	Partial transfer of the credit risk and full retention of the late-payment risk	Full transfer of the credit and late-payment risk	Transfer of control		Retention of control		
			Partial transfer of the credit risk and full retention of the late-payment risk	Partial or full transfer of the credit risk and full retention of the late-payment risk			
With the involvement of structured entities	Without the involvement of structured entities	With the involvement of structured entities	Without the involvement of structured entities	With the involvement of structured entities	Without the involvement of structured entities		
End of contract terms	2023	2022	2022	2022–2025	2022		
Contractual maximum volume	95	85	90	8,829	324	9,423	
Purchase prices to be paid immediately	95	85	80	2,041	324	2,625	
Volume of receivables sold as of the reporting date	101	75	79	2,799	250	3,304	
Scope of volume of receivables sold in the reporting year	11–49	26–75	18–32	1,533–2,046	112–296		
Provision for receivables management	0	0	0	0	0	0	
Continuing involvement							
Maximum credit risk (before credit insurance)	6	0	15	593	0	614	
Credit insurance	0	29	0	0	21	50	
Maximum late-payment risk	0	0	0	6	0	6	
Carrying amount of the continuing involvement (asset side)	0	0	0	507	0	507	
Carrying amount of the associated liability	0	0	0	599	0	599	
Fair value of the associated liability	0	0	0	91	0	91	
Buy-back agreements							
Nominal value of receivables that can be bought back at the nominal amount	0	0	79	2,743	0	2,822	
Nominal value of receivables that can be bought back at the collected amount	101	0	0	56	0	157	
Purchase price discounts recognized in profit or loss, program fees, and pro rata loss allocations							
Current reporting year	1	0	1	91	1	94	
Cumulative since commencement of the agreement	7	3	7	1,262	4	1,283	

43 Capital management

The overriding aim of Deutsche Telekom’s capital management is to strike a balance between the contrasting expectations of the following stakeholders, so that sufficient funding is available for an attractive dividend, debt repayment, responsible staff restructuring, and new investment in a sustainable and positive customer experience:

- **Shareholders** expect an appropriate, reliable return on their capital employed.
- **Providers of debt capital** expect an appropriate return and that Deutsche Telekom is able to repay its debts.
- **Employees** expect jobs that are secure, prospects for the future, and that any necessary staff restructuring will be done in a responsible manner.
- **“Entrepreneurs within the enterprise”** expect sufficient investment funding to be able to shape Deutsche Telekom’s future business and develop products, innovations, and services for the customer.
- **Society** expects Deutsche Telekom to do everything within its power to protect the environment, encourage fair and democratic co-existence, and shape the digital transformation in a responsible manner.

An important key performance indicator for the capital market communication with investors, analysts, and rating agencies is **financial flexibility**, which Deutsche Telekom determines based on **relative debt**, i.e., net debt to adjusted EBITDA. This ratio stood at 3.07x at December 31, 2022 (December 31, 2021: 3.06x). Deutsche Telekom is expected to leave the target range for relative debt of 2.25x to 2.75x on account of the business combination of T-Mobile US and Sprint until the end of 2024. Adjusted EBITDA and net debt are non-GAAP figures not governed by International Financial Reporting Standards, and their definition and calculation may vary from one company to another.

	2022	2021	2020
Relative debt^a			
$\frac{\text{Net debt}}{\text{EBITDA (adjusted for special factors)}}$	3.07x	3.06x	2.78x
Equity ratio	29.2	28.9	27.4

^a Relative debt is calculated on a quarterly basis and the calculation of the figure for 2020 includes as an input for the first quarter of 2020 historic pro forma figures for Sprint, which was included in the United States operating segment.

A further essential key performance indicator is the equity ratio, i.e., the ratio of shareholders' equity to total assets as shown in the consolidated statement of financial position. The equity ratio was 29.2 % as of December 31, 2022 (December 31, 2021: 28.9 %). The target range remains unchanged between 25 and 35 %. In addition, Deutsche Telekom maintains a liquidity reserve covering all maturities of the next 24 months.

For further information, please refer to the sections "Management of the Group" and "Development of business in the Group" in the combined management report.

The following table shows the calculation of net debt from the statement of financial position values.

millions of €	Dec. 31, 2022 ^a	Dec. 31, 2021 ^b	Change	Change %
Bonds and other securitized liabilities	93,802	93,857	(55)	(0.1)
Liabilities to banks	4,122	4,003	119	3.0
Other financial liabilities	15,107	13,730	1,377	10.0
Lease liabilities	41,063	33,767	7,296	21.6
Financial liabilities and lease liabilities	154,093	145,357	8,736	6.0
Accrued interest	(999)	(1,012)	13	1.3
Other	(805)	(855)	50	5.8
Gross debt	152,289	143,490	8,799	6.1
Cash and cash equivalents	5,767	7,617	(1,850)	(24.3)
Derivative financial assets	2,273	2,762	(489)	(17.7)
Other financial assets	1,824	969	855	88.2
Net debt	142,425	132,142	10,283	7.8

^a Including the net debt of the discontinued operation GD Towers and of the wireline business at T-Mobile US included under liabilities directly associated with non-current assets and disposal groups held for sale as of December 31, 2022.

^b Including the net debt of T-Mobile Netherlands included under liabilities directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

44 Related-party disclosures

Federal Republic of Germany and other related parties

The Federal Republic of Germany is both a direct and an indirect shareholder (via KfW Bankengruppe) and holds 30.5 % (December 31, 2021: 30.5 %) of the share capital of Deutsche Telekom AG. In previous years, this resulted in the Federal Republic of Germany representing a solid majority at the shareholders' meetings of Deutsche Telekom AG due to its level of attendance, giving it control over Deutsche Telekom. Thanks to higher levels of attendance, the Federal Republic has not had a majority of the voting rights at the shareholders' meetings of Deutsche Telekom AG since 2016. As such, it is no longer deemed to have control over Deutsche Telekom, but rather only a significant influence. Therefore, the Federal Republic and the companies controlled and jointly controlled by the Federal Republic, but not the companies over which the Federal Republic can exercise a significant influence, are classified as related parties of Deutsche Telekom. In the course of business, Deutsche Telekom deals directly with these companies, and with authorities and other government agencies as an independent party. Deutsche Telekom participates in the spectrum auctions of the Bundesnetzagentur. The acquisition of mobile spectrum through licenses may result in build-out obligations.

The Federal Posts and Telecommunications Agency (Bundesanstalt für Post und Telekommunikation; Federal Agency) has been assigned certain tasks by law that affect cross-company issues at Deutsche Telekom AG, Deutsche Post AG, and Deutsche Bank AG (as legal successor of Deutsche Postbank AG). The Federal Agency's responsibilities include the continuation of the Civil Service Health Insurance Fund (Postbeamtenkrankenkasse), the Recreation Service (Erholungswerk), the Deutsche Bundespost Institution for Supplementary Retirement Pensions for Salaried Employees and Wage Earners (Versorgungsanstalt der Deutschen Bundespost), and the Welfare Service (Betreuungswerk) for Deutsche Telekom AG, Deutsche Post AG, and Deutsche Bank AG, Frankfurt am Main, Germany (as legal successor of Deutsche Postbank AG). The coordination and administrative tasks are performed on the basis of agency agreements. Up to and including the 2012 reporting year, Deutsche Telekom AG maintained a joint pension fund, Bundes-Pensions-Service für Post und Telekommunikation e.V., Bonn (Federal Pension Service for Post and Telecommunications – BPS-PT), together with Deutsche Post AG and Deutsche Bank AG (as legal successor of Deutsche Postbank AG) for civil-servant pension plans. The German Act on the Reorganization of the Civil Service Pension Fund (Gesetz zur Neuordnung der Postbeamtenversorgungskasse – PVKNeuG) transferred the functions of BPS-PT relating to civil-servant pensions (organized within the Civil Service Pension Fund) to the existing Federal Agency effective January 1, 2013. The civil-servant pension functions are therefore performed by the Civil Service Pension Fund as an integral part of the Federal Agency. This joint Civil Service Pension Fund works for the funds of all three companies and also handles the financial administration of the pension plan for the Federal Republic on a trust basis. For the 2022 financial year, Deutsche Telekom made payments in the amount of EUR 93 million (2021: EUR 129 million, 2020: EUR 121 million). Furthermore, payments are made to the Civil Service Pension Fund in accordance with the provisions of the Act on the Reorganization of the Civil Service Pension Fund.

For further information, please refer to Note 15 "[Provisions for pensions and other employee benefits.](#)"

The Federal Republic and the companies controlled and jointly controlled by the Federal Republic are customers or suppliers of Deutsche Telekom and as such have mutual contractual relationships with Deutsche Telekom.

Material revenues, receivables, and liabilities from or to **joint ventures** and **associates** are as follows:

Revenue generated with the joint venture **GlasfaserPlus** totaled EUR 180 million (2021: n.a.; 2020: EUR n.a.), in particular from the build-out and maintenance of the FTTH network, data processing, telecommunications as well as consulting services. As of December 31, 2022, receivables amounted to EUR 62 million (December 31, 2021: n.a.) and liabilities to EUR 0 million (December 31, 2021: n.a.). In addition, capitalized contract costs of EUR 66 million (December 31, 2021: n.a.) were recognized.

Revenue generated with the joint venture **Glasfaser NordWest** totaled EUR 98 million (2021: EUR 95 million; 2020: EUR 29 million), in particular from the build-out of the FTTH network and maintenance services as well as data processing services. As of December 31, 2022, receivables amounted to EUR 10 million (December 31, 2021: EUR 13 million) and liabilities to EUR 2 million (December 31, 2021: EUR 0 million). In addition, capitalized contract costs of EUR 67 million (December 31, 2021: EUR 61 million) were recognized. Furthermore, Telekom Deutschland GmbH granted Glasfaser NordWest a shareholder loan of EUR 125 million (December 31, 2021: EUR 55 million).

