Engineering for a better world.

ANNUAL REPORT

2022

GEA.com

GEA exceeds raised targets in 2022, proposes a dividend increase and expects further improvement in revenue and earnings in 2023

Order intake up substantially by 8.7 percent (organic growth of 7.6 percent)

Revenue increased significantly by 9.8 percent (organic growth of 8.9 percent)

Share of **Service business** improved to 34.9 percent (previous year: 34.2 percent)

Very good **Book-to-Bill Ratio** of 1.10 (previous year: 1.11)

Order backlog rose strongly by 14.6 percent to EUR 3,193 million

EBITDA before restructuring expenses improved significantly by 14.0 percent to EUR 712 million

EBITDA margin increased by 0.5 percentage points to 13.8 percent

ROCE continued to rise to 31.8 percent (previous year: 27.8 percent)

Net Working Capital remains low at 6.1 percent (previous year: 5.1 percent)

Net liquidity of EUR 346.4 million despite share buyback (previous year: EUR 499.8 million)

Increased **dividend** of EUR 0.95 per share proposed (previous year: EUR 0.90)

Outlook 2023:

- Organic revenue growth of more than 5 percent,
- EBITDA before restructuring expenses of EUR 730 to 790 million, targeting a corresponding EBITDA margin of more than 13.8 percent
- ROCE of at least 29 percent

Financial Key Figures of GEA

(EUR million)	2022	2021	Change in %
Results of operations			
Order intake	5,678.9	5,222.5	8.7
Book-to-bill ratio	1.10	1.11	–
Order backlog	3,192.7	2,785.4	14.6
Revenue	5,164.7	4,702.9	9.8
Organic revenue growth[1]	8.9	4.3	468 bps
Share of service revenue in %	34.9	34.2	66 bps
EBITDA before restructuring expenses	712.0	624.8	14.0
as % of revenue	13.8	13.3	50 bps
EBITDA	654.0	569.3	14.9
EBIT before restructuring expenses	529.1	443.7	19.2
EBIT	461.0	379.7	21.4
Profit for the period	401.4	305.2	31.5
ROCE in %[2]	31.8	27.8	391 bps
Financial position			
Cash flow from operating activities	471.6	675.9	–30.2
Cash flow from investing activities	–175.8	–112.5	–56.3
Free cash flow	295.8	563.4	–47.5
Net assets			
Net working capital (reporting date)	314.1	240.3	30.7
as % of revenue (LTM)	6.1	5.1	97 bps
Capital employed (reporting date)[3]	1,590.1	1,467.9	8.3
Equity	2,280.9	2,076.2	9.9
Equity ratio in %	38.5	35.3	318 bps
Net liquidity (+)/Net debt (-)[4]	346.4	499.8	–30.7
GEA Shares			
Earnings per share (EUR)	2.28	1.70	34.6
Earnings per share before restructuring expenses (EUR)	2.58	1.99	29.7
Market capitalization (EUR billion; reporting date)[5]	6.9	8.7	–20.6
Employees (FTE; reporting date)	18,236	18,143	0.5
Total workforce (FTE; reporting date)	19,255	19,252	0.0

1) By „organic", GEA means changes that are adjusted for currency and portfolio effects.
2) EBIT before restructuring expenses of the last 12 months. Capital employed average of the last 4 quarters and excluding goodwill from the acquisition of the former GEA AG by former Metallgesellschaft AG in 1999.
3) Capital employed excluding goodwill from the acquisition of the former GEA AG by former Metallgesellschaft AG in 1999.
4) Including lease liabilities of EUR 165.2 million as of December 31, 2022 (prior year EUR 165.8 million).
5) The market capitalization takes treasury shares into account.

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FISCAL YEAR 2022

Fiscal year 2022 was again an extremely challenging year for GEA. Despite the appalling war in Ukraine, rising inflation, ongoing supply chain uncertainties and the continued impact of the pandemic, the company saw further improvement in all of its key performance indicators.

GEA is therefore well on track to achieve the ambitious financial targets of its “Mission 26” strategy: average annual organic revenue growth of 4 to 6 percent, EBITDA margin before restructuring expenses of more that 15 percent, and return on capital employed (ROCE) of more than 30 percent.

Order intake

GEA’s order intake increased by a significant 8.7 percent to EUR 5,679 million (previous year: EUR 5,222 million). Of this amount, EUR 419 million was attributable to large orders with an order volume of more than EUR 15 million (previous year: EUR 293 million).

Revenue

Consolidated revenue also grew markedly by 9.8 percent to EUR 5,165 million (previous year: EUR 4,703 million). Organic consolidated revenue growth, which is adjusted for currency effects and divestments, totaled 8.9 percent (previous year: 4.3 percent).

EBITDA before restructuring expenses

EBITDA before restructuring expenses increased significantly by 14.0 percent to EUR 712 million (previous year: EUR 625 million). Accordingly, the EBITDA margin before restructuring expenses increased by 0.5 percentage points to 13.8 percent (previous year: 13.3 percent).

ROCE (Return on Capital Employed)

GEA’s ROCE amounted to 31.8 percent, which represents a clear improvement on the prior-year level of 27.8 percent.

GEA AT A GLANCE

GEA is one of the world's largest suppliers of systems and components to the food, beverage and pharmaceutical industries. The international technology group, founded in 1881, focuses on machinery and plants, as well as advanced process technology, components and comprehensive services.

With more than 18,000 employees working across five divisions and 62 countries, the group generated revenues of more than EUR 5.1 billion in 2022. GEA plants, processes, components and services enhance the efficiency and sustainability of production processes across the globe. They contribute significantly to the reduction of CO_2 emissions, plastic usage and food waste. In doing so, GEA makes a key contribution toward a sustainable future, in line with the company's purpose: "Engineering for a better world."

GEA is listed on the German MDAX and the STOXX® Europe 600 Index and is among the companies comprising the DAX 50 ESG, the MSCI Global Sustainability and the Dow Jones Sustainability Europe Indices.

Order intake

5,679
EUR million
Previous year: EUR 5,222 million

Revenue

5,165
EUR million
Previous year: EUR 4,703 million

EBITDA before restructuring expenses

712
EUR million
Previous year: EUR 625 million

EBITDA margin before restructuring expenses

13.8
percent of revenue
Previous year: 13.3 percent

Dividend proposal

0.95
EUR per share
Previous year: EUR 0.90

Employees

18,236
Full-time equivalents
Previous year: 18,143

SEPARATION & FLOW TECHNOLOGIES DIVISION

World-class components and equipment for production excellence

Separators . Homogenizers . Valves & Pumps

Separation & Flow Technologies encompass process engineering components and machines, including separators, decanters, homogenizers, valves and pumps. These technologies are at the heart of many production processes.

Our solutions contribute to a cleaner environment in numerous industrial applications. They also ensure the efficient separation and homogenization of liquids used in the production of foods, beverages, medicines and home & personal care products that consumers enjoy and rely on. GEA pumps and valves guarantee that raw materials and products move safely and efficiently through plants.

Revenue	EBITDA before restructuring expenses	EBITDA margin before restructuring expenses	Employees
1,416	360	25.4	4,907
EUR million	EUR million	percent	Full-time equivalents
Previous year: EUR 1,237 million	Previous year: EUR 303 million	Previous year: 24.5 percent	Previous year: 4,860

LIQUID & POWDER TECHNOLOGIES DIVISION

Specialists in processing equipment and integrated solutions

Liquid & Filling Technologies . Powder & Thermal Separation Technologies . New Food

Liquid & Powder Technologies provide processing equipment and integrated solutions for the dairy, food, new food, beverage, chemical and home & personal care industries. The portfolio includes brewing systems, liquid processing & filling, concentration, precision fermentation, crystallization, purification, drying, powder handling & packaging as well as systems for emission control.

GEA designs, builds, configures and installs versatile and sustainable equipment and technologies, processing lines and complete plants, for products as diverse as cell-based protein and polymers.

Revenue	EBITDA before restructuring expenses	EBITDA margin before restructuring expenses	Employees
1,716	166	9.7	5,404
EUR million	EUR million	percent	Full-time equivalents
Previous year: EUR 1,546 million	Previous year: EUR 150 million	Previous year: 9.7 percent	Previous year: 5,241

FOOD & HEALTHCARE TECHNOLOGIES DIVISION

Safe foods and medicines for a growing population

Pasta, Extrusion & Milling . Bakery . Slicing & Packaging . Food Solutions . Frozen Food . Pharma & Healthcare

Food & Healthcare Technologies provide solutions for food processing. This covers preparation, marinating and further processing of meat, poultry, seafood and vegan products, in addition to processing lines for pasta, baked goods, snacks, breakfast cereals, confectionery and pet food. GEA also offers spiral- and tunnel freezers, as well as equipment for slicing and packaging of food and milling.

GEA solutions for the pharmaceutical industry include machines and plants for processing solid dosage forms, including highly potent drugs for batch or continuous production. This portfolio also includes freeze-drying technology for liquids, such as vaccines.

Revenue	EBITDA before restructuring expenses	EBITDA margin before restructuring expenses	Employees
1,001	107	10.7	3,571
EUR million	EUR million	percent	Full-time equivalents
Previous year: EUR 937 million	Previous year: EUR 100 million	Previous year: 10.7 percent	Previous year: 3,577

FARM TECHNOLOGIES DIVISION

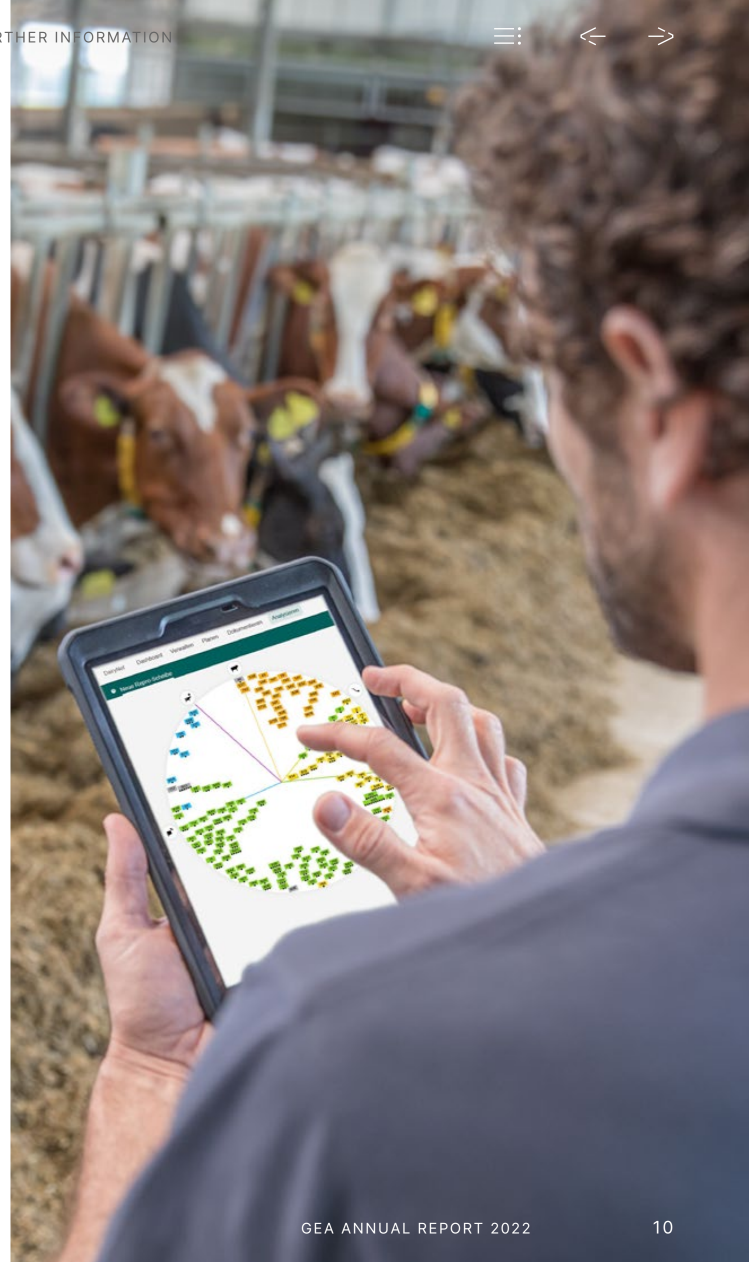
Next generation farming

Dairy Farming: Milking, Feeding, Manure, Digital Herd Management, Hygiene & Service

Farm Technologies offer integrated customer solutions for efficient and sustainable high-quality milk production and livestock farming. This includes automatic milking and feeding systems, conventional milking solutions and digital herd management. GEA manure management solutions ensure operators have the right tools for the safe storage, application and upcycling of this important resource.

All solutions are served and fully embedded into our service lifecycle. They are complemented by a wide range of hygiene products and chemicals to promote optimum udder health and superior milk quality.

Revenue	EBITDA before restructuring expenses	EBITDA margin before restructuring expenses	Employees
742	86	11.6	1,909
EUR million	EUR million	percent	Full-time equivalents
Previous year: EUR 634 million	Previous year: EUR 76 million	Previous year: 12.0 percent	Previous year: 1,865



HEATING & REFRIGERATION TECHNOLOGIES DIVISION

Industrial heating and cooling solutions for climate-friendly production processes

Turnkey installations . Compressors & compressor packages . Heat pumps . Chillers . Controls . Valves

Heating & Refrigeration Technologies combine extensive production process knowledge and integrated heating and cooling expertise. It provides sustainable, energy-saving solutions for customers in the food, beverage and other key industries. All offerings are supported by comprehensive digital and service platforms.

GEA plays an important role in the decarbonization of production processes, cities and other market activities. Via a sustainable engineering solutions platform, which includes a comprehensive portfolio of heat pumps, GEA delivers the precise temperatures critical to each customer's operation. These proven technologies provide integrated, high-efficiency solutions that significantly reduce CO_2 emissions and energy costs.

Revenue	EBITDA before restructuring expenses	EBITDA margin before restructuring expenses	Employees
524	57	10.9	1,716
EUR million	EUR million	percent	Full-time equivalents
Previous year: EUR 584 million	Previous year: EUR 59 million	Previous year: 10.2 percent	Previous year: 2,091

MISSION 26

Purpose
Engineering for a better world.

Vision
We safeguard future generations by providing sustainable solutions for the nutrition and pharmaceutical industries.

Profitable growth

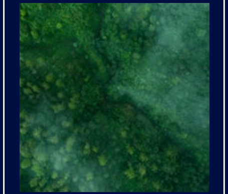
4-6% Organic Sales CAGR[1]

> 15% EBITDA margin[2]

> 30% ROCE[2,3]

Ambitious financial targets

Sustainability

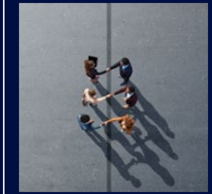


Innovation & Digitalization

New Food

EXCELLENCE

Sales Excellence



Service Excellence

Operational Excellence

Acquisitions

GEA Values: Responsibility | Integrity | Diversity | Passion | Excellence

1) Currency and portfolio adjusted
2) Before restructuring expenses; based on constant exchange rates
3) Capital employed excluding EUR ~800m goodwill from the acquisition of the former GEA AG by former Metallgesellschaft AG in 1999 (average of the last 4 quarters)

GEA's "Mission 26" strategy is based on seven key levers intended to accelerate sustainable, profitable growth. As part of this strategy, focal points include sustainability, innovation & digitalization, new food and excellence initiatives in the areas of sales, service, as well as procurement and production. In addition, the company is examining targeted acquisitions.

GEA set ambitious financial targets for itself through 2026 embodied in "Mission 26." Average organic revenue growth of 4 percent to 6 percent per year is expected, which is intended to result in revenue of some EUR 6 billion. The EBITDA margin before restructuring expenses should increase to more than 15 percent. Return on capital employed (ROCE) on a group-wide basis is intended to show a significant improvement to more than 30 percent.

MARCUS A. KETTER, CFO

In addition to controlling, accounting, treasury, tax, risk management and investor relations, Marcus A. Ketter is responsible for global IT and business process management and outsourcing. He became a member of the Executive Board in May 2019.

STEFAN KLEBERT, CEO

Stefan Klebert took the helm of the Group in February 2019 and is the direct reporting line for the CEOs of the five operating divisions and the four CEOs of the regions. Several central functions also report to Stefan Klebert, and he serves as the Group Labor Relations Director.

JOHANNES GILOTH, COO

Johannes Giloth became a member of the Executive Board in early 2020. He is responsible for worldwide procurement, production as well as supply chain and QHSE.

Stefan Klebert
CEO, GEA GROUP AKTIENGESELLSCHAFT

Dear Shareholders,

The past year was, once again, a demanding one for us. We faced the major challenge of tackling multiple, interconnected crises. The horrible war in Ukraine, rising inflation and the ongoing supply chain uncertainties all put our capabilities to the test. The restrictions and other negative effects related to COVID-19 could also still be felt. This makes our success in 2022 all the more remarkable. Despite the adverse circumstances, we were actually able to slightly exceed the upgraded forecast following a strong third quarter and again bring the fiscal year to a very successful close.

Our achievements in 2022 would have been inconceivable without the dedication of our employees. Whether in development, production, sales, service or management, they have given their all for GEA each and every day. Without their pioneering spirit, we would have no innovation; without their motivation, we would have no satisfied customers; and without their drive, we would not have achieved sustainable success. This high level of commitment is also reflected in our annual employee survey. The response rate increased again, and the ratings improved across all aspects. I would like to extend my utmost respect and gratitude to all GEA teams worldwide for the exceptional performance they deliver on a daily basis.

The trend for all key performance indicators also remained clearly in positive territory in 2022: order intake increased by 8.7 percent to EUR 5.68 billion. The order backlog amounted to EUR 3.19 billion and was thus 14.6 percent up on the prior-year figure at year-end, laying a good foundation for 2023. Revenue rose by 9.8 percent to EUR 5.16 billion. Organic revenue growth amounted to 8.9 percent. The increase in revenue also translated to higher EBITDA before restructuring expenses, which rose by 14 percent year-on-year to EUR 712 million. The EBITDA margin increased to 13.8 percent. Return on capital employed (ROCE) also improved significantly at 31.8 percent.

In short: GEA delivered. We proved our dependability. We even exceeded the 2022 targets we set back in 2019 – before the pandemic or the war in Ukraine. The EBITDA margin before restructuring expenses is particularly notable, at 13.8 percent, thereby exceeding the original range of 11.5 to 13.5 percent. Our continued positive performance also bolstered the capital market's trust in GEA. This is not least demonstrated by the title of "Investors' Darling 2022," awarded to GEA by manager magazin. We are delighted with this achievement.

As GEA's owners, you also have reason to be positive. Based on our good financial results, we will propose a further increase in the dividend to EUR 0.95 at the Annual General Meeting. This is five cents higher than last year, ensuring that you also participate in GEA's economic success.

Through a consistent entrepreneurial approach, we have regained our financial strength and are improving year after year. We also benefit from our position as a technology leader in markets characterized by reliable growth and relatively minor fluctuations. Food, beverage and pharmaceuticals will always be in demand. As a supplier, GEA stands for premium quality and performance. Our excellence initiatives in the areas of sales, service and operations are setting the course for further business growth. Our factories of the future play an especially important role here. Following the start of production at the first of these in Koszalin, Poland, in 2022, we are now investing EUR 70 million in a sustainable, state-of-the-art pharmaceutical technology center in Elsdorf, near Cologne, Germany. The second of GEA's factories of the future will be established there by 2024. This will enhance our position in the attractive freeze-drying pharmaceuticals market – a process used in the production of vaccines, for example.

This and numerous other initiatives support our growth plan, which we set out in our Mission 26 corporate strategy presented at the end of 2021. At the heart of "Mission 26" is our corporate purpose, "engineering for a better world" which conveys our commitment to act responsibly and make the world a bit better every day. In 2021, we set ourselves one of the most ambitious climate strategies in the industry, which we are rigorously pursuing. This includes reducing our greenhouse gas emissions to net zero by 2040.

To accelerate our progress, we are focusing our development capacities on new products that are more energy-saving and resource-efficient than ever. This is precisely what makes GEA solutions particularly attractive to our sustainability and cost-conscious customers and assures our long-term success. In the past fiscal year, for example, we presented "AddCool" – a new generation of spray dryers that operate with an air heat pump. These spray dryers, which reduce power consumption by up to 50 percent, demonstrate how highly we value energy- and resource-efficiency. We will soon begin marking products that are significantly more resource-efficient than before with our new "Add Better" green label, making them easier to identify.

We are proud of the contribution made by our machinery and plants to an ever more sustainable economy. Our New Food business is especially significant. This involves the development of alternative protein-rich foods, which are becoming increasingly important in securing the provision of climate friendly and safe nutrition for a growing world population. GEA is systematically expanding its strong position in this field. A prime example of this is the GEA Mobile Test Center, which we presented in 2022. This pilot plant enables our customers to extensively test their cell cultivation or fermentation processes to prepare for the commercial production of these new foods. In doing so, we help our customers significantly reduce their development risk.

Our leading role as one of the industry's most sustainable companies was also acknowledged multiple times in 2022 and is reflected in our positive ratings. We are particularly proud of GEA's nomination as a finalist in the 15th German Sustainability Award. Making it to the final round of this competition is yet further evidence of just how important corporate responsibility is to us.

We are beginning the new fiscal year with optimism, despite knowing that it will again present significant challenges – for our customers, for our suppliers and for us. Rarely have the uncertainties resulting from political turbulence, the formation of new global blocs and economic headwinds been greater than they are today. We are living through times of enormous upheaval. Our robustness is our defense. We are profitable, effective and efficient – and are therefore as stable as a company can be. However, staying that way cannot be taken for granted, so we continue to act prudently and take every precaution to ensure our continued success even in difficult times.

Commercially, we are highly motivated. We have no intention of falling behind the curve. Instead, we will shape the transformation taking place with agility and courage. This is how we will ensure our continued success in 2023 – delivering good financial results and contributing to make the world a better place.

Thank you for taking this journey with us and supporting our continued growth. We value and count on your trust and confidence.

Sincerely,

Stefan Klebert

Prof. Dieter Kempf

SUPERVISORY BOARD CHAIRMAN OF GEA GROUP AKTIENGESELLSCHAFT

Report of the Supervisory Board

During fiscal year 2022, the Supervisory Board performed the monitoring and advisory functions incumbent upon it by virtue of the law, the Articles of Association and the Rules of Procedure. In doing so, it regularly dealt with the progress and the prospects of the company as well as all specific material issues while continuously advising the Executive Board on matters relating to the management of the company.

The deliberations held during the Supervisory Board meetings and the meetings of its committees form the most important element for the discharge of its duties. In addition, the Executive Board – in compliance with its obligation to inform – kept the Supervisory Board and its committees up to date through regular, timely and comprehensive written and/or oral reports on all relevant matters and measures relating to the company, its course of business, corporate planning, strategy as well as the progress of the group. The Supervisory Board was involved in all decisions of fundamental importance to the company and assisted the Executive Board in an advisory capacity. The members of the Supervisory Board had ample opportunity to critically and constructively examine the reports and proposals for resolutions submitted by the Executive Board – both in the committees as well as during plenary meetings – and to put forward their own proposals. The chairs of the individual committees customarily attended the Supervisory Board meeting in the wake of their respective committee meetings in order to report on the financial results and the main discussion points that emerged from their committee meetings. Their reports frequently provided the full Supervisory Board with valuable and influential insights. In doing so, the in-depth preparatory work undertaken by the committees was instrumental in enhancing the overall effectiveness and quality of the Supervisory Board's activities.

Furthermore, the Chairman of the Supervisory Board and the Presiding and Sustainability Committee (formerly the Presiding Committee), the Chairwoman of the Audit Committee, and the Chairman of the Innovation and Product Sustainability Committee (formerly the Innovation Committee) all maintained regular contact with the Executive Board. Between meetings, the Chairman of the Supervisory Board and the CEO regularly discussed matters of strategy, planning, business progress, risk exposure, risk management, compliance and sustainability. The Chairwoman of the Audit Committee remained in regular contact with members of the Executive Board, in particular with the CFO, in order to be informed of current developments relevant to the work of the Audit Committee and to discuss it if necessary. Furthermore, the Chairwoman of the Audit Committee maintained regular contact with the auditors and the Head of Internal Audit. Meetings on relevant topics were also held with individual department heads. To continue the regular contact established between the Chairman of the Supervisory Board and investor representatives on topics within the Supervisory Board's area of responsibility, a governance roadshow was conducted by the Supervisory Board Chairman in early 2023. Suggestions and criticisms of GEA's corporate governance practices expressed during these discussions with investors are included in the Supervisory Board's work.

On a regular basis, the Supervisory Board received specific information on the development of order intake, revenue and earnings, the employment situation in the group and its divisions, as well as on the latest developments concerning the business, competition and the situation in Ukraine, including their impact on the group and its business activities. Detailed explanations were provided on deviations of business performance from plans and targets on the basis of supporting documents. Prior to and between the meetings, the Executive Board delivered written reports on significant events to the members of the Supervisory Board. The future prospects and the strategic orientation of the company and its divisions, as well as corporate planning, were extensively discussed and jointly agreed upon with the Supervisory Board.

Following comprehensive scrutiny and deliberations as well as discussions at committee level, the members of the Supervisory Board cast their votes on the reports and proposals for resolutions submitted by the Executive Board insofar as this was appropriate or required by law, the provisions of the Articles of Association or the Rules of Procedure. For reasons duly substantiated, in particular in matters of special urgency, resolutions were adopted by written procedure.

In the fiscal year under review, there were no conflicts of interest involving members of the Executive Board or the Supervisory Board that would have required immediate disclosure to the Chairman of the Supervisory Board and communication to the Annual General Meeting.

Focus areas of Supervisory Board deliberations

In fiscal year 2022, a total of eight meetings of the Supervisory Board were held. The Supervisory Board addressed the following key topics in particular at its meetings in the reporting period: Corporate strategy and growth strategy, financial reporting and financial performance (including the impact of inflation), employee satisfaction, compliance, the war in Ukraine and its impact on GEA, as well as the subjects of markets, customers and customer satisfaction, competition and sustainability. Prior to the full Supervisory Board meetings, employee representatives discussed material topics with the Executive Board. Since the beginning of May 2021, shareholder representatives have also been consulting regularly with the Chairman of the Supervisory Board in advance of Supervisory Board meetings.

At its February 9, 2022 meeting, the Supervisory Board dealt with the preliminary key figures for 2021. In addition, the Supervisory Board was informed about the achievements made within the Chief Operating Officer's area of responsibility since 2019, as well as the strategic pillars for production. The Liquid & Powder Technologies and Separation & Flow Technologies divisions also introduced themselves to the Supervisory Board members at this meeting. Furthermore, the Supervisory Board reviewed target achievement as part of the Executive Board compensation review for 2021 and defined targets for the reporting period. The Supervisory Board was also informed about information security within the group.

At the Supervisory Board meeting held on March 2, 2022, the annual financial statements, including the appropriation of net profits, were adopted and the consolidated financial statements for fiscal year 2021 were approved. In addition, the Supervisory Board conducted a detailed review of the report of the Chief Compliance Officer on the past fiscal year 2021. At this meeting, it also adopted the proposed resolutions for the individual items on the agenda of the virtual Annual General Meeting. Furthermore, the Supervisory Board approved the reappointment and contract extension of Johannes Giloth (COO). The Farm Technologies division also presented itself.

At the extraordinary Supervisory Board meeting on April 21, 2022, the Supervisory Board discussed Klaus Helmrich's successor as Chairman and member of the Supervisory Board. Klaus Helmrich resigned from office for personal reasons effective May 15, 2022.

At the Supervisory Board meeting held in advance of the Annual General Meeting on April 28, 2022, the members thoroughly addressed business performance, including the impact of the situation in Ukraine on the group. In addition, the Supervisory Board approved an investment project in Niederahr, Germany, and an investment in Koszalin, Poland, to achieve climate targets. The Supervisory Board was also informed about the specific details of the virtual Annual General Meeting.

At the meeting on June 22, 2022, the Supervisory Board discussed a strategic investment in a new site for freeze drying of active ingredients for the pharmaceutical industry, and approved the investment project. The Supervisory Board also adopted the pension adjustment for former Executive Board members. The Supervisory Board also addressed the findings of this year’s efficiency review, which was performed on the basis of individual interviews conducted with external support.

Furthermore, on June 22, 2022, an advanced training workshop was held for the Supervisory Board on the subject of Executive Board remuneration and remuneration reporting. The members of the Supervisory Board are also provided support in the implementation and financing of necessary or useful training measures – for example, on topics relevant to the Audit Committee – outside of such seminars organized by the company.

On June 23, 2022, the Supervisory Board held its annual strategy meeting, at which the Executive Board presented the initial results of the company’s medium-term strategy, “Mission 26”. Mission 26 focuses on themes ranging from sustainability, innovation & digitalization and new food, as well as three excellence initiatives in the areas of sales, service and operations, to the review of potential acquisitions.

At its meeting on September 21, 2022, the Supervisory Board addressed potential corporate governance improvements based on the demands of ESG rating agencies, the new German Corporate Governance Code and the voting guidelines of the main proxy advisors. The Supervisory Board members also began to consider the targets for variable Executive Board compensation in 2023. In addition, the Supervisory Board was informed about current topics in the area of compliance and the division Heating & Refrigeration Technologies.

At its meeting on December 8, 2022, the Supervisory Board deliberated on the medium-term planning for the years 2023 – 2026 and approved the budget for 2023. Succession planning for the Executive Board, management development and the 2022 employee survey were also covered in the December meeting. Furthermore, the Supervisory Board addressed the preliminary 2022 target achievement for variable Executive Board compensation and defined and adopted performance criteria for the annual bonus for the 2023 fiscal year and the 2023 – 2026 LTI tranche. The Supervisory Board was careful to ensure that both the performance criteria defined for the 2023 LTI tranche as such and their calibration directly contribute to the achievement of the targets set as part of the Mission 26 strategy.

At its meeting on December 8, 2022, the Supervisory Board also added a provision to its Rules of Procedure, according to which all members of the Supervisory Board are, with immediate effect, in principle obliged to participate in at least 75 percent of Supervisory Board and – where relevant – committee meetings.

Work of the committees

The Presiding and Sustainability Committee (formerly the Presiding Committee) held five meetings in the past fiscal year and focused on ongoing M&A projects, the Mission 26 corporate strategy, Executive Board matters (particularly the reappointment and contract extensions of Executive Board member Johannes Giloth), as well as succession planning and personnel and management development. The Committee was aware of the set target of a minimum 25 percent share of women or one woman in the Executive Board by December 31, 2026, when the decision of the contract extension has been made. There is also an agreement on wanting to continue to achieve this target in the future. Nevertheless, the Supervisory Board has decided to continue the collaboration with Johannes Giloth due to his excellent performance.

The Audit Committee held four meetings during the fiscal year. In the presence of the auditors and the CFO, it focused on the annual financial statements in conjunction with the consolidated financial statements for 2022, the quarterly statements and half-yearly financial report for 2022, and the non-financial group statement. Furthermore, the Committee's key activities included matters such as the effectiveness of the internal control, risk management and audit systems, the audit of the annual financial accounts as well as compliance management system. The Group's Chief Information Security Officer (CISO) reports on information security issues at each regular meeting of the Audit Committee. The Audit Committee also deliberated on the accounting process and the sustainability reporting including the EU Taxonomy regulation. At least once a year, the Senior Vice President Corporate Tax, Customs and Foreign Trade reports on relevant matters to one of the regular meetings. The auditors provided a detailed explanation of their audit activities, the audit process and the audit findings to the Audit Committee. The Audit Committee also addressed the subject of audit quality.

In addition, the Audit Committee submitted its proposal for the appointment of an auditor for the preceding fiscal year to the Supervisory Board, dealt with the engagement of the auditor of the annual financial accounts, determined the audit process and the key audit areas including audit fees, ensured the required independence of the auditor and addressed the permitted non-audit services provided by the latter during fiscal year 2022.

In the year under review, the Nomination Committee was convened on two occasions and dealt with matters of Supervisory Board long-term succession planning. In doing so, it regularly checks if the diversity concept for the composition of the Supervisory Board, consisting of the targets for the composition, as well as the competence profile needs additions or updates.

In fiscal year 2022, the Innovation and Product Sustainability Committee (formerly the Innovation Committee) held two meetings. The committee focused on innovation work and digitalization activities within the group. Important innovation projects such as new food and projects that focus on sustainability were presented and discussed at these meetings. At a further meeting, product and process digitalization and modularization were examined in depth. Furthermore, the committee addressed the management of risk areas in the intellectual property area.

The Mediation Committee did not meet in the year under review.

The committee chairs briefed the Supervisory Board on the activities undertaken by their committees during the Supervisory Board meetings held in the wake of the respective committee meetings.

Length of Supervisory Board membership and disclosure of individual meeting attendance

In fiscal year 2022, the meetings of the Supervisory Board and the committees were in principle held as in-person meetings. However, the members still also had the option of participating in the meetings via Microsoft Teams. Whenever Supervisory Board members were unable to attend meetings of the Supervisory Board or its committees, they asked to be excused and usually cast their votes in writing.

	Prof. Dieter Kempf (Chairman)[1]	Klaus Helmrich (Chairman)[2]	Rainer Gröbel (Deputy Chairman)	Nancy Böning[3]	Claudia Claas	Roger Falk	Prof. Jürgen Fleischer	Colin Hall[4]	Michael Kämpfert	Jörg Kampmeyer[5]	Prof. Dr. Annette G. Köhler	Brigitte Krönchen	Holly Lei	Prof. Dr. Cara Röhner[6]	Dr. Jens Riedl[7]
Length of time on the Supervisory Board	1 year	1.25 years	22 years	1 year	2 years	2 years	2 years	3.25 years	16 years	1.25 years	2,5 years	8 years	2 years	1.25 years	1 year
End of current term	2023	2022	2025	2025	2025	2025	2025	2022	2025	2025	2025	2025	2025	2022	2025
Supervisory Board meetings 2022	4	4	8	4	8	8	8	4	8	8	8	8	8	4	4
Attendance of Supervisory Board meetings	4	4	8	4	7	8	8	3	8	8	8	8	8	3	4
Attendance of Supervisory Board meetings	100%	100%	100%	100%	88%	100%	100%	75%	100%	100%	100%	100%	100%	75%	100%
Presiding and Sustainability Committee meetings 2022	3	2	5			5		2							3
Attendance at Presiding and Sustainability Committee meetings	3	2	5			5		2							3
Attendance at Presiding and Sustainability Committee meetings	100%	100%	100%			100%		100%							100%
Audit Committee meetings 2022	2	2			4						4	4			
Attendance at Audit Committee meetings	2	1			4						4	4			
Attendance at Audit Committee meetings	100%	50%			100%						100%	100%			
Innovation and Product Sustainability Committee meetings 2022						2	2			2		2			
Attendance at Innovation and Product Sustainability Committee meetings						2	2			2		2			
Attendance at Innovation and Product Sustainability Committee meetings						100%	100%			100%		100%			
Nomination Committee meetings 2022		2						2			2				
Attendance at Nomination Committee meetings		1						2			2				
Attendance at Nomination Committee meetings		50%						100%			100%				

1) Appointed by the court effective May 16, 2022
2) Left on May 15, 2022
3) Appointed by the court effective May 13
4) Left on April 28, 2022
5) Appointed by the court effective January 1 and elected by the AGM on April 28, 2022
6) Left on April 28, 2022
7) Elected by the AGM on April 28, 2022

Corporate Governance

The Supervisory Board continuously monitors the evolution of the standards set out by the Corporate Governance Code. The current Declaration of Conformity is based on the German Corporate Governance Code (GCGC) as amended on April 28, 2022, which has been in force since its publication in the Federal Gazette by the Federal Ministry of Justice and Consumer Protection (BMJV) on June 27, 2022. On December 8, 2022, the Executive Board and the Supervisory Board issued the current Declaration of Conformity in accordance with section 161 of the Aktiengesetz (AktG – Stock Corporation Act) and made it permanently accessible to the general public on the company's website gea.com under "Company – Investors – Corporate Governance – Declaration of Conformity". Further information on corporate governance can be found in the Corporate Governance Statement.