Glasfaser NordWest was granted a loan of EUR 820 million from external banks. As a shareholder of Glasfaser NordWest, Telekom Deutschland assumes liability for this loan with its shares in the company by securing liens on these shares and by assigning pro rata (50 %) entitlements arising under the originated shareholder loan. In the event of conditions precedent arising, the shareholders each have also agreed to grant a loan to repay Glasfaser NordWest's existing liabilities of up to EUR 430 million. Utilization is unlikely, since Glasfaser NordWest is expected to meet its obligations and it is unlikely that the conditions precedent of the loan agreement will arise.

There are no material revenues, receivables or liabilities from or to the associate **DIV II**.

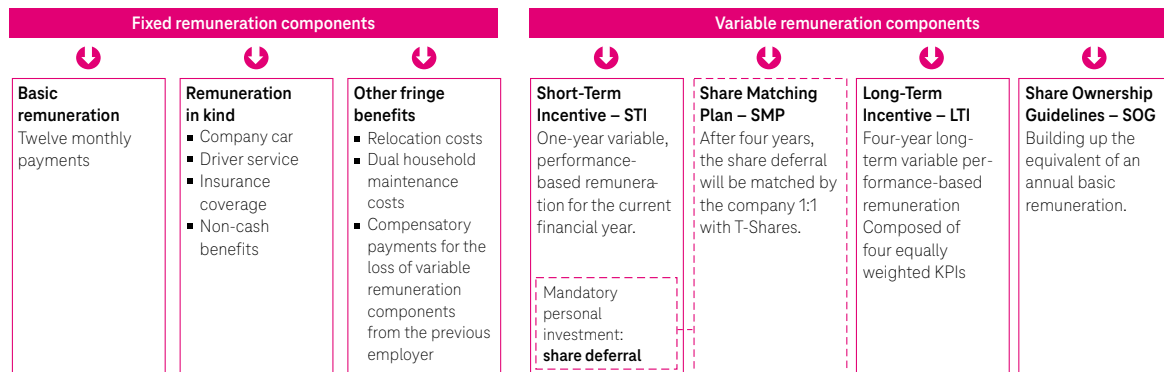
Related individuals

At the Supervisory Board meeting on February 25, 2021, the Supervisory Board adopted a new Board of Management remuneration system which takes into account the updates to the German Corporate Governance Code as amended on December 16, 2019 and the amendments to the German Stock Corporation Act (ARUG II, the Act Implementing the Second Shareholder Rights Directive). This remuneration system was submitted to a vote at the shareholders' meeting of Deutsche Telekom AG on April 1, 2021 and was approved. After this shareholders' meeting, the Supervisory Board looked into the remuneration system once again and decided on individual modifications, which were presented to the shareholders' meeting on April 7, 2022 and approved by this meeting with a high rate of approval. The detailed presentation of the system for Board of Management and Supervisory Board remuneration, disclosures on the remuneration of each individual Board of Management and Supervisory Board member, and other individual disclosures, form part of the remuneration report published separately by the Board of Management and Supervisory Board in accordance with § 162 of the German Stock Corporation Act (Aktiengesetz – AktG).

Detailed information on the remuneration of the Board of Management and the Supervisory Board is published in the separate [remuneration report](#).

The following graphic provides a simplified, schematic representation of fixed and variable remuneration components:

Remuneration of the Board of Management



In the reporting year, expenses for short-term benefits payable to members of the Board of Management and the Supervisory Board amounted to EUR 23.5 million (2021: EUR 23.1 million). These include, as Board of Management remuneration, the basic remuneration, the fringe benefits, and the Short-Term Incentive (STI), as well as Supervisory Board remuneration in the form of fixed remuneration, committee remuneration, and meeting attendance fees. Expenses of EUR 4.5 million (2021: EUR 5.2 million) for tranches II from the previous remuneration system were recorded as long-term benefits. Service cost of EUR 0.5 million (2021: EUR 0.5 million) was recorded for Board of Management pensions. In addition, expenses for share-based remuneration for Board of Management members were incurred in the amount of EUR 9.6 million (2021: EUR 5.2 million), which related to participation in the Share Matching Plan and in the Long-Term Incentive Plan (LTI). No termination benefits were expensed in 2022 or 2021.

For further information, please refer to Note 46 “Share-based payment.”

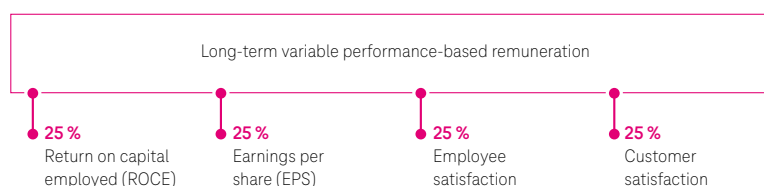
Components of the Short-Term Incentive

GROUP FINANCIAL TARGETS		+	SEGMENT FINANCIAL TARGETS		+	ESG TARGETS		×	PERFORMANCE FACTOR
% of the target amount			% of the target amount			% of the target amount			Strategic personal target
Service revenue	30 %		Service revenue	33 %		CO ₂ emissions	50 %		Value adherence
EBITDA AL (unadjusted)	30 %		EBITDA AL (unadjusted)	33 %		Energy consumption	50 %		
Free cash flow	40 %		Indirect costs AL (adjusted)	33 %					
0 %–150 %			0 %–150 %			0 %–150 %			0.8–1.2

For details on the financial and non-financial performance indicators relevant for the Short-Term Incentive, please refer to the section “Management of the Group” in the combined management report.

The expenses recorded as long-term benefits relate to participation in the annually issued four-year tranches of Variable II, which was granted for the last time for the 2020 financial year and has been replaced since the 2021 financial year by the share-based LTI. The following graphic shows the target parameters allocated to Variable II, for each of which target achievement can vary between 0 and 150 %.

Components of Variable II



The LTI, granted for the first time in 2021, is based on the share price and is set out in detail together with the Share Matching Plan (SMP) as part of the disclosures on share-based payment.

Details on the components of the Long-Term Incentive Plan can be found in Note 46 "[Share-based payment](#)."

Based on the explanations above, the obligations from short-term remuneration components for members of the Board of Management and Supervisory Board amount to EUR 13.9 million (December 31, 2021: EUR 13.4 million) and those from long-term remuneration components to EUR 23.6 million (December 31, 2021: EUR 14.8 million). Furthermore, the present value of the defined benefit obligation (DBO) from the Board of Management pension amounts to EUR 17.3 million (December 31, 2021: EUR 27.3 million).

The remuneration of the Board of Management and the Supervisory Board totaled EUR 38.1 million in the reporting year (2021: EUR 33.9 million).

Since the introduction of the new Board of Management remuneration system in 2021, new members of the Board of Management are no longer entitled to receive a Board of Management pension. Current members of the Board of Management with a contribution-based pension commitment did not receive any contributions for 2022. The pension credit accrued up to December 31, 2020 is fixed and non-forfeitable. Upon retirement, these Board of Management members shall receive their pension credit in the form of a lump sum. A special arrangement applies for the pension commitment of Timotheus Höttges, which is structured as defined benefits and upon his retirement will be paid out in the form of life-long pension payments with a pension for surviving dependents in the form of entitlements for widows and orphans. The pension commitment may be in the form of a life-long retirement pension upon reaching the age of 62 or in the form of an early retirement pension upon reaching the age of 60. Opting for the early retirement pension scheme is connected with actuarial deductions. The maximum pension level of 50 % of annual basic remuneration was reached in 2018. Since then, an annual dynamic increase of 2.4 % has been applied to this level. The reference variable for both the pension level and the dynamic increase is the basic remuneration applicable as of December 31, 2018. The pension payments to be made upon retirement increase dynamically, at a rate of 1 % per year. In the event of a permanent incapacity for work (invalidity), the beneficiary is also entitled to the pension credit accrued. The 2022 shareholders' meeting approved the extension of the pension commitment for Timotheus Höttges to include the option for up to 50 % of the vested pension benefits to be paid as a lump sum, instead of a lifetime retirement pension.

Employees elected to the Supervisory Board of Deutsche Telekom AG continue to be entitled to a regular salary as part of their employment contract. The amount of the remuneration is the adequate compensation for their job or activity within the Company. Besides this, no major transactions took place with related individuals.

The members of the Board of Management and Supervisory Board of Deutsche Telekom AG are members of supervisory boards or management boards of other companies or are shareholders of other companies with which Deutsche Telekom AG maintains relations in the ordinary course of business.

All related-party transactions are performed on an arm's length basis.

45 Remuneration of the Board of Management and the Supervisory Board

The disclosure of the total remuneration of current and former members of the Board of Management and the Supervisory Board of Deutsche Telekom AG is made in accordance with the provisions of § 314 (1) No. 6 of the German Commercial Code (Handelsgesetzbuch – HGB).

Board of Management remuneration for the 2022 financial year

Total remuneration of the members of the Board of Management for the 2022 financial year amounted to EUR 39.1 million (2021: EUR 36.8 million). This includes a total of 227,201 entitlements to matching shares with a fair value of EUR 3.2 million on the grant date (2021: EUR 3.0 million). Since 2021, the members of the Board of Management participate in a share price-based Long-Term Incentive Plan (LTI), under which entitlements were granted to a pool of 489,335 (2021: 517,260) phantom shares with a fair value of EUR 8.2 million (2021: EUR 8.8 million).

Former members of the Board of Management

A total of EUR 12.3 million (2021: EUR 10.6 million) was included for payments to and entitlements for former members of the Board of Management as well as any surviving dependents. Provisions (measured in accordance with IAS 19) totaling EUR 140.4 million (2021: EUR 210.2 million) were recognized for current pensions and vested rights to pensions for this group of persons and their surviving dependents.

Supervisory Board remuneration for the 2022 financial year

Total remuneration of the members of the Supervisory Board for 2022 amounted to EUR 3.6 million (plus VAT) (2021: EUR 2.8 million (plus VAT)) and comprises fixed annual remuneration plus meeting attendance fees.

Other

The Company has not granted any advances or loans to current or former Board of Management members or to current or former Supervisory Board members, nor were any other financial obligations to the benefit of this group of people entered into.

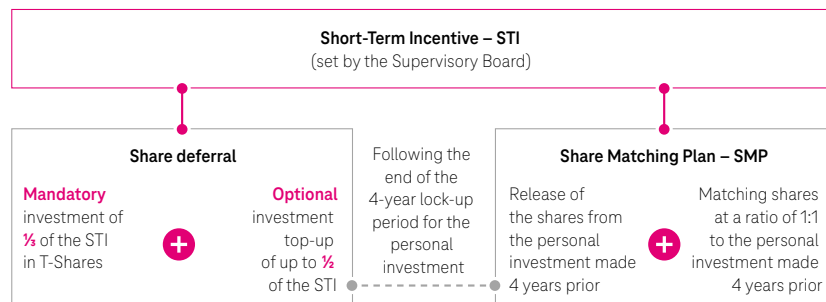
Detailed information on the remuneration of the Board of Management and the Supervisory Board is published in the separate [remuneration report](#).

46 Share-based payment

Share Matching Plan

Members of the Board of Management have a contractual obligation to invest one third of the Short-Term Incentive (STI) set by the Supervisory Board in shares of Deutsche Telekom AG. There is an option to voluntarily increase the investment volume to up to 50 % of the STI. Deutsche Telekom AG will transfer one additional share for every share acquired as part of this Board of Management member’s aforementioned personal investment (Share Matching Plan – SMP) on expiration of the four-year lock-up period starting from the date of purchase. The functioning of STI and SMP is set out in the following chart.

Functioning of the Share Matching Plan and the Short-Term Incentive for Board of Management members



Specific executives are contractually obligated to invest between a minimum of 10 % and a maximum of 50 % of their short-term variable remuneration component, which is based on the achievement of targets set for each person for the financial year (Short-Term Incentive), in Deutsche Telekom AG shares. Deutsche Telekom AG will award one additional share for every share acquired as part of this executive’s aforementioned personal investment (Share Matching Plan). These shares will be allotted to the beneficiaries of this plan on expiration of the four-year lock-up period.

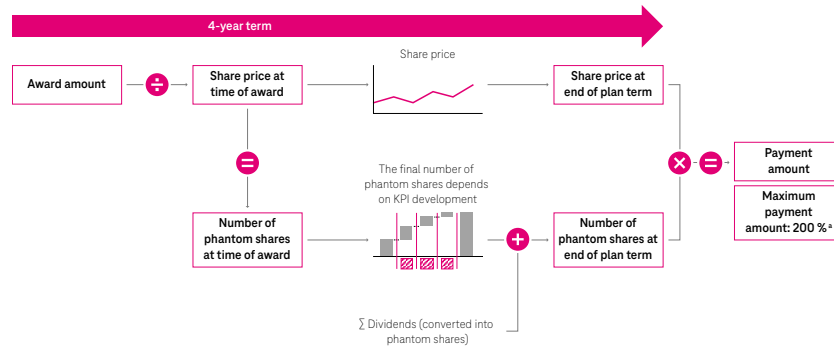
Further executives in certain management groups who were not contractually obligated to participate in the Share Matching Plan are given the opportunity to participate on a voluntary basis. This offer is only made when the Group’s free cash flow target for the preceding year has been achieved. To participate, the executives invest between a minimum of 10 % a maximum of 50 % of the target amount (100 %) of the short-term variable remuneration component (Short-Term Incentive) in shares of Deutsche Telekom AG. Deutsche Telekom AG will award additional shares for the shares acquired as part of this executive’s aforementioned personal investment (Share Matching Plan). The number of additional shares granted will depend on the management group to which the executive is assigned. The additional shares will be allotted to the beneficiaries of this plan on expiration of the four-year lock-up period.

The individual Share Matching Plans are each recognized for the first time at fair value on the grant date. To determine the fair value, the expected dividend entitlements are deducted from Deutsche Telekom AG’s share price, as there are no dividend entitlements until the matching shares have been allocated. In the 2022 financial year, a total of 0.9 million (2021: 0.9 million) matching shares were allocated to beneficiaries of the plan at a weighted average fair value of EUR 15.37 (2021: EUR 13.20). The cost is to be recognized against the capital reserves pro rata temporis until the end of the service period and amounted to EUR 11 million in total for all tranches as of December 31, 2022 (December 31, 2021: EUR 10 million). In the reporting year, reserves were reduced by transfers of shares to plan participants in a total value of EUR 8 million (2021: EUR 6 million). The capital reserves recognized for the Share Matching Plan as of December 31, 2022 amounted to EUR 26 million (December 31, 2021: EUR 23 million).

Long-Term Incentive Plan

Since the introduction of the new Board of Management remuneration system in 2021, Board of Management members also participate in the Group's existing Long-Term Incentive Plan (LTI). The amount of the annual participation is contractually defined individually for each Board of Management member. The functioning of the LTI is summarized below:

Functioning of the Long-Term Incentive Plan for Board of Management members



^a For members of the Board of Management, the maximum payment amount is set at 200 %.

Executives from the Deutsche Telekom AG Group also participate in the LTI provided they meet certain eligibility requirements or have an individual contractual commitment. At the inception of the plan, the participating executives receive a bundle of phantom shares of Deutsche Telekom AG, the value of which is contingent on the management group to which they have been assigned, and the achievement of the collective targets (financial and strategic targets) of the organizational unit to which the executive belongs. The value of the phantom shares received lies between 10 % and 43 % of the participant's annual target salary.

The initial number of phantom shares is contingent on the share price in a reference period at the inception of the plan. Over the term of the four-year plan, the value of the phantom shares changes in line with Deutsche Telekom AG's share price development. The number of phantom shares will change in line with the achievement of the targets for four equally weighted key performance indicators (return on capital employed, adjusted earnings per share, employee satisfaction, and customer satisfaction), to be determined at the end of each plan year. In addition, a dividend is granted for the phantom shares over the term of the plan. This dividend is reinvested in phantom shares, increasing the number of phantom shares held by each plan participant. At the end of the four-year plan term, the final number of phantom shares will be converted on the basis of a share price calculated in a reference period at the end of the plan and paid out in cash together with the dividend for the last year of the plan, which is not converted into phantom shares.

The individual LTIs are each recognized for the first time at fair value on the grant date. The fair value of a plan is calculated by multiplying the number of phantom shares by Deutsche Telekom AG's share price at the measurement date discounted to the reporting date. For members of the Board of Management of Deutsche Telekom AG, the fair value is calculated on the grant date taking into account a discount for a maximum payment amount of 200 %. This maximum payment amount does generally not apply for other executives. In the 2022 financial year, a total of 4.87 million (2021: 4.93 million) phantom shares were granted at a weighted average fair value of EUR 16.12 (2021: EUR 14.92). A plan must be remeasured at every reporting date until the end of the service period and expensed pro rata temporis. The cost of the LTI plans amounted to EUR 128 million for all tranches in the reporting year (2021: EUR 85 million). In 2022, the provision was utilized in the amount of EUR 59 million (2021: EUR 50 million). In addition, the carrying amount decreased by EUR 5 million as a result of increased interest rates. Following a reclassification of EUR 2 million (2021: EUR 1 million) to liabilities directly associated with non-current assets and disposal groups held for sale, the provision amounted to EUR 248 million as of December 31, 2022 (December 31, 2021: EUR 186 million).

For detailed information on Board of Management member remuneration, please refer to the [remuneration report](#) published separately by the Board of Management and the Supervisory Board.

"Shares2You" shares program for employees

Since the 2021 financial year, employees in Germany, and since the 2022 financial year, employees of some Group companies in other countries have been given the option to voluntarily invest an amount of between EUR 50 and EUR 1,000 per year in shares in Deutsche Telekom AG. Each participating employee receives one additional free share in Deutsche Telekom AG for every two shares acquired by way of this personal investment (Shares2You). The shares acquired by participants, including the free shares, are subject to a four-year lock-up period during which they cannot be sold. The program is not subject to any minimum service period or performance conditions.

The cost for the free shares must be recognized against the capital reserves at the inception of the plan. In 2021, the shares were issued to plan participants before the end of the financial year. A total of 1.0 million free shares were granted at a fair value of EUR 16.72. A corresponding expense of EUR 17.0 million was recognized as of December 31, 2021. A total of 3.1 million shares at a value of EUR 51.1 million were reclassified from treasury shares to the capital reserve as of December 31, 2021, from personal investment and for the free shares.

In 2022, the investment phase for employees in Germany ended later, on December 8, 2022. Employees declared their intention to invest EUR 35 million as personal investment. This resulted in an expense of EUR 17 million for the provision of the free shares. The number of shares and their fair value will be determined on the allocation date February 24, 2023.

In addition, in 2022, Shares2You was introduced in three Group companies in the Czech Republic and Slovakia for the first time. A total of 94,776 shares at a value of EUR 1.8 million were transferred from Deutsche Telekom AG as of November 16, 2022, from the personal investment and for the free shares.

Stock-based compensation at T-Mobile US

Under T-Mobile US' Omnibus Incentive Plan, the company may grant stock options, stock appreciation rights, restricted stock, restricted stock units (RSUs), and performance awards to employees, consultants, advisors, and non-employee directors. As of December 31, 2022, there were around 15 million T-Mobile US shares of common stock (December 31, 2021: 20 million shares) available for future grants under the incentive plan.

T-Mobile US grants RSUs to eligible employees and certain non-employee directors, and performance-based restricted stock units (PRSUs) to eligible key executives of the company. RSUs entitle the grantee to receive shares of T-Mobile US' common stock at the end of a vesting period of up to three years. PRSUs entitle the holder to receive shares of T-Mobile' US common stock at the end of a vesting period of up to three years if a specific performance goal is achieved. The number of shares ultimately received is dependent on the actual performance of T-Mobile US measured against a defined performance target.