Annual financial statements and consolidated financial statements 2022

The 2022 annual financial statements of GEA Group Aktiengesellschaft, the consolidated financial statements prepared in accordance with IFRS and the combined management report and remuneration report were audited by KPMG AG Wirtschaftsprüfungsgesellschaft and received an unqualified audit opinion. Since fiscal year 2011, KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, has audited the financial statements of GEA Group Aktiengesellschaft and the group. The audit service was last put out to tender in fiscal year 2020. The head auditor responsible for conducting the audit from fiscal year 2018 to 2022 has been Michael Jessen. For the fiscal year 2023 Dr. Philipp Ohmen is the head auditor responsible for conducting the audit. The next tender of the auditing service will take place in fiscal year 2023 for fiscal year 2024.

In the presence of the auditors, the combined management report, the remuneration report, the annual financial statements of GEA Group Aktiengesellschaft, the proposal for the appropriation of net profits as well as the consolidated financial statements and the audit reports for fiscal year 2022 were extensively discussed during the meeting of the Audit Committee on March 1, 2023 and at the Supervisory Board meeting for balance sheet approval held on March 2, 2023. The auditors reported on the audit process and the key findings of their audit. They were also available to answer questions.

On the basis of the final result of the examination performed by the Audit Committee and after conducting its own examination, the Supervisory Board agreed with the auditors' findings at its meeting held on March 2, 2023 and found that there were no objections to be raised. The Supervisory Board approved the 2022 consolidated financial statements, the 2022 annual financial statements of GEA Group Aktiengesellschaft, the remuneration report and the combined management report. In doing so, the annual financial statements of GEA Group Aktiengesellschaft have been officially adopted. The Supervisory Board considers the proposal for the appropriation of net earnings to be reasonable.

The review of the company's consolidated non-financial statement for fiscal year 2022 by the Supervisory Board pursuant to section 171 (1) of the AktG was supported by a Limited Assurance Engagement conducted by KPMG. For this purpose, KPMG audited GEA's risk assessment regarding relevant information about the company's sustainability performance, evaluating the design and implementation of systems and processes designed to ascertain, process and monitor disclosures on environmental, employee-related and social matters, human rights, corruption and bribery, including data consolidation. Referring to the auditor's findings, the Audit Committee also conducted its own audit proceedings to ensure that the data submitted complied with the statutory requirements; the Chairwoman of the Audit Committee informed the Supervisory Board accordingly.

Changes in the composition of the Supervisory Board and the Executive Board

Prof. Dr. Cara Röhner stepped down from her position as an employee representative member of the Supervisory Board with effect from the close of the Annual General Meeting on April 28, 2022. Nancy Böhning was appointed by the court as her replacement on the Supervisory Board effective May 13, 2022. Colin Hall also stepped down from his position as a shareholder representative on the Supervisory Board with effect from April 28, 2022. Dr. Jens Riedl was elected as a new shareholder representative member of the Supervisory Board by resolution of the Annual General Meeting on April 28, 2022. In addition, Jörg Kampmeyer, who was appointed as a new member of the Supervisory Board effective January 1, 2022, was elected as a new member by resolution of the Annual General Meeting on April 28, 2022. Furthermore, Jörg Kampmeyer was elected as a new member of the Innovation and Product Sustainability Committee (formerly the Innovation Committee) effective January 1, 2022, and Dr. Jens Riedl was elected as a new member of the Presiding and Sustainability Committee (formerly the Presiding Committee) effective April 28, 2022. Prof. Jürgen Fleischer was elected Chairman of the Innovation and Product Sustainability Committee (formerly the Innovation Committee) with effect from January 1, 2022. He succeeds Dr. Molly Zhang, who previously chaired the committee and left the Supervisory Board on December 31, 2021. In addition, Dr. Annette Köhler was appointed to the Nomination Committee as the successor to Dr. Molly P. Zhang effective January 1, 2022.

Klaus Helmrich resigned as Chairman and member of the Supervisory Board for personal reasons on May 15, 2022. By order of the Düsseldorf Local Court dated May 13, 2022, Prof. Dieter Kempf was appointed as a new member of the Supervisory Board effective May 16, 2022. Additionally, Prof. Dieter Kempf was elected Chairman by the members of the Supervisory Board. He was also elected as a member of the Audit Committee by the shareholder representatives on the Supervisory Board.

At its meeting on March 2, 2022, the Supervisory Board extended the appointment of Johannes Giloth as member of the Executive Board and Chief Operating Officer by five years until the end of January 19, 2028.

The Supervisory Board wishes to express its gratitude, appreciation and great respect to the Executive Board, the senior management teams, employee representative bodies and, in particular, to all employees of the GEA Group, thanking them for their personal commitment and all of their work during the past fiscal year.

Düsseldorf, March 2, 2023

Prof. Dieter Kempf
Chairman of the Supervisory Board

GEA SHARES / INVESTOR RELATIONS

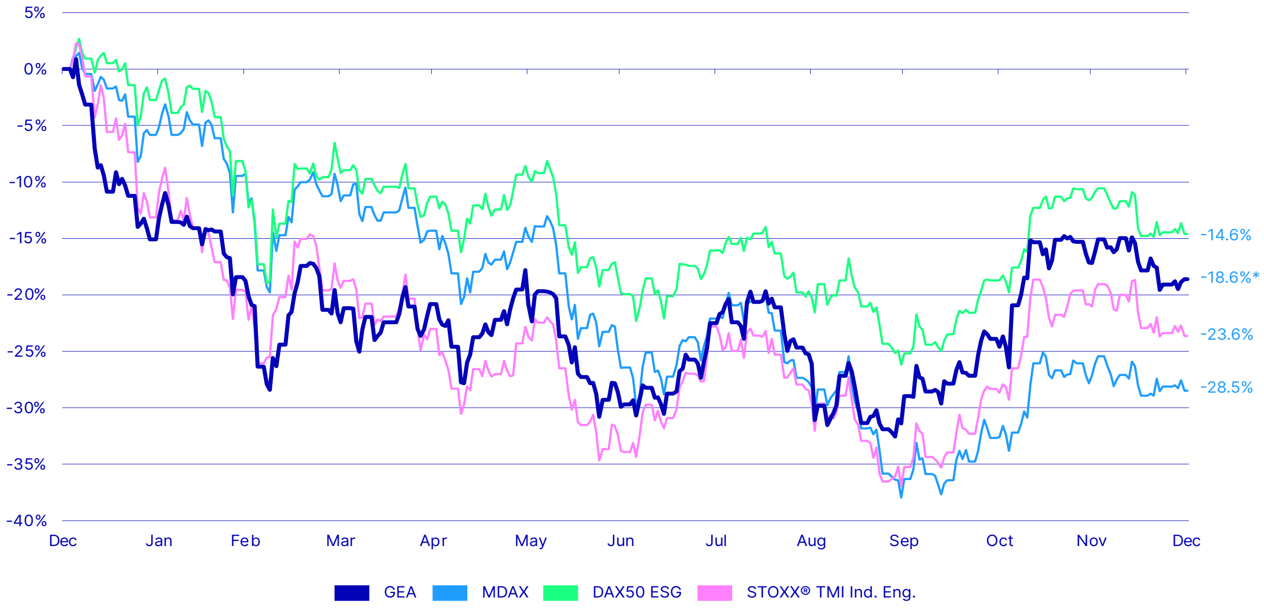
GEA shares in the capital markets

Following the sharp 68.1 percent price rise in 2021, GEA shares were unable to evade the influence of the negative market environment in 2022, which was marked in particular by the war in Ukraine and fears of inflation. Nevertheless, GEA's share price considerably outperformed numerous benchmark indices, declining 20.6 percent to EUR 38.20.

Taking into account the reinvestment of the dividend payment of EUR 0.90, GEA`s share price fell by 18.6 percent. This development outperformed the MDAX (–28.5 percent) and the STOXX® Europe TMI Industrial Engineering sector index (–23.6 percent) but underperformed the DAX 50 ESG (–14.6 percent). The share price reached its high point for the year with a closing price (XETRA) of EUR 48.52 on January 4 and its low point for the year on September 27, closing at EUR 31.66. The share price ended the year at EUR 38.20.

GEA shares have been a long-running part of the MDAX and other national and international indices for many years. In addition, GEA was among the 50 companies included in the DAX 50 ESG Index at its inception in 2020 thanks to its exemplary approach to environmental, social and corporate governance issues. On December 19, 2022, GEA was also added to the Dow Jones Sustainability Europe Index based on its significant improvement in the S&P Global Corporate Sustainability Assessment.

Performance of GEA shares in 2022 compared with benchmark indices



*) Taking into account the reinvestment of the dividend payment of EUR 0.90

Shareholder structure

The number of shares with voting rights was 180,492,172. As part of the share buyback program commenced on August 16, 2021 and completed on December 30, 2022, a total of 8,161,096 outstanding shares were repurchased with an average price of EUR 36.83 and are now held as treasury shares. Market capitalization at the end of 2022 was approximately EUR 6.9 billion (previous year: EUR 8.7 billion).

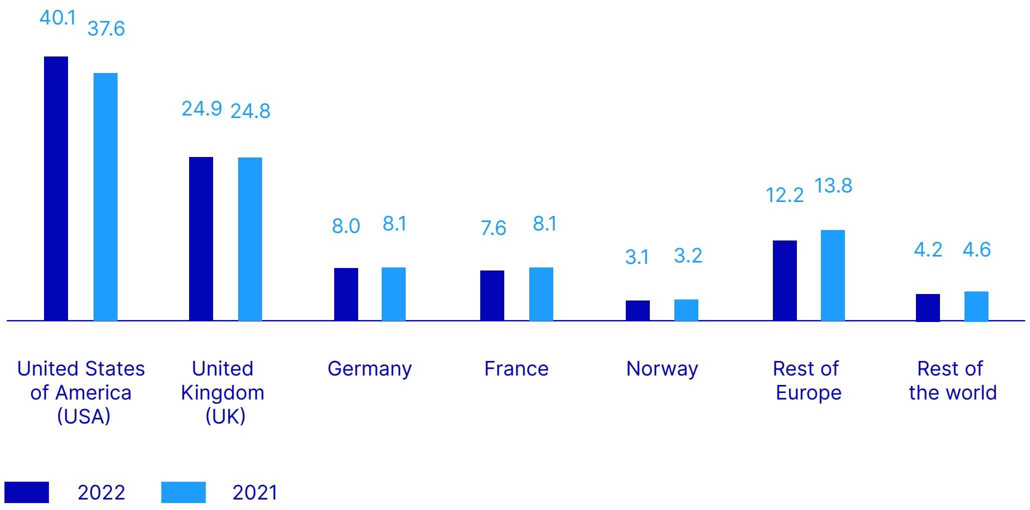
In 2022, as in previous years, GEA performed regular analyses of its shareholder structure. The latest analysis identified 99.5 percent of all 180.5 million shares. According to the analysis, institutional investors held 78.3 percent of all shares, while 14.8 percent was held by major shareholders and 2.6 percent by retail investors. At the time of the analysis, 3.9 percent was held as treasury shares.

GEA still has two investors – Kuwait Investment Office (KIA) and Oliver Capital (the principal shareholder of Groupe Bruxelles Lambert) – that are deemed to be major shareholders according to the definition applied by the German stock exchange (Deutsche Börse AG) and therefore do not count as free float as well as treasury shares. According to the latest information available to the company, KIA holds a stake of 8.4 percent (approximately 15.2 million shares) and Oliver Capital holds a stake of 6.3 percent (approximately 11.4 million shares). According to Deutsche Börse AG, GEA's free float was due to the share buyback and the two major shareholders approximately 80.7 percent as of December 31, 2022.

Regionally, investors from the United States of America particularly increased their position compared with the previous year, while the shareholdings of investors from the United Kingdom, Germany and Norway remained virtually unchanged. Investors from France and other countries slightly reduced their positions compared with 2021.

Regional breakdown of institutional shareholders*

(in %)



*) Based on 78.3% of identified shares held by institutional investors

Investor relations activities

In addition to quarterly financial reporting, GEA engages in regular dialog with capital market participants and has continued this practice during the year under review by means of in-person and virtual roadshows and conferences. GEA kept in close contact with investors in 2022 by participating in 25 investor conferences and hosting 11 roadshows – some of which were attended by the company's CEO and CFO. During these events, GEA held more than 220 meetings. Discussions focused on the impact of the Ukraine war, rising inflation and supply bottlenecks on business performance. Other topics included the progress of measures initiated to increase efficiency, the 2022 financial targets, as well as the medium-term "Mission 26" strategy.

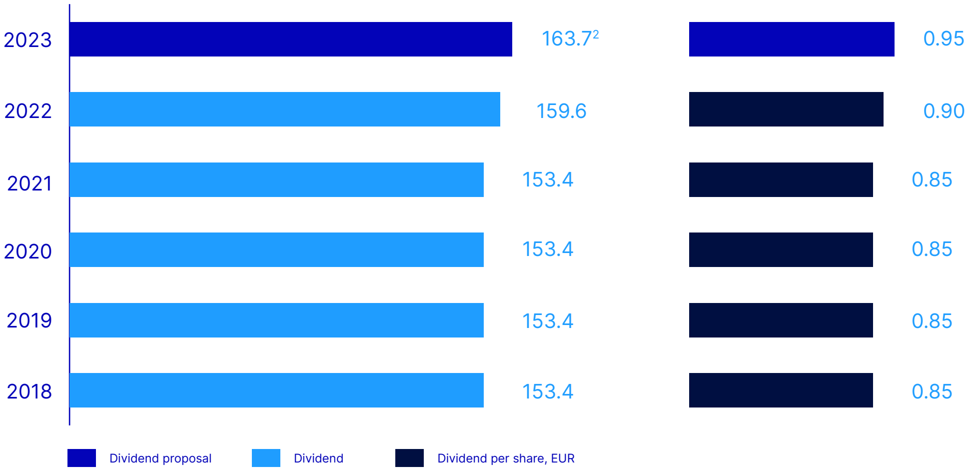
The company was recognized for its regular, proactive dialog with investors and analysts in fiscal year 2021. In September 2022, manager magazin and the HHL Leipzig Graduate School of Management awarded GEA the title of Investors' Darling 2022. GEA came first in the MDAX category in the extensive financial communication competition.

Dividend policy

GEA Group AG has a strong and sustainable business model. The company wants its shareholders to benefit from this by means of an attractive dividend. A regular payout ratio of approximately 50 percent of consolidated earnings before restructuring expenses is targeted. In addition, in the interest of an attractive dividend policy, GEA Group AG aims to pay a dividend that is 5 cents higher than the previous year's figure.

Accordingly, and in the light of the positive earnings development during fiscal year 2022, the Executive Board and Supervisory Board will propose that the Annual General Meeting approves the payout of a dividend of EUR 0.95 per share, EUR 0.05 higher than in the previous year. Based on the closing price on December 31, 2022, this corresponds to a dividend yield of 2.5 percent.

Dividend payments[1] for the last 5 years and dividend proposal
(EUR million)



1) Dividend payments respectively for the preceding fiscal year
2) Based on dividend proposal and number of shares outstanding as of December 31, 2022

Credit ratings/Debt market

Rating agencies assess the ability of a company to honor its financial obligations. These agencies determine a company's credit rating through regular meetings with a company's management and finance department, and by conducting their own extensive analyses. These ratings serve to evidence the company's creditworthiness to existing and prospective debt capital providers.

The international agencies Moody's and Fitch have been publishing credit ratings on GEA Group Aktiengesellschaft for many years. In March 2022, Moody's affirmed the Baa2 credit rating and left the outlook unchanged at stable. In April 2022, Fitch also affirmed the BBB credit rating and left the outlook unchanged at stable. These rating confirmations despite the generally uncertain environment reflect GEA Group Aktiengesellschaft's robust business model and positive financial position, in particular. As a result, GEA Group Aktiengesellschaft's credit ratings remained within the investment grade range.

	2022		2021	
Agency	Rating	Outlook	Rating	Outlook
Moody's	Baa2	stable	Baa2	stable
Fitch	BBB	stable	BBB	stable

The ratings enable GEA to raise funding through various debt instruments available on the international financial markets. This highlights how important it is for GEA to maintain its investment grade rating and continue to optimize its financial results going forward.

In total, GEA has bank credit lines in the amount of EUR 914.9 million (previous year: EUR 988.1 million), of which only EUR 204.9 million had been utilized as of the reporting date (previous year: EUR 260.4 million). Further information on credit lines and their utilization can be found in the in the "Financial position" section of the "Report on Economic Position".

COMBINED GROUP MANAGEMENT REPORT

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02

FUNDAMENTAL INFORMATION ABOUT THE GROUP

Group business model

Combined consolidated and single entity financial statements of GEA Group Aktiengesellschaft in the management presentation

GEA Group Aktiengesellschaft is home to central management functions of the group. It has profit and loss transfer agreements in place with its main domestic subsidiaries. In addition, GEA Group Aktiengesellschaft conducts financial and liquidity management for the entire group. Furthermore, GEA Group Aktiengesellschaft and GEA Group Services GmbH provide all GEA subsidiaries primarily with services from the Global Corporate Center on the basis of service agreements.

Since the course of business, the economic position, and the opportunities and risks associated with the future development of GEA Group Aktiengesellschaft do not differ from those of the group, the management reports of GEA Group Aktiengesellschaft and of the consolidated group have been combined in accordance with section 315 (5) of the Handelsgesetzbuch (HGB – German Commercial Code). In contrast to the consolidated financial statements, which are prepared in accordance with IFRS, the annual financial statements of GEA Group Aktiengesellschaft are prepared in accordance with HGB and the Aktiengesetz (AktG – German Stock Corporation Act). All financial statements relate to the 2022 fiscal year (January 1 to December 31, 2022).

The management report also contains the non-financial statement along with the combined corporate governance statement. GEA also publishes a separate sustainability report. GEA's non-financial reporting is carried out in accordance with the international standards of the Global Reporting Initiative (GRI).

Organization and structure

The Group

The GEA Group is an internationally active technology group specializing in machinery and equipment as well as process technology and components. As such, GEA provides solutions for sophisticated production processes in diverse end-user markets and offers a comprehensive service portfolio as well. In doing so, GEA helps its customers make their production processes ever more sustainable and efficient. GEA is one of the largest suppliers of systems and components to the food, beverage and pharmaceutical industries, as well as to a wide range of other processing industries, such as chemicals.

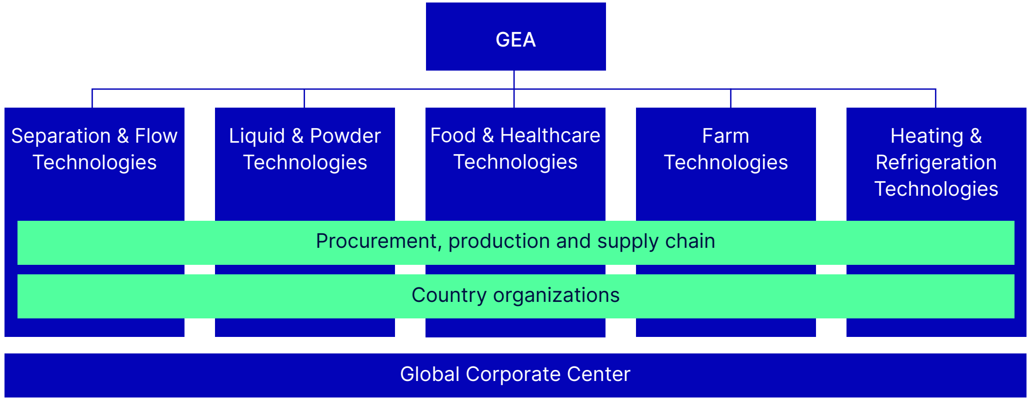
The group is a specialist in its respective core technologies and a leader in many of its markets worldwide. GEA promotes a strong innovation-led culture in order to maintain its technological edge in the future. For more details, please refer to the “Research and Development” section in “Fundamental Information about the Group”.

The group's enduring success is based on key global mega trends, such as:

- Global population growth
- Growth of the middle class
- Healthy and safe nutrition
- Essential and affordable medicine
- Sustainable, efficient production methods that conserve valuable resources

Group structure

Since January 1, 2020, the GEA Group has been divided into five divisions, each comprising up to six business units. These divisions are based on comparable technologies and most have leading market positions. Each division is headed by a management team consisting of three members: a divisional CEO, a divisional CFO and a divisional CSO (Chief Service Officer). The CSO role for each division underscores the significance of the high-margin and growing service business for GEA.



Five divisions

Separation & Flow Technologies

Separation & Flow Technologies encompasses process engineering components and machines that are at the core of many production processes: separators, decanters, homogenizers, valves and pumps.

Liquid & Powder Technologies

Liquid & Powder Technologies provides, among other things, process solutions for the dairy, new food, beverage, food, and chemical industries. The portfolio includes brewing systems, liquid processing and filling, concentration, precision fermentation, crystallization, purification, drying, powder handling and packaging, as well as systems for emission control.

Food & Healthcare Technologies

Food & Healthcare Technologies offers solutions for food processing. This includes preparation, marinating and the further processing of meat, poultry, seafood and vegan products, pasta production, baking, slicing, packaging, confectionery as well as frozen food processing. For the pharmaceutical industry, the product range includes granulation systems and tablet presses.

Farm Technologies

Farm Technologies offers integrated customer solutions for efficient and high-quality milk production and livestock farming. This includes automatic milking and feeding systems, conventional milking solutions, manure handling and digital herd management tools.

Heating & Refrigeration Technologies

Heating & Refrigeration Technologies offers as a specialist in industrial refrigeration and temperature control, sustainable energy solutions for a wide array of industries including food, beverage, dairy, and oil and gas.

Purchasing, Production and Logistics

As of January 1, 2020, GEA established the new office of the COO (Chief Operating Officer) as a separate Executive Board role that encompasses GEA's purchasing, production and logistics (supply chain) activities. In 2020 and 2021, both the strategic and operational purchasing organization were globally restructured. According to the new structure, GEA's business units and regions carry clear P&L responsibility but are subordinate to central category and performance management.

In addition to the classic cost-cutting targets, the new structure enhances the focus on ensuring the availability of materials and the suppliers' contribution to achieving GEA's sustainability targets. In the area of production, the focus is on optimizing the production network and increasing operational productivity at individual manufacturing plants. Particular focus is placed on factory automation and digitization as well as the transformation to an agile international manufacturing network with the clear goal of CO_2-neutral production by 2040.
The newly created Supply Chain unit optimizes customer delivery times and delivery reliability while at the same time reducing logistics costs and inventories.

Country organizations
Sales to customers and local service activities are unified under the umbrella of a single country organization. The countries cooperate with the divisions in a matrix structure and are assigned to specific regions. The country organizations stand ready to serve their respective customers as a central point of contact, offering them local access to an extensive portfolio of products and services.

Global Corporate Center
Central management and administrative functions, together with standardized administrative processes, are bundled within the Global Corporate Center (GCC). The Global Corporate Center performs the principal management functions for the entire group. GEA makes partial use of Shared Service Centers (SSC?) for the areas of IT, Finance and Human Resources.

Discontinued operations

Discontinued operations comprise the remaining risks related to such operations and the ongoing process of winding down operations discontinued in the past.

Significant changes in the group`s boards

Supervisory Board

By order of the Düsseldorf Local Court dated May 13, 2022, Prof. Dieter Kempf, former President of the Federation of German Industries (BDI), was appointed as a new member of the Supervisory Board effective May 16, 2022. The Supervisory Board also elected Prof. Dieter Kempf as Chairman. He succeeds Klaus Helmrich, who left his role as Chairman and member of the Supervisory Board for personal reasons on May 15, 2022.

At GEA Group Aktiengesellschaft's Annual General Meeting on April 28, 2022, the Supervisory Board mandate of Jörg Kampmeyer – Managing Partner of Gebr. Knauf KG, who was appointed by the court as of January 1, 2022 – was confirmed. In addition, Dr. Jens Riedl, Investment Partner at Groupe Bruxelles Lambert (GBL), was elected to the Supervisory Board. Dr. Jens Riedl succeeds Colin Hall (also of GBL), who stepped down from the Supervisory Board with effect from April 28, 2022.

Effective May 13, 2022, the court appointed Nancy Böhning to the Supervisory Board as an employee representative. She replaces Prof. Dr. Cara Röhner, who stepped down from her position at the close of the Annual General Meeting on April 28, 2022.

Executive Board

On March 2, 2022, the Supervisory Board extended the contract of Chief Operating Officer (COO) Johannes Giloth by five years until January 19, 2028.

Strategy

“Mission 26“: Acceleration of profitable growth through 2026

GEA presented its new medium-term strategy until 2026 at the Capital Markets Day in London in September 2021. “Mission 26” is based on seven crucial levers intended to accelerate sustainable and profitable growth. The focal points of the strategy include sustainability, innovation & digitalization, new food and excellence initiatives in the areas of sales, service, as well as purchasing/production. In addition, the company is examining targeted acquisitions.

GEA set ambitious financial targets for itself through 2026 embodied in “Mission 26.” Average organic revenue growth of 4.0 percent to 6.0 percent per year is expected, which is intended to result in revenue of approximately EUR 6 billion. The EBITDA margin before restructuring measures should increase to more than 15 percent. Return on capital employed (ROCE) is expected to amount to over 30 percent.

Based on the assumption of increasing profitability combined with a stable ratio of net working capital to revenue within a range of 8 percent to 10 percent, along with disciplined capital expenditures of approximately EUR 200 million annually, GEA expects strong free cash flow generation totaling approximately EUR 2 billion from 2022 to 2026.

GEA intends to have its shareholders participate in this growth in the form of sustainable increases in dividends.

The seven levers of “Mission 26“:

Sustainability

Sustainability is an essential component of “Mission 26.” In addition to the climate targets announced in June 2021 – net zero ambition for 2040 and interim targets through 2030 (reduce greenhouse gas emissions by 60 percent in Scope 1 and 2 and by 18 percent in Scope 3 compared to the 2019 base year) – GEA has set itself further ambitious ESG targets. This group of actions focuses on ecologically sustainable customer solutions and responsible operations. For example, across the globe, GEA equipment, processes and components can contribute significantly to the reduction of carbon emissions, plastic usage and food waste in production. GEA is likewise striving to be the employer of choice within its own industry.

Innovation & Digitalization

With its technologies, GEA is very well positioned to benefit from the megatrends-driven growth of its markets. The company also benefits from its long-standing customer relationships. Its close contact with customers enables GEA to continuously improve its products as well as to develop new ones.

GEA aims to increase the share of sales of products that are less than five years old from its current level of 14 percent to some 30 percent. The company plans to increase its Research & Development spending by approximately 45 percent in the period from 2022 to 2026 in order to achieve this objective.
In addition to introducing new products, GEA will increasingly offer its customers digital solutions that enable them to use their own processes and GEA equipment even more efficiently.

New Food

The worldwide new food trend is opening up new market opportunities for GEA. These trends include alternative products such as plant-based dairy and meat products, insect-based proteins, fermented proteins and in vitro meat. Within this dynamically growing market, GEA is planning to expand its already strong market position and become a market leader. GEA is ideally positioned to meet growing demand in this sector thanks to its strengths in scaling industrial applications and its position as a full-range supplier.

In the new food segment GEA achieved an order intake of EUR 48 million in 2022, after EUR 134 million in 2021 which included a large order of EUR 85 million. GEA expects an increase in order intake to more than EUR 400 million until 2026. Due to large orders, a steady increase can not be expected. The current project pipeline looks very promising.

Excellence initiatives in sales, service and purchasing/production

Sales, service, procurement and production all offer opportunities for growth within the scope of “Mission 26.” Sales effectiveness and presence will be better leveraged on both a regional and country basis by deploying more own sales staff in key markets. This should result in average organic revenue growth of 4.0 to 5.0 percent annually from new machinery from 2022 to 2026.

Additional growth potential has been identified in the service sector, which is characterized by stable growth and profitability. By 2026, revenue should be increasingly generated by previously installed machinery, plant and equipment. Furthermore, plans also call for evolving the service business from being incident-driven to a regularly-recurring business model. This approach is expected to generate average organic service revenue growth of 5.0 percent to 6.0 percent in the period 2022 to 2026.

GEA will continue to implement previously initiated optimization measures in procurement, production and logistics. By 2026, the objective is to enable a transition to best-in-class procurement, to further optimize the production network and reduce customer delivery times. From 2022 to 2026, additional optimization measures in purchasing (EUR 90 million) and production (EUR 60 million) are expected to result in a total net contribution to EBITDA of EUR 150 million.

Acquisitions

Strong cash generation and a solid balance sheet will enable GEA to grow externally as well. Accordingly, the company will examine appropriate acquisitions with the objective of enhancing its portfolio.

Capital expenditure

GEA develops and engineers specialized components, largely on a made-to-order basis, designs process solutions and is active in the project business for a broad range of customer industries. The focus is on the food, beverage and pharmaceutical industries. With its global engineering and production network, the group is able to provide customers with solutions that are precisely tailored to their individual requirements. Customers should also benefit from GEA's flexible production concepts, which should ensure fast throughput, low costs, and minimize tied-up capital.

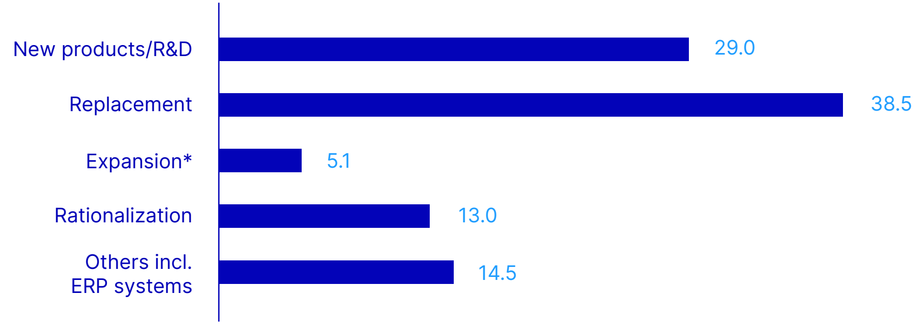
Capital expenditure (payments for property, plant and equipment and intangible assets) increased markedly from EUR 129.9 million in the previous year to EUR 203.8 million in fiscal year 2022. This corresponds to 3.9 percent of revenue. The increase can be attributed to, among other things, investments associated with the expansion of the Polish site in Koszalin involving the construction of a climate-neutral factory, an expansion in Parma, new food projects as well as the introduction of a global SAP System (S/4 HANA).

All divisions reported a year-on-year increase in capital expenditure. The most significant increases were attributable to the Separation & Flow Technologies division (from EUR 36.5 million to EUR 76.8 million). The increase is primarily attributable to higher replacement and rationalization investments. Lower increases were recorded in the Liquid & Powder Technologies division (from EUR 15.9 million to EUR 23.2 million), Food & Healthcare Technologies (from EUR 37.9 million to EUR 45.6 million) and Farm Technologies (from EUR 17.3 million to EUR 22.7 million). Despite the divestments, the Heating & Refrigeration Technologies division increased capital expenditure from EUR 6.8 million in the previous year to EUR 8.1 million in the reporting period.

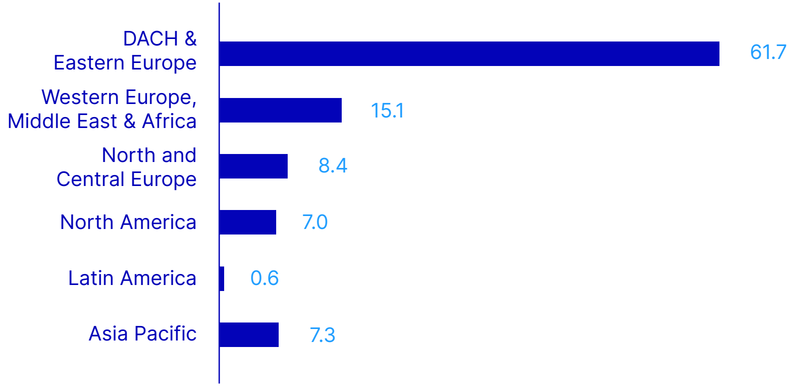
The largest share of capital expenditure was directed towards replacement capital expenditure (around 39 percent). Investments in research and development as well as new products accounted for roughly 29 percent. The third-largest spending block of some 15 percent represented other investments including ERP systems.

In terms of capital expenditure by region, the focus was on the DACH & Eastern Europe region (around 62 percent). This was followed by the Western Europe, Middle East & Africa region with around 15 percent. All other regions were below 10 percent.

Capital expenditure in tangible and intangible assets per type
(in %)



Capital expenditure in tangible and intangible assets by region
(in %)



*) In recent years, „expansion" has been called "growth".

Management system

Basis of information

Group reports are prepared with the aid of standard applications that are precisely tailored to the needs of GEA and subject to continuous enhancement. Standard reports prepared on the basis of unified data are used throughout the group to report net assets, financial position, and results of operations. These standard reports are supplemented by special analyses as well as analyses and reports related to specific businesses and strategic measures. Besides the budget for fiscal year 2023, corporate planning covers two further planning years.

In fiscal year 2022, regular reporting procedures were supplemented by committee meetings of the group's management with an opportunity to share information on strategic and operational issues. In addition, the Executive Board of GEA Group Aktiengesellschaft met once a month. Furthermore, the Extended Management Board (Global Executive Committee, GEC), which comprises the Executive Board members, the heads of the divisions and sales regions, as well as the head of Human Resources, met to assist the Executive Board with decision preparation. The Executive Board meetings concentrated on issues of relevance to the group as a whole, whereas significant matters directly affecting the divisions and regions were discussed at the GEC meetings. In addition, the individual divisions regularly held meetings, which were attended by the management of the divisions as well as the extended management teams of the divisions. Such meetings entailed detailed discussions of the net assets, financial position, results of operations as well as business development of the division concerned. Separate meetings for each division were also held to discuss earnings for the latest fiscal year and the business plan for the following years.

Key performance indicators

Key performance indicators in the management system in 2022

GEA's prime objective is to realize sustainable growth in enterprise value. Trends in key indicators are, therefore, defining factors and an essential basis for the company's lasting success.

In fiscal year 2022, the key financial performance indicators for GEA were as follows:

- Revenue (organic revenue growth)
- EBITDA before restructuring expenses
- Return on Capital Employed (ROCE)

Revenue (organic revenue growth)

By organic revenue growth, GEA means year-over-year changes in revenue that are adjusted for currency and portfolio effects; the reported revenue includes both organic growth as well as currency effects and divestments/acquisitions.

EBITDA before restructuring expenses

GEA uses EBITDA* (earnings before interest, taxes, depreciation and amortization, impairment losses and reversals of impairment losses)* as a key performance indicator. EBITDA is adjusted to take into account the effect of restructuring expenses. The restructuring measures to be taken are outlined in terms of content, scope and definition, presented to the Chairman of the Supervisory Board by the CEO and jointly finalized. Only measures requiring funding in excess of EUR 2 million are taken into account. Accordingly, this indicator is termed "EBITDA before restructuring expenses". Moreover, if, the respective process requires approval in accordance with the rules of procedure of the Executive Board, it must be approved by the Supervisory Board as well.

*) This includes impairment losses and reversals of impairment losses on property, plant and equipment, intangible assets and long-term financial assets, as well as impairment losses in connection with the classification as "held for sale" (no change in content compared with the previous year)

Return on Capital Employed (ROCE)

The performance indicators “revenue” and “EBITDA before restructuring expenses” are supplemented by another accounting ratio, namely the ROCE or the “return on capital employed”. The ROCE corresponds to the ratio of earnings before interest, taxes and restructuring expenses (EBIT before restructuring expenses) to the capital employed.

Capital employed includes (all items calculated as averages for the past four quarters) non-current assets less interest-bearing non-current assets and working capital plus other non-interest-bearing assets, liabilities and provisions less assets and liabilities in connection with income taxes. When calculating capital employed, the effects arising from the acquisition of the former GEA AG by the former Metallgesellschaft AG in 1999 and further effects from discontinued operations are not taken into account.

In order to anchor ROCE even more strongly at an operational level, the ROCE driver “EBIT before restructuring expenses” is evaluated on a continuous basis. The same applies to “working capital” or the “ratio of working capital to revenue”, which is the key driver of capital employed.

As a strategic indicator, the ROCE measures the relative profitability of a company when compared with the weighted average cost of capital (WACC). If the ROCE is above the WACC, this is an indication that the business is generating value as the expectations of the capital market have demonstrably been exceeded.

The difference between the expected ROCE and the WACC is a key criterion for investment and portfolio decisions. The group calculates WACC on the basis of specific peer-group information on beta factors, data on capital structure and borrowing costs.

Furthermore, the indicators EBITDA before restructuring expenses and ROCE are fixed elements of the remuneration model for Executive Board members.