The RSU and PRSU plans resulted in the following share-related development:

Time-based restricted stock units and restricted stock awards (RSUs)

	Number of shares	Weighted average grant-date fair value USD
Non-vested as of January 1, 2022	8,893,288	105.96
Granted	5,638,899	126.31
Vested	(4,965,728)	99.96
Forfeited	(1,193,400)	120.87
Non-vested as of December 31, 2022	8,373,059	121.09

Performance-based restricted stock units (PRSUs)

	Number of shares	Weighted average grant-date fair value USD
Non-vested as of January 1, 2022	1,889,557	108.97
Granted	242,163	154.53
Adjustments ^a	89,975	88.59
Vested	(831,163)	94.79
Forfeited	(29,749)	123.11
Non-vested as of December 31, 2022	1,360,783	124.09

^a Relates to PRSUs granted before 2022, for which the vesting period had expired in 2022 and which resulted in the issue of additional shares. These PRSUs are also included under PRSUs vested in 2022 and as such are a component of the item "Vested".

The program is measured at fair value on the grant date and recognized as expense, net of expected forfeitures, following a graded vesting schedule over the related service period. The fair value of stock awards for the RSUs is based on the closing price of T-Mobile US' common stock on the date of grant. The fair value of stock awards for the PRSUs was determined using the Monte Carlo model. Stock-based compensation expense was EUR 655 million as of December 31, 2022 (December 31, 2021: EUR 540 million).

The outstanding stock options mainly relate to the stock option plans of MetroPCS and Sprint, both of which were set up prior to the business combinations with T-Mobile US. No new awards may be granted under these plans.

The plans resulted in the following development of the T-Mobile US stock options:

	Number of shares	Weighted average exercise price USD	Weighted average remaining contractual term (years)
Stock options outstanding at January 1, 2022	695,844	53.01	3.3
Exercised	(150,112)	45.96	
Forfeited/canceled	(1,260)	25.95	
Stock options outstanding at December 31, 2022	544,472	55.02	2.4
Stock options exercisable at December 31, 2022	544,472	55.02	2.4

The exercise of stock options generated cash inflows of EUR 7 million (USD 7 million) in the 2022 financial year (2021: EUR 9 million (USD 10 million)).

47 Declaration of conformity with the German Corporate Governance Code in accordance with § 161 AktG

In accordance with § 161 AktG, the Board of Management and the Supervisory Board of Deutsche Telekom AG have submitted the mandatory Declaration of Conformity and made it available to shareholders on Deutsche Telekom AG's website. The full text of the Declaration of Conformity is available on the Deutsche Telekom website.

[Declaration of Conformity](#)

48 Events after the reporting period

Sale of shares in GD tower companies. Deutsche Telekom has agreed the partial sale of its cell tower business in Germany and Austria (GD tower companies). On February 1, 2023, the sale of 51.0 % of the shares in the GD tower companies to DigitalBridge and Brookfield was consummated in accordance with the agreement dated July 13, 2022. All necessary regulatory approvals had been duly granted and all other closing conditions met.

For further information, please refer to the section "[Changes in the composition of the Group and other transactions](#)" under "Summary of accounting policies."

Buy-back of bonds by Deutsche Telekom. On February 1, 2023, Deutsche Telekom prematurely bought back EUR and GBP bonds with a total volume of EUR 2.7 billion with terms ending between 2023 and 2027. Part of the funds received from the sale of shares in the GD tower companies was used for the buy-back.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in January 2023.

For information, please refer to Note 39 "[Contingencies](#)."

T-Mobile US share buy-back program continued. In the period from January 1, 2023 to February 10, 2023, T-Mobile US bought back around 15 million additional shares with a total volume of around USD 2 billion (around EUR 2 billion) under the share buy-back program.

For further information on the share buy-back program, please refer to the section "[Other transactions that had no effect on the composition of the Group](#)" under "Summary of accounting policies."

Issue of USD bonds by T-Mobile US. On February 9, 2023, T-Mobile US issued senior notes with a total volume of USD 3.0 billion (EUR 2.8 billion) with terms ending between 2028 and 2053 and bearing interest of between 4.950 % and 5.650 %. T-Mobile US intends to use the proceeds from the issuance of the senior notes for general business purposes, including further share buy-backs and the ongoing refinancing of existing debt.

49 Auditor's fees and services in accordance with § 314 HGB

Deloitte GmbH, Düsseldorf, member of the German Chamber of Public Accountants in Berlin, has been the independent auditor of the Company since the 2022 financial year. The responsible auditor at Deloitte is Dr. Tim Hoffmann.

The following table provides a breakdown of the auditor's professional fees recognized as expenses in the 2022 financial year:

millions of €	
	2022
Auditing services	14
Other assurance services	1
Tax advisory services	0
Other non-audit services	0
	15

Professional fees for auditing services include in particular fees for the statutory auditing of annual and consolidated financial statements and the subsidiaries included in the consolidated financial statements, fees for the review of the interim financial statements, and fees for other auditing services.

The fees recognized under other assurance services mainly relate to services in the context of assurance engagements with regard to the non-financial statement and to compliance and information systems.

In the 2021 financial year, the fees for the auditor of the consolidated financial statements included EUR 14 million for auditing services, EUR 1 million for other assurance services, EUR 0 million for tax advisory services, and EUR 0 million for other services. In the 2021 financial year, PricewaterhouseCoopers Gesellschaft mit beschränkter Haftung, Wirtschaftsprüfungsgesellschaft (PwC), Frankfurt/Main, audited the Company's financial statements.

Bonn, February 14, 2023

Deutsche Telekom AG
The Board of Management

Timotheus Höttges

Adel Al-Saleh

Birgit Bohle

Srini Gopalan

Dr. Christian P. Illek

Thorsten Langheim

Dominique Leroy

Claudia Nemat

Responsibility statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position, and profit or loss of the Group, and the Group management report, which is combined with the management report of Deutsche Telekom AG, includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Bonn, February 14, 2023

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Independent auditor's report

To Deutsche Telekom AG, Bonn

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE COMBINED MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of Deutsche Telekom AG, Bonn, and its subsidiaries (the Group) which comprise the consolidated balance sheet as at December 31, 2022, the consolidated statement of profit and loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the financial year from January 1 to December 31, 2022, and the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the combined management report for the parent and the group of Deutsche Telekom AG, Bonn, for the financial year from January 1 to December 31, 2022. In accordance with the German legal requirements, we have not audited the content of the combined non-financial statement pursuant to Sections 289b and 315b German Commercial Code (HGB) included in the combined management report as well as the statement on corporate governance pursuant to Sections 289f and 315d HGB, included in section "Corporate governance statement and declaration of conformity" within the chapter "Governance and other disclosures", including the respective declaration of conformity pursuant to Section 161 Stock Corporation Act (AktG). In addition, we have not audited the content of the disclosures described as non-management report disclosures within the chapter "Preliminary remarks" in the combined management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at December 31, 2022 and of its financial performance for the financial year from January 1 to December 31, 2022, and
- the accompanying combined management report as a whole provides an appropriate view of the Group's position. In all material respects, this combined management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the combined management report does not cover the content of the above-mentioned statements and non-management report disclosures.

Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the combined management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the combined management report in accordance with Section 317 HGB and the EU Audit Regulation (No. 537/2014; referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISA). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the combined management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1 to December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In the following we present the key audit matters we have determined in the course of our audit:

1. Accounting of revenue
2. Impacts of the development of the macroeconomic environment on the valuation of certain balance sheet items

Our presentation of these key audit matters has been structured as follows:

- a) description (including reference to corresponding information in the consolidated financial statements)
- b) auditor's response

1. Revenue recognition

a) Deutsche Telekom AG recognises revenues of billions of EUR 114.2 in the consolidated statement of profit and loss for the financial year 2022. These revenues are generated through the rendering of services, i.e. rendering mobile and fixed-network voice and data services and ICT services as well as with the sale of goods and merchandise. Due to the business model and its wide range of services, the accurate recognition of this revenue in the consolidated statement of profit and loss in compliance with the applicable International Financial Reporting Standard "Revenue from contracts with customers" (IFRS 15) requires the coordinated interaction of a variety of complex IT systems, in which a high number of transactions are initiated, processed and invoiced in an automated manner.

In view of this complexity and the dynamic development of the services, the recognition of revenue with the necessary IT systems was of particular significance in the scope of our audit.

The disclosures of the executive directors concerning revenue are contained in the sections "Accounting policies" and "Judgements and estimates" of the "Summary of accounting policies" chapter and in section "20 – Net revenue" of the "Notes to the consolidated statement of profit and loss" chapter of the notes to the consolidated financial statements.

b) In order to assess the risks of material misstatement, we obtained an understanding of the process flows and the internal controls in place in connection with the recognition of revenue by taking into account the corporate environment and the applicable accounting standards.

To the extent that identified controls were relevant to our audit of revenue, we tested the controls for design and implementation. This testing of design and implementation covered both manual controls (e.g. controls for maintaining tariff changes in the invoicing and accounting systems, controls for monitoring the automated IFRS 15 routines) and automated controls in the IT systems used for the purposes of revenue recognition (system-integrated input, processing and output controls for transaction processing). In the IT systems that are important to the implemented controls, we also tested the general IT controls – particularly those that secure authorised access, ensure system operation and changes in relation to these IT systems – for design and implementation by involving IT specialists.

Based on the risks of material misstatement identified in the scope of these audit procedures, we selected manual and automated controls, as well as related general, IT controls from the controls relevant to the audit in connection with the recognition of revenue. These controls were tested for operating effectiveness to assess their effectiveness in the reporting year with the support of IT specialists.

Apart from testing the operating effectiveness, we performed, inter alia, the following substantive procedures in response to identified risks of material misstatement:

- By involving IFRS specialists, we assessed for selected business models as to whether the accounting policies defined for these models by the executive directors of Deutsche Telekom AG result in revenue recognition according to the requirements of the relevant IFRS 15 financial reporting standard;
- We tested the reconciliation of transaction data recorded in the upstream systems to the revenue reported in the general ledger for accuracy and completeness. This also included the examination of manual adjustment postings for revenue cut-off;
- To further audit revenue, we used data analysis tools to generate evaluations of different revenue flows over time and analysed deviations from expected customer and revenue trends. We examined the customer and contract data used in the analyses by comparing the related contracts with the corresponding data in the master data systems on a sample basis.

2. Impact of the development of the macroeconomic environment on the measurement of certain balance sheet items

a) The consolidated financial statements of Deutsche Telekom AG contain accounts, the measurement of which is affected, among other things, by the development of macroeconomic conditions. In the light of the current geopolitical uncertainty, this initially relates to the economic development. In addition, the estimate of the trend of the inflation rates (especially given the currently rising energy, investment and personnel costs) and significantly higher interest rate levels have an impact on measurement.

In particular, the following items recognised in the consolidated financial statements of Deutsche Telekom AG are affected:

- Goodwill of mEUR 20,647 (prior year: mEUR 20,531) and long-term equity investments accounted for using the equity method of accounting of mEUR 1,318 (prior year: mEUR 938) included in intangible assets,
- Provisions for pensions and similar obligations of mEUR 4,150 (prior year: mEUR 6,134), and
- Lease liabilities of mEUR 38,792 (prior year: mEUR 33,134).

Goodwill is tested for impairment once a year and, if necessary, on the occasion of events that cause an impairment in accordance with IAS 36. Long-term equity investments accounted for using the equity method – in particular the long-term equity investment in GlasfaserPlus GmbH, Cologne (GlasfaserPlus) – are tested for any impairment on the occasion of events that cause an impairment. For this purpose, future cash flows are estimated at the cash-generating unit level and discounted at the weighted average cost of capital of the Company (WACC) at the date of measurement. The future cash flows are derived from the current medium-term plans adopted by the executive directors, which are based on assumptions made by the executive directors on the future market and corporate development. In particular, the economic development influences revenue and cash inflows, whereas the expenses and cash outflows are increased by the assumed inflation rate. Furthermore, the increase in the general interest rate level affects the weighted average cost of capital of the cash-generating unit.

Both the measurement of pension provisions and the measurement of lease liabilities are affected by the change in the interest rate level, with relatively small changes in the interest rate level being likely to have a significant impact on measurement, especially in the case of long-term forecasts and commitments.

In the case of the impairment tests, the results of the measurement are highly dependent on the judgment of future cash inflows by the executive directors and, in respect of all items listed above, on the respective discount rate determined by the executive directors and are therefore subject to uncertainties. Against this background and due to the complexity of the underlying measurement models, the effects of the development of the macroeconomic environment on the listed balance sheet items are of particular significance in the scope of our audit.

The disclosures provided by the executive directors on the goodwill and long-term equity investments in companies accounted for using the equity method, on pension provisions and on lease liabilities are included in the sections “Accounting policies” and “Judgements and estimates” of the “Summary of accounting policies” chapter and in section “6 – Intangible assets”, “10 – Investments accounted for using the equity method”, “13 – Financial liabilities and lease liabilities”, and “15 – Provisions for pensions and other employee benefits” of the “Notes to the consolidated financial statements”.

b) At the beginning and during our audit, we assessed to what extent the measurement processes were influenced by subjectivity, complexity, or other inherent risk factors.

With regard to the forecast of future cash flows within the scope of the impairment tests, we first assessed the reliability of the planning by means of reviews of adherence to the budget planning in the past. Subsequently, we documented the underlying planning process and critically assessed it. In addition, we assessed selected planning assumptions based on general and industry-specific market expectations for plausibility. In this context, we particularly looked at the consideration of possible impacts of external effects on the economic development. In addition, we performed sensitivity analyses. Finally, we compared the projected cash inflows in the measurement models with the medium-term planning of the Company approved by the executive directors.

In the audit of the WACC as part of the impairment tests and the discount rates used to measure pension provisions and lease liabilities, we examined the overall appropriateness of the interest rates used and obtained an understanding of the related calculation methodology.

In addition, we prepared bandwidths for selected discount interest rates and examined whether the actual discount rates used are within these ranges.

Due to the particularly high interest sensitivity of the measurement model for the long-term equity investment in GlasfaserPlus accounted for using the equity method, we additionally performed our own sensitivity analyses to ensure that the impairment determined by Deutsche Telekom AG, Bonn, is within an appropriate range.

As part of our audit, we involved internal valuation specialists. With their support, we obtained an understanding of the valuation method used at Deutsche Telekom AG, Bonn, for impairment testing purposes and the valuation of pension provisions and of the processes in place to determine the recoverable amounts.

Other Information

The executive directors and/or the supervisory board are responsible for the other information. The other information comprises

- the report of the supervisory board,
- the combined non-financial statement pursuant to Sections 289b and 315b HGB included in the combined management report,
- the non-management report disclosures included in the section "Preliminary remarks" of the combined management report,
- the corporate governance statement pursuant to Sections 289f and 315d HGB included in the chapter "Governance and other disclosures" of the combined management report, including the respective declaration of conformity according to Section 161 AktG,
- the executive directors' confirmation regarding the consolidated financial statements and the combined management report pursuant to Section 297 (2) sentence 4 and Section 315 (1) sentence 5 HGB, and
- all other parts of the annual report,
- but not the consolidated financial statements, not the audited content of the combined management report and not our auditor's report thereon.

The supervisory board is responsible for the report of the supervisory board. The executive directors and the supervisory board are responsible for the statement according to Section 161 AktG concerning the German Corporate Governance Code within the chapter "Governance and other disclosures" of the combined management report. Otherwise, the executive directors are responsible for the other information.

Our audit opinions on the consolidated financial statements and on the combined management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information identified above and, in doing so, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the audited content of the combined management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Combined Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the combined management report that as a whole provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a combined management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the combined management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the combined management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the combined management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the combined management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and in supplementary compliance with the ISA will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this combined management report.

We exercise professional judgment and maintain professional scepticism throughout the audit. We also

- identify and assess the risks of material misstatement of the consolidated financial statements and of the combined management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures relevant to the audit of the combined management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the combined management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRS as adopted by the EU and with the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the combined management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- evaluate the consistency of the combined management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- perform audit procedures on the prospective information presented by the executive directors in the combined management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the actions taken or safeguards applied to eliminate independence threats.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements for the current period and are therefore the key audit matters. We describe these matters in the auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Report on the Audit of the Electronic Reproductions of the Consolidated Financial Statements and of the Combined Management Report Prepared for Publication Pursuant to Section 317 (3a) HGB

Audit Opinion

We have performed an audit in accordance with Section 317 (3a) HGB to obtain reasonable assurance whether the electronic reproductions of the consolidated financial statements and of the combined management report (hereinafter referred to as "ESEF documents") prepared for publication, contained in the file, which has the SHA-256 value AA12A46272BE9689039D55CAB4AAE 04971F9022687F18A3C2BCA3F2EF02F4575, meet, in all material respects, the requirements for the electronic reporting format pursuant to Section 328 (1) HGB ("ESEF format"). In accordance with the German legal requirements, this audit only covers the conversion of the information contained in the consolidated financial statements and the combined management report into the ESEF format, and therefore covers neither the information contained in these electronic reproductions nor any other information contained in the file identified above.

In our opinion, the electronic reproductions of the consolidated financial statements and of the combined management report prepared for publication contained in the file identified above meet, in all material respects, the requirements for the electronic reporting format pursuant to Section 328 (1) HGB. Beyond this audit opinion and our audit opinions on the accompanying consolidated financial statements and on the accompanying combined management report for the financial year from January 1 to December 31, 2022 contained in the "Report on the Audit of the Consolidated Financial Statements and of the Combined Management Report" above, we do not express any assurance opinion on the information contained within these electronic reproductions or on any other information contained in the file identified above.

Basis for the Audit Opinion

We conducted our audit of the electronic reproductions of the consolidated financial statements and of the combined management report contained in the file identified above in accordance with Section 317 (3a) HGB and on the basis of the IDW Auditing Standard: Audit of the Electronic Reproductions of Financial Statements and Management Reports Prepared for Publication Purposes Pursuant to Section 317 (3a) HGB (IDW AuS 410 (06.2022)). Our responsibilities in this context are further described in the "Group Auditor's Responsibilities for the Audit of the ESEF Documents" section. Our audit firm has applied the IDW Standard on Quality Management: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibilities of the Executive Directors and the Supervisory Board for the ESEF Documents

The executive directors of the parent are responsible for the preparation of the ESEF documents based on the electronic files of the consolidated financial statements and of the combined management report according to Section 328 (1) sentence 4 no. 1 HGB and for the tagging of the consolidated financial statements according to Section 328 (1) sentence 4 no. 2 HGB.

In addition, the executive directors of the parent are responsible for such internal controls that they have considered necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements for the electronic reporting format pursuant to Section 328 (1) HGB.

The supervisory board is responsible for overseeing the process for the preparation of the ESEF documents as part of the financial reporting process.

Group Auditor's Responsibilities for the Audit of the ESEF Documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB. We exercise professional judgment and maintain professional scepticism throughout the audit. We also

- identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinion.
- obtain an understanding of internal control relevant to the audit on the ESEF documents in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- evaluate the technical validity of the ESEF documents, i.e. whether the file containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815, in the version in force at the balance sheet date, on the technical specification for this electronic file.
- evaluate whether the ESEF documents enable a XHTML reproduction with content equivalent to the audited consolidated financial statements and to the audited combined management report.
- evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, in the version in force at the balance sheet date, enables an appropriate and complete machine-readable XBRL copy of the XHTML reproduction.

Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as Group auditor by the annual general meeting on April 7, 2022. We were engaged by the supervisory board on July 11, 2022. We have been the Group auditor of Deutsche Telekom AG, Bonn, since the financial year 2022.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

OTHER MATTER – USE OF THE AUDITOR'S REPORT

Our auditor's report must always be read together with the audited consolidated financial statements and the audited combined management report as well as with the audited ESEF documents. The consolidated financial statements and the combined management report converted into the ESEF format – including the versions to be submitted for inclusion in the Company Register – are merely electronic reproductions of the audited consolidated financial statements and the audited combined management report and do not take their place. In particular, the ESEF report and our audit opinion contained therein are to be used solely together with the audited ESEF documents made available in electronic form.

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Dr. Tim Hoffmann.