Other indicators in the management system in 2022

GEA also routinely gathers various other performance indicators in order to obtain a meaningful picture of the overall situation.

GEA also evaluates leading indicators of revenue, such as order intake.

To enable a rapid response to developments, the divisions also provide regular forecasts – for the quarters and for the year as a whole – on the key performance indicators of revenue, EBITDA before restructuring expenses and ROCE. Additionally, GEA makes estimates for other indicators, such as order intake, and publishes them together with divisional forecasts.

Management of capital employed

Resources are allocated within the group primarily on the basis of strategic and medium-term planning. This provides the framework for preparing key decisions on core technologies, sales markets and other strategically important variables.

Acquisitions and expansion investments are assessed not only on the basis of key performance indicators showing potential returns but also in terms of their importance for achieving the group’s strategic goals. The key economic criterion for evaluating rationalization and expansion investments is the net present value. The payback period is also calculated as an additional benchmark for assessing the risk arising from changing economic conditions.

Working capital is another key element of capital employed. Working capital management begins before an order is accepted with the payment terms that are offered or negotiated.

Project- and activity-based management

In addition to general management with the aid of the key performance indicators described above, GEA has established individual assessment and approval procedures for customer and investment projects, utilizing specific thresholds for the different hierarchy levels. Customer projects are evaluated primarily on the basis of their expected margins (gross margin and full cost results). Moreover their technical, commercial and contractual risk profile, with a particular emphasis on cash flow is identified as well. Project management is also backed up by extensive project control not only at operating unit level but also – depending on the size of the project involved – at the division or group level in the form of a separate reporting system for large projects. In many cases, the findings from this analysis yield suggestions for improving internal processes, which can be used in subsequent projects. At group level, the analysis focuses on deviations between the calculated and the expected or realized contract results.

Research of Development

- 2.3 percent of revenue invested in R&D (total R&D ratio: 2.6 percent)
- 3.0 percent of revenue to be invested in R&D by 2026
- 56 new products released
- 67 new patent families filed

GEA's "Mission 26" strategy, which sets out the path for the company's sustainable and profitable growth, bundles all of its research and development (R&D) activities under the umbrella of "Innovation and Digitalization." The "Innovation and Digitalization" area is subdivided into four key growth drivers reflecting GEA's key development areas:

Environmental Sustainability | New Food | Digital Solutions | Modularization & Configuration




Innovations are generally developed by subject-area experts at GEA's technology centers in detailed consultation with customers. Various tools and methods, including customer interviews, customer workshops and on-site technology testing in the form of prototypes, are used for this purpose. Developing products in close collaboration with customers ensures the subsequent implementation of the GEA products as well as the continual improvement and expansion of the existing product portfolio. GEA also encourages a cross-divisional exchange of knowledge between its technology sites and sets group-wide standards.

The consistent focus on research and development is already contributing to profitable growth. In the year under review, products developed in the last five years already accounted for 14 percent of total group revenue. Thus GEA is ahead of its own expectations to increase this share to 30 percent as part of "Mission 26".

Environmental sustainability

"Engineering for a better world" – part of this commitment involves GEA enabling its customers to act more sustainably and reduce their environmental footprint through the products and services it provides. GEA's contribution to resource sustainability therefore already begins at the development stage. In fiscal year 2022, GEA spent EUR 12.7 million on research and development in this area, which corresponds to 9.0 percent of its total R&D expenditure. The optimization of the existing offering and new product development are primarily focused on:

- energy reduction and the related reduction of greenhouse gas emissions,
- reduction of water consumption, for example through the "zero freshwater use" option and
- promotion of the circular economy.

To succeed in this transition, GEA has set clear sustainability targets for its product development. These are described in more detail in the "Non-financial group statement" in the section "Sustainable products and services".

New Food

Consumer expectations toward nutrition have changed in recent years. The environment and animal welfare are increasingly important for more and more consumers, and the trend toward healthy, safe and individualized food continues. In developing countries, the demand for high-quality protein-rich foods is growing even faster than the population. Also, the enormous environmental impact of conventional meat production in terms of water consumption, air pollution, loss of biodiversity and greenhouse gas emissions underpin this trend.

As a systems supplier to the food, beverage and pharmaceutical industries, GEA makes a significant contribution to nutrition. In addition to conventional processes, new resources need to be harnessed to achieve this. GEA is pursuing this concept by developing and making scalable forward-looking technologies to produce high-quality proteins as the basis for food and innovative product developments in the area of new food. These include new biotechnological approaches based on plants and cells, as well as processing insects as an alternative high-protein food source. As a provider of complete process lines, GEA is very well positioned to take a leading role in the growing new food market in the medium term. GEA already has decades of experience in the field of reactor-based precision fermentation – a technology that enables GEA's customers to manufacture important ingredients or end products for the production of new food. GEA is one of the leading systems suppliers in this area with expertise in this technology. Furthermore, GEA has been focusing on technologies and processes for the production of foods from plant-based proteins, such as dairy alternatives made from legumes, seeds, grain and soy, for a number of years.

Digital solutions

Digitalization also poses major challenges for food technology while offering those who use and shape it the chance to strengthen customer loyalty by means of digital services and to enter new sales channels. With its digital products and services, GEA aims to increase the availability of its machines and equipment as well as enhance the productivity of its customers. The company is fostering customer loyalty by developing services such as interactive remote communication through GEA Remote Services, remote equipment status monitoring through GEA PerformancePlus and self-optimizing process automation through GEA OptiPartner. The significance of digital sales channels is illustrated by revenues of more than EUR 600 million from e-commerce in the past fiscal year. For the Farm Technology Division, which is benefiting the most from this trend, this means that e-commerce accounts for more than 80 percent of all customer orders.

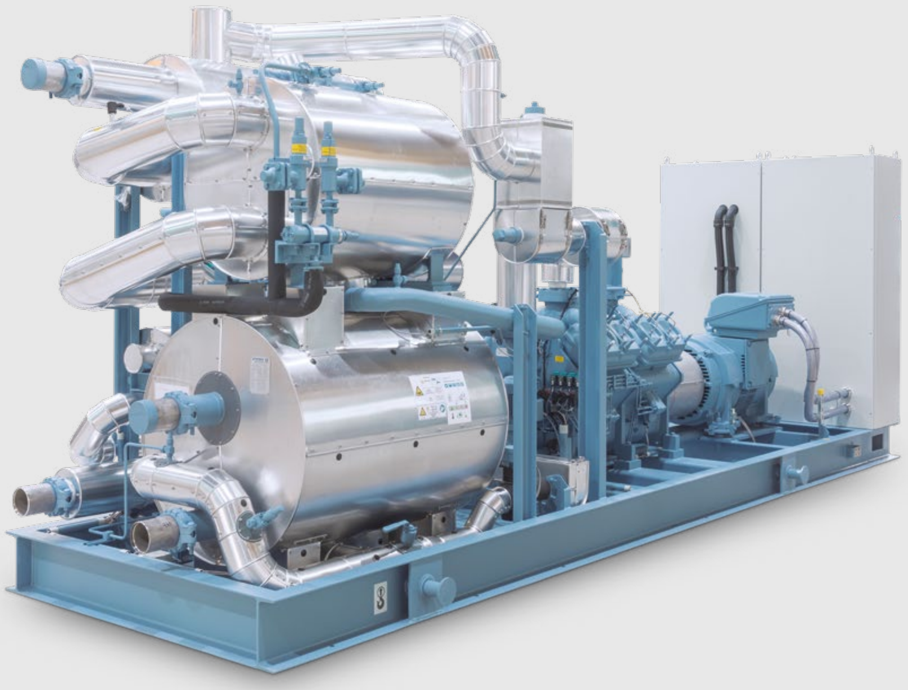
In addition to the sample products, GEA is creating the structural conditions required to successfully shape the company's internal digitalization. In 2022, GEA established its new "GEA Digital" network organization, which bundles together all of its expertise in digital product development and distribution. GEA Digital consists of a broad, cross-divisional network of digital units and a central hub, which was set up at the Düsseldorf headquarters in mid-2022 as an open collaborative space. Thanks to close inter-divisional cooperation, digital product development is synchronized and accelerated. Standardized platforms for all GEA business areas are developed and run within the digital hub, thus creating synergies and new offerings. These digital products and services are developed in close cooperation with customers in the divisions and built up on the basis of the central technology platforms. Examples include:

- Industrial internet of things (IIoT) plattform for standardized, cloud-based product connectivity,
- Data science & advanced analytics to analyze and evaluate equipment and process data,
- Customer engagement with a focus on digital customer interfacs in the areas of marketing, sales and service; and
- Digital transformation, with the aim of training employees in the divisions by providing advice and coaching on the demand associated with the development and distribution of digital solutions.

Modularization and configuration

As a machinery and equipment manufacturer, a large proportion of GEA's engineering services are customer-specific and result in customized solutions. The stringent modularization and configuration of GEA's products make tendering and sales processes, as well as production and order processing, faster and more efficient. As a result, it is possible to handle higher order volumes.

To achieve this, products are broken down into individual standardized modules that can be used repeatedly in different projects. This modularization considerably reduces complexity in the delivery of services. At the same time, GEA continues to meet customer requirements for customized solutions. Through a combination of different interchangeable modules (also referred to as "configure-to-order"), customers can generate and order product variants tailored to their needs using digital configuration tools – similar to those used when ordering a new car – and an application-optimized sales management process. For example, in the area of homogenization, GEA has established a web-based sales channel that embraces the principle of modularization and offers a modern, customer-oriented web platform for product configuration. The smart modularization of components has simplified product structure and reduced the number of different components. The effort involved in the quotation and order processing process has been reduced by more than half.



New products: Examples

The following examples give an insight into GEA's innovation activities in 2022.

Example from the key development area **environmental sustainability**

GEA AddCool – Cutting CO_2 emissions for spray dryers by 50% using GEA heat pump solutions

Spray drying is an industry standard approach for manufacturing high quality, stable powders. Producing the hot air that is used by the spray dryer typically draws on energy generated from fossil fuels: spray dryers consume around 1.2 kWh of heat per kg powder produced and on average, 85% of the waste heat is released to the ambient.

In a collaborative approach, the divisions Heating & Refrigeration Technologies and Liquid & Powder Technologies have developed an energy saving solution based on a high temperature heat pump. The patent pending GEA AddCool heat pump system effectively draws energy from other processes in your plant, or even from the external air, as an efficient way of generating the hot air for your spray dryer. The GEA AddCool heat pump technology is driven by electricity – rather than by directly burning fossil fuels – driving both high temperature heating required for the spray drying process, and low temperature cooling for other parts of your process - so additional electricity savings are achieved for the chiller systems. And while electricity might be more expensive than fossil fuels, the high efficiency of the GEA AddCool system means that the overall energy costs could be significantly reduced.

Benefits:
Applying heat pump solutions to spray dryers can reduce up to 50% carbon footprint emissions and achieve up to 50% less primary energy consumption. The heat pump solutions can be retrofitted to existing drying solutions and provide significant cost savings dependent upon energy prices. The integration is non-invasive according to the drying process itself, so no change in production process or power quality is applied.

Example from the key development area **New Food**

GEA Mobile Test Center for New Food

For customers in the fast progressing area of new food, the scaling up from laboratory to industrial production of cultivation and fermentation processes is one of the key challenges for success. In a groundbreaking initiative in cellular agriculture, GEA has developed a highly flexible, modular fermenter/bioreactor platform called the "mobile test center".

The mobile test center links eight of GEA's industry-recognized, food regulatory-compliant technologies. These include two sizes of GEA 2-in-1 fermenter/bioreactor equipment, high-shear mixing and UHT (Ultra High Temperature) treatment platforms as well as homogenization, separation, and two different membrane filtration units. The system can be configured with additional or repeated process steps – for example using the separator for washing or concentrating – to help optimizing cultivation and fermentation processes as well as product recovery and purification yields.

The mobile test center enables true proof-of-concept for new processes or recipes, and supports a business model for scale-up to commercial cell-based manufacture of food products and nutritional components, but without having to invest in a full pilot plant.

This Mobile Test Center provides complete, mobile, and modular pilot-scale industrial line for testing different cell types in cultivation and fermentation processes for new food applications.

Benefits:
Available to either hire, purchase, or test at one of our GEA premises, the mobile test center enables evaluating pilot commercial-scale processes for manufacturing "new foods". The system provides high flexibility to test production using cell culture and microbial fermentation, with 50–500 liter pilot-scale bioreactor/fermenter equipment and complete process lines.

Example from the key development area **digital solutions**

DAIRYFEED F4500 – GEA FEEDING ROBOT

Feeding is the biggest cost factor in managing a farm. Here, the quality, frequency, and optimization of mixed rations for each group of cows are decisive to milk production. GEA DairyFeed F4500 feeding robot supports farmers to have more flexibility by automating their daily feeding routines as well as precise management of their feeding strategy.

Fitted with navigation sensors, the F4500 creates a precise map of the farm allowing to work out the ideal routes for feed distribution. The robot can constantly localize its position, recognize obstacles and avoid collisions, safely navigating between barns, on uneven floors and traveling on inclines of up to 10%.

GEA feeding robot can analyze and adjust feed consumption and leftovers amounts to minimize feed waste. It allows for analyses of nutritional composition of feed ingredients with sensors for adjustment of feeding strategy and supports improvements in animal health. GEA feeding and milking robots are digitally connected via GEA DairyNet (digital solution for herd and farm management), enabling feeding and milk output and quality data to be synchronised round-the-clock. This accurately optimizes feeding strategy and milk production.

Benefits:
The design of the F4500 contributes to a cleaner feeding process. Bunkers, silos, mineral, and liquid containers ensure the safe, hygienic storage and distribution of valuable feed ingredients. The automated feeding process enables for less manhours and provides insights from holistic analysis of the farm via GEA DairyNet.

Left:
Design of the new modular and multifunctional solution for tablets with low and high levels of active ingredients.

Below:
Typical end products from the pharmaceutical sector.

Example from the key development area **modularization and configuration**

NexGen Press® - One machine, many applications for the pharmaceutical industry

Corresponding to present and future market demands, manufacturers are looking for flexible and multifunctional solutions that can handle both low and high potency active ingredients. This next generation of modular tablet presses will make machine selection easier, facilitate fast product changeovers and deliver price-performance leadership.

Its modular design means that a spectrum of containment capabilities is available on a single platform. Additionally, it's also designed to be both wash-offline and wet-in-place compatible to suit a broad array of customer requirements. In summary, an entry level machine can be upgraded to meet specific process requirements, such as bilayer tableting, different washing options and/or to further reduce the risk of cross-contamination, as and when required.

In addition to the modular concept, energy reduction was a major factor during the development process. The press is now equipped with energy efficient servo motors and minimizes water use during washing cycles and so serves the needs of sustainability required by the customers.

Benefits:
The new design reduces the number of modules by 50 to 70 percent and improves cost structure (e.g. pre-assembly of modules) as well as quality. This will allow scaling up business and providing reduced lead times for the customers as the solution is following the Configure-To-Order approach.
Additionally, the NexGen Press® is Industry 4.0 ready, provides a significantly reduced energy need, and uses less water for cleaning purposes.

Example from outside of the key development areas

GEA Better Juice sugar converter skid

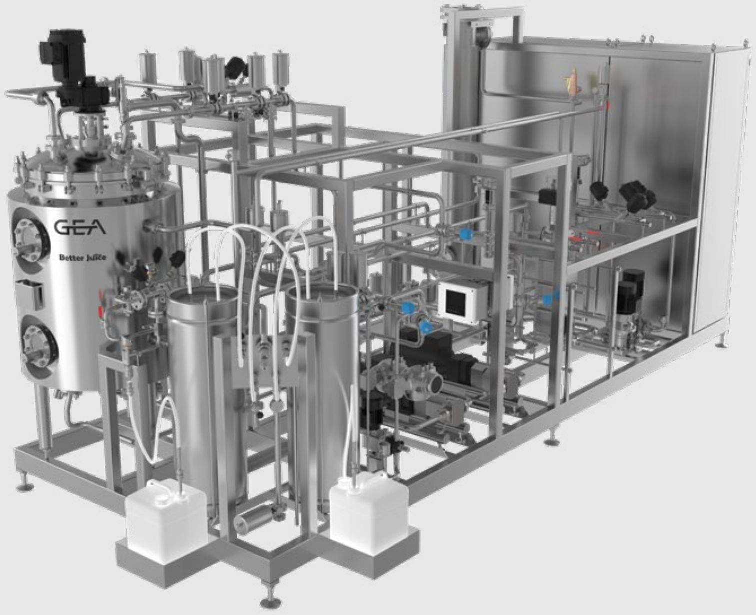
Market demand for vegetable and fruit juices as vitamin-rich drinks has increased and experts estimate the market to grow by about five percent annually until 2026. Israeli start-up Better Juice invented the biological process, while GEA designed and built the pilot-scale process technology. Since July 2022, beverage producers can implement product testing with the bioreactor skid at GEA's test center in Ahaus, Germany. The sugar converter skid is the world's first solution that naturally reduces juice's sugar content by up to 80 percent, without affecting its nutritional value or authentic taste.

GEA and Israeli food tech start-up Better Juice have won their first commercial project to reduce the sugar in fruit drinks. A major US beverage manufacturer has incorporated the groundbreaking innovation into its production process in 2022. The customer expects to be supplying fruit juices with at least 30 percent less sugar to supermarkets.

The heart of the system is a bioreactor containing GMO-free immobile microorganisms (GMO: Genetically Modified Organisms). The juice passes through the vessel continuously and, in the process, the microorganisms' enzymes convert sucrose, fructose and glucose into prebiotic, non-digestible molecules that are beneficial for the intestinal flora. Now patented in Europe, this innovation has self-affirmed FDA (U.S. Food and Drug Administration) GRAS (Generally Recognized as Safe) status, which opens the door to marketing the system to food and beverage manufacturers worldwide.

Benefits:
The solution is the first in the world to naturally reduce the sugar content of fresh juice drinks by up to 80 percent, without affecting their nutritional value, mouthfeel or natural taste.

Right: Typical configuration of the bioreactor-skid for the reduction of the sugar content of fruit juices.



Patents

In fiscal year 2022, GEA filed applications for a total of 67 (previous year: 69) new patent families as a result of its extensive research and development activities. Overall, GEA holds around 1,000 patent families comprising approximately 5,500 individual patents. These cover all of GEA's key technologies and processes and relate to separation, drying, homogenization, crystallization, granulation, purification, cooling, freezing, dairy processing, filling and packaging.

R&D Key Performance Indicators

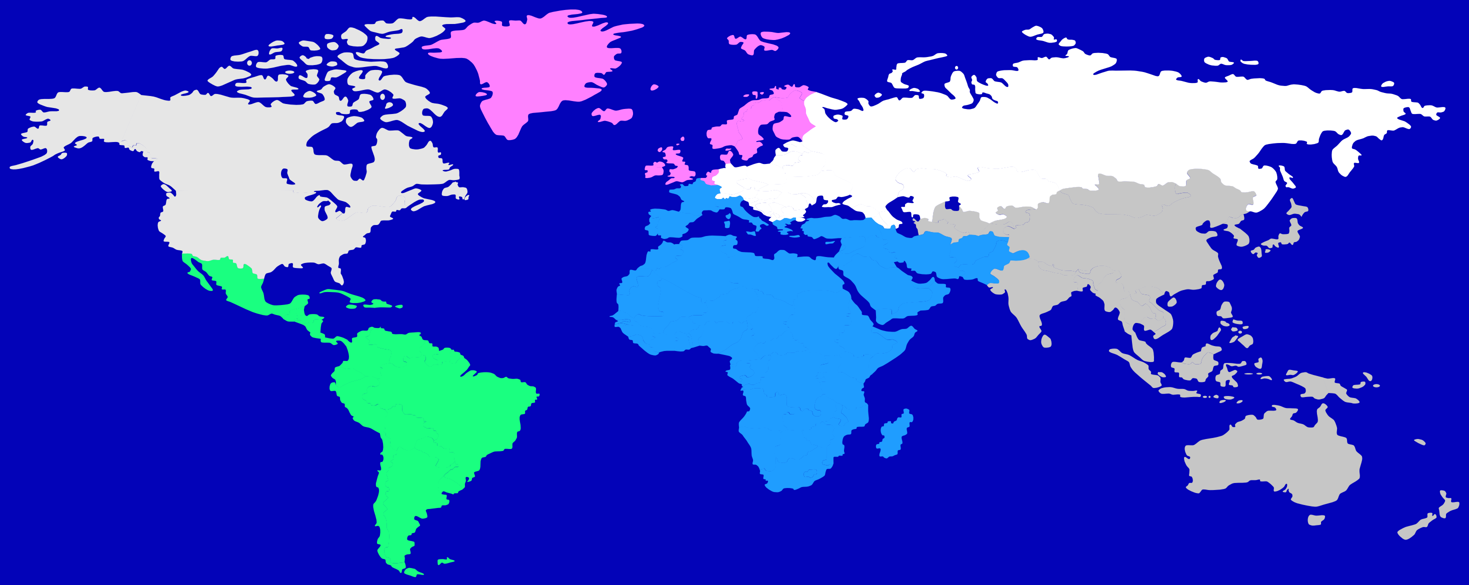
At EUR 119.6 million, expenses for proprietary R&D for GEA's own purposes in fiscal year 2022 increased by 4.9 percent. This figure includes the depreciation of capitalized development costs in the amount of EUR 21.3 million (previous year: EUR 18.8 million) that are recognized under the cost of sales. Furthermore, in the year under review, third party contract costs for R&D totaled EUR 12.5 million (previous year: EUR 13.0 million), which is recognized under the cost of sales. Despite the increase in absolute R&D spending, the ratios compared to revenue decreased slightly due to the strong revenue growth. At 2.3 percent, the ratio of R&D for GEA's own purposes to sales was slightly lower than in the previous year (2.4 percent). The R&D ratio including third party contract costs, at 2.6 percent, was also slightly down on the previous year (2.7 percent).

Capitalized development expenses in the year under review came in at EUR 42.4 million (previous year: EUR 29.2 million). Including depreciation of capitalized development costs, R&D expenses for GEA's own purposes amounted to EUR 140.6 million (previous year: EUR 124.5 million). As a percentage of revenue, this indicator also shows a slight increase from 2.6 percent in the previous year to 2.7 percent in fiscal year 2022.

Research and development (R&D) for GEA's own purposes (EUR million)	2022	2021	Change in %
Depreciation of capitalized development expenses (Cost of Sales)	21.3	18.8	13.5
Research and development expenses	98.3	95.2	3.2
R&D expenses for GEA's own purposes	**119.6**	**114.0**	**4.9**
R&D ratio (as % of revenue)	**2.3**	**2.4**	**–**
Capitalized development expenses	42.4	29.2	44.9
Depreciation of capitalized development expenses	–21.3	–18.8	13.5
R&D expenditure	**140.6**	**124.5**	**13.0**
R&D ratio (as % of revenue)	**2.7**	**2.6**	**–**

Research and development (R&D) - total (EUR million)	2022	2021	Change in %
R&D expenses for GEA's own purposes	119.6	114.0	4.9
R&D expenses on behalf of third parties (Cost of Sales)	12.5	13.0	–4.1
R&D expenses - total	**132.1**	**127.0**	**4.0**
R&D ratio - total (as % of revenue)	**2.6**	**2.7**	**–**

REPORT ON ECONOMIC POSITION



North America
1,107 EUR million
1,694

Latin America
319 EUR million
621

Western Europe, Middle East & Africa
797 EUR million
2,716

North and Central Europe
731 EUR million
3,173

DACH & Eastern Europe
975 EUR million
6,984

Asia Pacific
1,236 EUR million
3,049

= Revenue = Employees (FTEs)

GEA in fiscal year 2022

The outlook for fiscal year 2022 was based on the assumption of improving demand in sales markets as a result of global economic growth. The forecast pointed out that, despite the overall positive growth expectations, the economic environment is characterized by comparatively high inflation and rising energy, raw material and material costs.

The initial organic sales forecast (i.e. adjusted for currency and portfolio effects) pointed to more than 5 percent growth, and the expectations for EBITDA before restructuring measures (at constant exchange rates) were between EUR 630 million and EUR 690 million. A corridor of between 24 and 30 percent was forecast for return on capital employed (ROCE), also at constant exchange rates. Despite the outbreak of the Ukraine war, the company maintained this forecast.

With the quarterly statement for Q3 2022, the outlook was raised despite the extremely difficult economic environment due to the very good operating development in the first 9 months of 2022. Expectations for organic sales growth have been raised to over 7 percent. Likewise, the expectation corridors for EBITDA before restructuring expenses were raised to the upper end of EUR 630 million to EUR 690 million and for ROCE to the upper end of 24 percent to 30 percent (both at constant exchange rates).

At 8.9 percent, organic revenue growth for fiscal year 2022 exceeded expectations of more than 7 percent. EBITDA before restructuring expenses increased by 14.0 percent to EUR 712 million and, at EUR 691 million at constant exchange rates, exceeded the expected upper end of the range of EUR 630 to 690 million. With ROCE of 30.9 percent at constant exchange rates (31.8 percent reported), the upper end of the expectation corridor of 24 to 30 percent was also exceeded.

Further information on GEA's business performance can be found in the “Business Development” section of this chapter.

Forecast fiscal year 2022	Forecast for 2022 (as per Annual Report 2021)	New Forecast (Q3 Financial Report)	2022 reported	2022 organic resp. at constant exchange rates
Revenue development (organic)	> 5 % (significantly rising)	> 7 % (significantly rising)	9.8 %	8.9 %
EBITDA before restructuring expenses (at constant exchange rates)	EUR 630 – 690 million	Upper end of EUR 630 - 690 million	EUR 712 million	EUR 691 million
ROCE (at constant exchange rates)	24.0 – 30.0 %	Upper end of 24.0 – 30.0 %	31.8 %	30.9 %

The following tables show the outlook for the individual divisions and the respective target achievement:

Revenue development (organic)*	Forecast for 2022 (as per Annual Report 2021)	New Forecast (Q2 Financial Report)	2022 reported	2022 organic
Separation & Flow Technologies	significantly rising	significantly rising	14.4 %	10.7 %
Liquid & Powder Technologies	significantly rising	significantly rising	11.0 %	8.2 %
Food & Healthcare Technologies	significantly rising	slightly rising	6.9 %	4.4 %
Farm Technologies	slightly rising	significantly rising	17.1 %	10.7 %
Heating & Refrigeration Technologies	slightly rising	slightly rising	-10.3 %	8.5 %
Konsolidierung	–	–	–	–

*) For revenue, "slight" indicates a change of up to +/- 5 %, while a change of more than +/- 5 % is referred to as "significant".

EBITDA before restructuring expenses (at constant excange rates)*	Forecast for 2022 (as per Annual Report 2021)	New Forecast (Q2 Financial Report)	2022 reported	2022 at constant exchange rates
Separation & Flow Technologies	slightly rising	significantly rising	19.1 %	15.2 %
Liquid & Powder Technologies	significantly rising	significantly rising	10.4 %	8.4 %
Food & Healthcare Technologies	significantly rising	slightly rising	6.9 %	5.1 %
Farm Technologies	slightly rising	slightly rising	13.1 %	7.3 %
Heating & Refrigeration Technologies	significantly declining	significantly declining	-3.9 %	-4.6 %
Sonstige	significantly declining	significantly declining	-2.9 %	-2.5 %
Konsolidierung	–	–	–	–

*) For result variables, "slight" corresponds to a change of up to +/- 10 %, while changes of +/- 10 % or more are referred to as "significant".

ROCE (3rd party, at constant exchange rates) [1]	Forecast for 2022 (as per Annual Report 2021)	New Forecast (Q2 Financial Report)	2022 reported	2022 at constant exchange rates
Separation & Flow Technologies	leicht rückläufig	slightly rising	6.1 % p.	5.1 % p.
Liquid & Powder Technologies	–[2]	–[2]	–[2]	–[2]
Food & Healthcare Technologies	significantly rising	slightly rising	0.5 % p.	0.2 % p.
Farm Technologies	slightly rising	slightly rising	0.2 % p.	-0.6 % p.
Heating & Refrigeration Technologies	significantly declining	significantly declining	1.1 % p.	1.6 % p.

1) For ROCE, "slight" corresponds to a change of up to +/- 3 %, while changes from +/- 3 % are described as "significant".
2) ROCE for 2022 is not meaningful due to negative capital employed.

Macroeconomic environment

As a global technology company, GEA considers growth in gross domestic product (GDP) and hence the International Monetary Fund's (IMF) assessments in this regard to be key benchmarks for its own development.

In fiscal year 2022, the global economy was exposed to a variety of challenges such as the Ukraine war, rising inflation and interest rates, supply chain issues as well as the lockdown in China. This led to a reduction in the IMF's initial global economic growth forecast from 4.4 percent (World Economic Update January 2022) to just 3.4 percent (World Economic Update 2023). According to these estimates, the industrialized countries will record growth of 2.7 percent. The IMF expects an increase of 2.0 percent for the USA and 1.9 percent for Germany. The IMF's forecast for the euro area for 2022 is 3.5 percent. For China, the IMF expects growth of 3.0 percent, which would be below the global growth rate for the first time in 40 years. Developments in the other emerging markets were also positive in 2022 despite the adverse effects mentioned above: Large economies such as India (6.8 percent), Mexico (3.1 percent) and Brazil (also 3.1 percent) will all show positive growth, according to the IMF.

Figures published by the German Mechanical Engineering Industry Association (VDMA) are a reflection of the current situation in the engineering sector. (VDMA). After initial double-digit growth, new orders in the German mechanical and plant engineering sector fell by 4 percent in 2022 compared to the previous year. At 5 percent, domestic orders fell slightly more than foreign orders at 4 percent. While the German mechanical and plant engineering sector was still able to record increases in orders in the first three quarters, the situation worsened in the fourth quarter, when orders fell by 16 percent.

Business development

The business performance is explained below for the continuing operations and thus GEA's five divisions. All amounts have been rounded using standard rounding rules. In individual cases, rounding differences may occur when adding individual values to the total value.

Disposals

As part of its continued focus on the strategic core markets of food, beverage and pharmaceuticals, GEA successfully completed the divestment of its refrigeration contracting and service operations (Heating & Refrigeration Technologies division) in France on February 28, 2022. Moreover, the disposal of the metering, blending and calibration activities of GEA Diessel GmbH (Food & Healthcare Technologies division) was completed on July 15, 2022.

Furthermore, on September 19, 2022, GEA concluded an agreement on the disposal of the Transport Cooling business (Heating & Refrigeration Technologies Division) in South Africa. The transaction was closed on January 31, 2023.

Restructuring

In fiscal year 2022, restructuring expenses of EUR 58.0 million were incurred in EBITDA (previous year: EUR 55.5 million). Restructuring expenses mainly relate to expenses in connection with the Global Manufacturing Footprint, the strategic realignment of the Group, the restructuring of the Russian operations and the announced and partially executed portfolio streamlining.
In the year under review, restructuring expenses of EUR 37.6 million were cash items (previous year: EUR 40.6 million).

Results of operations, financial position and net assets

Results of operations

Order intake

In fiscal year 2022, the group's order intake increased significantly by 8.7 percent to EUR 5,679 million (previous year: EUR 5,222 million). Organic growth amounted to 7.6 percent. All divisions contributed to this organic development, often with double-digit growth rates. Order intake grew in orders of up to EUR 1 million. Orders worth EUR 5 to 15 million and large orders (>EUR 15 million) grew at double-digit growth rates, while orders worth EUR 1 to 5 million declined slightly.

Order intake (EUR million)	2022	2021	Change in %	Organic growth in %
Separation & Flow Technologies	1,537.0	1,359.1	13.1	9.9
Liquid & Powder Technologies	1,865.1	1,747.7	6.7	4.0
Food & Healthcare Technologies	1,094.1	1,032.8	5.9	3.4
Farm Technologies	825.2	702.1	17.5	11.3
Heating & Refrigeration Technologies	581.1	617.0	–5.8	10.3
Consolidation	–223.7	–236.2	5.3	–
GEA	**5,678.9**	**5,222.5**	**8.7**	**7.6**

Order intake development in %	2022
Change compared to prior year	**8.7**
FX effects	3.3
Acquisitions/divestments	–2.2
Organic	**7.6**

The Dairy Farming, Dairy Processing and Chemicals customer industries recorded significant double-digit growth rates, while order intake in Food, Beverage and Pharma declined slightly.

In terms of regional breakdown, the regions North and Latin America, Asia Pacific as well as Northern and Central Europe recorded significant growth. The regions Western Europe, Middle East & Africa as well as DACH & Eastern Europe remained stable compared to the previous year.

GEA concluded 17 large orders (exceeding EUR 15 million) in the reporting year at a combined value of over EUR 419 million. EUR 399 million of this amount was attributable to the Liquid & Powder Technologies division and EUR 20 million to the Food & Healthcare Technologies division. The Liquid & Powder Technologies division's large orders were mainly in the Dairy, Beverage and Chemicals segments. The regional focus of these projects was on the North American and Latin American regions as well as Asia Pacific. In the previous year, there were nine large orders totaling EUR 293 million.

Order backlog

At EUR 3,193 million, the group's order backlog was significantly higher than the prior-year figure of EUR 2,785 million. Based on revenues for the fiscal year ending on December 31, 2022, the group's order backlog had a theoretical range of 7.4 months (previous year: 7.1 months). Depending on the type of business, the theoretical range was between 4.7 months for the Farm Technologies division and 10.5 months for the Liquid & Powder Technologies division.

Order backlog (EUR million)	12/31/2022	12/31/2021	Change in %	Change (absolute)
Separation & Flow Technologies	592.0	489.4	21.0	102.6
Liquid & Powder Technologies	1,495.9	1,353.0	10.6	142.9
Food & Healthcare Technologies	664.8	605.3	9.8	59.5
Farm Technologies	290.7	214.8	35.3	75.9
Heating & Refrigeration Technologies	222.9	206.7	7.8	16.2
Consolidation	–73.6	–83.7	12.1	10.1
GEA	**3,192.7**	**2,785.4**	**14.6**	**407.3**

Revenue

In the reporting year, revenue of EUR 5,165 million was 9.8 percent higher than in the previous year. Organic growth totaled 8.9 percent. All divisions recorded organic growth, in many cases with double-digit growth rates. The share of service revenue continued to rise and amounted to 34.9 percent in the reporting year, compared to 34.2 percent in the previous year.

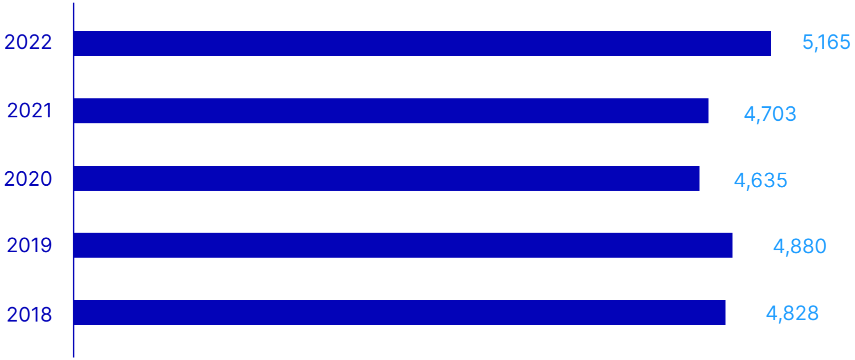
The Dairy Farming and Chemicals customer industries recorded significant double-digit revenue growth. Food and Pharma also developed positively. While revenues in the Beverage customer industry stagnated, the Dairy Processing business recorded a slight decline.

The book-to-bill ratio (i.e. the ratio of order intake to revenue) was 1.10 in 2022, and thus maintained at previous year's high level of 1.11.

Revenue (EUR million)	2022	2021	Change in %	Organic growth in %
Separation & Flow Technologies	1,415.6	1,237.2	14.4	10.7
Liquid & Powder Technologies	1,715.6	1,546.1	11.0	8.2
Food & Healthcare Technologies	1,001.3	937.1	6.9	4.4
Farm Technologies	742.0	633.9	17.1	10.7
Heating & Refrigeration Technologies	523.6	584.0	–10.3	8.5
Consolidation	–233.5	–235.3	0.8	–
GEA	**5,164.7**	**4,702.9**	**9.8**	**8.9**

Revenue development in %	2022
Change compared to prior year	**9.8**
FX effects	3.5
Acquisitions/divestments	–2.6
Organic	**8.9**

Revenue for the last 5 years
(EUR million)



External revenue (EUR million)	2022	2021	Change in %
Asia Pacific	1,236.2	1,091.0	13.3
DACH & Eastern Europe	974.5	980.9	–0.7
thereof Germany	429.0	406.9	5.4
Latin America	319.5	334.8	–4.6
North America	1,106.6	834.6	32.6
North- and Central Europe	730.8	636.3	14.8
Western Europe, Middle East & Africa	797.2	825.1	–3.4
GEA	**5,164.7**	**4,702.9**	**9.8**

Revenue performance varied between regions. The North America, Asia Pacific as well as North and Central Europe regions recorded strong growth. However, the regions DACH & Eastern Europe and Western Europe, Middle East & Africa as well as Latin America regressed slightly.