Düsseldorf, February 21, 2023

Deloitte GmbH

Wirtschaftsprüfungsgesellschaft

Signed:
Christoph Schenk
Wirtschaftsprüfer (German Public Auditor)

Signed:
Dr. Tim Hoffmann
Wirtschaftsprüfer (German Public Auditor)

INDEPENDENT PRACTITIONER'S REPORT ON A LIMITED ASSURANCE ENGAGEMENT ON NON-FINANCIAL REPORTING

To Deutsche Telekom AG, Bonn

Engagement

We have performed an assurance engagement on the consolidated non-financial statement of Deutsche Telekom AG, Bonn/Germany, (hereafter referred to as “the Company”), which has been combined with the non-financial statement of the Company, and which is contained in the combined management report of the parent and the group, for the financial year from January 1 to December 31, 2022 (hereafter referred to as “combined non-financial statement”). As requested, we have performed a reasonable assurance engagement on the indicators “energy consumption” and “CO₂ emissions (Scope 1 and 2)” presented in the combined non-financial statement (hereafter referred to as the “indicators”) and a limited assurance engagement on all other disclosures contained in the combined non-financial statement.

Our engagement does not cover the external sources of documentation and expert opinions stated in the combined non-financial statement nor the references to the United Nations Sustainable Development Goals (SDG) marked with the SDG symbol.

Responsibilities of the Executive Directors

The executive directors of the Company are responsible for the preparation of the combined non-financial statement in accordance with Sections 289c to 289e, 315c in conjunction with 289c to 289e German Commercial Code (HGB) and Article 8 of Regulation (EU) 2020/852 of the European Parliament and the Council of June 18, 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (hereafter referred to as “EU Taxonomy Regulation”) and the delegated acts adopted thereon, as well as with the interpretation of the wording and terminology contained in the EU Taxonomy Regulation and the delegated acts adopted thereon by the executive directors, as is presented in section “Compliance with the EU taxonomy transparency requirements” of the combined non-financial statement (hereafter referred to as “interpretation”).

These responsibilities of the executive directors of the Company include the selection and application of appropriate methods regarding the combined non-financial statement and the use of assumptions and estimates for individual non-financial presentations and disclosures of the Group which are reasonable under the given circumstances. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of a combined non-financial statement that is free from material misstatement, whether due to fraud (i.e. fraudulent combined non-financial statement) or error.

Some of the wording and terminology contained in the EU Taxonomy Regulation and the delegated acts adopted thereon are still subject to considerable interpretation uncertainty and have not yet been officially clarified. Therefore, the executive directors have laid down their own interpretation of the EU Taxonomy Regulation and of the delegated acts adopted thereon in section “Compliance with the EU taxonomy transparency requirements” of the combined non-financial statement. They are responsible for the reasonableness of this interpretation. As there is the immanent risk that indefinite legal concepts may allow for various interpretations, the legal conformity of the interpretation is prone to uncertainty.

The preciseness and completeness of environmental data of the combined non-financial statement, which include the indicators, is subject to inherent restrictions resulting from the way in which the data was collected and calculated and from the assumptions made.

Independence and Quality Assurance of the Audit Firm

We have fulfilled the requirements of German professional law on independence and further professional rules of conduct.

Our audit firm applies the national statutory rules and professional pronouncement – especially the Professional Charter for German Public Auditors and Sworn Auditors (BS WP/vBP) as well as the Quality Assurance Standard: Quality Assurance Requirements in Audit Practices (IDW QS 1) promulgated by the Institut der Wirtschaftsprüfer (IDW) – and therefore maintains an extensive quality assurance system comprising documented rules and measures in respect of compliance with professional rules of conduct, professional standards and relevant statutory and other legal requirements.

Responsibilities of the Independent Practitioner

Our responsibility in each case is to express a conclusion on the indicators “energy consumption” and “CO₂ emissions (Scope 1 and 2)” presented in the combined non-financial statement based on our work performed within our reasonable assurance engagement as well as to express a conclusion on all other disclosures contained in the combined non-financial statement based on our work performed within our limited assurance engagement.

We conducted our work in accordance with the International Standard on Assurance Engagements 3000 (Revised): “Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 (Revised))”, issued by the IAASB. This standard requires that we plan and perform the assurance engagement so that we

- obtain reasonable assurance to conclude whether the indicators presented in the combined non-financial statement of the Company for the period from January 1 to December 31, 2022 have been stated by the executive directors, in all material respects, in accordance with Sections 315c in conjunction with 289c to 289e HGB, and
- obtain limited assurance to conclude whether matters have come to our attention to cause us to believe that all other disclosures contained in the combined non-financial statement of the Company, with the exception of the external sources of documentation and expert opinions stated therein and the references to the United Nations Sustainable Development Goals (SDG) marked with the SDG symbol, have not been prepared, in all material respects, in accordance with Sections 289c to 289e, 315c in conjunction with 289c to 289e HGB, and the EU Taxonomy Regulation and the delegated acts adopted thereon, as well as with the interpretation by the executive directors presented in section “Compliance with the EU taxonomy transparency requirements” of the combined non-financial statement.

The procedures performed in that part of our engagement to obtain limited assurance are less in extent than for a reasonable assurance engagement; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. The choice of assurance work is subject to the practitioner’s professional judgement.

Within the scope of our assurance engagement, which we mostly performed between October 2022 and February 2023, we performed, among others, the following procedures and other work:

- Gaining an understanding of the structure of the sustainability organisation of the Group, and of the stakeholders’ engagement,
- Inquiries of relevant personnel involved in the preparation process about the preparation process, about the internal controls relating to this process and about disclosures in the combined non-financial statement,
- Identification of potential risks of material misstatement in the combined non-financial statement,
- Analytical evaluation of selected disclosures in the combined non-financial statement,
- Comparison of selected disclosures with corresponding data in the consolidated and annual financial statements and the combined management report,
- Evaluation of the presentation of the combined non-financial statement,
- Evaluation of the process to identify taxonomy-eligible and taxonomy-aligned economic activities and the corresponding disclosures in the combined non-financial statement.

In addition to the above, we performed the following procedures and other work within the scope of that part of our assurance engagement performed to obtain reasonable assurance regarding the indicators presented in the combined non-financial statement of the Company:

- Evaluation of the design and implementation of the systems and processes for determining, processing and monitoring the disclosures relating to the indicators,
- Risk evaluation,
- Tests of details on a sample basis.

The determination of the disclosures in accordance with Article 8 of the EU Taxonomy Regulation requires the executive directors to interpret indefinite legal concepts. As there is the immanent risk that indefinite legal concepts may allow for various interpretations, the legal conformity of the interpretation, and hence our related examination, is prone to uncertainty. This uncertainty, in particular, also affects the quantification of performance indicators in measuring and/or evaluating these performance indicators.

Practitioner's Conclusion

We conclude that the indicators “energy consumption” and “CO₂ emissions (Scope 1 and 2)” presented in the combined non-financial statement of the Company for the period from January 1 to December 31, 2022 have been stated by the executive directors, in all material respects, in accordance with Sections 315c in conjunction with 289c to 289e HGB.

Based on the work performed and the evidence obtained, nothing has come to our attention that causes us to believe that all other disclosures in the combined non-financial statement of the Company for the financial year from January 1 to December 31, 2022 have not been prepared, in all material respects, in accordance with the Sections 289c to 289e, 315c in conjunction with 289c to 289e HGB as well as the EU Taxonomy Regulation and the delegated acts adopted thereon, as well as with the interpretation by the executive directors presented in section “Compliance with the EU taxonomy transparency requirements” of the combined non-financial statement.

We do not express a conclusion on the external sources of documentation and expert opinions stated in the combined non-financial statement nor on the references to the United Nations Sustainable Development Goals (SDG) marked with the SDG symbol.

Restriction of Use

We issue this report as stipulated in the engagement letter agreed with the Company (including the “General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (German Public Auditors and Public Audit Firms)” as of January 1, 2017 promulgated by the Institut der Wirtschaftsprüfer (IDW)). We draw attention to the fact that the assurance engagement was performed for the purposes of the Company and the report is solely designed for informing the Company about the findings of the assurance engagement. Therefore, it may not be suitable for another than the aforementioned purpose. Hence, this report should not be used by third parties as a basis for any (asset) decision.

We are responsible solely to the Company. However, we do not accept or assume any responsibility to third parties. Our conclusion was not modified in this respect.

Düsseldorf, February 21, 2023

Deloitte GmbH

Wirtschaftsprüfungsgesellschaft

Signed:
Dr. Tim Hoffmann
Wirtschaftsprüfer
(German Public Auditor)

Signed:
Dr. Matthias Schmidt

Additional information

Reconciliation for the change in disclosure of key figures for the prior-year in the 2022 financial year

millions of €							
	Total revenue	Profit (loss) from operations (EBIT)	EBITDA AL (adjusted for special factors)	Depreciation and amortization	Impairment losses	Segment assets	Segment liabilities
2021/December 31, 2021							
Presentation as of December 31, 2021 – as reported							
Germany	24,164	4,951	9,520	(4,003)	(14)	46,407	33,071
United States	68,359	7,217	22,697	(18,292)	(46)	196,781	129,522
Europe	11,384	1,814	4,007	(2,561)	(15)	24,135	8,284
Systems Solutions	4,019	(242)	286	(245)	(180)	4,120	3,619
Group Development	3,165	1,084	1,307	(706)	0	10,700	6,587
Group Headquarters & Group Services	2,515	(1,764)	(440)	(1,434)	(30)	38,851	58,470
Total	113,606	13,060	37,377	(27,241)	(285)	320,994	239,553
Reconciliation	(4,812)	(3)	(47)	44	1	(39,367)	(39,394)
Group	108,794	13,057	37,330	(27,197)	(284)	281,627	200,159
2021/December 31, 2021							
+/- reassignment of the security business as of July 1, 2022							
Germany	182	5	16	(3)	(1)	128	117
United States	0	0	0	0	0	0	0
Europe	0	0	0	0	0	0	0
Systems Solutions	(215)	(5)	(15)	2	2	(127)	(116)
Group Development	0	0	0	0	0	0	0
Group Headquarters & Group Services	0	0	0	0	0	0	0
Total	(33)	1	1	0	1	0	0
Reconciliation	33	(1)	0	(1)	(1)	0	(1)
Group	0	0	0	0	0	0	0
2021/December 31, 2021							
+/- change in principal/agent disclosure as of July 1, 2022							
Germany	(296)	0	0	0	0	0	0
United States	(568)	0	0	0	0	0	0
Europe	(90)	0	0	0	0	0	0
Systems Solutions	(45)	0	0	0	0	0	0
Group Development	0	0	0	0	0	0	0
Group Headquarters & Group Services	0	0	0	0	0	0	0
Total	(999)	0	0	0	0	0	0
Reconciliation	16	0	0	0	0	0	0
Group	(983)	0	0	0	0	0	0
2021/December 31, 2021							
= presentation following change in disclosure (management approach)^a							
Germany	24,050	4,956	9,536	(4,006)	(15)	46,535	33,188
United States	67,791	7,217	22,697	(18,292)	(46)	196,781	129,522
Europe	11,294	1,814	4,007	(2,561)	(15)	24,135	8,284
Systems Solutions	3,759	(247)	271	(243)	(178)	3,993	3,503
Group Development	3,165	1,084	1,307	(706)	0	10,700	6,587
Group Headquarters & Group Services	2,515	(1,764)	(440)	(1,434)	(30)	38,851	58,470
Total	112,574	13,060	37,378	(27,242)	(284)	320,995	239,554
Reconciliation	(4,763)	(3)	(47)	45	0	(39,368)	(39,395)
Group	107,811	13,057	37,330	(27,197)	(284)	281,627	200,159

^a Since the third quarter of 2022, the GD Towers business entity has been recognized in the consolidated financial statements as a discontinued operation. However, in the combined management report we continue to include the contributions by GD Towers, which is assigned to the Group Development operating segment, in the results of operations according to the management approach. For information on the agreement with DigitalBridge and Brookfield on GD Towers, please refer to the section "Group organization" in the combined management report and to the section "Summary of accounting policies" in the consolidated financial statements.

Reconciliation for the organic development in the 2022 financial year of key figures for the prior-year

For the organic presentation of figures, prior-period comparatives are adjusted for the effects of changes in the composition of the Group, exchange rate effects, and other effects. This improves the informative value of the prior-year comparatives by taking account of changes to the company's structure or exchange rates.

millions of €

	2022	2021	Change	Change %	Reconciliation to organic figures		Organic change		
					Reconciliation 2021	Of which: exchange rate effects	Organic 2021	Change	Change %
Net revenue	114,413	107,811	6,602	6.1	6,577	8,382	114,388	25	0.0
Germany	24,505	24,050	455	1.9	10	10	24,060	446	1.9
United States	75,436	67,791	7,645	11.3	8,606	8,448	76,397	(961)	(1.3)
Europe	11,158	11,294	(136)	(1.2)	(555)	(131)	10,738	420	3.9
Systems Solutions	3,811	3,759	52	1.4	14	55	3,772	39	1.0
Group Development	1,708	3,165	(1,457)	(46.0)	(1,560)	0	1,605	104	6.5
Group Headquarters & Group Services	2,407	2,515	(108)	(4.3)	52	0	2,567	(160)	(6.2)
EBITDA AL	35,989	33,893	2,096	6.2	1,701	2,486	35,594	395	1.1
Germany	10,998	8,941	2,057	23.0	(5)	3	8,936	2,062	23.1
United States	19,665	20,060	(395)	(2.0)	2,549	2,508	22,610	(2,945)	(13.0)
Europe	3,933	4,018	(85)	(2.1)	(139)	(35)	3,879	54	1.4
Systems Solutions	125	65	60	92.3	49	6	114	11	9.5
Group Development	1,956	1,479	477	32.3	(761)	0	719	1,238	n.a.
Group Headquarters & Group Services	(672)	(622)	(50)	(8.0)	(13)	(8)	(634)	(37)	(5.9)
EBITDA AL (adjusted for special factors)	40,208	37,330	2,878	7.7	2,201	2,836	39,531	677	1.7
Germany	9,837	9,536	301	3.2	(4)	3	9,532	305	3.2
United States	25,614	22,697	2,917	12.9	2,897	2,856	25,595	19	0.1
Europe	3,964	4,007	(43)	(1.1)	(165)	(36)	3,843	121	3.1
Systems Solutions	284	271	13	4.8	10	9	281	3	0.9
Group Development	964	1,307	(343)	(26.2)	(544)	0	763	201	26.4
Group Headquarters & Group Services	(437)	(440)	3	0.7	(13)	(8)	(453)	16	3.5

Glossary

4G. Refers to the fourth-generation mobile communications standard (see LTE).

5G. Refers to the mobile communications standard launched in 2020, which offers data rates in the gigabit range, mainly over the 3.6 GHz and 2.1 GHz bands, converges fixed-network and mobile communications, and supports the Internet of Things.

6G. The next-generation mobile communications standard, likely to use terahertz spectrum (0.11 THz to 0.17 THz) to offer increased capacities and lower latency. 6G is expected to launch commercially in 2030 and is being developed as a response to the increasingly distributed Radio Access Network (RAN).

AL – After Leases. Since the start of the 2019 financial year, we have taken the effects of the first-time application of IFRS 16 “Leases” into account when determining our financial performance indicators. “EBITDA after leases” (EBITDA AL) is calculated by adjusting EBITDA for depreciation of the right-of-use assets and for interest expenses on recognized lease liabilities. When determining “free cash flow after leases” (free cash flow AL), free cash flow is adjusted for the repayment of lease liabilities.

All IP – All Internet Protocol. An all-IP network makes services such as VoIP (Voice over IP), IPTV (Internet Protocol Television), data transfer, etc. available to all users anywhere at all times. The data is transmitted in switched packets using the Internet Protocol (IP).

API – Application Programming Interface. A program component which is made available by a software system for other programs to connect with it.

Carrier. A telecommunications network operator.

CDP. An initiative by institutional investors that aims to promote dialog between investors and companies on climate change issues. The project counts the world’s largest companies among its members. The companies disclose data on their greenhouse gas emissions and climate protection strategies. The CDP collects and publishes the data on an annual basis.

Cloud computing. Refers to the dynamic provision of infrastructure, software, or platform services online. Apart from a high level of automation and virtualization, the services provided have to be multi-tenant-capable and include standardized hardware and software. Customers source these services on demand and pay based on actual usage. The communication infrastructure may be the internet (public cloud), a corporate network (private cloud), or a mix of the two (hybrid cloud). Dynamic Services is a T-Systems product for the flexible procurement of ICT resources and services.

Cybersecurity. Security against internet crime.

Edge computing. Computing at the edge of the mobile communications network – not in remote data centers, but close to the customer, in the edge cloud. Edge computing opens up new applications: Anything that requires the rapid processing of large amounts of data, low latency, and particularly strong security, such as augmented reality games.

ERP – Enterprise Resource Planning. Refers to systems that help deploy an organization’s resources such as capital, equipment, and human resources as efficiently as possible in order to optimize business processes.

Fairphone. Fairphone is the first smartphone manufacturer to receive the Fairtrade certificate for the gold used in its devices. Fairphone sources rare minerals from conflict-free mining areas and continually monitors the working conditions along its supply chain. The Fairphone is also designed for longevity and easy repair, making it a particularly low-waste device.

Fiber-optic lines. Sum of all FTTx access lines (e.g., FTTC/VDSL, vectoring, and FTTH).

Fixed-network lines. Lines in operation excluding internal use and public telecommunications, including IP-based lines. The totals reported in the combined management report were calculated on the basis of precise figures and rounded to millions or thousands. Percentages were calculated on the basis of the figures shown.

FMC – Fixed-Mobile Convergence. The merging of fixed-network and mobile rate plans for customers that have both fixed-network and mobile contracts with Deutsche Telekom.

FTTB – Fiber To The Building or Fiber To The Basement. In telecommunications, FTTB means that the fiber-optic cable is terminated in the user’s house (basement).

FTTC – Fiber To The Curb. In the FTTC architecture the fiber-optic cable is not terminated inside users’ homes (see FTTH) but in a cable distribution box (gray street cabinet). Existing copper technology is used for the last section of the connection to the user.

FTTH – Fiber To The Home. In telecommunications FTTH means that the fiber-optic cable is terminated right in the user’s home or apartment.

FTTP – Fiber To The Premises. FTTP is a connection concept in which the property or company premises are connected with the local exchange using optical fiber. FTTP even reaches the customer’s local loop. FTTP is used either as a blanket term for both FTTH and FTTB, or where the fiber-optic network includes both homes and small businesses.

FTTx. This includes the different options for fiber-optic rollout: FTTB, FTTC, and FTTH.

GeSI – Global Enabling Sustainability Initiative. GeSI is a joint initiative established by the world’s leading ICT organizations with the objective of improving sustainability in the ICT sector. Deutsche Telekom is a member of GeSI, as are many other leading enterprises.

GHG Protocol. The Greenhouse Gas (GHG) Protocol divides emissions of greenhouse gases into the categories of Scope 1, Scope 2, and Scope 3, depending on their source.

- **Scope 1** includes all emissions directly generated in the Company, e.g., as a result of the consumption of fuel or fuel oil.
- **Scope 2** covers all indirect emissions associated with the generation of energy purchased by the Company from external sources, e.g., electricity and district heating.
- **Scope 3** applies to all other emissions generated along the corporate value chain. This comprises both indirect emissions in the company itself (e.g., business trips, commuting), and emissions from upstream value chain stages (e.g., procurement, logistics) and downstream stages (e.g., during customer use of products and services, during disposal).

HAPS – High Altitude Platform Systems. HAPS is a complementary concept to terrestrial networks exploiting base stations on flying platforms in the stratosphere at an altitude from 18 to 22 kilometers. It extends the coverage and capacity for mobile networks.

Hybrid router. Routers that are able to combine the customer's fixed and mobile bandwidths.