Results of operations

Development of selected key figures (EUR million)	2022	2021	Change in %
Revenue	5,164.7	4,702.9	9.8
Gross profit	1,715.8	1,555.5	10.3
Gross margin (in %)	33.2	33.1	15 bps
EBITDA before restructuring expenses	712.0	624.8	14.0
as % of revenue	13.8	13.3	50 bps
Restructuring expenses (EBITDA)	–58.0	–55.5	–
EBITDA	654.0	569.3	14.9
Depreciation, impairment losses and reversals of impairment losses on property, plant and equipment as well as amortization of impairment losses and reversals of impairment losses on intangible assets and goodwill as well as other impairment losses and reversals of impairment losses	–193.1	–189.6	–
EBIT	461.0	379.7	21.4
Restructuring expenses (EBIT)	68.1	64.0	–
EBIT before restructuring expenses	529.1	443.7	19.2
Profit for the period	401.4	305.2	31.5
Earnings per share (EUR)	2.28	1.70	34.6
Earnings per share before restructuring expenses (EUR)	2.58	1.99	29.7

The following table shows EBITDA before restructuring measures by division:

EBITDA before restructuring expenses/EBITDA margin before restructuring expenses (EUR million)	2022	2021	Change in %
Separation & Flow Technologies	360.2	302.5	19.1
Liquid & Powder Technologies	165.6	150.0	10.4
Food & Healthcare Technologies	107.3	100.4	6.9
Farm Technologies	86.1	76.1	13.1
Heating & Refrigeration Technologies	57.1	59.5	–3.9
Others	–64.6	–63.0	–2.5
Consolidation	0.2	–0.8	–
GEA	**712.0**	**624.8**	**14.0**
as % of revenue	**13.8**	**13.3**	**50 bps**

In fiscal year 2022, revenue rose by 9.8 percent to EUR 5,165 million. Gross profit increased by a slightly disproportionate 10.3 percent to EUR 1,716 million. Accordingly, the gross margin increased by 0.1 per-centage points from 33.1 percent to 33.2 percent. The increase was mainly due to higher margins in the service business and better capacity utilization as a result of higher volumes. The restructuring expenses in the gross margin were EUR 38.9 million (previous year: EUR 11.0 million). Accordingly, the gross margin before restructuring expenses was 34.0 percent, up 0.7 percentage points from previous year's figure of 33.3 percent.

EBITDA before restructuring expenses came in at EUR 712.0 million, 14.0 percent higher than the prior-year figure of EUR 624.8 million. EBITDA before restructuring expenses at constant exchange rates amounted to EUR 690.5 million in the reporting year. This was due not only to an improvement in gross profit, but also to the already introduced efficiency measures. As a result, the corresponding margin improved by 0.5 percentage points to 13.8 percent. With the exception of Heating & Refrigeration Technologies, all divisions increased their EBITDA before restructuring expenses.

At EUR 193.1 million, depreciation and amortization was slightly higher than in the previous year (EUR 189.6 million). In line with the positive operating trend, EBIT before restructuring expenses increased by 19.2 percent to EUR 529.1 million.

With a tax rate of 16.0 percent, the profit after tax from continuing operations increased by 25.7 percent to EUR 375.0 million. Earnings after taxes from discontinued operations in the amount of EUR 26.4 million mainly include environmental protection and mining obligations. The interest rates relevant to the measurement of these obligations were adjusted to reflect current market conditions. This effect was offset by adjustments to short- to medium term cost expectations.

In fiscal year 2022, net income increased significantly by 31.5 percent to EUR 401.4 million.

As part of the EUR 300 million share buyback program, which was initiated on August 16, 2021, and completed on December 30, 2022, a total of 8,161,096 outstanding shares were repurchased and are now held as treasury shares. The amount of EUR 205.6 million was spent on share buybacks in fiscal year 2022.

As a result of the improved consolidated profits and the lower average number of shares compared with the previous year (175,920,335 shares vs. 179,975,846 shares), earnings per share increased significantly by 34.6 percent from EUR 1.70 to EUR 2.28. Earnings per share before restructuring expenses also increased significantly from EUR 1.99 to EUR 2.58.

Financial position

Given the market volatility and other factors, management of liquidity and centralized financial management remain crucial to the company's continued success.

As of the reporting date, GEA's cash credit lines and their utilization are as follows:

GEA cash credit lines incl. discontinued operations (EUR million)	Maturity	12/31/2022 approved	12/31/2022 utilized
Borrower`s note loan (2023)	February 2023	100	100
Borrower`s note loan (2025)	February 2025	100	100
Bilateral credit lines	until further notice	65	5
Syndicated credit line („Club Deal")	August 2026	650	–
Total		**915**	**205**

Principles and goals

The group's financial management encompasses liquidity management, group financing, and the management of interest rate and currency risks. As the group management company, GEA Group Aktiengesellschaft is responsible for GEA's central financial management, which aims to reduce financing costs to the extent possible, optimize interest rates for financial investments, minimize counterparty credit risk, leverage economies of scale, hedge interest rate and exchange rate risk exposures as effectively as possible, and ensure compliance with loan covenants. GEA's financing strategy is designed to not only meet its payment obligations at all times, but also to ensure that sufficient cash reserves are always available in the form of credit lines, in addition to maintaining a strategic cash position.

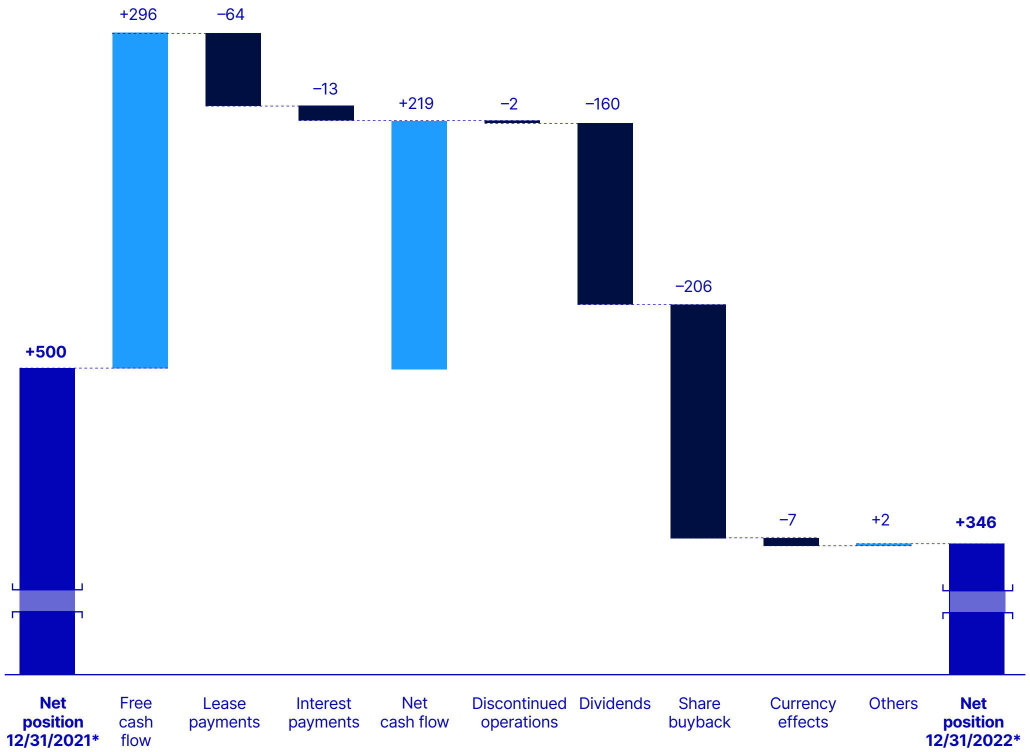
Cash flow from operating activities is the most important source of liquidity. Intragroup cash pooling aims to limit external cash investments and borrowings to the lowest level possible. To achieve this, GEA has established cash pooling groups in 17 countries that automatically balance the accounts of the participating group companies every day by crediting or debiting a target account at GEA Group Aktiengesellschaft. Any additional liquidity needs are generally serviced by group management, which also invests surplus liquidity. In a number of cases, however, liquidity peaks in individual countries cannot be reduced on a cross-border basis due to legal or tax-related reasons.

Liquidity

The key factors responsible for the change in net liquidity are shown in the following chart:

Change in net financial position

(EUR million)



*) Including lease liabilities of EUR 165.2 million as of December 31, 2022 (prior year EUR 165.8 million).

Net liquidity including discontinued operations and taking into account lease liabilities amounted to EUR 346.4 million as of December 31, 2022, compared to EUR 499.8 million at the end of the previous year. The largest cash outflows are attributable to the dividends paid (EUR 159.6 million), investments in property, plant and equipment and intangible assets (EUR 203.8 million) and the acquisition of treasury shares under the share buyback program (EUR 205.6 million).

Overview of net liquidity incl. discontinued operations (EUR million)	12/31/2022	12/31/2021
Cash and cash equivalents	718.7	928.3
Liabilities to banks	207.1	262.7
Leasing liabilities	165.2	165.8
Net liquidity (+)/Net debt (-)	**346.4**	**499.8**

Cash and cash equivalents amounted to EUR 718.7 million as of December 31, 2022, which was EUR 209.6 million lower than at the end of the previous year. Liabilities to banks amounted to EUR 207.1 million at the end of the year, compared with EUR 262.7 million at the end of the previous year. At EUR 165.2 million, lease liabilities remained at the prior-year level (previous year: EUR 165.8 million).

As of the reporting date, GEA had available guarantee lines mainly for contract performance, advance payments, and warranties amounting to EUR 1,112 million (December 31, 2021: EUR 1,096 million), of which EUR 459.1 million (December 31, 2021: EUR 411.3 million) were used.

GEA uses factoring programs as off-balance sheet financing instruments. As of December 31, 2022, the utilized volume amounted to EUR 49.8 million, compared to EUR 47.7 million as of December 31, 2021.

The maturity structure of trade receivables from third parties is shown in the table below. Trade receivables with regard to unconsolidated subsidiaries have not been recorded.

(EUR million)		12/31/2022	12/31/2021
Carrying amount before impairment losses		**767.1**	**736.6**
Impairment losses		55.9	67.6
Carrying amount		**711.2**	**669.0**
of which not overdue at the reporting date		619.2	585.6
of which past due at the reporting date		92.0	83.4
	less than 30 days	50.8	49.7
	between 31 and 60 days	18.0	14.8
	between 61 and 90 days	9.8	5.6
	between 91 and 180 days	8.8	8.1
	between 181 and 360 days	3.0	3.8
	more than 360 days	1.6	1.4

GEA Group Aktiengesellschaft paid a dividend of EUR 0.90 per share in fiscal year 2022, which is 5 cents higher than the previous year. The amount of the dividend payment (EUR 159.6 million) increased by 4.0 percent.

Consolidated Cash Flow Statement

The consolidated cash flow statement can be summarized as follows:

Overview of cash flow statement (EUR million)	2022	2021	Change absolute
Cash flow from operating activities	471.6	675.9	–204.3
Cash flow from investing activities	–175.8	–112.5	–63.3
Free cash flow	**295.8**	**563.4**	**–267.6**
Cash flow from financing activities	–497.5	–479.5	–18.0
Net cash flow other discontinued operations	–2.3	6.0	–8.4
Change in unrestricted cash and cash equivalents	–209.6	106.3	–315.9

Cash flow from operating activities attributable to continued operations amounted to EUR 471.6 million in the reporting year, well below the prior-year figure of EUR 675.9 million. Despite the significantly improved earnings, this decline is largely attributable to the build-up of inventories.

Cash flow from investing activities of continuing operations in the amount of EUR -175.8 million was lower than previous year's amount of EUR -112.5 million. This is largely due to higher payments for investments in property, plant and equipment and intangible assets of EUR 203.8 million (previous year: EUR 129.9 million). This was offset by proceeds of EUR 9.4 million from the disposal of non-current assets in the reporting year (previous year: EUR 13.4 million).

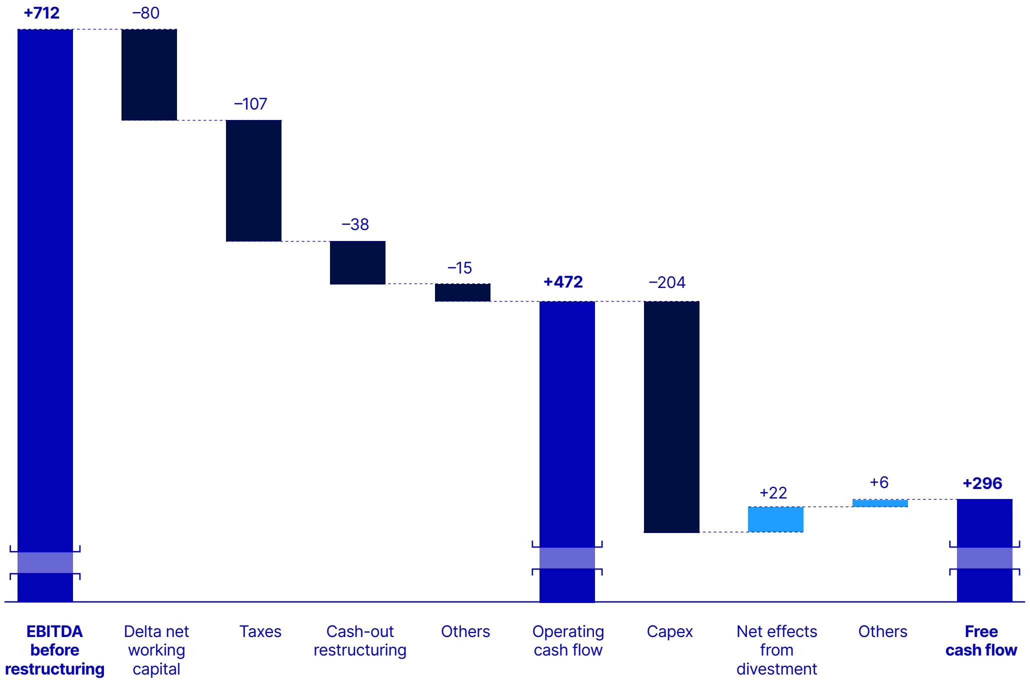
Accordingly, free cash flow amounted to EUR 295.8 million, compared to EUR 563.4 million in the prior-year period.

In addition to the dividend payment of EUR 159.6 million, the cash flow from financing activities attributable to continuing operations mainly reflected the repayment of the borrower`s note loans in the amount of EUR 50.0 million and payments for the acquisition of treasury shares in the amount of EUR 205.6 million. This item also includes payments for lease liabilities amounting to EUR 63.7 million. In the previous year, the cash flow from financing activities attributable to continuing operations also included the dividend payment in the amount of EUR 153.4 million as well as payments for lease liabilities (EUR 61.9 million) and the repayment of the loan from the European Investment Bank totaling EUR 150.0 million.

Cash flow from discontinued operations amounted to EUR -2.3 million in the reporting period (previous year: EUR 6.0 million).

Free cash flow

(EUR million)



Net assets

Condensed balance sheet (EUR million)	12/31/2022	as % of total assets	12/31/2021	as % of total assets	Change in %
Assets					
Non-current assets	2,982.7	50.4	2,961.3	50.4	0.7
thereof goodwill	1,475.6	24.9	1,481.2	25.2	–0.4
thereof deferred taxes	350.1	5.9	379.9	6.5	–7.8
Current assets	2,938.4	49.6	2,913.1	49.6	0.9
thereof cash and cash equivalents	718.7	12.1	928.3	15.8	–22.6
thereof assets held for sale	15.4	0.3	49.8	0.8	–69.1
Total assets	**5,921.0**	**100.0**	**5,874.4**	**100.0**	**0.8**
Equity and liabilities					
Equity	2,280.9	38.5	2,076.2	35.3	9.9
Non-current liabilities	1,040.6	17.6	1,456.4	24.8	–28.5
thereof deferred taxes	111.0	1.9	101.9	1.7	8.9
Current liabilities	2,599.4	43.9	2,341.8	39.9	11.0
thereof liabilities held for sale	3.3	0.1	33.8	0.6	–90.1
Total equity and liabilities	**5,921.0**	**100.0**	**5,874.4**	**100.0**	**0.8**

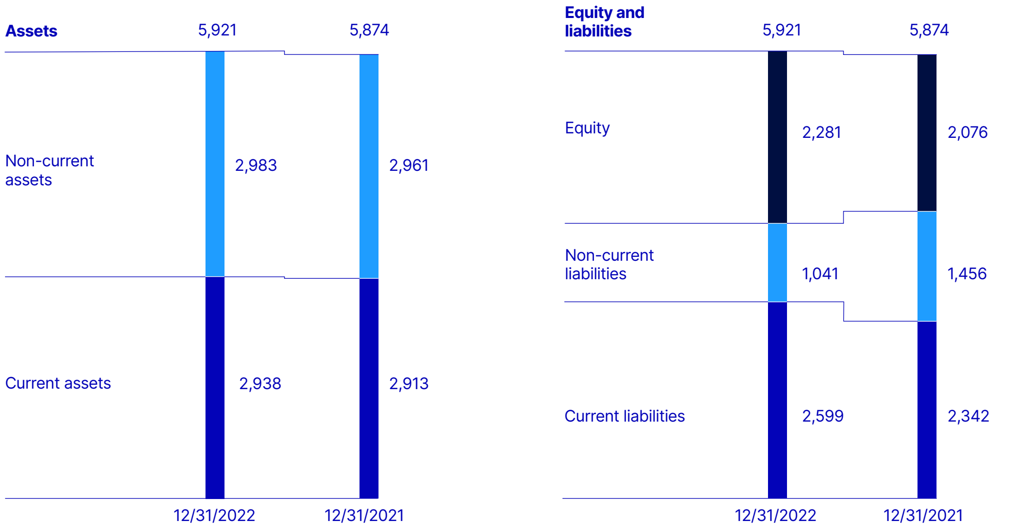
As of December 31, total assets amounted to EUR 5,921 million, up 0.8 percent on the prior-year reporting date. This was largely attributable to the increase in inventories and property, plant and equipment. This was offset by a decline in cash and cash equivalents as well as lower assets held for sale, largely due to the completed divestment of the refrigeration contracting and service operations in France as well as the disposal of the metering, blending and calibration activities of GEA Diessel GmbH.

Equity increased by EUR 204.7 million to EUR 2,281 million. The consolidated net income (EUR 401.4 million) as well as other consolidated net income (EUR 167.6 million) had a positive effect on this item. Dividend payments (EUR 159.6 million) and the acquisition of treasury shares (EUR 205.6 million) were the main offsetting factors. The equity ratio rose accordingly to 38.5 percent as of December 31, 2022, compared to 35.3 percent in the previous year.

Within non-current liabilities, bank liabilities decreased mainly due to the repayment of the borrower's note loan, and obligations to employees decreased due to a higher discount rate. There was a slight increase in current liabilities, mainly due to higher current financial liabilities, trade liabilities and contract liabilities.

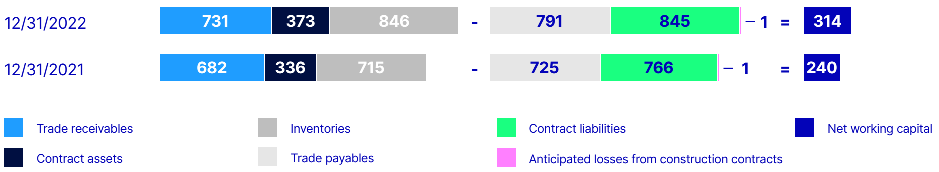
Comparison of net assets (2022 vs. 2021)

(EUR million)



Change in net working capital (continued operations)

(EUR million)



Return on Capital Employed (ROCE)

Return on capital employed (ROCE)	12/31/2022	12/31/2021
EBIT before restructuring expenses of the last 12 months (EUR million)	529.1	443.7
Capital employed (EUR million)*	1,665.9	1,593.6
Return on capital employed (in %)	**31.8**	**27.8**
Return on capital employed (in %) at constant currencies	30.9	28.1

*) Capital employed excluding goodwill from the acquisition of the former GEA AG by former Metallgesellschaft AG in 1999 (average of the last 4 quarters); this also applies for the ROCE of the divisions.

Calculation capital employed* (EUR million)	12/31/2022	12/31/2021
Total assets	**5,870.3**	**5,730.1**
minus current liabilities	2,451.8	2,152.2
minus goodwill mg/GEA	782.0	788.8
minus deferred tax assets	313.3	318.9
minus cash and cash equivalents	689.6	865.6
minus ohter adjustments	–32.3	11.0
Capital employed	**1,665.9**	**1,593.6**

*) average of the last 4 quarters.

As of the reporting date, capital employed (calculated as the average of the last four quarters) increased from EUR 1,594 million to EUR 1,666 million. The slight increase was mainly due to higher fixed assets and net working capital. Nonetheless, with significantly higher EBIT before restructuring expenses, return on capital employed (ROCE) improved substantially from 27.8 percent to 31.8 percent. All divisions were able to increase ROCE in the reporting year compared to the previous year’s figure, in some cases significantly.

GEA`s divisions in the fiscal year

Separation & Flow Technologies

Separation & Flow Technologies (EUR million)	2022	2021	Change in %
Order intake	1,537.0	1,359.1	13.1
Revenue	1,415.6	1,237.2	14.4
Share service revenue in %	46.4	44.6	189 bps
EBITDA before restructuring expenses	360.2	302.5	19.1
as % of revenue	25.4	24.5	100 bps
EBITDA	335.4	302.4	10.9
EBIT before restructuring expenses	316.8	259.1	22.3
EBIT	288.5	258.9	11.4
ROCE in % (3rd Party)*	37.2	31.1	612 bps

*) ROCE, as one of the relevant performance indicators, has now been considered as „ROCE 3rd Party“ (excluding interdivisional effects in the capital employed) at the divisional level.

Revenue development in %	2022
Change compared to prior year	**14.4**
FX effects	3.7
Acquisitions/divestments	–
Organic	**10.7**

Order intake increased significantly by 13.1 percent to EUR 1,537 million in the reporting year. This corresponds to organic growth of 9.9 percent. This development was largely attributable to the Dairy, Chemical and Environmental Engineering customer industries. With a book-to-bill ratio of 1.09 (prior year 1.10), the increase in demand continued in all three business units.

Revenue increased to EUR 1,416 million, an increase of 14.4 percent compared to the previous year. Organic growth was 10.7 percent, even though new machinery sales were partially impacted by the global supply chain bottlenecks. In absolute terms and as a proportion of total revenue, service revenue increased further to 46.4 percent, compared to 44.6 percent in the previous year. Revenues were higher year-over-year in almost all regions; only the DACH & Eastern Europe region was unable to keep pace with growth due to operations in Russia impacted by sanctions, but it remained at the same level as the prior year.

EBITDA before restructuring expenses increased significantly by 19.1 percent to EUR 360.2 million. In addition to improved margin quality, the product mix, plant capacity utilization in the new machinery business and the increase in the service share also contributed to this rise in EBITDA. The corresponding margin also increased significantly to 25.4 percent, compared with 24.5 percent in the previous year.

Mainly driven by the improvement in earnings, ROCE increased significantly in year-on-year comparison from 31.1 percent to 37.2 percent, while capital employed remained virtually unchanged.

Liquid & Powder Technologies

Liquid & Powder Technologies (EUR million)	2022	2021	Change in %
Order intake	1,865.1	1,747.7	6.7
Revenue	1,715.6	1,546.1	11.0
Share service revenue in %	21.0	21.1	-10 bps
EBITDA before restructuring expenses	165.6	150.0	10.4
as % of revenue	9.7	9.7	-5 bps
EBITDA	160.7	147.4	9.0
EBIT before restructuring expenses	129.6	114.0	13.7
EBIT	124.7	111.4	11.9
ROCE in % (3rd Party)*	–	–	–

*) ROCE, as one of the relevant performance indicators, has now been considered as “ROCE 3rd Party” (excluding interdivisional effects in the capital employed) at the divisional level. Due to negative capital employed, ROCE is not meaningful.

Revenue development in %	2022
Change compared to prior year	**11.0**
FX effects	2.8
Acquisitions/divestments	–
Organic	**8.2**

Compared to 2021, order intake increased by 6.7 percent to EUR 1,865 million. This corresponds to organic growth of 4.0 percent. The growth resulted mainly from the significantly stronger Dairy Processing sector and a very strong performance of the Chemical sector. In the New Food segment, a number of pilot projects were acquired which are seen as important milestones for landing larger follow-up projects. The good book-to-bill ratio of 1.09 is almost at the level of the previous year (1.13). The volume of large orders was EUR 399 million (16 orders), compared to 8 large orders totaling EUR 260 million in the previous year.

Revenue increased to EUR 1,716 million, an improvement of 11.0 percent compared to the previous year. Organic growth amounted to 8.2 percent. The positive development resulted from the high order backlog and the good ongoing order flow in the reporting year. The North America and Northern & Central Europe regions recorded above-average positive development, while Western Europe, Middle East & Africa, and Asia Pacific also recorded solid growth rates. Only two regions were below the previous year: the DACH & Eastern Europe region was affected by the Ukraine war and Latin America suffered from local economic difficulties. The share of service revenue remained virtually unchanged at 21.0 percent compared to the prior-year figure of 21.1 percent.

EBITDA before restructuring expenses increased significantly by 10.4 percent to EUR 165.6 million. The improvement was primarily the result of revenue growth, with the corresponding margin of 9.7 percent maintaining the good level of the previous year. The Excellence initiatives to optimize order processing and project management continued to make a positive impact, as did the high level of capacity utilization. Investments in the expansion of the New Food segment had a compensating impact.

ROCE for the reporting period is not meaningful due to the negative capital employed.

Food & Healthcare Technologies

Food & Healthcare Technologies (EUR million)	2022	2021	Change in %
Order intake	1,094.1	1,032.8	5.9
Revenue	1,001.3	937.1	6.9
Share service revenue in %	30.6	28.8	181 bps
EBITDA before restructuring expenses	107.3	100.4	6.9
as % of revenue	10.7	10.7	0 bps
EBITDA	103.4	88.1	17.4
EBIT before restructuring expenses	65.5	55.8	17.5
EBIT	58.7	42.5	38.1
ROCE in % (3rd Party)*	15.2	14.7	45 bps

*) ROCE, as one of the relevant performance indicators, has now been considered as „ROCE 3rd Party“ (excluding interdivisional effects in the capital employed) at the divisional level.

Revenue development in %	2022
Change compared to prior year	**6.9**
FX effects	2.5
Acquisitions/divestments	–
Organic	**4.4**

Order intake increased by 5.9 percent to EUR 1,094 million in the reporting year. This corresponds to organic growth of 3.4 percent. Nearly all business units contributed to this growth. Same as in the previous year, one large order (exceeding EUR 15 million) with a value of EUR 20 million was secured (previous year: EUR 33 million). The good book-to-bill ratio remained virtually unchanged at a high level of 1.09 (prior year 1.10).

Revenue increased by 6.9 to EUR 1,001 million in 2022. Organic growth amounted to 4.4 percent. Bottlenecks in the supply chains prevented a better revenue development. Performance varied between regions. Strong revenue growth, particularly in the regions of North America, Northern and Central Europe, as well as Western Europe, the Middle East and Africa compensated for the decline in Latin America. Service revenue was up, increasing its share of total revenue from 28.8 percent in the previous year to 30.6 percent in the reporting year.

In the reporting year, EBITDA before restructuring expenses rose by 6.9 percent to EUR 107.3 million primarily due to improved margins and the efficiency measures already introduced. Price increases charged to customers offset the substantial rise in material prices. The corresponding margin remained constant at 10.7 percent.

ROCE also increased from 14.7 percent to 15.2 percent in the reporting period. The significant improvement in EBIT before restructuring expenses more than offset higher capital employed.

Farm Technologies

Farm Technologies (EUR million)	2022	2021	Change in %
Order intake	825.2	702.1	17.5
Revenue	742.0	633.9	17.1
Share service revenue in %	46.6	43.9	269 bps
EBITDA before restructuring expenses	86.1	76.1	13.1
as % of revenue	11.6	12.0	-40 bps
EBITDA	79.4	73.3	8.4
EBIT before restructuring expenses	58.2	48.6	19.6
EBIT	50.9	44.9	13.4
ROCE in % (3rd Party)*	20.0	19.8	16 bps

*) ROCE, as one of the relevant performance indicators, has now been considered as „ROCE 3rd Party" (excluding interdivisional effects in the capital employed) at the divisional level.

Revenue development in %	2022
Change compared to prior year	**17.1**
FX effects	6.4
Acquisitions/divestments	–
Organic	**10.7**

Order intake increased by 17.5 percent to EUR 825.2 million in 2022. This corresponds to organic growth of 11.3 percent. Significant growth was recorded in the new machinery and service business. While revenues of milking robots and manure technology in particular increased in the new machinery segment, the hygiene products business was the main driver in the service business. The book-to-bill ratio of 1.11 remained at the high prior-year level of 1.11.

Despite supply chain bottlenecks, revenue increased by 17.1 percent to EUR 742.0 million in the reporting period. Organic revenue growth increased by 10.7 percent. This increase resulted mainly from the strong new machinery business in the areas of milking robots and manure technology as well as from increased sales of hygiene products in the service area. Overall, almost all regions achieved an increase in revenue, led by North and Latin America and Asia Pacific. Only the Northern and Central Europe region reported declining revenues. The share of service revenue increased further from 43.9 percent in the previous year to 46.6 percent in the reporting period.

EBITDA before restructuring expenses increased significantly by 13.1 percent to EUR 86.1 million. This was largely achieved through price adjustments and cost-saving measures starting in Q2 2022. Nevertheless, the corresponding margin dropped by 0.4 percentage points to 11.6 percent. The margin reduction was mainly attributable to unexpected short-term increases of purchase prices for basic chemicals for hygiene products in Q1 2022, which were gradually passed on in subsequent quarters through higher selling prices.

In the reporting period, ROCE was 20.0 percent, slightly above the previous year's level of 19.8 percent. While EBIT improved strongly, supply bottlenecks for certain components resulted in greater amounts of capital being tied up in unfinished products.

Heating & Refrigeration Technologies

Heating & Refrigeration Technologies (EUR million)	2022	2021	Change in %
Order intake	581.1	617.0	–5.8
Revenue	523.6	584.0	–10.3
Share service revenue in %	38.2	41.8	-358 bps
EBITDA before restructuring expenses	57.1	59.5	–3.9
as % of revenue	10.9	10.2	73 bps
EBITDA	49.8	37.5	32.8
EBIT before restructuring expenses	42.9	42.4	1.3
EBIT	32.5	13.8	> 100
ROCE in % (3rd Party)*	25.5	24.3	112 bps

*) ROCE, as one of the relevant performance indicators, has now been considered as „ROCE 3rd Party“ (excluding interdivisional effects in the capital employed) at the divisional level.

Revenue development in %	2022
Change compared to prior year	**–10.3**
FX effects	2.1
Acquisitions/divestments	–21.0
Organic	**8.5**

In the reporting year, order intake was EUR 581.1 million, which was 5.8 percent lower than the previous year due to the sale of the refrigeration plant construction and service business in Spain, Italy and France. However, organic growth of 10.3 percent was achieved; among other things, it was driven by stronger demand for energy efficiency and sustainability. The book-to-bill ratio of 1.11 was above the prior-year level of 1.06.

Revenue of EUR 523.6 million was 10.3 percent below the previous year, primarily due to the above-mentioned divestments. A significant organic revenue increase of 8.5 percent was recorded despite the negative effects of the Ukraine war. With the exception of the DACH & Eastern Europe region, which was impacted by the developments in Russia, all other regions contributed to the positive revenue trend. The share of service revenues decreased from 41.8 percent in the previous year to 38.2 percent due to the strong demand for new machines. Service revenues increased organically by 3.7 percent compared to the previous year.

EBITDA before restructuring expenses decreased 3.9 percent to EUR 57.1 million in the reporting year due to the disposals and negative effects resulting from the war in Ukraine. By contrast, the corresponding EBITDA margin increased significantly to 10.9 percent as a result of the portfolio adjustments, compared to 10.2 percent in the previous year.

At 25.5 percent, ROCE was higher than the prior-year figure of 24.3 percent. This was mainly attributable to the positive trend of capital employed, which was impacted by the divestment of refrigeration contracting and service operations in France, among other things.

Others/Consolidation

Others/consolidation (EUR million)	2022	2021	Change in %
Order intake	–223.7	–236.2	5.3
Revenue	–233.5	–235.3	0.8
EBITDA before restructuring expenses	–64.4	–63.8	–1.0
EBITDA	–74.7	–79.4	6.0
EBIT before restructuring expenses	–84.0	–76.1	–10.3
EBIT	–94.3	–91.8	–2.7

In the Others/Consolidation segment, there were no significant changes in the key performance indicators of revenue and EBITDA before restructuring expenses in the reporting year compared to the previous year.

Employees

Compared to December 31, 2021, the number of employees (FTE) increased by 93 to 18,236 as of the reporting date. At the same time, an increase in the number of temporary employees and independent contractors amounted to 91 full-time equivalents, meaning that the total workforce increased slightly to 19,255.

In addition to the decline in the Heating & Refrigeration Technologies division due to the divestment of refrigeration contracting and service operations in France as well as the reduction of staff in Russia, the number of employees also dropped in the Food & Healthcare Technologies division. In contrast, the number of employees in the Separation & Flow Technologies, Liquid & Powder Technologies and Farm Technologies divisions increased.

The following table shows the development of employee numbers per region:

Employees* by region	12/31/2022		12/31/2021	
DACH & Eastern Europe	6,984	38.3%	6,939	38.2%
North and Central Europe	3,173	17.4%	3,105	17.1%
Asia Pacific	3,049	16.7%	3,039	16.8%
Western Europe, Middle East & Africa	2,716	14.9%	2,906	16.0%
North America	1,694	9.3%	1,590	8.8%
Latin America	621	3.4%	564	3.1%
Employees (FTE)	**18,236**	**100.0%**	**18,143**	**100.0%**
Contingent workforce (FTE)	1,018	–	1,109	–
Total workforce (FTE)	**19,255**	**–**	**19,252**	**–**

*) Full-time equivalents (FTE) excluding vocational trainees and inactive employment contracts.

Net Assets, Financial Position, and Results of Operations of GEA Group Aktiengesellschaft

In addition to the reporting by the group, the following section describes the performance of GEA Group Aktiengesellschaft (group management). The annual financial statements are prepared in accordance with the Handelsgesetzbuch (HGB - German Commercial Code) and the Aktiengesetz (AktG - German Stock Corporation Act). They are presented here in condensed form.

GEA Group Aktiengesellschaft oversees central management functions of the group. Furthermore, it provides its subsidiaries with services on the basis of service agreements. These include services from the Global Corporate Center, global excellence functions (production and logistics) and human resources. Profit and loss transfer agreements exist with key domestic subsidiaries. In turn, the economic position of GEA Group Aktiengesellschaft depends on its subsidiaries' business development, which fundamentally corresponds to the development of GEA Group, as discussed in this chapter under section "Overall Assessment of Business Development".

In the last two fiscal years, functions were transferred within the Group. In addition to the transfer of employees within the group, assets, and service contracts with third parties related to the functions were transferred to the GEA Group Services GmbH during the fiscal year. This leads to limited comparability of the balance sheet and the income statement. This mainly affects the items intangible assets, deferred expenses and accrued income, accruals for outstanding supplier invoices, sales revenues, purchased services and other operating expenses.

Net assets of GEA Group Aktiengesellschaft (HGB) (EUR million)	12/31/2022	as % of total assets	12/31/2021	as % of total assets
Assets				
Intangible fixed assets	1.3	–	37.7	1.0
Tangible fixed assets	1.3	–	1.4	–
Long-term financial assets	2,234.2	62.4	2,319.6	60.3
Fixed assets	**2,236.8**	**62.4**	**2,358.7**	**61.3**
Receivables and other assets	1,029.1	28.7	875.1	22.7
thereof Receivables from affiliated companies	1,014.3	28.3	851.0	22.1
thereof Other assets	14.8	0.4	24.1	0.6
Securities	–	–	90.0	2.3
Cash	313.0	8.8	511.7	13.4
Current assets	**1,342.1**	**37.5**	**1,476.8**	**38.4**
Prepaid expenses	**3.2**	**0.1**	**11.6**	**0.3**
Total	**3,582.1**	**100.0**	**3,847.1**	**100.0**
Equity and liabilities				
Subscribed capital	520.4	14.5	520.4	13.5
Own shares	–23.4	–0.7	–6.6	–0.2
Capital reserves	250.8	7.0	250.8	6.5
Revenue reserves	189.9	5.3	376.5	9.8
Net retained profits	164.7	4.7	161.0	4.2
Equity	**1,102.4**	**30.8**	**1,302.1**	**33.8**
Provisions	**316.7**	**8.8**	**311.3**	**8.1**
Liabilities to banks	202.3	5.6	255.9	6.7
Trade payables	2.1	0.1	13.7	0.4
Liabilities to affiliated companies	1,956.1	54.6	1,959.0	50.9
Other liabilities	2.5	0.1	5.1	0.1
Liabilities	**2,163.0**	**60.4**	**2,233.7**	**58.1**
Total	**3,582.1**	**100.0**	**3,847.1**	**100.0**

GEA Group Aktiengesellschaft's total assets are significantly lower than the previous year. As part of central liquidity management, receivables from affiliated companies increased by EUR 163.3 million and liabilities to affiliated companies decreased by EUR 2.9 million. Other significant changes in total assets resulted from the repayment of bank loans in the amount of EUR 50.0 million and the acquisition of treasury shares in the amount of EUR 205.5 million. Overall, cash and cash equivalents decreased by EUR 198.7 million.

The decrease in intangible assets is mainly attributable to the transfer of assets within the group in connection with the introduction of a uniform global ERP system. The change in financial assets resulted from the repayment of loans and the measurement of investments in Russia at fair value.

Overall, equity decreased by EUR 199.7 million compared with the previous year. This was due to the 5,829,827 treasury shares acquired in fiscal year 2022. Of the acquisition cost of EUR 205.5 million, EUR 188.7 million was offset against revenue reserves and the imputed share of subscribed capital of EUR 16.8 million was reported as treasury shares. This compares with net income for the fiscal year of EUR 165.3 million less dividends paid of EUR 159.6 million. The equity ratio fell by 3.0 percentage points to 30.8 percent. In addition, appropriation to other revenue reserves amounting to EUR 2.0 million were made in the fiscal year.

There were only minor changes overall to the rest of the balance sheet items compared with the previous year.

Income statement of GEA Group Aktiengesellschaft (HGB) (EUR million)	01/01/ - 12/31/2022	01/01/ - 12/31/2021
Revenue	98.1	115.8
Other operating income	318.4	168.3
Cost for purchased services	–12.8	–48.8
Personnel expenses	–62.1	–66.2
Amortization amd writedowns of intangible fixed assets and depreciation and writedowns of tangible fixed assets	–5.0	–3.4
Other operating expenses	–356.5	–264.5
Investment income	234.2	296.6
Net interest income	–3.1	–0.6
Write-downs on financial assets and seurities held as current assets	–44.2	–4.8
Taxes on income	–1.3	–4.4
Net income after income tax	**165.7**	**188.0**
Other tax expenses	–0.4	–0.3
Net income for the fiscal year	**165.3**	**187.7**
Retained profits brought forward	1.4	0.3
Withdrawals from other revenue reservers	–	–
Appropriation to other revenue reserves	–2.0	–27.0
Net retained profits	**164.7**	**161.0**

The revenues of GEA Group Aktiengesellschaft essentially comprise charges of EUR 76.7 million (previous year: EUR 93.8 million) that were allocated to subsidiaries in the 2022 fiscal year and income of EUR 19.8 million (previous year: EUR 20.6 million) from the trademark fee. In addition to externally sourced services, the group also invoices its own services under service contracts to group companies, mainly to a service company, which it uses as the basis for calculating the allocation. The decrease in the trademark fee is mainly due to changes in the group companies to be charged as a result of divestments.

Currency translation gains and losses from own hedges and hedges for affiliated companies are reported gross within other operating income and expenses, as in the previous year. Currency translation gains of EUR 259.9 million (previous year: EUR 124.6 million) and currency translation losses of EUR 250.4 million (previous year: EUR 122.4 million) resulted in a net gain of EUR 9.5 million (previous year: EUR 2.2 million).

In addition to exchange rate gains, other operating income mainly includes income from charges passed on and ancillary business totaling EUR 17.7 million (previous year: EUR 5.5 million), income from the reversal of impairments on current assets amounting to EUR 17.7 million (previous year: EUR 0.5 million) and income from the reversal of provisions totaling EUR 6.1 million (previous year: EUR 22.2 million). Valuation allowances of EUR 17.7 million were reversed due to a payment received for impaired receivables

Costs for externally purchased services – totaling EUR 12.0 million (previous year: EUR 43.0 million) – mainly comprises services provided by external companies required to execute the functions of the Global Corporate Center, the global excellence functions (production and logistics) and human resources. The sharp decrease resulted from the transfer of the global excellence function of purchasing, the management function of global IT as well as business process outsourcing (BPO) finance within the group.

Personnel expenses decreased by EUR 4.1 million compared with the previous year. This was mainly attributable to the year-over-year decrease in bonus and management bonuses.

In addition to scheduled depreciation on assets of EUR 2.1 million (previous year: EUR 3.0 million), impairments include allowances on receivables from affiliated companies of EUR 2.9 million (previous year: EUR 0.2 million).

In addition to exchange rate losses, other operating expenses mainly include expenses for IT and licenses, expert and consulting fees, expenses for additions to the provisions for negative consequences from mining, expenses for cost allocations within the group and other third-party services. The sharp decline in expenses for IT and licenses is directly related to the transfer of the project to introduce a uniform global ERP system to another group company. The decrease in additions to provisions for follow-up mining costs is mainly attributable to the individual planning of the rates of cost increase for the years 2023 – 2031. In the previous year, an adjustment of the cost increase rate to current market conditions led to a significantly higher outflow.

Investment income is the result of income from profit and loss transfer agreements totaling EUR 284.5 million (previous year: EUR 318.8 million), EUR 57.1 million (previous year: EUR 39.1 million) in expenses from profit and loss transfer agreements and income from other equity investments amounting to EUR 6.8 million (previous year: EUR 16.9 million).

Income from profit transfer agreements mainly comprises profits transferred by GEA Mechanical Equipment GmbH, GEA Group Holding GmbH, GEA Refrigeration Germany GmbH, and GEA TDS GmbH. Expenses for loss absorption mainly comprise assumed losses from GEA Group Services GmbH, GEA Refrigeration Technologies GmbH, GEA Farm Technologies GmbH, mg Altersversorgung GmbH and GEA Wiegand GmbH.

Net interest income decreased by EUR 2.5 million to EUR -3.1 million (previous year: EUR -0.6 million). This is mainly due to the year-over-year increase in interest expenses to affiliated companies by EUR 12.2 million to EUR 13.4 million (previous year EUR 1.2 million). This increase was only partially offset by the EUR 4.5 million rise in interest and similar income from affiliated companies to EUR 17.0 million (previous year EUR 12.5 million) as well as the EUR 6.2 million decrease in interest expenses for contributions to pension provisions.

The impairments on financial assets mainly contained writedowns on interests in companies totaling EUR 39.1 million (previous year: EUR 4.8 million). These impairments on fair value relate to two investments based in Russia.

Cash flow of GEA Group Aktiengesellschaft (HGB) (EUR million)	2022	2021
Cash flow from operating activities	89.4	441.6
Cash flow from investing activities	130.6	–101.3
Cash flow from financing activities	–418.7	–393.9
Liquid funds	313.0	511.7

In the year under review, cash flow from operating activities amounted to EUR 89.4 million. This is EUR 352.2 million lower than in the previous year. This decrease was largely due to a significant decline in cash inflows from affiliated companies in connection with cash pooling.

In contrast to the previous year, there was a cash inflow from investing activities of EUR 130.6 million in the fiscal year. This was mainly due to cash inflows from the maturity of securities (commercial paper) of EUR 90.0 million and inflows from disposals of intangible assets and property, plant and equipment, which were partly offset by outflows for investments in property, plant and equipment, intangible assets and investments in financial assets.

The cash flow from financing activities in the fiscal year mainly includes the previous year's dividend payout of EUR 159.6 million (previous year: EUR 153.4 million), the repayment of a bank loan of EUR 50.0 million (previous year: repayment of EUR 150.0 million) and the acquisition of treasury shares in the amount of EUR 205.5 million (previous year: EUR 93.8 million).

GEA Group Aktiengesellschaft's business development is subject to the same risks and opportunities as the GEA Group. They are presented in the section “Opportunity and risk report.” Additionally, the relationships with subsidiaries may result in negative effects due to statutory and contractual contingent liabilities (in particular financing).

The income of the GEA Group Aktiengesellschaft is significantly dependent on the development of the investment income of its subsidiaries. Group income serves as the basis for net retained profits and the corresponding dividend payment. Hence, net retained profits (HGB) for the fiscal year are regarded as the most important key performance indicator for GEA Group Aktiengesellschaft. GEA Group Aktiengesellschaft predicted that net retained profits for fiscal year 2022 would be at or around the same level of the previous year, taking retained earnings into account. Net retained profits of EUR 164.7 million exceeded the forecast amount. For fiscal year 2023, GEA Group Aktiengesellschaft expects net retained profits to be on par with the fiscal year under review, taking retained earnings into account.

Explanatory information in accordance with sections 289(4), 315(4) and 315a, sentence 1 of the HGB

Composition of the subscribed capital and restrictions on rights

As of December 31, 2022, the subscribed capital of GEA Group Aktiengesellschaft was EUR 520,375,765.57 and was composed of 180,492,172 no-par value bearer shares. All the shares are ordinary shares. The rights and obligations arising from these shares are defined in the Aktiengesetz (AktG - German Stock Corporation Act). This can result in restrictions affecting voting rights. For example, section 71b AktG states that GEA Group Aktiengesellschaft is not entitled to voting rights from its own shares (treasury stock). Outstanding capital in the amount of EUR 496,945 thousand corresponds to subscribed capital of EUR 520,376 thousand less the nominal value per share of redeemed shares in the amount of EUR 23,430 thousands.

The Executive Board is not aware of any contractual restrictions affecting voting rights. Contractual restrictions affecting the transfer of shares arise through the share-based payment program (Share Ownership Guidelines) of the current remuneration system, under which all members of the Executive Board were paid in the past fiscal year. The members of the Executive Board have pledged to acquire a certain number of shares of the GEA Group Aktiengesellschaft and not to encumber them or sell them until the end of their terms on the Executive Board.

Interests in the share capital exceeding 10 percent of the voting rights

In fiscal year 2018, Massachusetts Financial Services Company, Boston, Massachusetts, U.S., reported that its interests in GEA Group Aktiengesellschaft had exceeded 10 percent of the voting rights .

Provisions governing the appointment and dismissal of members of the Executive Board and amendments to the Articles of Association

The members of the Executive Board are appointed and dismissed by the Supervisory Board in accordance with sections 84 and 85 of the AktG in conjunction with section 31 of the Mitbestimmungsgesetz (MitbestG - German Codetermination Act).

Under Article 20(1) of GEA Group Aktiengesellschaft's Articles of Association, amendments to the Articles of Association may - where legally permissible - be adopted by a simple majority of the share capital represented at the vote. Under Article 21 of the Articles of Association, the Supervisory Board may resolve amendments and additions to the Articles of Association that only affect their wording. In other respects, section 179 of the AktG applies to amendments to the Articles of Association.

Powers of the Executive Board to issue and repurchase shares

In accordance with Article 4(3) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the share capital by up to EUR 52,000,000.00 million by issuing new no-par value shares against cash contributions until April 29, 2026 (Authorized Capital I) and, in accordance with Article 5(4) of said Articles, to define a starting date for profit rights that differs from the date stipulated by law. The authorization may be exercised fully or in partial amounts, on one or several occasions. Shareholders are generally entitled to subscribe to the new shares. The statutory preemptive right may also be granted by the new shares being underwritten by one or more banks with the obligation of offering them to the shareholders for preemptive subscription (indirect preemptive right). The Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights (i) insofar as this is necessary to eliminate fractional amounts, and (ii) in order to grant the creditors of convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the company a right to subscribe to new shares to the extent to which they would be entitled after exercising the option or conversion rights or after fulfilling conversion obligations. Furthermore, the Executive Board is authorized, with the approval of the Supervisory Board, to stipulate the further details of capital increases from Authorized Capital I and the terms and conditions of the share issue.

In accordance with Article 4(4) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the share capital by up to EUR 52,000,000.00 million by issuing new no-par value shares against cash and/or in-kind contributions until April 29, 2026 (Authorized Capital II) and, in accordance with Article 5(4) of said Articles, to define a starting date for profit rights that differs from the date stipulated by law. The authorization may be exercised fully or in partial amounts, on one or several occasions. Shareholders are generally entitled to subscribe to the new shares. The statutory preemptive right may also be granted by the new shares being underwritten by one or more banks with the obligation of offering them to the shareholders for preemptive subscription (indirect preemptive right). Furthermore, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights in the case of capital increases against in-kind contributions, in particular, for the purpose of business combinations or the acquisition of companies, parts of companies, or equity interests in companies or other assets. In addition, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights if the new shares are to be issued to persons who are in an employment relationship with GEA Group Aktiengesellschaft or one of its group companies.

In such cases, the new shares may also be issued via a bank or another company meeting the requirements of section 186 (5) sentence 1 of the AktG. In addition, the Executive Board is authorized, with the consent of the Supervisory Board, to exclude the statutory shareholders' preemptive right to use the scrip dividend to offer shareholders the option (wholly or partially) of contributing their dividend claim in part or in whole as a non-cash contribution to the company in return for new shares in the company. Finally, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights (i) insofar as it is necessary to eliminate fractional amounts, and (ii) in order to grant the creditors of convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the Company a right to subscribe to new shares to the extent to which they would be entitled after exercising the option or conversion rights or after fulfilling conversion obligations. The Executive Board is furthermore authorized, with the approval of the Supervisory Board, to stipulate the further details of the capital increases from Authorized Capital II and the terms and conditions of the share issue.

In accordance with Article 4(5) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the share capital by up to EUR 52,000,000.00 by issuing new no-par value shares against cash contributions until April 29, 2026 (Authorized Capital III) and, in accordance with Article 5(4) of said Articles, to define a starting date for profit rights that differs from the date stipulated by law. The authorization may be exercised fully or in partial amounts, on one or several occasions. Shareholders are generally entitled to subscribe to the new shares. The statutory preemptive right may also be granted by the new shares being underwritten by one or more banks with the obligation of offering them to the shareholders for preemptive subscription (indirect preemptive right). The Executive Board is authorized, with the approval of the Supervisory Board, to exclude shareholders' subscription rights if the issue price of the new shares is not significantly lower than the stock exchange price for company shares of the same kind at the time of setting the issue price. In line with the modalities of this disapplication of preemptive rights, the shares issued in accordance with section 203(1) and section 186(3) no. 4 of the AktG may not exceed 10% of the share capital of the Company either at the time at which this authorization takes effect or at the time at which it is exercised (upper limit). The upper limit is reduced by the proportionate amount of the share capital allocable to shares of the company issued during the term of the Authorized Capital III under disapplication of preemptive rights in accordance with section 71(1) no. 8 sentence 5, and Section 186(3) sentence 4 of the AktG. The upper limit is also reduced by the proportionate amount of the share capital allocable to shares issued to service convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the company, as long as the convertible or option bonds have been issued during the term of the Authorized Capital III under disapplication of preemptive rights in accordance with section 186(3) sentence of the 4 AktG.

Furthermore, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights (i) insofar as it is necessary to eliminate fractional amounts, and (ii) in order to grant the creditors of convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the Company a right to subscribe to new shares to the extent to which they would be entitled after exercising the option or conversion rights or after fulfilling conversion obligations. The Executive Board is furthermore authorized, with the approval of the Supervisory Board, to stipulate the further details of the capital increases from Authorized Capital III and the terms and conditions of such share issuance.

For Authorized Capital I to III governed by Article 4(3) to (5) of the Articles of Association, the following limit applies to the issuance of shares subject to exclusion of preemptive rights and is intended to ensure that the total upper limit for the issuance and/or sale of shares under exclusion of shareholders' preemptive rights in the amount of 10 percent of the current share capital is not exceeded in any event: The pro rata amount of the share capital attributable to shares issued subject to the exclusion of shareholders' preemptive rights may not exceed a total of 10 percent of the company's share capital outstanding at the time of the adoption of the resolution of the Annual General Meeting (with the exception of issuance subject to exclusion of preemptive rights related to fractional shares). This limit shall include (i) shares issued or sold during the term of this authorization subject to the exclusion of preemptive rights on the basis of other authorizations granted to the Executive Board, as well as (ii) shares to be issued to service bonds with conversion or option rights or obligations, provided that the bonds are issued during the term of this authorization subject to the exclusion of preemptive rights. These offsets no longer apply, and the original amount of the authorization will be available again as soon as a subsequent Annual General Meeting once again authorizes the Executive Board to issue or sell shares or to issue bonds with conversion or option rights and/or obligations, while excluding shareholders' preemptive rights.

Under a resolution adopted by the Annual General Meeting on April 30, 2021, the share capital was contingently increased by up to EUR 52,000,000.00 subject to the issuance of bearer shares (Article 4(6) of the Articles of Association, Contingent Capital 2021). The contingent capital increase will only be implemented to the extent that the holders of conversion or option privileges from convertible bonds or option bonds, profit participation rights or profit participating bonds or a combination of these instruments issued against cash contributions by GEA Group Aktiengesellschaft or a subordinate group company of the company on the basis of the authorization by the Annual General Meeting resolution dated April 30, 2021, exercise their conversion or option privileges, or, if they are obliged to convert or exercise options, satisfy their obligation to convert or exercise options, and if no cash settlement is granted or own shares or shares of another listed company are used in settlement. New shares will be issued at the conversion or option price to be determined in each case in accordance with the authorization referred to above. The new shares bear dividend rights from the beginning of the fiscal year in which they were created as a result of the exercising of conversion or option rights or the fulfillment of conversion or option obligations. The Executive Board is authorized to determine the further details of the implementation of the contingent capital increase.

The Executive Board is authorized, with the consent of the Supervisory Board, to issue bearer or registered convertible bonds or bonds with warrants, profit participation rights or participating bonds or a combination of these instruments (collectively referred to as “bonds”) with a total nominal value of up to EUR 750,000,000.00 on one or more occasions through April 29, 2026 and to grant or impose on the holders of such bonds conversion or option rights or obligations for shares in the company with a proportionate share of share capital totaling up to EUR 52,000,000.00 in accordance with the relevant terms and conditions of the bonds. The bonds may be issued against cash or in-kind contributions. The respective terms and conditions may also include a conversion or option obligation. The bonds may also be issued by GEA Group Aktiengesellschaft group company within the meaning of section 18 of the AktG. In such cases, the Executive Board is authorized, with the approval of the Supervisory Board, to assume a guarantee for the bonds on behalf of the company and to grant or impose conversion or option rights or obligations on the holders of bonds in exchange for GEA Group Aktiengesellschaft shares. Shareholders are generally entitled to subscribe to the bonds. The statutory subscription right may also be granted by the bonds being underwritten by a bank or bank consortium with the obligation of offering them to the shareholders for preemptive subscription (indirect subscription right). The Executive Board is authorized, subject to the consent of the Supervisory Board, to exclude fractional shares from the shareholders’ subscription rights and to exclude the subscription rights under certain conditions and within the limits set by the Annual General Meeting.

The exclusion of the preemptive right is possible in such cases where bonds are issued against contributions in kind (in particular for the purpose of business combinations or the acquisition of companies, parts of companies, or equity interests in companies or other assets) or in cases where bonds are issued for cash at an issue price that does not materially fall below the theoretical market value of the bonds. The pro rata amount of capital stock represented by shares to be issued to service bonds carrying conversion or option rights or obligations that are issued with the exclusion of shareholders' preemptive rights may not exceed 10 percent in the aggregate of the company's capital stock outstanding at the time the resolution is adopted by the Annual General Meeting (excluding the issue with the exclusion of preemptive rights for fractional amounts); for such purposes, shares issued or sold with the exclusion of preemptive rights on the basis of other authorizations granted to the Executive Board during the term of such authorization are also taken into account. These offsets no longer apply, and the original amount of the authorization will be available again as soon as a subsequent Annual General Meeting authorizes the Executive Board to issue or sell shares again while excluding shareholders' preemptive rights.

Under a resolution adopted by the Annual General Meeting dated April 19, 2018, in accordance with section 71(1) no. 8 AktG, GEA Group Aktiengesellschaft is authorized to purchase own shares up to a total of 10 percent of the total proportionate amount of share capital at the time the resolution was adopted. The authorization is valid until April 18, 2023. The shares may be purchased via the stock exchange or by means of a public purchase offer to all shareholders. The shares may subsequently be used for all purposes allowed by law. With the approval of the Supervisory Board, the shares may also (i) be sold in another manner than through the stock exchange or by means of a public offering addressed to all shareholders, provided that the issue price of the new shares is not significantly lower than the price for GEA Group Aktiengesellschaft shares of the same kind at the time of sale, (ii) be transferred to third parties for the purpose of business combinations or the acquisition of companies, parts of companies, or equity interests in companies or other assets, (iii) be used to service convertible or option bonds, (iv) be used to implement a scrip dividend or (v) be withdrawn. Further details on the resolutions on the share buyback adopted by the Annual General Meeting on April 19, 2018, are available in the invitation to the Annual General Meeting, which was published in the Federal Gazette on March 12, 2018.

Material agreements that take effect in the event of a change of control following a takeover bid

The individual lenders of the syndicated credit lines amounting to EUR 650 million may refuse new drawdowns in the event of a change of control. The lenders may call in any amounts already drawn down and terminate the respective credit line giving 20 days' notice.

In the event of a change of control and subject to at least 30 days' notice, the lenders of the borrower's note loans (Schuldscheindarlehen) in the total amount of EUR 200 million are entitled to request early repayment of their loan receivable, including interest accrued up to the date of the early repayment.

Under a master loan agreement totaling EUR 200 million, which is primarily used to issue guarantees for subsidiaries, the lender has the right in the event of an imminent change of control to negotiate the continuation of the agreement under changed terms. If no agreement is reached, the loan agreements fall due with immediate effect. In such case, the lender must be released from its obligations under guarantees furnished within two months or, at the discretion of the borrower, the latter shall make a cash deposit in the amount of the outstanding obligations under the guarantees furnished and any credit drawdowns are to be settled.

With regard to a cash management credit line in the amount of EUR 50 million, the lender is granted an extraordinary right of termination in the event of an imminent change of control if the contracting parties are unable to reach an agreement on continuation, possibly under changed terms, in a timely manner.

Compensation arrangements with members of the Executive Board or employees

The remuneration system, which is applied uniformly to all Executive Board members starting January 1, 2022, provide for any termination or other rights in the event of a change of control.

Key attributes of the internal control and risk management system relation to the financial reporting process

Further details can be found in the “Risk and opportunity management system” and “Internal control system” sections of the “Opportunities and Risk report”.

Overall Assessment of Business Development

2022 was a very successful year for GEA again. In what continues to be an extremely challenging environment, the company succeeded in further unlocking its potential and significantly increasing order intake, revenue and earnings.

Order intake increased by 8.7 percent to EUR 5,679 million. Organic growth amounted to 7.6 percent with contributions from all divisions. This growth was particularly pronounced in the Dairy Farming, Dairy Processing and Chemicals industries. Overall, GEA recorded 17 major orders (volume >EUR 15 million) with a total value of EUR 419 million in mainly the Dairy, Beverage, and Chemicals segments.

GEA achieved a 9.8 percent increase in revenue to EUR 5,165 million, or organic growth of 8.9 percent. As with order intake, all divisions contributed to organic growth in revenue. In regional terms, the development of revenue was heterogeneous. The North America, Asia Pacific as well as Northern and Central Europe regions recorded a strong increase, while the DACH & Eastern Europe, Western Europe, Middle East and Africa as well as Latin America regions saw a slight decline. Revenue developed positively across almost all customer industries. The share of service revenue rose to 34.9 percent, compared to 34.2 percent in the previous year.

EBITDA before restructuring expenses increased significantly by 14.0 percent to EUR 712.0 million. The corresponding EBITDA margin improved by 0.5 percentage points to 13.8 percent (previous year: 13.3 percent). All divisions improved their EBITDA before restructuring expenses, except for Heating & Refrigeration Technologies, whose EBITDA declined due to divestments.

At EUR 401.4 million, the consolidated net profit in fiscal year 2022 was significantly higher than the previous year's figure of EUR 305.2 million on the back of very good operating performance. Accordingly, earnings per share rose from EUR 1.70 to EUR 2.28. Earnings per share before restructuring expenses were EUR 2.58 compared to EUR 1.99 in the previous year. A total of 8.2 million shares were repurchased under the share buyback program launched in August 2021 (volume up to EUR 300 million), and the program was completed on December 30, 2022.

Net liquidity decreased from EUR 499.8 million to EUR 346.4 million compared to the previous year, which is primarily due to the share buyback program. Net working capital as a percentage of revenue increased slightly to 6.1 percent compared to 5.1 percent in the previous year and thus remained below the target corridor of 8 to 10 percent.

Capital employed increased from EUR 1,594 million to EUR 1,666 million as of December 31, 2022, mainly due to an increase in fixed assets. At the same time, EBIT before restructuring expenses increased significantly from EUR 443.7 million to EUR 529.1 million, resulting in additional improvement in return on capital employed (ROCE) from 27.8 percent to 31.8 percent.

In light of the strong earnings trend during fiscal year 2022, the Executive Board and Supervisory Board will propose that the Annual General Meeting approve the payout of a dividend of EUR 0.95 per share, EUR 0.05 higher than in the previous year.

CORPORATE GOVERNANCE STATEMENT

In accordance with section 317 (2) sentence 6 of the Handelsgesetzbuch (HGB – German Commercial Code), the audit of the disclosures to be made in the Corporate Governance Statement in accordance with sections 289f (2) and 5, 315d of the HGB must be limited to the auditor checking whether such disclosures have been made.

Transparent, responsible corporate governance and control, geared towards sustainable value enhancement, are given high priority by GEA Group Aktiengesellschaft. In doing so, the group aligns its actions with the generally accepted principles of corporate governance while implementing the suggestions and recommendations of the German Corporate Governance Code as amended on April 28, 2022 (published in the Federal Gazette on June 27, 2022) to the greatest possible extent.

Declaration of Conformity

Between the issuance of the last Declaration of Compliance on December 16, 2021, GEA Group Aktiengesellschaft fully complied with the recommendations of the German Corporate Governance Code as amended on April 28, 2022 (“GCGC 2022”) and published by the Federal Ministry of Justice and Consumer Protection in the official section of the Federal Gazette.

Looking forward, GEA Group Aktiengesellschaft declares its intention to continue to fully comply with the recommendations of the GCGC 2022.

Düsseldorf, December 8, 2022

For the Supervisory Board	For the Executive Board	
Prof. Dieter Kempf	Stefan Klebert	Marcus A. Ketter

Code of Conduct

GEA has begun to reorganize its codes of conduct and associated responsibilities as part of the "Mission 26" group strategy adopted in 2021 and its cross-divisional approach to sustainability. The following codes describe the system of values within which business decisions are made and the guidelines with which employees and management bodies are to align their actions.

The Code of Conduct of GEA Group Aktiengesellschaft requires that the group's business activities comply with all existing laws and high ethical standards. The Code of Conduct applies to all employees and bodies of GEA worldwide. It is supplemented by policies and guidelines on individual areas, in particular anti-corruption, anti-trust and competition law, money laundering and conflicts of interest. This Code of Conduct is supplemented by a Code of Conduct for Suppliers and Subcontractors that obliges these groups to comply with a set of key principles regarding their responsibility towards society, the environment and the individuals involved in the production of goods and/or the provision of services. In addition, the company and the European Works Council have jointly agreed to a Code of Corporate Responsibility. This code sets out the ethical, social and legal standards that are binding on all GEA employees. GEA has further obligations arising from its participation in the United Nations Global Compact.

Since 2021, the management of sustainability-relevant practices has been the responsibility of a dedicated sustainability department, which reports directly to the CEO. All activities and reporting channels that were previously allocated across different departments now converge here. The above documents are published on gea.com. Further information can be found in the non-financial (Group) statement of this Annual Report.

Compliance

Compliance in terms of measures designed to ensure adherence to the law as well as internal corporate policies, and the group companies' compliance therewith, are considered to be a key management and supervisory task at GEA. The compliance organization's group-wide activities focus on the prevention of corruption and money-laundering, conflicts of interest, antitrust law as well as data protection.

The Chief Compliance Officer coordinates and ensures the implementation of compliance measures, in particular in the aforementioned areas. In this capacity, he reports to both the Executive Board and the Audit Committee of the Supervisory Board. Moreover, the compliance organization is involved in processing all compliance incidents carrying the risk of criminal proceedings or a fine. The Chief Compliance Officer is assisted by the compliance organization and is in regular contact with the Group Audit department and other assurance functions. Central legal compliance activities are pooled and handled by the "Compliance & Principle Legal Matters" unit that is part of the group's corporate legal department. The divisions also support the compliance activities undertaken at operational level. A Compliance Executive is appointed for each division and a Compliance Manager is appointed for each operating entity. The divisions, regions, entities and central functions are also advised and supported by compliance officers. In addition, further functions for the purpose of counseling and supporting the Chief Compliance Officer are involved as required. GEA's Compliance Management System was reviewed in accordance with the IDW PS 980 auditing standard by the auditing company KPMG with regard to the effectiveness of the company's anti-corruption and anti-trust policies. The audit was successfully completed in February 2022. Detailed information on GEA's compliance organization and its functions can be found in the "Compliance" chapter of the separately published Sustainability Report at gea.com.

Alongside the compliance organization described above, GEA has a globally operational export control organization. Key export control activities are pooled in the Tax, Customs & Foreign Trade department. Furthermore, each operating entity is assigned a local Export Control Manager. The new procurement and supply chain organization and the appointment of a new Global Supply Chain Director represented major steps toward the further standardization of global supply chain processes and alignment with "Mission 26" in the year under review.

For GEA, the topic of taxation (including tax compliance) is a key component of responsible corporate governance, through which companies contribute to the economies of the countries where they operate. GEA follows a well-defined and transparent tax strategy, with profits taxed in the countries in which they arise. As specified in the current Group Tax Directive, profits are not transferred to countries with lower tax rates or where they are not subject to taxation at all for the purposes of reducing taxation. It is not in GEA's interest to establish structures that contravene this principle. The group's management decisions are not made based on tax rates or other tax issues.

However, as a global group with revenue-generating activities in numerous countries, a number of GEA companies are located in countries or territories with lower tax rates than Germany. These companies are required to run business operations locally. None of these companies was founded to obtain tax advantages and none is used for the purposes of aggressive tax planning. GEA is a significant taxpayer and employer in the regions in which the company is active. GEA at all times operates in full compliance with local tax and customs regulations, as well as internationally applicable directives, including all DAC Directives. In this way, GEA contributes to creating and developing prosperity and income in these regions.

When setting up its Tax Compliance Management System, GEA was guided by the seven fundamental components of Assurance Standard 980 of the Institute of Public Auditors in Germany (IDW) and the related practice notes published by the IDW. The Tax Compliance Management System description for Germany prepared on this basis was audited with regard to its appropriateness, implementation and effectiveness in the subdomains of VAT and income tax, and is subject to an ongoing review and improvement process. GEA identifies tax risks uniformly across the group and integrates them into the group's risk management. The Senior Vice President Corporate Tax, Customs and Foreign Trade reports directly to the CFO, who in turn informs the Supervisory Board about tax matters.

As part of its legal obligations, GEA Group AG provides information relevant to taxation for all group companies to the German Federal Central Tax Office (Country-by-Country Report) each year. This tax information is based in part on GEA Group's consolidated financial statements that have been audited and certified by an independent auditor.

The members of the compliance organization regularly discuss the latest developments as well as potential impacts or additions to GEA's compliance program. Since December 1, 2014, GEA has been using a globally implemented Integrity System. This Integrity System allows GEA employees and independent third parties to report suspected compliance infringements or violations of GEA's Codes of Conduct – the general principles of social responsibility – via an online system. To the extent permitted by law, individuals reporting a violation may remain anonymous. This anonymity is guaranteed by the technical set-up of the Integrity System. Suspicions can also be reported anonymously by telephone via an external law firm. The compliance organization rigorously investigates all suspected cases and involves group internal audit where necessary. Moreover, mandatory face-to-face and web-based training sessions are regularly held for compliance-relevant group employees for covering current issues and regulations relative to the law, the Code of Conduct and GEA's additional compliance policies and guidelines. GEA's compliance program is rounded off by close cooperation between the compliance organization and the group's internal audit department, compliance risk audits and random sampling at the time of the annual audit, as well as on-site talks and video conferences between representatives of the compliance organization and local managers for evaluating best practices within the group. The Compliance Management System is supplemented by various IT tools, including for compliance approvals, compliance reports, compliance risk audits and third-party audits.

Information security, Business Continuity and Crisis Management

The “Information Security” function leads organizational aspects in the areas of security, business continuity management and crisis management, with the task of developing and implementing group-wide guidelines, programs and procedures in these areas via the Information Security Management System (ISMS). Detailed explanations on these topics can be found in the separately published Sustainability Report 2022 at gea.com.

Sustainability

Sustainable corporate management has long had a firm place in the company’s self-image and governance. Early on, GEA recognized how important it is to act responsibly and continuously improve on past achievements. The company seizes market opportunities but always keeps an eye on the associated social and environmental impacts.

During fiscal year 2022, GEA was again able to make a significant contribution to making products and processes more sustainable, improving employee involvement and deepening social commitment. The topic of sustainability is one of the strategic levers of the “Mission 26” strategy, which was adopted in 2021 and contains a clear roadmap up to the year 2026 and beyond. In its strategy, GEA describes the major challenges for the business and its stakeholders and translates them into specific goals. As a global leader in the industry, GEA also wants to be at the forefront of sustainability.

In line with the requirements of the CSR Directive Implementation Act (CSR-RUG), GEA has supplemented its existing financial reporting with disclosures on material non-financial aspects of its business activities in the areas of environmental, employee and social matters, respect for human rights and anti-corruption. The reporting is prepared in accordance with the GRI standards. As part of these efforts, the company will publish GEA Group’s separate non-financial statement (Sustainability Report) on the website gea.com on March 7, 2023.

Responsible risk management

Sustainable growth can only be achieved if both the opportunities and the risks associated with corporate activities are identified and adequately taken into account. For this reason, an effective control, risk and opportunity management system represents one of the core elements of corporate governance at GEA. Further information on this topic can be found in the chapter “Report on Opportunities and Risks“.

Accounting and audit transparency

GEA Group Aktiengesellschaft is committed to transparent reporting. The company’s consolidated financial statements and the condensed half-yearly financial report are prepared in accordance with the International Financial Reporting Standards (IFRS) as applicable in the European Union. The single entity financial statements of GEA Group Aktiengesellschaft, which are legally required and determine dividend payout, are governed by the Handelsgesetzbuch (HGB – German Commercial Code). The Supervisory Board engages the external auditor elected by the shareholders at the Annual General Meeting. The Audit Committee pays particular attention to the oversight of the accounting process, the effectiveness of the internal control, risk management and internal audit systems, the audit of the annual financial statements (in this context, notably the selection and independence of the auditor and the additional services provided by the auditor, the engagement of the auditor, the determination of key audit areas as well as the audit fee), including the quality of the financial statements, as well as compliance. While also taking into account the EU audit reform, it ensures that the auditor’s work is not compromised by any conflicts of interest and that the auditor immediately reports any and all findings and events relevant to the Supervisory Board’s discharge of duties that have come to the attention of the auditor while performing the audit. Apart from the consolidated and annual financial statements, the Audit Committee also discusses the half-yearly financial report and quarterly statements with the Executive Board.