Hyper-personalization. Hyper-personalization is the use of real-time data and artificial intelligence to offer products, services, and content targeted to the specific needs of the customer, who uses a wide array of smartphones, laptops, tablets, and other devices to transmit data.

ICT – Information and Communication Technology.

IoT – Internet of Things. The IoT enables the intelligent networking of things like sensors, devices, machines, vehicles, etc., with the aim of automating applications and decision-making processes. Deutsche Telekom's IoT portfolio ranges from SIM cards and flexible data rate plans to IoT platforms in the cloud and complete solutions from a single source.

IP – Internet Protocol. Non-proprietary transport protocol in Layer 3 of the OSI reference model for inter-network communications.

IPTV – Internet Protocol Television. Refers to the digital transfer of television programs and films over a digital data network using the Internet Protocol (IP).

Latency. Latency, or response time, describes the time period between the occurrence of an event and the appearance of a visible reaction to it. In telecommunications, latency limits are governed by the laws of physics – as a function of the length of the pathway that the data need to travel through the networks. One example of this is mobile virtual-reality experiences. Anyone experiencing a virtual world while wearing VR goggles will need to receive something back from a remote server: namely an image that corresponds to the virtual explorer's expectations. The rule of thumb is quite simple: The shorter the delay, the more realistic the user's experience of the virtual worlds is likely to feel. The same goes for online gaming.

LTE – Long-Term Evolution. 4G mobile communications technology that uses, for example, wireless spectrum on the 800 MHz band freed up by the digitalization of television. Powerful TV frequencies enable large areas to be covered with far fewer radio masts. LTE supports speeds of over 100 Mbit/s downstream and 50 Mbit/s upstream.

M2M – Machine to Machine. Communication between machines. The information is automatically sent to the recipient. For example, in an emergency, alarm systems automatically send a signal to security or the police.

Mobile customers. In the combined management report, one mobile communications card corresponds to one customer. The totals were calculated on the basis of precise figures and rounded to millions or thousands. Percentages were calculated on the basis of the figures shown (see also SIM card).

MPLS – Multiprotocol Label Switching. Refers to a protocol-agnostic routing technique designed to speed up and control the traffic flow across wide area networks (WANs). Various labels are assigned to IP data packages that enable routers to forward packages through the network very quickly using the best possible route.

MTR – Mobile Termination Rate. Termination refers to the transportation of a call, for example, from the competitor's network to the Deutsche Telekom network. When a call is transported to the mobile communications network, this is referred to as mobile termination. If the call is transported to the fixed network, this is called fixed-network termination, or simply interconnection (IC). Termination rates are the fee a telephone company must pay for network interconnection when a call is terminated in a third-party network.

MVNO – Mobile Virtual Network Operator. Company that offers mobile minutes at relatively low prices without subsidized handsets. A mobile virtual network operator does not have its own wireless network, but uses the infrastructure of another mobile operator to provide its services.

Optical fiber. Channel for optical data transmission.

OTT – Over-The-Top. IP-based, platform-independent services, e.g., messaging or streaming.

Postpaid. Customers who pay for communication services after receiving them (usually on a monthly basis).

Prepaid. In contrast to postpaid contracts, prepaid communication services are services for which credit has been purchased in advance with no fixed-term contractual obligations.

PUE – Power Usage Effectiveness. PUE is the ratio of the entire electrical energy consumed in a data center or network node to the energy delivered to the computing equipment.

Retail. The sale of goods and services to end users, as opposed to resale or wholesale.

Roaming. Refers to the use of a communication device or just a subscriber identity in a visited network rather than one's home network. This requires the operators of both networks to have reached a roaming agreement and switched the necessary signaling and data connections between their networks. Roaming comes into play, for example, when cell phones and smartphones are used across national boundaries.

Router. A coupling element that connects two or more sub-networks. Routers can also extend the boundaries of a network, monitor data traffic, and block any faulty data packets.

Science Based Targets initiative. Initiative that helps companies to set climate goals that comply with emissions budgets determined based on scientific data. Companies can forward their goals to the initiative for review. The initiative was set up jointly by several organizations: CDP, United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).

SD-WAN – Software-Defined Wide Area Network. SD-WAN simplifies the management and operation of a WAN by decoupling the network hardware from its control mechanism. This concept is similar to the way in which software-defined networking implements virtualization technology in order to improve the management and operation of data centers. A key application of SD-WAN is to allow companies to build higher-performance WANs using lower-cost and commercially available internet access. This would enable companies to partially or wholly replace private WAN connection technologies.

SIM card – Subscriber Identification Module card. Chip card that is inserted into a cell phone to identify it in the mobile network. Deutsche Telekom counts its customers by the number of SIM cards activated and not churned. Customer totals also include the SIM cards with which machines can communicate automatically with one another (M2M cards). The churn rate is determined and reported based on the local markets of the respective countries.

Sovereign Cloud. Data sovereignty is the central goal of the European initiative GAIA-X. With a European concept, companies of all sizes should be able to take advantage of the flexibility and innovative power of the complete cloud stack, while at the same time having the security of always remaining the master of their data. The Sovereign Cloud from GAIA-X relies on an open software ecosystem for its technical implementation, which on the one hand enables digital solutions and on the other hand can be operated on a wide range of infrastructures.

Sustainable Development Goals (SDGs). Goals that form the core of the 2030 Agenda, which the member states of the United Nations adopted in 2015 to ensure sustainable global development. The aim is to enable economic development and prosperity – in line with social justice and taking account of the ecological limits of global growth. The Agenda applies equally to all nations of the world. The 17 SDGs define goals

to reduce poverty and hunger, promote healthcare and education, enable equality, protect the environment and climate, and make consumption sustainable.

TISAX® – Trusted Information Security Assessment Exchange. TISAX® is a cross-company assessment and exchange process for information security in the automotive industry. It enables shared recognition of assessment results between participants registered for the TISAX® process, generally automotive manufacturers and their suppliers.

ULL – Unbundled Local Loop. Competitors whose own networks do not reach into customers' premises can rent unbundled local loop lines from Deutsche Telekom. Their networks end at the local exchanges. The ULL bridges the distance between the local exchange and the termination point on the customer's premises or in their home, so it is also known as the "last mile."

Unified Communications. Integration of synchronous communication media in a standardized application environment.

Vectoring. Vectoring is a noise-canceling technology that removes the electro-magnetic interference between lines, enabling higher bit rates. However, in order to cancel noise, the operator must have control over all lines. This means that other operators cannot install their own technology in the street cabinets.

VPN – Virtual Private Network. A computer network that uses a public network to transmit private data. The data is "tunneled" through the public network and is usually encrypted in the process. However, the term "private" does not necessarily imply encrypted transmission. The variant commonly used today is the IP VPN that connects users via IP tunnels.

Wholesale. Refers to the business of selling services to third parties who sell them to their own retail customers either directly or after further processing.

XR – Extended Reality. Covers the entire virtuality spectrum: augmented reality, virtual reality, mixed reality, and simulated reality, as well as potential future developments.

- **AR – Augmented Reality.** The computer-generated enhancement of the real world with perceptual information. The information can address all the human senses. However, augmented reality often only encompasses the visual representation of information, i.e., the augmenting of images or videos with additional computer-generated information or virtual objects using overlaying/superimposition.

- **VR – Virtual Reality.** A simulated experience of the real world and its physical characteristics in real time in a computer-generated, interactive virtual environment. Unlike AR, which focuses on enhancing the real world with visual representations of additional data, VR fully immerses the user in a virtual world.

Disclaimer

This Report (particularly the section “[Forecast](#)”) contains forward-looking statements that reflect the current views of Deutsche Telekom’s management with respect to future events. They are generally identified by the words “expect,” “anticipate,” “believe,” “intend,” “estimate,” “aim,” “goal,” “plan,” “will,” “seek,” “outlook,” or similar expressions and include generally any information that relates to expectations or targets for revenue, adjusted EBITDA AL, or other performance measures.

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In addition to figures prepared in accordance with IFRS, Deutsche Telekom presents alternative non-GAAP performance measures, e.g., service revenue, EBITDA, EBITDA AL, adjusted EBITDA, adjusted EBITDA AL, adjusted core EBITDA AL, adjusted EBITDA AL margin, adjusted EBIT, EBIT margin, adjusted net profit/loss, adjusted earnings per share, free cash flow, free cash flow AL, gross and net debt, and net debt AL. These measures should be considered in addition to, but not as a substitute for, the information prepared in accordance with IFRS. Alternative performance measures are not subject to IFRS or any other generally accepted accounting principles. Other companies may define these terms in different ways.

For further information on alternative performance measures, please refer to the section “[Management of the Group](#)” in the combined management report and our [Investor Relations website](#).

The figures shown in this report were rounded in accordance with standard business rounding principles. As a result, the total indicated may not be equal to the precise sum of the individual figures.

Our Annual Report (PDF and online) includes references and links to websites with additional information not contained in the Annual Report. These references and links are purely of a supplementary nature and are only intended to simplify access to this information. Please note that this information is not part of the Annual Report.

Financial calendar

February 23, 2023	April 5, 2023	May 11, 2023
<p>Press conference on the 2022 financial year and publication of the 2022 Annual Report</p>	<p>2023 shareholders' meeting</p>	<p>Publication of the Interim Group Report as of March 31, 2023</p>
August 10, 2023	November 9, 2023	February 23, 2024
<p>Publication of the Interim Group Report as of June 30, 2023</p>	<p>Publication of the Interim Group Report as of September 30, 2023</p>	<p>Press conference on the 2023 financial year and publication of the 2023 Annual Report</p>

All dates are subject to change.

For more dates, an updated schedule, and information on webcasts, please visit our [Investor Relations website](#).

Contacts

Deutsche Telekom AG
 Friedrich-Ebert-Allee 140
 53113 Bonn, Germany
www.telekom.com

Media inquiries:
 Corporate Communications
 Phone +49 228 181 49494
 Email media@telekom.de

Inquiries relating to the T-Share:
 Investor Relations
 Phone +49 228 181 88880
 E-mail: investor.relations@telekom.de

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Our Annual Report is available [online](#).

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