Detailed reporting and information concerning remuneration of the Executive Board and the Supervisory Board

GEA Group Aktiengesellschaft communicates openly, actively and extensively. It regularly and promptly informs shareholders, shareholders' associations, analysts, and interested members of the public on equal terms about the company's situation as well as any material changes to its business. In this respect, the company's website constitutes an important means of communication. It contains the annual and half-yearly financial reports as well as quarterly statements, press releases and other notifications required under the EU Market Abuse Regulation (MAR) and the Wertpapierhandelsgesetz (WpHG – German Securities Trading Act), the financial calendar and other relevant information.

The company's website also contains a separate section with all key information on Executive Board remuneration. In addition to the current remuneration system for the Executive Board, which was approved by a majority of 89.54 percent at the Annual General Meeting on April 30, 2021, the website also contains the Remuneration Report for the past fiscal year – which was approved by a majority of 92.24 percent at the Annual General Meeting on April 28, 2022 – and the auditor's report on the audit of the Remuneration Report, as well as the resolution adopted by a majority of 99.77 percent at the Annual General Meeting on April 30, 2021 confirming Supervisory Board remuneration as specified in the Articles of Association of GEA Group Aktiengesellschaft.

Moreover, analyst meetings, press conferences and events for investors are hosted regularly. The presentations delivered on these occasions are also available on the website under "Investors".

Transactions and shareholdings held by members of governing bodies

Under section 19 of the MAR, Executive Board and Supervisory Board members or persons closely associated with them are obliged to disclose reportable transactions in shares of GEA Group Aktiengesellschaft or related financial instruments if the transactions concluded in one calendar year reach or exceed the threshold of EUR 20,000. The transactions reported to the company in fiscal year 2022 were duly disclosed and published on the company's website gea.com. The total number of shares in GEA Group Aktiengesellschaft held by all Executive Board and Supervisory Board members amounts to less than 1 percent of the shares issued by the company.

Corporate governance and control: Executive Board and Supervisory Board

GEA Group Aktiengesellschaft is subject to the German Stock Corporation Act and has a two-tier board structure comprising the Executive Board and the Supervisory Board. The Executive Board constitutes the group's management body. The Supervisory Board – which is composed of twelve members, half of whom are shareholder representatives, while the other half are employee representatives – appoints and advises the Executive Board while overseeing its work. The Executive Board and the Supervisory Board cooperate closely for the benefit of the company, their common goal being the sustainable increase in shareholder value.

Executive Board

The Executive Board holds overall responsibility for the management of the company in accordance with statutory requirements, the Articles of Association as well as the rules of procedure and the corporate policies that are in place. In line with the Rules of Procedure of the Executive Board, each Executive Board member has overall responsibility for and independently manages the area of responsibility assigned to him/her under the schedule of responsibilities while keeping the entire Executive Board consistently informed of all essential business affairs. Decisions on matters of fundamental importance or of a particular magnitude must be made by the entire Executive Board. Executive Board resolutions are adopted at regular meetings or, should no member of the Executive Board raise any objections, in writing, orally (also via telephone or video conference) or by referring to other common means of communication (e.g., emails or an electronic approval process). Each member of the Executive Board must immediately disclose conflicts of interest to the Chairman of the Supervisory Board and inform the other members of the Executive Board accordingly.

The Executive Board reports to the Supervisory Board regularly, promptly and comprehensively on all issues relevant to the company relating to strategy, planning, business progress, risk exposure, the risk management system as well as compliance. Should important issues or business matters that may considerably impact on the situation of the company arise, the Executive Board will notify the Chairman of the Supervisory Board without undue delay. The Articles of Association and the rules of procedure specify key transactions that require the Supervisory Board's approval. Further information on the individual members of the Executive Board can be found in the chapter "GEA Executive Board" as well as in the chapter "Corporate Bodies and their Mandates" under the heading "Executive Board".

Supervisory Board

The Supervisory Board advises the Executive Board on the management of the company and oversees its conduct of the company's business. Between the Supervisory Board meetings, the Chairman of the Supervisory Board maintains regular contact with the Executive Board, in particular the CEO, with whom he discusses matters of strategy, planning, business progress, risk exposure, risk management and corporate compliance. The Supervisory Board usually holds seven meetings per calendar year that are attended by the members of the Executive Board, unless the Chairman of the Supervisory Board determines otherwise. The Supervisory Board also regularly meets without the Executive Board. Resolutions of the Supervisory Board are usually made at meetings. Unless the majority of the Supervisory Board members immediately object, the Chairman of the Supervisory Board may also determine that resolutions be adopted during a conference call or a video conference or outside of meetings by the members casting their votes in writing, text form or by telephone. Resolutions require a simple majority of the votes cast unless statutory law provides for a different majority. After the notice of the meeting has been given to all members, the Supervisory Board has a quorum when a minimum of half of its members vote on a resolution by attending in person, by telephone or video conference or have cast their votes in writing or text form pursuant to section 108 (3) Aktiengesetz (AktG – German Stock Corporation Act).

The Supervisory Board regularly evaluates the effectiveness of its activities and those of its committees. These evaluations are carried out every two years either with the assistance of independent advisers or in the form of self-evaluation questionnaires completed by the Supervisory Board. Recently, the Supervisory Board performed such a self-evaluation of its own activities and those of its committees based on individual interviews – with external assistance – in fiscal year 2022. The results and findings of this self-evaluation were discussed in depth at a Supervisory Board meeting. The next limited evaluation will likely be carried out in fiscal year 2023.

With the exception of the Nomination Committee, the Supervisory Board and the committees have equal numbers of shareholder and employee representatives. The shareholder and employee representatives meet separately in advance of each plenary meeting. Both the Executive Board and the Chairman of the Supervisory Board regularly participate in these preliminary meetings.

In fiscal year 2021, the employee representatives were elected by the employees in a secret, free and equal ballot in accordance with the Mitbestimmungsgesetz (MitbestG – German Codetermination Act). Supervisory Board members are elected by means of separate ballots for the employee representatives, the management representatives and the union representatives. The election committees then submit the individual results to the main election committee, which subsequently announces the overall result.

In fiscal year 2022, the composition of the Supervisory Board changed again. Colin Hall and Prof. Dr. Cara Röhner stepped down from the Supervisory Board at the close of the Annual General Meeting on April 28, 2022. Klaus Helmrich, Chairman of the Supervisory Board, also stepped down for personal reasons effective May 15, 2022. Jörg Kampmeyer, who the court had already appointed to the Supervisory Board as the successor to Dr. Molly Zhang effective January 1, 2022, and Dr. Jens Riedl, who succeeds Colin Hall on the shareholder representative side, were elected as new Supervisory Board members by resolution of the Annual General Meeting of April 28, 2022. In addition, Nancy Böhning was appointed by the court as the successor to Prof. Cara Röhner on the employee side with effect from May 13, 2022. Prof. Dieter Kempf, the successor to Klaus Helmrich (Chairman), was also appointed by the court as a Supervisory Board member effective May 16, 2022. The Supervisory Board elected Prof. Dieter Kempf as Chairman of the Supervisory Board and member of the Audit Committee. Prof. Dieter Kempf was 69 years old at the time of his appointment by court order. At the time of this year's Annual General Meeting and his election as a member of the Supervisory Board, he will be 70 years old. Section 2 (1) of the Rules of Procedure of the Supervisory Board provides that, as a rule, only persons who have not yet reached the age of 70 shall be proposed for election as members of the Supervisory Board of the Company. However, the Supervisory Board is convinced that Prof. Dieter Kempf is the right person to continue his work as Chairman of the Supervisory Board due to his broad and relevant industrial expertise and his experience as President of the Federation of German Industries (BDI) and his valuable network.

Supervisory Board Committees

The work of the Supervisory Board is supported by committees. These are primarily the Presiding and Sustainability Committee (formerly the Presiding Committee), the Audit Committee and the Committee for Innovation and Product Sustainability (formerly the Innovation Committee). In addition, there is the statutory Mediation Committee as well as the Nomination Committee recommended by the German Corporate Governance Code.

With the exception of the Nomination Committee, all committees have four members, with equal numbers of shareholder and employee representatives. The Nomination Committee consists of three members, solely comprising shareholder representatives in accordance with Recommendation D.4 of the German Corporate Governance Code.

The Presiding and Sustainability Committee and the Audit Committee each usually meet four or five times during the fiscal year. The Innovation and Product Sustainability Committee usually meets twice a year. The Nomination Committee meets regularly and deals with the diversity concept for the composition of the Supervisory Board, consisting of the objectives for its composition and the competence profile for the entire body. The Nomination Committee and the Mediation Committee also hold meetings as required.

Resolutions of the Presiding and Sustainability Committee, Audit Committee and Innovation and Product Sustainability Committee are generally passed by a simple majority of the votes cast. If the vote is tied, the respective chairman receives a second vote in the event of an additional ballot on the same item.

The work of the Presiding and Sustainability Committee focuses on Executive Board matters, including issues related to succession and remuneration, although decisions on the remuneration system for the Executive Board, the total remuneration awarded to the individual Executive Board members as well as their appointment and dismissal are reserved for the full Supervisory Board. The Presiding and Sustainability Committee addresses corporate governance issues and certain transactions requiring approval. These include the approval of significant transactions between the company, on the one hand, and Supervisory or Executive Board members and their related parties, on the other. There were no such related party transactions in the past fiscal year. In particular, the Company did not grant any loans to members of the Executive Board or Supervisory Board or persons closely related to them. The Presiding and Sustainability Committee's responsibilities also include addressing – together with the Executive Board – the company's strategy, particularly the sustainability strategy (as well as fundamental environmental, social and governance (ESG) issues) and their implementation, as well as the areas of investments and financing. The members of the Presiding and Sustainability Committee are Prof. Dieter Kempf (Chairman), Roger Falk, Rainer Gröbel and Dr. Jens Riedl.

In accordance with the requirements of the German Corporate Governance Code (GCGC) and the Supervisory Board's competence profile, the Audit Committee has sound knowledge of and experience in applying financial accounting standards as well as internal control systems. It primarily focuses on overseeing the financial accounting process and the audit of the financial statements – including the sustainability report and its audit – and the effectiveness of the internal control and risk management systems. The Audit Committee ensures that adequate consideration is given to the key sustainability issues and objectives for the company in relation to its internal audit system and compliance. The members of the Audit Committee are Dr. Annette G. Köhler (Chairwoman), Claudia Claas, Prof. Dieter Kempf and Brigitte Krönchen. Until December 7, 2022, Prof. Dr. Annette G. Köhler and Brigitte Krönchen were Audit Committee members with financial expertise in the fields of auditing and accounting, respectively, within the meaning of section 100(5) of the Aktiengesetz (AktG – German Stock Corporation Act). Effective December 8, 2022, Prof. Dr. Annette G. Köhler was named as a financial expert in the field of accounting within the meaning of section 100(5) AktG and Prof. Dieter Kempf as a financial expert in the field of auditing within the meaning of section 100(5) AktG. The required expertise of the Audit Committee members to be designated as financial experts is determined based on their respective resumés, which can be viewed online at gea.com under "About us – Our organization – Supervisory Board". The Audit Committee also discusses the assessment of the audit risk, the audit strategy, audit planning and audit findings with the auditor, without the Executive Board. The Chairwoman of the Audit Committee regularly discusses the audit progress with the auditor and reports on this to the Committee.

Against the backdrop of GEA's endeavors to continuously improve new products and, in particular, the sustainability of the product portfolio, as well as to develop processes, services and business models to capture new markets, the work of the Innovation and Product Sustainability Committee focuses on the assessment of the group's medium- to long-term innovation strategy, paying particular attention to sustainability aspects from a technical perspective. This includes addressing the key innovation areas of environmental sustainability, new food, digital solutions and modularization and configuration on the basis of the company's business strategy, as well as advising the Executive Board and the management on the above topics. The members of the Innovation and Product Sustainability Committee are Dr. Jürgen Fleischer (Chairman), Roger Falk, Jörg Kampmeyer and Brigitte Krönchen.

The Mediation Committee performs its duties as set out in sections 27 and 31 of the Mitbestimmungsgesetz (MitbestG – German Co-determination Act). It has the following members: Prof. Dieter Kempf (Chairman), Claudia Claas, Dr. Jürgen Fleischer and Rainer Gröbel. The task of the Nomination Committee is to propose suitable candidates to the Supervisory Board based upon which the latter submits its nominations to the Annual General Meeting. The members of the Nomination Committee are Prof. Dieter Kempf (Chairman), Prof. Dr. Annette G. Köhler and Dr. Jens Riedl.

Supervisory Board Qualification Matrix

In accordance with Recommendation C.1 of the German Corporate Governance Code (GCGC), the Supervisory Board has developed a profile of skills and expertise, the implementation of which is disclosed in the qualification matrix below:

	Prof. Dieter Kempf (Vors.)	Rainer Gröbel[1] (stellv. Vors.)	Nancy Böhning[1]	Claudia Claas[1]	Roger Falk[1]	Prof. Dr-Ing. Jürgen Fleischer	Jörg Kampmeyer	Michael Kämpfert[1]	Prof. Dr. Annette G. Köhler	Brigitte Krönchen[1]	Holly Lei	Dr. Jens Riedl
Committee membership	Presiding (Chairman) Audit Nomination (Chairman.) Mediation (Chairman)	Presiding Mediation	None	Audit Mediation	Presiding Innovation	Innovation (Chairman) Mediation	Innovation	none	Audit (Chairwoman) Nomination	Audit Innovation	none	Presiding Nomination
Diversity												
Age	69	68	43	56	54	61	54	57	55	59	62	49
Gender	male	male	female	female	male	male	male	male	female	female	female	male
Nationalitityt	German	German	German	German	German	German	German	German	German	German	Canadian	German
Internat. background	•					•	•				•	•
Independece within the meaning of GCGC	•	not applicable[2]	not applicable[2]	not applicable[2]	not applicable[2]	•	•	not applicable[2]	•	not applicable[2]	•	•
Professional background												
Education/training	Dipl. Kaufmann (Degree in Business Administration) Certified tax advisor German public auditor	Industriekaufmann (Industrial management apprenticeship) Dipl. Volkswirt (Master of Economics)	Magistra Artium	Technical draughtswoman	Industriekaufmann (Industrial management apprenticeship)	Dipl. Ing. Maschinenbau (Diploma in Mechanical Engineering)	Dipl. Ing. Maschinenbau (Diploma in Mechanical Engineering) Dipl. Wirtschaftsing. (Diploma in Industrial Engineering)	Dipl. Betriebswirt (MBA)	Dipl. Ökonomin (Diploma in Economics)	Industriekauffrau (Industrial management apprenticeship)	Degree in Chemical Engineering Degree in Materials Science	Dipl. Kaufmann (Diploma in Business Administration)
Operational management experience	•	•				•	•	•			•	
Business specific expertise												
Sector expertise[3]	•	•	•	•	•	•	•	•	•	•	•	•
Industry expert[4]	•	•		•	•	•	•	•		•		•
Customer industry[5]											•	
Business model	•	•	•	•	•	•	•	•	•	•	•	•
Finance												
Accounting incl. non financial statements und nfs audits	•	•		•			•	•	•	•		•
Auditing incl. non financial statements and nfs audits	•						•		•			
Control functions												
Risk management & internal control system	•	•		•			•	•	•	•		•
Internal audot	•								•			
Compliance management	•								•			
ESG												
Environment[6]						•	•				•	
Social aspects[7]		•	•	•	•		•	•		•		
Governance[8]	•	•	•	•	•			•	•	•		•
Digitalization / IT												
Digitalization / digital transformation	•			•	•	•	•			•		•
IT security	•											
Human resources		•					•	•			•	
M&A							•					•
Research, development and innovation				•		•						

1) Employee representative
2) Criterion applies only to shareholder representatives
3) Sector = Mechanical and plant engineering in accordance with section 100(5) AktG
4) Individuals with relevant experience (employment or several years' association or supervisory board experience) in the capital goods industry
5) Individuals with relevant experience (employment or several years' association or supervisory board experience) in one of GEA's customer industries (food, beverage, pharma, dairy processing, dairy farming, chemicals)
6) Individuals with relevant experience in the environmental field (E). In particular, this includes experience related to reducing greenhouse gas emissions, energy consumption and responsible water and waste management, as well as the environmental impact of the products offered
7) Individuals with relevant experience in the social field (S). This especially includes experience related to how companies deal with employees, customers, suppliers and other persons in the company's social sphere, pertaining to areas such as working conditions and occupational health and safety.
8) Individuals with relevant experience in the governance field (G). In particular, this includes experience with supervisory structures and employee co-determination, risk and reputation management, and ethical business conduct

Further information on the composition of the Supervisory Board and its committees can be found in the chapter “Corporate Bodies and their Mandates” under the heading “Supervisory Board” as well as on the company’s internet website gea.com. In addition, the Report of the Supervisory Board of this Annual Report provides further details on the activities performed by the Supervisory Board and its committees in fiscal year 2022. It also discloses individual attendance at meetings held by the Supervisory Board and its committees, as well as the duration of the individual Supervisory Board members’ mandates.

Compliance with minimum quotas pursuant to section 96, para. 2 German Stock Corporation Act and commitment to promoting the participation of women in executive positions in accordance with section 76 para. 4 and section 111 para. 5 German Stock Corporation Act

For many years, GEA has encouraged diversity at group level. This is also firmly anchored in the corporate values. Following the successful adoption of a Diversity & Inclusion (D&I) concept in 2021, strategic focuses were identified in the fiscal year under review and more closely linked to elements of the employee life cycle than before. This is presented and explained in detail in the separate Sustainability Report. As part of the D&I concept, GEA is also pursuing the goal of attracting more women to GEA at all levels and promoting female talent, especially in the technical field, among other objectives. The company aims to increase the representation of women on all management levels over the long term. GEA intends to increase the proportion of women at the top three management levels of the group to a total of 21 percent by 2026.

In addition to the targets contained in the D&I Concept, GEA is legally obliged to define targets in relation to the proportion of women represented on the Supervisory Board, the Executive Board and/or the Board of Directors at individual group companies as well as on the two management levels below, and to set target dates for achieving the respective quota of women.

A statutory minimum quota of 30 percent has applied with regard to the underrepresented gender on the supervisory boards of listed and co-determined companies like GEA Group Aktiengesellschaft, which must be taken into account when filling vacant Supervisory Board positions. Throughout the reporting period, the Supervisory Board was composed of five female and seven male members. Of the five female Supervisory Board members, three are employee representatives and two are shareholder representatives. The share of women on the Supervisory Board of GEA Group Aktiengesellschaft was around 42 percent in the past fiscal year.

At its meeting on December 16, 2021, the Supervisory Board set a new target for the share of women on the Executive Board of at least 25 percent, or one woman on the Executive Board, respectively, commencing January 1, 2022. This target is to be achieved by December 31, 2026.

In November 2021, the Executive Board of GEA Group Aktiengesellschaft set target quotas for the two management levels below the Executive Board level that are to be achieved by December 31, 2026, namely a 17.1 percent share of women on the first and a 21.0 percent proportion of women on the second management level. At present, the share of women on the first management level is 16.0 percent and the proportion of women at the second management level is 24.1 percent. A significant year-on-year increase was therefore achieved at the second management level, in particular. The proportion of women at the first management level remained steady (see proportion of women December 2021: 16.0 percent at the first and 19.4 percent at the second management level). This means that the 2026 target for the second management level was already exceeded in the year under review, while the target for the first management level is yet to be achieved. Alongside the lack of availability of sufficient numbers of suitable internal and external candidates with the necessary personal and professional qualifications, this was due in particular to the high degree of stability at the first management level. To continue to promote the representation of women, which is typically low in the mechanical and plant engineering sector in which the company operates, a diverse pool of talent at all management levels is to be developed.

Targets for the other GEA Group companies affected by this law were also set in due time in relation to the proportion of women represented on the respective Supervisory Board and/or the Board of Directors as well as the two uppermost management levels below the Board of Directors, just like the corresponding deadlines for timely target implementation.

GEA takes the corresponding measures (see separate GEA Sustainability Report) to ensure that the set targets are accomplished.

Succession planning and diversity concepts governing the composition of the Executive Board and the Supervisory Board

Together with the Executive Board, the Supervisory Board – with the support of the Presiding Committee – engages in long-term Executive Board succession planning. The selection process for Executive Board positions is subject to a structured standard procedure. The Presiding Committee first develops a specific profile for an Executive Board position, taking into account the personal and technical qualification criteria relevant to the position as well as the requirements of the German Corporate Governance Code. The group's senior executives are regularly assessed with regard to the extent to which they match the relevant job profile and their suitability to assume an Executive Board role. When seeking and selecting appropriate candidates to fill specific Executive Board positions based on these job profiles, the Presiding Committee generally also receives support from external advisers. Based on written candidate profiles, the Presiding Committee preselects candidates to be invited to interview. To enable all Supervisory Board members to form their own opinion about potential new Executive Board members, as a final step, the candidates shortlisted by the Presiding Committee are presented to the full Supervisory Board, which then decides on the appointment of the new Executive Board member.

When appointing members of the Executive Board, the Supervisory Board and its committees generally take into account not only balanced professional and personal qualifications but also diversity as a criterion, which takes into account numerous other aspects such as education, professional background, origin and international experience, in addition to gender. In December 2021, the Supervisory Board addressed the topic of diversity along with the profile of skills and expertise required for the Executive Board and bundled the following important aspects in a concept for the composition of the Executive Board:

- The Executive Board should consist of at least 25 percent women by December 31, 2026 or at least one woman should be a member of the Executive Board by that date.
- As a whole, the Executive Board should have a sufficient level of international management experience.
- The age structure of the members of the Executive Board, who generally retire on reaching the age of 62, is intended to ensure continuity in the management of the Company.
- GEA desires to fill Executive Board positions with the best-qualified candidates from among internal and external managers.
- As a whole, the Executive Board should have sufficient industry knowledge related to the company's markets, customers and technologies.

However, since the selection of Executive Board members ultimately comes down to aspects such as professional and personal suitability, while also including other aspects such as candidate availability, the Supervisory Board reserves the right to not comply with the requirements of this diversity concept in individual cases.

Most recently, at its meeting on December 8, 2022, the Supervisory Board also calibrated the diversity concept to its own composition, which included objectives for its composition and the profile of skills and expertise it intends for the body as a whole. Accordingly, the Supervisory Board members shall collectively have the knowledge, skills and professional expertise required to properly perform their duties in consideration of the company-specific situation. Aside from the integrity and commitment of its members, who must have sufficient time to exercise their respective mandate, the Supervisory Board also pays attention to a balanced profile of skills and expertise among its members, in particular sufficient industry and sector knowledge relevant to GEA Group Aktiengesellschaft, adequate coverage of the sustainability issues relevant to the company, an adequate number of independent members, international experience and diversity. With a view to the interests of the company, the decisive criterion for filling a position on the Supervisory Board shall in all cases be the professional and individual suitability and availability of male or female candidates while taking into account the skills and expertise of the other members of the Supervisory Board.

The Supervisory Board seeks to ensure a board composition that takes the following elements into consideration: the Supervisory Board shall be diverse in terms of the origin, professional and cultural background as well as the age and gender of its members. At least one quarter of the members of the Supervisory Board shall have an international business background that ideally covers various regions or cultural areas. Each gender shall account for a minimum of one-third of the members of the Supervisory Board. On the shareholders' side, the Supervisory Board shall include what it deems to be an adequate number of independent members. For this reason, and in consideration of the shareholder structure, the Supervisory Board seeks to ensure that a minimum of two-thirds of the shareholder representatives are independent, in line with the definition given in Recommendation C.6 of the German Corporate Governance Code. At present, all six shareholder representatives on the Supervisory Board, i.e., Supervisory Board Chairman Prof. Dieter Kempf, Dr. Jürgen Fleischer, Dr. Jens Riedl, Jörg Kampmeyer, Dr. Annette G. Köhler and Holly Lei, are independent within the meaning of the German Corporate Governance Code.

As a rule, a member's uninterrupted service on the Supervisory Board shall not exceed three full terms of office and/or a period of 12 years. Generally, nominations shall only consider individuals who have not yet reached the age of 70 at the date of the Annual General Meeting that decides on the election of the proposed candidates. If it is foreseeable that individuals would be subject to permanent or repeated conflicts of interest in the event of their election to the Supervisory Board, such individuals shall not be considered as Supervisory Board candidates. Apart from that, the Rules of Procedure of the Supervisory Board provide for detailed rules and regulations governing the handling of conflicts of interest that may occur after a member is elected to the Board. According to these regulations, each Supervisory Board member has the obligation to disclose potential conflicts of interest to the Chairman of the Supervisory Board. Conflicts of interest of a material and non-temporary nature in relation to a Supervisory Board member shall result in the termination of his/her mandate.

The competence profile the Supervisory Board seeks to establish for the entire body may be summarized as follows: All members of the Supervisory Board are to be familiar with the sector in which the company operates. At least one Audit Committee member must have expertise in the field of accounting, and at least one additional Audit Committee member must have expertise in the field of auditing. The required expertise in the field of accounting includes knowledge and experience in the application of accounting principles and internal control and risk management systems, in particular. Expertise in the field of auditing comprises knowledge and experience in auditing, in particular. In addition, the Chairman or Chairwoman of the Audit Committee must have expertise in at least one of the two fields (accounting or auditing). All members of the Supervisory Board shall be able to understand and assess the specific nature of the company's business as well as resulting risks and opportunities. They shall be familiar with the basic principles of accounting and risk management. The Supervisory Board shall comprise members with a commercial or business background, individuals from the engineering profession as well as, ideally, members with experience in one or several of the company's customer industries. A minimum of two Supervisory Board members shall have management experience in operational business. At least one Supervisory Board member should have experience in mergers and acquisitions, particularly in the identification, valuation and acquisition and integration of appropriate target companies. Alongside the skills and expertise of the financial experts on the Audit Committee in relation to sustainability reporting and the relevant audits, at least two members of the Supervisory Board must have expertise and experience in other sustainability matters relevant to the company, such as sustainable product innovation and development, responsible production process design, supply chains or human resources. Furthermore, the Supervisory Board should have at least one member with knowledge and experience in the areas of digitalization and digital transformation. At least one member of the Supervisory Board should also have relevant experience in the areas of research, development and innovation. One member of the Supervisory Board, ideally a member of the Audit Committee, should have expertise in IT security issues.

In its current composition, the Supervisory Board meets the target composition criteria and satisfies the competence profile criteria.

NON-FINANCIAL GROUP STATEMENT

Concerning non-financial reporting

Since fiscal year 2016, GEA has annually identified and validated topics relevant to understanding the company's economic, environmental and social impact. Alongside its internal perspective, the company also takes account of the expectations of its key stakeholders: investors, employees, customers and nongovernmental organizations.

GEAs Sustainability Report for fiscal year 2022 again follows the international standards set by the Global Reporting Initiative (GRI). The Sustainability Report for fiscal year 2022 is published as a stand-alone report - in addition to this Annual Report - and has been prepared with reference to the GRI standards.

The non-financial Group statement is prepared in accordance with sections 315b, 315c in conjunction with sections 289c to 289e of the Handelsgesetzbuch (HGB - German Commercial Code) as part of the Group management report.

In accordance with section 315c (1) in conjunction with section 289c (1) of the HGB, GEA's business model is described in the corresponding paragraph of the Group Management Report in the section "Fundamental Information about the Group." This also forms part of GEA's non-financial statement.

Under section 315c in conjunction with section 289c (3) no. 3 and 4 of the HGB, GEA is required to report on all known material risks associated with its own business activities, business relations, as well as its products and services, where these are highly likely to have a severe adverse impact on non-financial aspects. No such risks have been ascertained.

At the request of GEAs Supervisory Board, KPMG AG Wirtschaftsprüfungsgesellschaft reviewed GEAs nonfinancial statement for fiscal year 2022 in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information" and, in addition, performed a limited assurance engagement.

The subjects covered by non-financial reporting are based on an analysis of the management systems and the data provided by the operational units and competent departments in the Global Corporate Center.
The GRI Content Index and disclosures on GEAs contribution to the UN's Sustainable Development Goals and the UN Global Compact, as well as to the Science Based Targets Initiative (SBTi), the TCFD Index (Task Force on Climate-related Financial Disclosures), and the SASB (Sustainable Accounting Standards Board) Index can be found in GEAs 2022 Sustainability Report, which is available at gea.com.

This non-financial statement comprises the following sections:

- Sustainability at GEA
- Sustainable solutions
- Environmental protection
- Occupational health and safety
- Supply chain
- Employees
- Compliance and corporate governance
- Disclosures on the European Union Taxonomy Regulation

> ”At GEA, we are working at full speed to implement our sustainability goals. This topic is of paramount importance to us – now more than ever! The firm belief that we are doing the right thing pervades the entire company.“
>
> Stefan Klebert, CEO

Sustainability at GEA

Sustainability at GEA is not only a guideline for our day-to-day actions, it also has fundamental strategic significance for us. The company has set highly ambitious targets and intends to be the sustainability leader in its sector by 2026. For this reason, sustainability is a core component of the Mission 26 group strategy, which defines sustainability as one of the seven key levers to successfully achieving the company’s future objectives. Sustainability considerations are also strongly embedded in the other areas of Mission 26, which underscores the preeminence of this topic and its major significance for GEA. During the reporting period, the first measures of Mission 26 presented in 2021 were implemented and some milestones were achieved.

GEA is acutely aware of its own corporate responsibility. As a multi-national company, GEA is willing and able to contribute to creating a better world, as expressed in its corporate purpose, "engineering for a better world." GEA developed its vision based on this guiding principle: "We safeguard future generations by providing sustainable solutions for the nutrition and pharmaceutical industries."

GEA based its sustainability strategy on the 17 Sustainable Development Goals (SDGs) of the United Nations (UN). The SDGs aim to ensure sustainable economic, social and environmental development worldwide. GEA is committed to the ten principles of the UN Global Compact (GC) and the seven United Nations' Women's Empowerment Principles (WEP). The GC is a global pact between companies and the UN that aims to ensure more socially and environmentally responsible globalization. The WEPs are a joint initiative of UN Women and Global Compact. GEA reports on its progress in this area in the Sustainability Report.

One of the climate targets in GEA's climate strategy is to reduce the company's own greenhouse gas emissions to net zero at all points of its value chain by 2040. GEA has set itself interim targets of reducing its scope 1 and 2 greenhouse gas emissions by 60 percent and its scope 3 emissions by 18 percent by 2030 compared with the base year 2019. These targets have been validated by the Science Based Targets Initiative (SBTi). The SBTi, a globally recognized independent initiative to verify climate goals, has thus confirmed that the interim goals are consistent with the latest understanding of climate science and make an effective contribution to achieving the goals of the Paris Agreement. GEA is committed to the twelve sustainability principles of the Blue Competence sustainability initiative of the German Mechanical Engineering Industry Association (VDMA) and has been a member of the econsense network since 2022.

Ambitious targets

Closely aligned with its corporate purpose, GEA's sustainability commitment is to develop sustainable solutions responsibly with great people for a better world. This commitment encompasses the key pillars of GEA's sustainability strategy:

- Sustainable solutions: GEA develops environmentally friendly, sustainable solutions to support its customers' climate and resource efficiency goals.
- Responsible operations: GEA fosters environmental excellence and the highest social standards in its own operations and purchasing practices.
- Great people: GEA is the employer of choice in the engineering industry and promotes diversity, equal rights and inclusion, lifelong learning and long-term career development.
- For a better world: GEA creates societal value through solutions aimed at reducing food and water scarcity as well as improving nutrition and health. The company actively contributes its knowledge and skills to support local communities.

To give concrete form to the above goals, GEA has defined a series of measurable targets for each area, which will guide its actions over the coming years.

GEA will measure its performance against the following concrete targets over the coming years:

Sustainable Solutions

- By 2030, greenhouse gas emissions throughout the products' entire value chain (scope 3 emissions) are to be reduced by 18 percent compared with 2019.
- By 2030, GEA will make it possible for customers to operate machinery and plant without additional freshwater use.
- By 2030, GEA's packaging-related products will use sustainable packaging materials to enable GEA's customers to make a significant contribution to conserving raw materials.
- The packaging used for GEA products and service parts must meet one of the five Rs of the circular economy (reduce, reuse, repair, remanufacture, recycle) by 2026, leading to a significant reduction in GEA's resource consumption.

Responsible Operations

- By 2030, GEA is to reduce greenhouse gas emissions from its own operations (scope 1 and 2 emissions) by 60 percent compared with 2019.
- At least half of GEA's total energy needs are to be covered by a certified energy management system by 2026.
- All sites in areas of water scarcity will have implemented a water strategy by 2026.
- The waste recovery rate will be at least 95 percent by 2026.
- All preferred suppliers will satisfy GEA's sustainability criteria by 2026.
- GEA has set itself the target of passing on industry-specific and function-specific knowledge to a total of 100,000 people through skills-based volunteering by 2026.
- Each year, GEA will donate one percent of its net-profit.

Employer of Choice

- By 2026, at least 80 percent of employees should recommend GEA as a good employer in the annual employee survey.
- GEA intends to increase the proportion of women at the top three management levels to 21 percent by 2026.
- 80 percent of vacancies at all management levels are to be filled with in-house talent by 2026.
- A talent pool to enhance diversity at all management levels will be established by 2026.

You can read about the progress GEA has made towards achieving these goals in 2022 in the following chapters of the non-financial group statement and in the GEA Sustainability Report 2022.

Sustainability management

Sustainable corporate governance has been a major topic at GEA for many years. All sustainability-related activities have been brought together in a group-wide Sustainability department. This department acts as the interface between all business units and functions, thus forming the backbone for the group's sustainability strategy. This ensures that the increasingly complex demands on sustainability management are expertly handled. The Sustainability department reports directly to the CEO. It developed all of the sustainability targets of the company, provided support with regard to methodology and will evaluate the extent to which they have been achieved.

GEA established a Sustainability Committee in 2022. The cross-functional committee was tasked by the Executive Board with addressing sustainability topics at GEA and actively involving the operating business areas in the implementation of sustainability measures. This includes strategic and operational decisions on the implementation of projects across divisions and functions. The committee acts as a central body for all sustainability issues in all business units and therefore acts as a link between the global functions, the divisions and the Executive Board. This ensures a coordinated approach to sustainability at all levels and accelerates the implementation process. The committee also makes it possible to take measures at short notice in the event of delays, which in turn are coordinated at all levels.

The sustainability committee is headed by the Chief Sustainability Officer (CSO), who reports directly to the Executive Board. Permanent members of the committee include representatives from Sustainability, QHSE, Finance, Indirect and Direct Purchasing, Production, Investor Relations, IT and each division. Other specialist departments can also be consulted if necessary. The committee meets regularly on a quarterly basis and on an ad hoc basis and has the following core responsibilities: reviewing and, if necessary, approving adjustments to the ESG management system (processes, structures, content), such as adjusting the catalog of sustainability indicators. The committee is also responsible for the final coordination of initiatives and specific instructions for the relevant global functions, departments and top management regarding sustainability targets for release to the Executive Board and the extended executive team. The committee also prioritizes sustainability initiatives, sets budgets for them and assesses the progress of sustainability measures.

Sustainability principles

Sustainability management at GEA is based on the following principles, which are implemented on the basis of a variety of guidelines and processes (see chart):

1. Group-wide Code of Conduct

The GEA Code of Conduct outlines the values, principles and policies that guide GEA's corporate conduct (see chart). This Code of Conduct reflects the company's objective of ensuring group-wide compliance with standards while creating a work environment that rewards integrity, respect and fair and responsible conduct. The Code of Conduct applies to all employees and legal entities of GEA worldwide. The Code of Corporate Responsibility was integrated into the Code of Conduct during the year under review. These encompass both ethical and legal standards that are binding on group employees worldwide. This means that sustainability-oriented behavior was made mandatory for all employees for the first time. This concerns topics such as human and workers' rights, diversity and inclusion in addition to human development and education. As a successful international engineering group with more than 18,000 employees and operating activities in 58 countries, GEA's commitment to international fair trade is a crucial factor in achieving global economic growth.

2. Code of Conduct for Suppliers and Subcontractors

Like the GEA Code of Conduct, the Code of Conduct for Suppliers and Subcontractors requires GEA's suppliers to engage in environmentally sound business practices, respect human rights and avoid trade in conflict resources. This Code of Conduct sets forth GEA's principles and requirements that are to be met by all suppliers of goods and services, subcontractors as well as the group entities of the suppliers and subcontractors with regard to their responsibility towards society, the environment and the individuals involved in the production of goods and/or the rendering of services. This Code of Conduct was also updated in the year under review and now includes a reference to the "UK Slavery Act 2015", the German Supply Chain Act as well as more extensive regulations on environmental protection. In addition to data protection aspects (which were already regulated elsewhere), the Code of Conduct also addresses information security.

Basic principles

Code of Conduct
Code of Conduct for Suppliers and Subcontractors

Policies

- Policy Governance Policy
- Community Engagement Policy
- Data Protection Policies
- Compliance (Integrity Policy, Third Party Policy, Competition Policy)
- Information Security Policies
- Internal Audit Policy
- QHSE Policy
- Human Rights Policy
- Water Policy
- Conflict Minerals Policy
- Procurement Policy

Processes

- Processes for Compliance Approvals
- Process for Compliance Risk Assessment
- Documentation and verification of processing activities (Data protection process)
- Assessment of processing activities (Data protection process)
- Data Protection Impact Assessment
- Vendor Assessment (Data protection process)
- Asset Assessment (Data Protection process)
- Data Breach Notification Process (Data Protection process)
- Dealing with requests from affected persons (Data protection process)
- Security and Business Continuity Processes

Key sustainability themes

Each year, GEA identifies topics relevant to understanding the economic, environmental and social impact of the company's actions (see table). Alongside its internal assessment, the company also takes account of the expectations and interests of GEA's key stakeholders. These include investors, customers, employees and independent bodies, such as non-governmental organizations. To prepare the sustainability report in accordance with the legal requirements (German CSR Directive Implementing Act, CSR-RUG) and the Global Reporting Initiative (GRI) guidelines, a thorough materiality analysis was conducted in 2021. Thirteen topics from the six areas below were defined as relevant within the meaning of the CSR-RUG. The continued relevance of the topics and areas were confirmed for the year under review:

- Sustainable solutions
- Environmental protection
- Occupational health and safety
- Supply chain
- Employees
- Compliance and corporate governance

Further information on these topics and other topics within the six areas can be found in the GEA Sustainability Report 2022.

Management system certification

At GEA, quality management, environmental management, occupational health and safety, and energy management are based on international standards and supplemented by GEA-specific standards and regulations, such as the QHSE Policy, GEA Safety Core Rules, GEA Environmental Core Rules and globally applicable process descriptions. This framework policy, which was developed alongside QHSE experts at divisional and country level, is implemented in all GEA entities with the support of the global QHSE organizations. In total, GEA has 182 different ISO management system certificates.

In 2016, GEA began certifying its sites with integrated management systems. GEA Group Aktiengesellschaft, headquartered in Düsseldorf, is ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certified and thus leads the group in the number of certified sites. Part of the group's Mission 26 strategy is to certify all GEA production sites in accordance with the quality, environmental and occupational safety management systems. In the reporting year, a coverage rate of 66 percent was achieved for ISO 9001:2015, 38 percent for ISO 14001:2015 and 33 percent for ISO 45001:2018. Half of GEA's annual energy needs are to be covered by an ISO 50001:2018 certified energy management system by 2026. During the year under review, 22.5 percent of the energy needs were covered by such a system. Unrelated to certification, environmental measures and projects and the measurement of energy consumption are bundled and performed in cooperation with the QHSE department.

Management System	Coverage rate 2022 (in %)	Number of certified Production sites 2022	Number of Production sites total
DIN EN ISO 9001:2015	66	38	58
DIN EN ISO 14001:2015	38	22	58
DIN EN ISO 45001:2018	33	19	58
DIN EN ISO 50001:2018	7	4	58

ISO 9001 is the standard that specifies requirements for a quality management system. Organizations use the standard to demonstrate their ability to consistently provide products and services that meet customer and regulatory requirements. The standard also helps organizations to continually improve their quality management system.

ISO 14001 is the international standard that specifies requirements for an effective environmental management system (EMS). It is part of the ISO 14000 family of standards on environmental management.

ISO 45001 specifies requirements for an occupational health and safety (OH&S) management system, and gives guidance for its use. It was published by the International Organization for Standardization in March 2018.

ISO 50001 specifies requirements for establishing an energy management system. The intended outcome is to allow an organization to continually improve its energy performance.

ESG Ratings und Rankings

The term “ESG” encompasses criteria from the environmental, social and governance fields.

DAX 50 ESG

GEA was among the 50 companies to be included in the DAX 50 ESG Index thanks to its exemplary approach to environmental, social and corporate governance issues.

Dow Jones Sustainability Europe Index

GEA was included in the Dow Jones Sustainability Europe Index (DJSI Europe) for the first time in December 2022. Companies are included in the index based on the annual evaluation of the S&P[1] Global Corporate Sustainability Assessment. In 2022, more than 10,000 companies were invited to participate in the assessment. GEA significantly improved its score from 56 in 2021 to 69 out of 100 in 2022. Strong results were achieved in the following categories: business ethics, materiality, information security/cybersecurity & system availability, environmental reporting and social reporting.

CDP

At the end of 2022, GEA was once again recognized by the Carbon Disclosure Project (CDP) for its performance and transparency in reporting: this year with an “A-” grade for water management and an “A” grade for climate protection. This means that GEA is one of 294 companies that made it onto the A list in the climate protection category out of 15,000 companies surveyed worldwide. This rating puts GEA above both the regional European average (B) and the average for the Motorized Machinery sector (C) for climate protection and above the regional European average (B) and the average for the Motorized Machinery sector (C) for water management.

EcoVadis

In the EcoVadis sustainability assessment, GEA confirmed its “Gold Standard” rating in the year under review, placing it among the top 5 percent of all companies in the mechanical engineering sector assessed by EcoVadis worldwide. GEA has had its sustainability management reviewed in increasing detail by the independent rating agency EcoVadis every year since 2016 and has thus been able to continuously improve its result since then. With 68 out of 100 points in the 2022 rating, GEA reached the Gold level. EcoVadis analyzes the sustainability performance of companies in the areas of environment, labor and human rights, ethics and sustainable procurement.

MSCI

In January 2023, GEA was upgraded from “AA” to “AAA” in the MSCI ESG Rating Assessment of the U.S. financial services provider MSCI.

Further awards

Following the November 2022 index review, GEA remains a constituent of the FTSE4Good Index Series, which measures the performance of companies demonstrating strong environmental, social and governance (ESG) practices. In addition, in September 2022, GEA received “Prime Status” (leadership in its industry index group) in the ISS ESG Corporate Rating. ISS ESG provides services for institutional investors. In November 2022, GEA received an ESG Risk Rating of 18.3 and was assessed by Sustainalytics to be at low risk of experiencing material financial impacts from ESG factors. GEA’s ESG Risk Rating places it in the third percentile (first percentile = lowest risk) in the machinery industry assessed by Sustainalytics. The lower the risk rating, the better. This puts GEA in 8th place out of a total of 386 companies assessed in the “Industrial Machinery” category. Sustainalytics, a Morningstar company, is a leading provider of analyses, ratings and data in the area of ESG.

Dow Jones Sustainability Europe Index	CDP	EcoVadis	MSCI[2]	ISS[3]	Sustainalytics[4]	FTSE Russell
Member of Dow Jones Sustainability Indices Powered by the S&P Global CSA	CDP A LIST 2022 CLIMATE	GOLD 2022 ecovadis Sustainability Rating	MSCI ESG RATINGS AAA	Corporate ESG Performance Prime RATED BY ISS ESG	SUSTAINALYTICS ESG INDUSTRY TOP RATED 2023	FTSE4Good

1) S&P stands for Standard and Poor’s. S&P Dow Jones Indices LLC is a joint venture of S&P Global, CME Group and News Corp.
2) In 2023, GEA Group Aktiengesellschaft received a rating of AAA (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment. See also the link to the **MSCI Disclaimer Statement**.
3) ESG Corporate Rating | ISS (issgovernance.com)
4) Copyright ©2023 Sustainalytics. All rights reserved. This [publication/ article/ section] contains information developed by Sustainalytics (www.sustainalytics.com). Such information and data are proprietary of Sustainalytics and/or its third party suppliers (Third Party Data) and are provided for informational purposes only. They do not constitute an endorsement of any product or project, nor an investment advice and are not warranted to be complete, timely, accurate or suitable for a particular purpose. Their use is subject to conditions available at https://www.sustainalytics.com/legal-disclaimers.

Sustainable solutions

GEA is one of the largest suppliers of systems and components to the food and pharmaceutical industries. Its portfolio includes machinery and plants, as well as process technology, components and comprehensive services. Many of its solutions help customers worldwide to make their production processes more sustainable and efficient. This is also reflected in its corporate purpose, "engineering for a better world."

Alongside quality and product safety, the sustainability performance of GEA and its products plays a key role in the supplier selection process of its customers. Customers today expect GEA's plants, machinery and components to contribute in improving their own sustainability performance goals, such as achieving carbon neutrality or reducing their environmental footprint. However, customers naturally also expect the machinery to facilitate efficient production over its entire lifespan. In view of this, GEA has set the following sustainability targets in relation to their product development as part of the group's Mission 26 strategy and made some initial progress during the year under review:

- By 2030, Scope 3 greenhouse gas emissions are to be reduced by 18 percent compared with 2019. Technology, such as the GEA AddCool high-temperature heat pump, has a significant role to play in this effort. This technology can reduce primary energy consumption and CO_2 equivalents by up to 50 percent.
- By 2030, GEA will offer customers the option of "zero freshwater use" for the operation of plants and machinery. The dealcoholization unit GEA Aroma PlusPro reduces the amount of water required for diafiltration by up to 100 percent.
- By 2030, GEA's packaging-related products will use sustainable packaging materials. Packaging material made of 100 percent recycled paper with FSC Certification is already in use by the "Pasta Eco-Pack" machine series.
- The spare parts and the packaging material used for GEA products must meet one of the five Rs of the circular economy (reduce, reuse, repair, remanufacture, recycle) by 2026.

Reduce, reuse, repair, remanufacture and recycle together form GEA's selected R strategy for implementing the circular economy. This strategy provides a model for production and consumption in which existing materials and products are reduced, reused, repaired, re-manufactured or recycled for as long as possible. This permits the product life cycle to be extended and resources to be conserved. The Business unit Separation developed a process in the year under review in order to implement the circular economy across all divisions within the Group. By 2026, all other business units will introduce the circular economy for spare parts and packaging materials. This puts GEA in a pioneering position in the mechanical and plant engineering sector.

Product management

The theme of sustainable solutions is strategically managed at GEA by the Sustainability department. This department develops and communicates qualitative and quantitative targets, provides support with regard to methodology and tracks target attainment levels. The Sustainability department reports directly to the CEO. It is the central unit responsible for establishing GEA's sustainability targets and ensuring their achievement. Operational implementation, i.e., the development of sustainable solutions, is the responsibility of the divisions.

GEA has an overarching product development process, which concentrates on selected criteria in the course of sustainability projects. Its development activities focus on energy and water consumption, material use and the circular economy. Where necessary, GEA therefore uses a trend-scouting process of "search – assess – observe", which is centered on these sustainability sub-categories. The result of this trend process is a trend radar for sustainable technologies, markets or customer trends, which can be used by the divisions and business units to develop specific sustainable solutions. Our successful strategy for reducing raw materials, emissions or water consumption through the use of GEA products also involves our partners in the supply chain. For this reason, GEA exchanges information with its suppliers on an ongoing basis.

Product development

GEA's product development process has four focal points, which reflect market and customer requirements:

Environmental Sustainability	New Food	Digital Solutions	Modularization & Configuration




Alongside product functionality and cost-effectiveness, sustainability aspects play a central role in product and process development. As decisions made during the development phase have a lasting impact well beyond company boundaries, they must be able to withstand critical scrutiny with regard to their sustainability criteria. In 2022, GEA created a methodical basis according to which the circular economy is taken into consideration from the very beginning of the product development process. The sustainability criteria mentioned are already taken into account in the specification and concept phase of the development process. For example, GEA always strives to integrate sorted materials into the product development process so that products are easier to recycle further down the line.

In addition to resource efficiency, the fixed development criteria include machinery safety to ensure user health and safety across the entire product life cycle. The targeted sustainability effects are ensured through key performance indicators, which indicate the sustainability parameters in product development and enable strategic monitoring.

Product responsibility

Responsibility for the topic of product responsibility lies with the divisions or business units. They control the development and continuation of their product portfolios based on the group's Mission 26 strategy. The potential risk of each plant, machine or component must be separately assessed in the installation , testing and operating phases. Avoiding the risks associated with mechanical, biological, chemical, electrical and auditory hazards is the primary task of a standardized machinery safety risk assessment under ISO 12100. The risk assessment is carried out as part of development and the required technical documentation. GEA uses FMEA (Failure Mode and Effects Analysis), which uncovers potential weaknesses and failures in a machine or a process, assesses the related risk and provides indications on how to avoid failures and minimize damage.

Product Safety Committees (PSCs) in the divisions evaluate and assess incidents involving GEA products that have (or may have) already resulted in either a hazard to life and limb or resulted in damages for customers. The inter-disciplinary PSCs are tasked with initiating suitable measures to prevent and rectify product safety defects while minimizing GEA's legal and financial exposure. The committees gather and evaluate information about the use of the products throughout their life cycle.

GEA confirms the legal conformity of its products with certification marks, such as the CE mark, FDA Approval, or China Compulsory Certification (CCC). Information on the recycling and disposal of GEA products is also included in the relevant operating manuals. In special cases, further information is provided on GEA's websites and social media channels. This function is performed internally within the group via the intranet and social media service Yammer.

Life cycle analyses

With regard to Mission 26 and the sustainable solutions targets, life cycle analysis are an essential component of planning the reduction of greenhouse gas emissions. To establish a reliable planning basis and set CO_2 targets, carbon life cycle assessments in accordance with the ISO 14040 standard are therefore also carried out for selected products. In addition, where necessary, a life cycle assessment is also conducted in relation to technology status as part of the portfolio analysis. In this case, the current life cycle phase of the technology is determined in order to initiate the relevant strategic measures to develop the technology.

Digitalization

GEA provides digital service innovations which focus on availability and productivity. The installed base of a digital service is networked together with the GEA Cloud. High-quality service level agreements such as "Predictive Care" make it possible to predict unplanned machine and equipment downtimes and carry out preventive service measures. This reduces the environmental footprint of service activities for both our customers and GEA, particularly when combined with remote maintenance. Productivity-focused digital services like OptiPartner lower the amount of energy required for production, reduce the amount of resources and avoid waste.

Customer satisfaction

GEA conducts global customer satisfaction surveys on a regular basis. In general, this type of survey is carried out immediately after customers have been contacted for one of a variety of reasons, such as the completion of a business transaction or the delivery of spare parts. A standardized company-wide reporting dashboard makes it possible for both the group and the individual divisions to measure and analyze customer satisfaction globally and regionally. This makes it possible to respond to customer feedback and identify areas for improvement at an early stage. Customer satisfaction in the new machine business increased in the reporting period - the corresponding Customer Satisfaction Score (CSS)* for the area was 80 percent (2021: 78 percent). The CSS for global customer satisfaction in service in 2022 was 79 percent (2021: 79 percent).

80%

Customer Satisfaction Score 2022 for new machine business global

79%

Customer Satisfaction Score 2022 for Service

*) The Customer Satisfaction Score indicates how satisfied a customer is with a product or service. In internal STI remuneration, the NPS is used as the basis for remuneration.

Examples of sustainable solutions

GEA AddCool is a proven high-temperature heat pump technology that can be integrated into an existing spray drying process to reduce dependence on fossil fuels and the amount of energy requiredto provide hot air for drying. In addition to cutting running costs significantly, the technology reduces emissions and provides additional cooling capacity. The AddCool heat pump technology is powered by electricity and provides both heat for high-temperature spray drying applications and cooling for other process steps. This makes it possible to reduce the amount of electrical energy consumed by cooling systems. This technology can reduce primary energy consumption and CO_2 equivalents by up to 50 percent.

Farms can use automated feeding systems to become more sustainable. The efficiency of the feeding process has a significant impact on a farmer's ability to achieve their milk production targets. The DairyFeed F4500 can be used to monitor feed levels and consumption rates, allowing farmers to adjust the next ration to minimize feed residues. The embedded sensor system can also analyze the nutrient composition of the ingredients as well as the mix quality so that the mix can be adjusted to suit the feeding strategy. Instead of being tied to a fixed rail system, the feeding robot can follow a route which suits the farm.

GEA AromaPlus PRO reduces the amount of water required for diafiltration during the dealcoholization of beer by up to 100 percent. The equipment uses filtration technology with special polymer membranes to separate alcohol and water from ingredients by reverse osmosis. The latest AromaPlus generation combines the increasing popularity of health-conscious beverages with the aim of minimizing the amount of water consumed in production process. The technology also preserves the original flavors so that they do not need to be postprocessed after the alcohol is removed. The by-product of filtration - the alcoholic base - can be used for other beverages.

Further information on the topic of sustainable solutions can be found in the GEA Sustainability Report 2022.

Environmental protection

GEA is committed to the Paris Climate Agreement of 2015, which stipulates that the global temperature increase in the atmosphere should be limited to well below 2 °C compared to pre-industrial levels and that additional efforts should be made to limit it to 1.5 °C. This has led to more stringent climate protection requirements, particularly with regard to greenhouse gas emissions. To achieve these goals, the industrial sector is also being called upon to significantly reduce its carbon footprint over the next few years.

But climate protection is also increasingly playing a role in the social acceptance of companies. It is considered a core value that society demands from companies. As a multinational corporation, GEA is taking accountability and has committed to ambitious sustainability goals as part of its corporate “Mission 26” strategy, which are described in more detail below.

Due to the current global situation, which has led to rising natural gas prices, especially in Europe, GEA has also set the goal of reducing gas consumption at each site by 20 percent. In addition to important measures that are being introduced worldwide, all GEA employees are also called upon to reduce energy consumption and thus not only save money, but also act in line with the company’s sustainability strategy. As part of a global energy saving campaign, everyone can contribute their ideas to inspire others and bring about sustainable change.

Environmental and energy management

Environmental protection is integral to GEA’s business strategy, as well as to its daily processes in consultation with business partners and other stakeholder groups. Responsibility for environmental management lies with the central QHSE department, which reports directly to the Chief Operating Officer (COO). Environmental indicators are compiled and analyzed from all relevant GEA sites. The results are evaluated at regular intervals with the responsible parties for the divisions and regions. They also coordinate the monitoring of target achievement.

The Quality, Health, Safety and Environment (QHSE) guideline has been established to regulate the management of environmental aspects. This binding guidance specifies how the major environmental aspects of activities, products and services should be determined. Energy management is decentralized to ensure local legal requirements are met. The effectiveness of the existing management systems has been confirmed through internal and external audits during the reporting period.

External audits

In 2022, the validity of the environmental management system according to ISO 14001 was confirmed throughout the group for another three years by a so-called matrix certification*. Twelve external audits were carried out as part of this recertification.

GEA plans to have all production sites externally certified according to ISO 14001 by 2026. Currently, 22 production sites are already certified, which corresponds to a coverage rate of 38 percent.

ISO 50001 certification

By 2026, 50 percent of the annual energy requirements attributable to ten sites will be controlled by a certified energy management system. Two sites located in Oelde and Niederahr are already certified to ISO 50001, with recertification taking place in 2022. For the other eight, certification will follow in the coming years (see overview of certificates under Sustainability Management). The company-wide target is to reduce energy consumption by 1.5 percent per year.

HSE Legal compliance audits

For the HSE legal compliance audits, GEA voluntarily hires an external service provider to check compliance with legal requirements in various areas such as environmental protection and occupational safety at site level. The goal is to have an audit performed at all global production sites and other key locations every three years. In the reporting period, 21 audits were conducted on environmental protection, fire protection and occupational safety.

*) In 2016, GEA decided on a matrix certification, which includes the global subsidiaries in the umbrella certificate of GEA Group AG (headquarters). This means that the integrated management system is based on uniform documentation. The advantage of a matrix certification is that a company does not have to be audited every year. A random audit at selected locations is sufficient to obtain or maintain the certificate for all companies. This process saves money and requires less effort. On average, each participant is audited once in the certification cycle.

Internal audits

In 2022, the central QHSE department developed the Environmental Excellence Audit. Based on a catalog of questions, compliance with internal and external processes and provisions regarding the environment (emissions, water, waste, etc.) is audited. At the same time, the GEA standards are reviewed. This audit was tested at one production site in the reporting year. In the future, this new internal audit will be carried out in a rolling process over three years at all 58 production sites. Moreover, Internal Audit uses the internal and external audit reports to check the extent to which these audits have been carried out and reports the status quo to the QHSE area.

Energy demand and greenhouse gas emissions

In addition to the long-term goal of achieving net zero by 2040, GEA has already presented interim targets for reducing its own greenhouse gas emissions in 2021: By 2030, its Scope 1 and 2 greenhouse gas emissions are to be reduced by 60 percent and its Scope 3 emissions by 18 percent compared with the base year 2019. The Science Based Targets initiative (SBTi), a globally recognized independent initiative to verify climate goals, validated these reduction targets in 2021. The SBTi thus confirmed that GEA's interim goals are consistent with the latest understanding of climate science and make an effective contribution to achieving the goals of the Paris Agreement.

GEA has recorded greenhouse gas emissions by region across all three scopes since 2017. As of 2019, for countries in which energy suppliers can provide reliable fuel mix data, the company has reported the CO_2 equivalents (CO_2e*) calculated based on this data. In 2022, GEA recorded greenhouse gas emissions at 85 locations, including production sites, service branches and administrative offices.

*) CO_2 equivalent (CO_2e) is a unit of measurement used to standardize the climate impact of the various greenhouse gases (CO_2, methane, HFCs, N_2O, PFCs, NF_3 and SF_6) that are included in the overall data. Thus, GEA's methane emissions are also included in the CO_2 equivalents and count toward the emissions reduction target of 60 percent by 2030.

At GEA, energy consumption figures for scopes 1, 2 and 3.6 are collected using a standardized system (SoFi) and reported with Scope 3 "Upstream and Downstream greenhouse gas emissions" as follows:

- Scope 1: Direct GHG emissions calculated from the combustion of petroleum, various gases, wood pellets, diesel, kerosene and gasoline
- Scope 2: Indirect greenhouse gas emissions from the consumption of electricity, heat,
- steam and cooling energy
- Scope 3: Upstream and downstream greenhouse gas emissions from:
- Scope 3.1: Purchased products and services
- Scope 3.2: Capital goods
- Scope 3.3: Fuel and energy-related emissions
- Scope 3.4: Upstream transportation and distribution
- Scope 3.5: Waste generated in operations
- Scope 3.6: Greenhouse gas emissions from business travel
- Scope 3.7: Employee commuting
- Scopes 3.8–3.10: not relevant to GEA
- Scope 3.11: Use of sold products
- Scopes 3.12–3.15: not relevant to GEA

Apart from market-based figures, the emissions data is based on the conversion factors stated in the GHG Protocol/IEA Version 17 (04/2022) – IEA 2020. The sites report their energy consumption to the QHSE department on a monthly basis. Scopes 1 and 2 CO_2e greenhouse gas emissions are calculated centrally in the QHSE area and reported monthly to the GEA energy dashboard, as well as once a year in the sustainability report.

In addition to greenhouse gas emissions, other air emissions occur at GEA. These include nitrogen oxides (NO_x), sulfur oxides (SO_x) and volatile organic compounds (VOCs) (see table). NO_x and SO_x are produced during the combustion of fossil fuels. However, sulfur oxides in particular are negligible at GEA, as it is produced in very small quantities during production processes.

VOCs are generated during the painting of GEA products through evaporation of solvents, as well as during the combustion of fuels used by the GEA fleet. In 2023, the plan is to collect VOC values and set reduction targets based on them.

For air emissions, the following reduction targets have been in place since 2022:
- NOx: minus 1.5 percent per anno

GEA's total energy consumption during the reporting period was 243,498 MWh, of which 37.3 percent was generated from renewable energy sources. Consumption thus decreased by 5.8 percent compared to 2021 (see Energy Consumption table). Total CO_2 emissions (market-based) in 2022 were 33,018 metric tons, down 35.8 percent from the previous year (see Greenhouse Gas Emissions table). GEA is thus well on track to achieving its target of reducing greenhouse gas emissions in Scopes 1 and 2 by 60 percent by 2030.

All global electricity requirements were covered by renewable energies in the reporting period. This was 37.3 percent of the total energy requirements. In addition, GEA is expanding its own electricity generation through photovoltaics. Further information on energy-saving measures can be found in the current sustainability report.

Water

Responsible use of water is an integral part of the group-wide commitment to sustainability and is described in the QHSE guideline. The goal is to reduce the local negative impact of water consumption. For example, sites in regions where water is scarce must develop and implement a water strategy by 2026. An ongoing target is to continuously reduce water consumption by 2.1 percent year-on-year at 84 sites, which include production facilities, service organizations and administrative offices, and to increase the proportion of treated water.

QHSE management collects water data at 84 sites. It represents a full coverage rate of production sites. Moreover, water consumption data is also collected at our service organizations, repair shops, sanitation plants, sites with ISO 14001-certified management systems as well as offices and warehouses with a significant environmental impact. This includes water consumption data based on the amount of water drawn from the communal network and groundwater from the company's own wells, as well as the volume of wastewater.

GEA's water intensity is relatively low at around 19.1 cubic meters (m^3) per year per full-time employee. The amount corresponds to about 52 liters of water per person per day. In 2022, GEA recorded the water drawn from the communal supply and ground wells in addition to wastewater at 84 sites (2021: 89), which includes production sites, service organizations and administrative offices (see Water table). Overall, water consumption thus decreased by 1.273 m^3 compared to the previous year.

To achieve the ongoing reduction target, two sites in India treat 14,568 m^3 of wastewater per year themselves and re-use it for cleaning processes and watering green areas. This corresponds to a water treatment rate of around 5 percent. There are plans to treat wastewater on-site at other locations in the future. Several sites also collect rainwater to water green spaces. Primarily the wastewater generated at the sites is discharged into the local public sewer systems. 432 m^3 of effluent that could not be discharged into the municipal network was collected and treated by certified external disposal companies on behalf of GEA.

Waste

GEA uses systematic waste management to keep material consumption and disposal volumes at the lowest possible level. Waste separation, economical recycling/recovery processes and the increasing use of secondary raw materials contribute to this effort. The target set in 2021 of achieving a waste recycling recovery rate of 95 percent by 2026 has been already exceeded in the reporting period by 96 percent. The long-term target is therefore 100 percent. Another target is to reduce the amount of waste by 2.1 percent per year in relation to sales revenues.

In 2022, GEA recorded waste volumes at 72 sites (2021: 75), which include production sites, service organizations and administrative offices (see Waste table). It represents a full coverage rate of production sites. The recorded waste volumes include communal and hazardous waste as well as recyclable residuals. In total, waste volumes in the reporting period amounted to 13,437 metric tons. The absolute volume of waste thus increased by 0.7 percent compared to the previous year.

904 metric tons of the waste (6.7 percent of the total waste volume) consisted of halogen-free machining emulsions/solutions and aqueous rinsing liquids. These substances are classified as hazardous waste. However, they are necessary for certain production processes and therefore cannot be reduced or replaced at present. Nevertheless, GEA carries out substitution tests in line with the legal requirements. This involves analyzing whether the relevant substances can be replaced by less hazardous alternatives or whether their use can be completely or partially avoided by changing production processes. In this area, GEA is aiming for a reduction of 1.5% per year.

All hazardous waste is collected and processed by approved specialist companies on behalf of GEA. These specialized companies are subject to strict legal requirements within the European Union. The regulations in Germany are based on the Circular Economy Act (KrWG) and are intended to guarantee that environmental and health protection are reliably safeguarded.

Further information on the topic of environmental protection can be found in the “Supply Chain” chapter as well as in the GEA Sustainability Report 2022.

Energy:
Energy consumption and greenhouse gases

Water:
Water consumption (Water abstraction minus water water) and information on water scarcity

Waste:
Waste generation and waste recovery rate

Key performance indicators

Energy consumption

in MWh	2022	2021[1]	Change compared to previous year in %
Total energy consumption	243,498	258,564	–5.8
thereof electricity	90,825	89,201	1.8
thereof self-generated electricity from photovoltaics	2,852	1,612	76.9
thereof electricity from renewable energies	87,973	48,441	81.6
thereof electricity from non-renewable energies	0	39,148	–100.0
thereof district heating	4,253	4,019	5.8
thereof natural gas	108,026	126,251	–14.4
thereof heating oil	2,251	2,648	–15.0
thereof others[2]	38,143	36,446	4.7
Number of reporting sites	85	90	–
Energy intensity (ratio MWh to EUR 1 million revenue)	47.1	55.0	–14.2
Tons of CO_2e per MWh	0.14	0.20	–31.8

1) Due to changes in allocation and calculation the basis of reporting locations was adjusted for 2021.
2) Fossil fuels such as Diesel, gasoline, kerosene.

Greenhouse gas emissions[1]

in t CO_2e	2022	2021[2]	Change to previous year in %	Change to base year 2019 in %
Scope 1: Direct greenhouse gas emissions	32,292	35,617	-9.3	-9.2
Scope 2: Indirect greenhouse gas emissions[3]	726	15,780	-95.4	-97.7
Scope 1 and 2 greenhouse gas emissions total[4]	**33,018**	**51,397**	**-35.8**	**-51.1**
Scope 3.1: Purchased products and services[5]	1,220,912	1,174,183	4.0	-1.7
Scope 3.2: Capital goods[5]	17,764	16,732	6.2	0.4
Scope 3.3: Fuel and energy-related emissions (not in Scope 1 and Scope 2)[6]	15,089	16,701	-9.7	12.0
Scope 3.4: transportation and distribution (upstream)[5]	109,493	110,539	-0.9	-6.3
Scope 3.5: Waste	906	925	-2.1	-16.8
Scope 3.6: Business travel[6]	12,464	5,864	112.6	-32.3
Scope 3.7: Employee commuting	6,261	7,121	-12.1	-37.6
Scope 3.11: Use of sold products[7]	35,190,372	26,511,385	32.7	42.1
Scope 3: Total upstream greenhouse gas emissions	1,382,889	1,332,065	3.8	-2.6
Scope 3: Total downstream greenhouse gas emissions	35,190,372	26,511,385	32.7	42.1
Scope 3: Total greenhouse gas emissions	**36,573,261**	**27,843,450**	**31.4**	**39.7**
Scope 1 -3 total	**36,606,279**	**27,894,847**	**31.2**	**39.4**

1) Greenhouse gas emissions were calculated using the UK DEFRA 2019 to 2022 emission factors, where applicable.
2) Due to changes in allocation and calculation the basis of reporting locations was adjusted for 2021.
3) Market-based emissions according to GHG Protocol Scope 2 guidance. Where no contract-specific emission factors were available, the GHG Protocol/IEA Ver. 17 (04/2022) - IEA 2020 emission factors were used. Scope 1 and 2 emissions calculated using the location-based method: 31,689 t CO_2e in 2022.
4) Market-based emissions according to GHG Protocol Scope 2 guidance. Where no contract-specific emission factors were available, the GHG Protocol/IEA Ver. 17 (04/2022) - IEA 2020 emission factors were used. Scope 1 and 2 emissions calculated using the location-based method: 63,981 t CO_2e in 2022.
5) Emissions were calculated using a recognized input-output model, which is not subject to the limited assurance engagement of KPMG AG Wirtschaftsprüfungsgesellschaft. Based on a global impact analysis of sectoral and international supply chains, direct and indirect effects of corporate activities along the supply chain were determined, including the CO_2 emissions listed (other climate-impacting gases neglected). For 2022, the calculated values from 2019 were extrapolated based on the respective purchasing volume.
6) Global air travel; rental cars for Europe and USA; travel by German rail estimated based on 2021.
7) Emissions calculated through direct consumption data with a coverage rate for the year 2022 approv. 80%. For the emissions of the use phase (3.11), an average service life of 18.11 years was assumed for GEA machinery and equipment in 2022.

Water

in m^3	2022	2021[1]	Change compared to previous year in %
Water withdrawal total[2]	347,972	359,047	-3.1
thereof municipal water	289,566	301,581	-4.0
thereof groundwater	58,406	57,466	1.6
Water discharge total	297,761	307,564	-3.2
thereof municipal waste water	283,193	289,362	-2.1
thereof wastewater treatment on site	14,568	18,202	-20.0
Water consumption total	50,210	51,483	-2.5
Ratio of water consumption to water withdrawal (in %)	14.4	14.3	0.6
Number of reporting sites	84	89	–
Water intensity (ratio m^3 to EUR 1 million revenue)	67,4	76.3	-11.8
Water intensity (ratio m^3 to 1 FTE)	19.2	19.8	-3.3

1) Due to changes in allocation and calculation the basis of reporting sites was corrected for 2021.
2) In 2021, two leakages (total water withdrawal (9,700 + 8,200 = 17,900 m^3) were detected in France and Italy

Waste

in t	2022	2021[1]	Change to previous year in %
Waste generation total[2]	**13,437**	**13,339**	**0.7**
thereof hazardous waste	904	883	2.4
thereof non-hazardous waste	12,533	12,455	0.6
Waste directed to disposal. non-hazardous[2]	1,391	1,437	-3.2
thereof landfill	536	528	1.5
thereof incineration with energy recovery	847	895	-5.4
thereof incineration without energy recovery	8	14	-42.9
thereof other disposal operations[2]	–	–	–
Waste directed to disposal. hazardous[2]	904	883	2.4
thereof landfill	–	–	–
thereof incineration with energy recovery	–	–	–
thereof incineration without energy recovery	–	–	–
thereof other disposal operations[2,3]	904	883	2.4
Waste diverted from disposal. non-hazardous	11,142	11,018	1.1
thereof preparation for re-use	–	–	–
thereof recycling	11,142	11,018	1.1
thereof other recovery operations	–	–	–
Waste recovery rate (in %)[4]	95.95	95.94	0.0
Recycling rate (in %)	82.9	82.60	0.4
Number of reporting sites	72	75	–

1) Due to changes in allocation and calculation the basis of reporting sites was corrected for 2021.
2) Treatment off-site
3) Treatment of halogen-free machining emulsions and solutions and aqueous rinsing liquids.
4) Waste recovery rate = (Recycling plus incineration of non-hazardous waste directed to disposal with energy recovery plus other recovery operations of non-hazardous waste diverted from disposal) / Waste generation total

Occupational health and safety

GEA promotes the health of its employees in order to maintain their performance in the long run. The goal is to avoid all types of accidents and illnesses through preventive measures. Consequently, GEA is constantly developing the area of occupational health and safety. Physical well-being is just as essential for professional performance as a safe workplace. Creating a safe work environment for all employees, contractors and service providers is therefore always a top priority for GEA. After all, a strong occupational safety culture also contributes to better performance for the company as a whole.

Zero accidents – this goal has been in place at GEA for many years. The company protects all of its employees and contractors regardless of where they work. Contracts with customers, suppliers and subcontractors are always entered into in accordance with the respective safety standards of both contracting parties. If the standards of the contractual partner exceed those of GEA, the higher standards also apply to GEA’s employees. Contracts include corresponding requirements on occupational health and safety as well as related procedures. Occupational health and safety is also directly related to the 2030 Agenda – the United Nations Sustainable Development Goals (SDGs No. 3 “Good health and well-being” and No. 8 “Decent work and economic growth”).

Occupational health and safety management

The company uses a central occupational health and safety management system to identify hazards and risks that can lead to occupational accidents and work-related illnesses, which management aims to permanently eliminate through the application of systematic processes. The occupational safety management system of GEA Group Aktiengesellschaft is certified in accordance with ISO 45001. In addition to the central QHSE unit, GEA also has other local QHSE units at various levels: Divisions, regions, countries and companies. The primary objective is to ensure a safe and healthy work environment for all employees and to comply with legal requirements and GEA occupational safety standards. In addition, GEA has a central crisis management system.

Depending on its size, a site may have several people responsible for occupational health and safety, or one employee may be responsible for several small sites. These employees are appointed by the GEA entities in accordance with the legal requirements in the relevant country and generally function as the HSE managers for the respective entity. In Germany, for example, HSE managers are occupational safety specialists. The Executive Board receives frequent updates from the QHSE unit regarding health and safety risks.

GEA’s occupational safety principles are governed by its QHSE policy. The GEA Safety Core Rules form the core of GEA’s occupational safety standards. Occupational safety management reviews take place through occupational safety audits and regular updates and adjustments to risk assessments. The Executive Board receives periodical updates regarding audit results. Occupational health care is provided in accordance with national requirements.

Measures and results

GEA systematically records the main causes of accidents, the nature of the injuries, as well as the place on the body where the injuries are sustained and other accident information. The precise level of detail facilitates analysis, particularly with regard to accident black spots and causes. The GEA Safety Core Rules, which were already introduced in 2017, apply worldwide at GEA and represent the minimum standards for occupational health and safety. They are available in the GEA learning center in 14 languages in the form of online training courses and videos. Employees and temporary workers are regularly instructed and trained in work-related health and safety aspects. This may occur as part of an occupational health and safety campaign.

Outside companies are informed about the GEA standards and briefed about them before embarking on a joint activity. For certain activities or tools that carry potential risks, such as working at height or with forklifts, GEA offers country-specific training courses on health and safety at work that comply with regulations in the respective jurisdiction. Such training courses are the responsibility of the executive board and site management. To this end, more than 60 uniform minimum standards (safe systems of work) must be observed in the GEA entities worldwide. In order to assess compliance with its occupational safety standards and to help develop safety protocols, GEA conducts centrally organized external and internal occupational health and safety audits in its entities on a regular basis.

External HSE compliance audits are conducted every three years at all GEA production and chemical sites as well as at the major service workshops and test center sites – 21 in the reporting period alone. External audits of occupational health and safety management systems in accordance with ISO 45001 take place at least every three years at the certified sites (2022: 12). Internal HSE excellence audits periodically review GEA standards and ISO certification requirements (2022: 12).

Serious incidents, such as fatal and severe accidents, fires and explosions as well as environmental and security incidents, are reported to the Executive Board and divisional management by means of the Serious Events Reporting System. This also applies to events affecting employees of external companies when they perform work for GEA. This makes it possible to react very quickly to severe incidents, minimize any potential impacts and investigate incidents in a timely manner. Post incident, a dedicated lessons-learned process begins with the aim of avoiding similar incidents in other areas, identifying measures for improvement and communicating them to the organization. The Serious Events Reporting System also includes incidents related to GEA products and equipment. These incidents are recorded and analyzed even if the incident was not caused by a GEA product or equipment. All GEA sites are required to develop internal emergency response plans and regularly test their effectiveness.

The safety of its own workforce is just as important to GEA as that of its subcontractors. Occupational safety is an integral part of the supplier terms and conditions, which are specified in the Code of Conduct for Suppliers. It is also a core element of GEA's supplier screening and regularly scheduled supplier audits. Serious accidents and other incidents affecting employees of subcontractors, for example on construction sites or in GEA plants, are already being recorded via the Serious Event Reporting System. Starting in 2023, all lost-time accidents involving subcontractor employees related to activities for GEA will be recorded.

To achieve the long-term target of zero accidents, the precautionary principle is consistently applied in the field of occupational health and safety. Since 2017, GEA has therefore also recorded and analyzed close calls worldwide to detect potential risks and hazards early on and prevent potential accidents. In the same way as actual accidents, close calls are systematically analyzed and a follow-up process with defined responsibilities and defined measures is initiated. This process is highly appreciated by employees. Compared to the previous year, more close calls and unsafe situations were reported. Consequently, risk awareness is increasing.

The number of accidents decreased by 4.4 percent compared to 2021 (see table "Occupational safety figures"). With roughly the same number of hours worked, GEA recorded a lower accident frequency rate of 4.98 in the reporting period (previous year: 5.17) (see graphic "Accident frequency rate"). GEA reported 197 accidents (previous year: 206). No lost-time accidents were recorded at 239 sites, which is equal to 74 percent of the covered GEA sites (previous year: 77 percent). During the reporting period, one fatal workplace accident occurred as a result of a traffic accident involving a GEA employee in the United States. No fatal occupational accidents were reported by GEA subcontractors. The accident severity rate* fell beyond the target of minus ten percent in the reporting period with 101 days lost due to accidents per million hours worked (previous year: 129). This corresponds to a decrease of 22 percent. The increase in the rate of other incidents to 317 (previous year: 264) is quite positive, as it shows how measures aimed at removing unsafe situations or actions can help prevent accidents.

*) Number of days lost multiplied by 1 million divided by hours worked

Targets

GEA targets a continuous reduction in the number of workplace accidents. By 2026, GEA aims to reduce the frequency and severity of accidents by ten percent per year compared to the previous year. At the same time, GEA targets a 10% increase per year in the number of reports regarding other incidents (e.g., unsafe situations, unsafe practices, close calls). These targets were exceeded in the reporting year for the accident severity rate and the rate of other incidents. The accident frequency rate, on the other hand, was above the set target. The long-term target is always to achieve zero accidents. Therefore, a health and safety risk assessment is generally carried out as part of the due diligence processes for potential new business areas or projects. Furthermore, GEA conducts an ongoing process of ergonomic workplace optimization and prevention of exposure to hazardous substances. An additional target is for all 58 production sites to be covered by an ISO 45001 certified management system by 2026. Currently, around 33 percent of the sites have such a management system.

Further information on occupational health and safety can be found in the GEA Sustainability Report 2022.

Key performance indicators

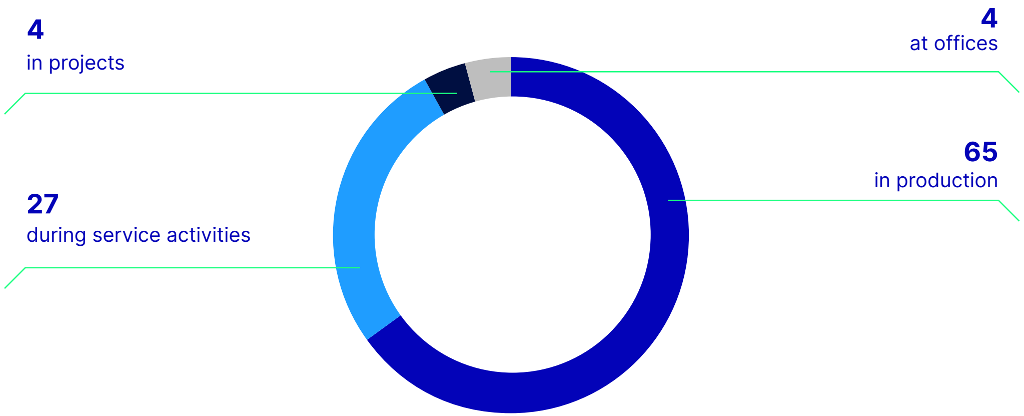
Work safety numbers[1] Per million hours worked	2022	2021[2]
Lost Time Injuries[3]	197	206
Accidents with sequence of death	1	0
Lost Time[4]	3,986	5,140
Lost Time Injury Frequency Rate[5]	4.98	5.17
Lost Time Injury Severity Rate[6]	101	129
Proactive Incident Rate[7]	317	264
Total Recordable Injury Frequency Rate[8]	**31.96**	**29.16**
Sites without occupational accidents with downtime, in percentage of all sites	74	77

1) Accidents and incidents are to be reported for all: GEA Employees, temporary employees, students/interns, trainees. Data is recorded manually and decentrally
2) The 2021 numbers have been adjusted due to subsequent reporting.
3) The number of work-related injuries with ≥ 1 day of lost time
4) Lost Days (full calendar days, without the day of the accident). GEA is counting Lost Days up to 182 days in accordance with the European Statistics on Accidents at Work (ESAW) since 2018.
5) The number of lost time injuries x 1,000,000 divided by the number of working hours in reporting period
6) The number of lost days x 1,000,000 divided by the of working hours in reporting period
7) The number of other incidents (e.g. unsafe situations, unsafe acts, near misses) x 1,000,000 divided by the number of working hours in reporting period
8) The sum of lost time injuries without lost time x 1,000,000 divided by the number of hours in reporting period

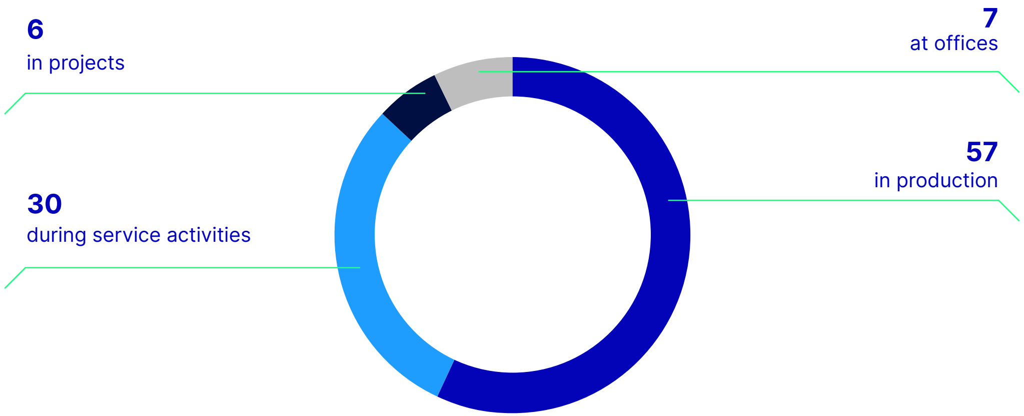
Lost time injury frequency rate

Accidents with period of absence per million hours worked

Worksite accidents by place of activity
(in %)



Lost time by place of activity
(in %)



Supply Chain

GEA's success is highly dependent on the performance of its suppliers; but it's not just economic performance that is important. GEA wants to work with companies that are committed to greater sustainability in economic as well as ethical, social and ecological terms. One question continues to stand out: What are the working conditions and environmental impact involved in obtaining raw materials and the manufacture and sale of products? Critical investors, customers, employees, applicants and, not least, the general public want companies to tell them how sustainable their supply chains are and whether they meet their duty of care with regard to human rights, in line with the United Nations Guiding Principles on Business and Human Rights.

At GEA, the cost of materials account for more than half of group revenue. For products that it manufactures, GEA purchases raw materials, semi-finished products, precursors and, notably, components not based on the company's core technologies from external suppliers globally. In addition, for the construction and delivery of process solutions for a wide range of applications, GEA purchases plant components and awards work to subcontractors, especially for on-site and assembly services. The steel required for constructional steelwork is usually included in the services rendered by subcontractors.

This means that purchasing practices have a considerable impact on profitability, which is reflected in the fact that Procurement and Supply Chain report directly to the COO (member of the Executive Board). At the same time, the importance of materials procurement reveals the extent of the company's ability to influence ethical and environmental issues in the supply chain. GEA intends to exert this influence further to make its supply chains more sustainable.

A deep understanding of the key purchasing megatrends is required to reach the targets set out in GEA's climate strategy. Global supply chains are becoming increasingly exposed to unforeseen events and supply chain interruptions can lead to losses for GEA, as for all companies. Furthermore, there is growing demand from consumers, governments and other stakeholder groups for product traceability and transparent reporting throughout the entire supply chain. In light of this, GEA aims to focus its resources and exert influence where it matters most for the company and its stakeholders. For this reason and others, sustainability was the main topic at the GEA Supplier Summit in September 2022. GEA's sustainable procurement strategy, which requires suppliers to help GEA achieve its social and climate goals, was presented at this event.

The climate targets included in GEA's climate strategy demonstrate the company's firm commitment to reducing its own greenhouse gas emissions to net zero at all points of its value chain by 2040. Supply chain emissions (upstream Scope 3 emissions) are to be reduced by 18 percent by 2030, taking 2019 as the base year. In addition to its efforts toward sustainable production, GEA has also committed to making the maximum possible contribution to the United Nations Sustainable Development Goals (SDGs). To achieve this, the company defines and takes greater account of sustainability criteria in the selection, evaluation and development of its suppliers.

Sustainable Procurement

Sustainability involves much more than just sustainable products and services. Compliance with basic standards regarding social matters and environmental protection throughout the entire value chain is the only way to secure the trust required for long-term business relationships. As a technology company with a high degree of materials expertise, GEA is aware of its responsibility and purchases its raw materials, goods and services worldwide exclusively from qualified suppliers. Our policy of responsible resource extraction and the use of sustainably produced precursors enable GEA to avert raw material risks and ensure a reliable flow of goods from our suppliers. At GEA, we also firmly believe that responsible purchasing can enhance our reputation, our appeal as an employer and, ultimately, our ability to compete. Special importance is place on ensuring that human rights are respected in the supply chain.

A group-wide team was set up at GEA in 2022 to drive sustainability-oriented procurement. This team breaks down the requirements and goals of the Mission26 strategy with regard to sustainability for the area of procurement, specifies them in greater detail and manages the individual initiatives for achieving them in the area of purchasing. This includes managing and coordinating the introduction of GEA's sustainability criteria for suppliers, managing and monitoring the reduction of emissions in the supply chain, and building up the knowledge base on the topic of sustainability in the procurement organization. In 2022, the sustainable procurement team worked out the requirements of the Supply Chain Act, which came into effect on January 1, 2023, and coordinated the implementation of these requirements within the procurement structure throughout the company. In order to ensure compliance with the Supply Chain Act when it comes into force, GEA already started implementation in the year under review.

GEA has ambitious targets for monitoring sustainability in our supply chain. All preferred suppliers – i.e. the suppliers which are the most strategically important and are the biggest by volume, while also satisfying GEA's criteria in terms of price, quality, cooperation and global/regional presence – should meet all of the sustainability criteria specified on the basis of the Mission 26 strategy by 2026.

1. Suppliers must accept the GEA Code of Conduct for Suppliers and Subcontractors. This code of conduct describes GEA's minimum requirements for its suppliers with regard to human rights, fair working conditions, environmental protection, and the fight against corruption and financial crime.
2. GEA expects its suppliers to undergo a sustainability-related assessment by the external CSR rating organization Ecovadis and to share the results with GEA. This transparency allows GEA to select and develop suppliers based on their sustainability performance.
3. Suppliers must set a science-based greenhouse gas emissions target that is consistent with the 1.5° Celsius target of the 2015 Paris Agreement. Their targets must also be endorsed by the Science Based Target Initiative. Specifically, GEA expects suppliers to agree to a declaration of intent with the Science Based Target Initiative to define a target for the year 2030 (near-term science-based target).
4. In order to carry out life cycle analyses, GEA expects its suppliers to provide greenhouse gas emission data for those products and services that, according to their own analyses, prove to be the main emission drivers in the supply chain.

These requirements and criteria are a core component of the sustainable procurement strategy, which was presented to suppliers for the first time at the Supplier Summit 2022. In 2022, GEA set up an online area providing information on all relevant topics for suppliers. This online area also provides further information on the sustainability requirements described above.

GEA has also launched or joined additional strategic sustainability initiatives with a number of global suppliers. In the year under review, GEA joined the Energy Efficiency Movement, an initiative of its automation technology supplier ABB. The purpose of the initiative is to provide a network for companies that are committed to providing more energy-efficient, regenerative and adaptable industrial solutions so that they can leverage synergies and exploit opportunities. GEA intends to be involved in joint projects to reduce energy consumption and cut greenhouse gas emissions.

Awareness of climate protection and sustainability in the supply chain will also be raised within the GEA workforce. In the year under review, the sustainable procurement team provided training to all commodity group managers and senior executives in the procurement organization with regard to sustainability criteria. These groups are now responsible for implementing sustainability criteria at their respective suppliers. Further training courses are planned for 2023 – these will be provided to local or regional buyers in addition to the global procurement organization, and can be made available to individual suppliers if necessary. This training will focus on human rights and social and environmental factors throughout the supply chain.

Human rights

GEA expressly requires its business partners to apply specific values and rules in all material respects. These values and the rules of corporate social responsibility throughout the entire value chain are documented in the GEA Code of Conduct for Suppliers and Subcontractors. These human rights obligations under the Code of Conduct also include the recognition of the ISO 26000 Guidance on Social Responsibility, compliance with international standards, respect for human rights – including the prohibition of discrimination – fair wages and working hours, freedom of association and occupational health and safety.

All purchases (direct and indirect expenses) are covered by this Code of Conduct. Suppliers must accept the Code of Conduct in order to complete purchases that exceed the following threshold amounts specified in the Third Party Policy: EUR 2,500 for individual orders, EUR 10,000 for longer-term contracts. All framework agreements with suppliers and service providers will be adapted to meet the requirements of the Supply Chain Act by the end of 2023.

GEA practices a zero-tolerance policy with regard to unethical business conduct, in particular bribery, corruption, money laundering, and human rights violations.

In preparation for the Supply Chain Act, the Code of Conduct for Suppliers and Subcontractors was adapted to suit the requirements of the Act in the reporting year. All GEA suppliers are required to accept the Code of Conduct, which will apply from 2023 onwards. To this end, the adapted Code of Conduct will be part of all framework agreements with GEA and all other contracts for the supply of goods or services to GEA by default. By signing these contracts, suppliers confirm that they have understood the contents of the Code of Conduct and will implement them within their company. This code includes the fundamental obligation to engage in environmentally sound business practices, respect human rights, act with integrity, provide access to a whistleblower system and to comply with a wide range of sustainability goals. Major suppliers of individual local purchasing companies are visited annually and regularly undergo an environmental assessment.

Beyond the Code of Conduct and in accordance with the requirements of the future Supply Chain Due Diligence Act, GEA has developed and applied its own method for the assessment of risks related to human rights violations and environmental risks throughout the supply chain. To this end, GEA's suppliers' risk was assessed in the year under review, based on the World Bank's Worldwide Governance Indicators (WGI) for the suppliers' respective countries of origin and various International Labor Organization indicators for the industries in which GEA's suppliers are active (ILO). All risks were assessed and prioritized in a further step based on the severity of a potential human rights violation, its reversibility and the impact of GEA. The latter is derived from the volume that GEA purchases from the corresponding supplier.

Additional measures were also developed for minimizing the risk of human rights violations at suppliers with a higher risk profile. In accordance with the risk management process, detailed information is obtained from these suppliers on measures designed to protect human rights, environmental protection and social responsibility. Depending on the results of this evaluation, this step may be followed by an interview with the supplier, human rights-related training or an audit of the sustainability and ethics of the supplier by an external certifier.

Due to the slow decline of the Covid-19 pandemic, the number of supplier audits and reviews has increased again in 2022, to 299 (2021: 165). 103 new suppliers were audited (2021: 23). GEA performs these evaluations with supplier visits, audits (which go beyond the normal scope of self-reports), which are undertaken by the commodity group managers of the purchasing organization, country organizations and the divisions.

Conflict minerals

Minerals and metals play an essential role in the manufacturing of many products and components. However, mining, trading and transporting metals and minerals can have a considerable negative impact. Tin, tungsten, tantalum, and gold – known as the 3TGs or “conflict minerals” – are particularly relevant since, in the past, armed conflicts and the human rights violations they cause were directly or indirectly financed through the mining, trading, use and export of these minerals.

GEA itself only uses very limited quantities of conflict minerals. Under the Code of Conduct for Suppliers and Subcontractors, the company is committed to only purchasing components and materials from suppliers that share GEA's values with regard to the respect of human rights, integrity and environmental responsibility.

GEA's policies on conflict minerals are in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, GEA's general policy on international fair trade, the ten principles of the United Nations Global Compact and the core labor standards of the ILO. In addition, the company implemented a due diligence process in accordance with the OECD due diligence guidance requiring the 71 largest suppliers in terms of revenues to disclose the source of their conflict minerals using the recognized Conflict Minerals Reporting Template (CMRT). Additional information is available in the chapter “Compliance and corporate governance.” These suppliers are in turn required to do the same with their suppliers to ensure full transparency throughout the entire supply chain.

Quantification of ecological and social factors in the supply chain

GEA performs analyses of the sustainability impacts throughout the group's entire supply chain on a regular basis. This also takes account of the greenhouse gas emissions, air pollution, water consumption and waste generated by GEA suppliers and upstream suppliers, as well as workdays lost due to occupational injury and illness. From this analysis, GEA is able to identify the hotspots of selected sustainability risks in the supply chain and minimize or eliminate them in cooperation with suppliers. The impacts indirectly caused by GEA were calculated with the help of an established macroeconomic model (PwC ESCHER) based on GEA's purchasing volumes, broken down by purchasing sectors and regions. Fiscal year 2022 served as the reference period for the collection of data.

The quantification of greenhouse gas emissions from the purchase and transport of commodities, services and capital goods reveals that they exceed the greenhouse gas emissions from the company's own business activities (scope 1) and emissions associated with the use of purchased electricity (scope 2) by a factor in excess of 41. This highlights the significant influence that purchasing has on GEA's greenhouse gas emissions. As a consequence, GEA identified those purchased goods, services and capital goods which accounted for the largest share of these emissions in the year under review. In 2023, decarbonization strategies will be developed for purchasing these commodity groups to reduce emissions in the future.

Analysis of water consumption and waste generation throughout the value chain reveals a similar pattern of sustainability impacts. Again, the supply chain impacts identified exceed those of the company's own business activities. The most significant drivers of waste generation and water consumption throughout the supply chain are the extraction of fossil fuels for electricity generation as well as the manufacturing of machinery and accessories used in GEA's production activities. To reduce its use of fossil fuels, GEA is sourcing 100 percent electricity from renewable sources sind 2022.

Supply chain management

During the reporting year, the main factor affecting supply chain management, for example regarding energy supply, was the war in Ukraine. The fact that GEA made significant efforts to enhance the sustainability of its supply chains despite facing unpredictable challenges in the reporting year underscores the high priority of this topic for the company.

The procurement and supply chain organization enhances the overall visibility of GEA's supply chain. Despite this, the local legal entities remain largely autonomous. The appointment of a person with responsibility for the global supply chain represents a major step forward in the further standardization of global supply chain processes and the optimization of our emissions. This step enables GEA to align this area with its group-wide sustainability strategy, putting it on the path to achieving the targets set in Mission 26 and the GEA Climate Strategy. GEA's transportation activities are the third largest source of the group's scope 3 greenhouse gas emissions (upstream, see also the chapter on Environmental protection under Scope 3.4).

Supply chain management operates on three different levels: the divisional level, the regional level and the multi-functional site level. The latter consists of sites serving more than one division. Across the group, approximately 1,050 employees held supply chain-related jobs in 2022. These employees work in different areas of the business and have a wide variety of skills – from warehouse employees to managers with regional responsibility for multiple sites. All supply chain management tasks can be divided into the following categories: planning & scheduling, materials management, warehousing & distribution, transport & customs processing and the “Supply Chain Excellence – Analytics & Projects” department.

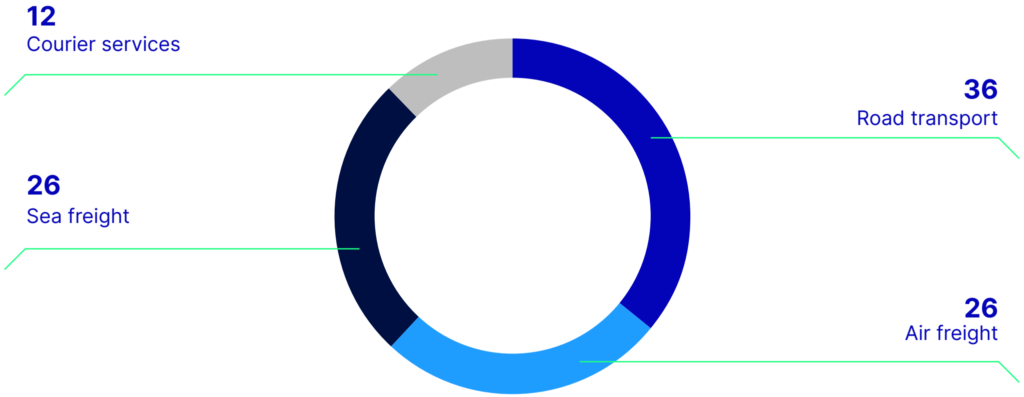
To prevent supply chain failures, GEA has enhanced its supply chain monitoring to facilitate shorter response times. In addition, safety stock levels have been increased, local sourcing has been prioritized, and greater flexibility was permitted in terms of specifications.

In 2022, out of the 5.2 billion euros in revenue, approximately 3.1 billion euros was spent on purchasing. Purchasing is structured as follows: Product group management aims to ensure strategic action at the global level. Operational procurement acts locally and is responsible for implementation.

Logistics

Wherever possible, GEA applies the “local for local” principle. This results in shorter and therefore more sustainable delivery routes with lower emissions, while at the same time enabling GEA to indirectly support the local economies in the vicinity of its sites.

Distribution of transport volume in the year under review
(in %)



Due to the “local for local” principle, transport and logistics expenditure only accounts for a small proportion of the GEA’s procurement volume. The means of transport used depends on various factors. As part of the efforts to minimize the company’s carbon footprint, the number of movements is to be reduced to the absolute minimum. An air freight guideline specifies that the divisions must use a tool to have their air freight shipments approved. In principle, sea transport is preferable to air freight because of its more favorable greenhouse gas emissions footprint. Since 2022, logistics service providers have been required to determine the carbon footprint of air transports and to report this to GEA. All tenders for new suppliers now include the condition that the supplier must provide transport data.

In addition, GEA will introduce a global transport management system as part of its Mission 26 strategy starting in 2023. This not only changes the way in which transports will be planned and executed in the future, but also make the carbon footprint an additional decision criterion for choosing the best possible route.

Further information on the topic of the supply chain can be found in the GEA Sustainability Report 2022.

Employees

GEA's performance relies on the skills and dedication of more than 18,000 employees* around the world, each of whom individually contributes to the company's overall success. People will remain the foundation for the company's sustainable development and value growth in the future.

As a global group, diversity and equal opportunities are not only core values for GEA but also the basis for achieving sustainable success in an international setting. GEA therefore also sets measurable human resources targets as part of the group's Mission 26 strategy. Among other goals, 80 percent of employees should agree with the statement that they would recommend GEA as a good employer by 2026. The group is committed to the seven United Nations' Women's Empowerment Principles (WEP) and has therefore set itself the goal of having 21 percent of positions at the top three management levels filled by women by 2026 (2022: 18,6 percent). GEA remains committed to respecting human rights as well as the generally accepted core working standards of the International Labour Organisation.

These measures have one overarching objective: further enhancing GEA's employer brand and solidifying its status as an attractive employer on the job market. At the same time, the company maintains its firm commitment to a culture of honesty, sincerity and loyalty. GEA also supported individual training and professional development opportunities for employees as well as the attainment of personal career goals within the company in 2022. In addition, in cooperation with all parties involved, GEA creates a working environment where health and safety at work is paramount.

*) On the reporting date; full-time equivalents (FTE) excluding vocational trainees and inactive employment contracts; excluding non-consolidated units; all indicators calculated using the same population

Human resource management

Human Resources (HR) is part of GEA's Global Corporate Center, reporting directly to the CEO, who is also the Chief Human Resources Officer. HR and the HR Business Partner organization are closely involved in the operating business. HR Business Partners support the divisional and regional management on all matters relating to human resource management. Internal HR Operations Teams at the Berlin and Kuala Lumpur site provide support in the form of timely HR services. And the Centers of Expertise – which include Labor Relations/Labor Law, People & Talent Development and Total Rewards & Mobility – create modern concepts to establish GEA as an "employer of choice" over the long term.

Employment

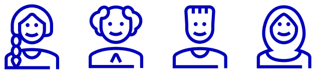
The fierce competition for talent already experienced for many years and the impact of demographic change on the labor market mean that significant efforts are required to find diverse and qualified employees. Ensuring long-term loyalty to the company among employees is also an important task for HR management. GEA places a high value on a diverse, equitable and inclusive corporate culture as a means of assuring its labor market reputation as an attractive employer and thus safeguarding the company's future viability. As part of its Mission 26 strategy, the company also provides further support to employees to undertake targeted training as well as to achieve their medium- and long-term career goals.

A total of 2,374 new hires joined GEA in the reporting period, compared to 2,080 in 2021. The total number of new hires as a percentage of the average headcount last year rose from 11.1 percent to 12.6 percent as of December 31, 2022.

Diversity, inclusion and equal opportunities

The diverse team-based approach is not only applied within the HR function at GEA, it is a common thread that runs through the entire group. As a global company, GEA is involved in a challenging international market environment with a large number of stakeholders – ranging from customers, competitors and employees to governments and society in general – who impact the company in different ways. GEA meets the numerous challenges in this highly disparate cultural environment by observing the principle of diversity. GEA understands diversity to mean a workforce comprising a broad range of personal characteristics, individual skills, expertise and aptitudes. These include: gender and gender identity, age, ethnic background and nationality, physical and mental abilities, sexual orientation, religion and ideology, as well as social background. However, external and organizational factors such as professional experience can also contribute to diversity. For GEA, inclusion means the empowerment and involvement of all employees irrespective of their individual differences, including equal access to opportunities and resources for all employees.

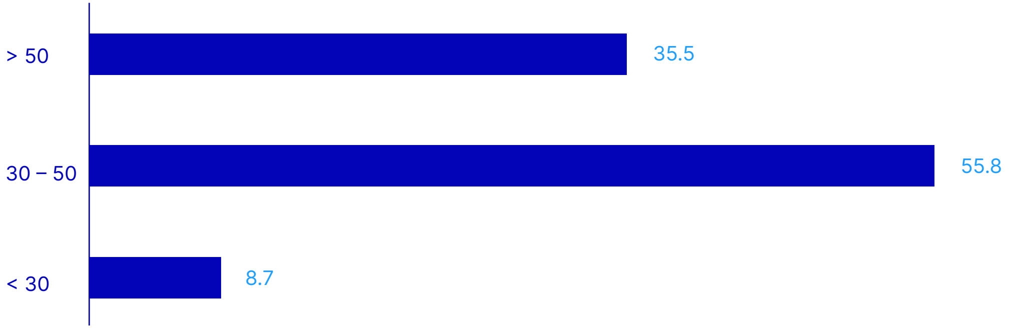
GEA's diversity and inclusion initiatives are aligned with the Charta der Vielfalt (German Diversity Charter), a corporate initiative to promote diversity in companies and institutions. GEA is thus committed to equal opportunities, including equal pay. In 2021, the company set additional, quantifiable diversity targets, which are anchored in its Mission 26 strategy. Among other goals, these include 21 percent of positions at the top three management levels being filled by women and 80 percent of vacancies at all management levels being filled by in-house talent by 2026.

104 

nations are represented at GEA

GEA had employees from 104 different nations in 2022. The workforce is distributed as follows between different age groups: 8.7 percent of employees are younger than 30, 55.8 percent are aged between 30 and 50 and 35.5 percent are older than 50 (see chart).

Employees by age groups*
(in %)



*) Number of employees excluding apprentices and dormant employment contracts; excluding non-consolidated entities.

GEA believes that employee diversity is achieved through shared understanding and actions based on common values. For this reason, the company aims to not solely center the discussion around quotas or recruitment but also to ensure that it addresses conduct and values. GEA earnestly believes that diversity in all areas is the key to enriching the workforce and GEA's success. The group-wide "Diversity & Inclusion Policy & Guideline" adopted in 2021 provides the framework for this strategy. This document describes the overarching goal of diversity management at GEA. For example, diversity criteria are taken into account as a general rule when filling positions.

Diversity and equal opportunities are a firm aspect of human resource processes, for instance in the "Global Placement Policy", which governs the recruitment process. Special selection criteria, including diversity considerations and an interdisciplinary approach, apply to the nomination of candidates for leadership development programs. This aims to ensure the balanced representation of genders in leadership development and the attainment of the target set in Mission 26.

Labor/management relations and co-determination

Relations between workers and management at GEA are characterized by long-standing, respectful dialog and interaction with employee representatives as well as parity co-determination on the company's Supervisory Board. One half of the Supervisory Board is composed of shareholder representatives and the other half of employee representatives. Although the employee representatives on the Supervisory Board are elected by the entire German workforce, they represent the interests of all employees. In addition to numerous local and general works councils, GEA also has a Group Works Council (GWC) established in accordance with the German Works Constitution Act. At corporate level, local issues are regulated by company agreements.

GEA also has a European Works Council (EWC), which has the binding right to information from and consultation by the company's management. It is in regular contact with the Executive Board and Human Resources. The activities of the European Works Council mainly focus on the cross-border impact of decisions and developments on employees in the EU member states, the countries of the European Economic Area and Switzerland. At the end of 2018, the foundations for the work of the EWC were framed in a new EWC agreement, jointly developed and adapted by the EWC and GEA's Executive Board with the assistance of the global trade union federation IndustriALL.

Collective bargaining agreements apply to around 48 percent (2021: around 46 percent) of the workforce worldwide. These figures are based on data from the global "Workday" human resource management system. All other employees have individual contracts.

Leadership development

GEA's leadership development portfolio includes numerous open training courses on leadership and management in a variety of formats. These include well-established courses such as GEA Management Essentials, Leading effective Teams, and Making the Matrix Work. The basis for all training formats is the "GEA Signature for Leadership", which describes the main behavior patterns, skills and conduct expected of GEA managers worldwide on the basis of six dimensions. In addition, managers were able to participate in the live online training "Boost Your Dialogue Skills", which aims to enhance the quality of the feedback provided by leadership.

Two new programs were implemented in the reporting year to provide targeted support for current and future managers: "Learn to Lead" for individual contributors and first line managers, and "Master to Lead" for more experienced managers. Managers also have a number of development opportunities to choose from based on their individual needs. These include individual coaching, a 360-degree feedback tool, other trainer-supported live online trainings such as "Leading People Through Change" and "Why Finance Matters," and a wide range of e-learning courses.

GEA continues to use "Leadership Reviews" to create a framework for identifying development needs, selecting individuals with high potential and determining the requirement for successors on an annual basis. The intention is to foster a uniform leadership culture and ensure optimal leadership development for managers. The only way for GEA to attract and retain talent in the labor market is through leadership excellence that can be tangibly felt by each individual.

Alongside the needs-based training and development of all employees, separate development pools – such as two high potential pools (HiPo pool 1 & 2) and the talent pipeline – were also established to facilitate medium- and long-term succession planning for key positions at group level. Candidates nominated by their line managers undergo a rigorous selection process both to confirm that they have the required potential and to form the basis for their targeted and individualized development.

Learning and development

Training and education at GEA is a particularly important aspect of its human resource development. The group's Mission 26 strategy reflects its intention to be a preferred employer. The company is convinced that extensive training and education coupled with the opportunity to engage in life-long learning are essential to a fulfilling working life. In the year under review, the GEA learning center was replaced by Workday Learning – a virtual platform and central access point for everything related to learning. With the new integrated learning platform, GEA's training portfolio and its way of presentation have been centralized. Workday Learning is easy to navigate and personalized. It is also more streamlined and more user-friendly than the previous system. GEA generally supports and promotes all needs-based employee training measures required for the performance of relevant tasks. The findings of the employee survey indicated a need to further improve the career and development opportunities offered to employees. The Perform & Grow program, which applies to all GEA employees, was further rolled out throughout the group in the year under review. As part of this program, managers and employees discuss career expectations, identify the development needs of each employee together and translate this into individualized development programs. The new Workday Learning platform supports the annual Perform & Grow process. The platform gives managers and employees a better overview of the training and courses they have completed and makes it easier to track development activities.

As in the previous year, the content and format of training had to be adapted due to the COVID-19 pandemic. Training was mainly delivered in the form of trainer-led webinars. The successful use of digital technologies ensured a high degree of acceptance among participants.

In 2022, 15,945 employees made use of the learning and training opportunities. This corresponds to 87 percent of the workforce. 648 employees attended face-to-face training, 2,237 participated in integrated training initiatives and 5,587 joined trainer-led webinars. A total of 54,311 e-learning seminars were held.

Vocational training in Germany

GEA is considered one of the most popular training companies. A rating agency named GEA as one of the 781 companies in Germany that have been rated as an extremely attractive training provider. In the reporting period, GEA trained 362 young people at 15 sites in 16 commercial and industrial/technical occupations, which fall into different specialty areas depending on the product portfolio of the individual site. The Oelde site is the center for technical training, coordinating these activities in Germany. In addition, 15 combined vocational training and degree programs were organized in cooperation with polytechnics and universities. Lasting six semesters, these programs lead to bachelor degrees in various fields of expertise. GEA has given the practical phases of the program a more international focus by offering projects at GEA entities outside Germany.

Employee survey

GEA conducts a global employee survey on an annual basis. The overarching aim is to encourage a culture of dialogue and discussion, actively involve employees in the company's development and provide a targeted response to the feedback following the evaluation of the responses. GEA has been working with an independent opinion research institute since 2019 in order to professionalize and standardize the process. To ensure the highest possible degree of comparability, the questions are standardized and always asked in the same form. This fosters acceptance of the process of pursuing and constantly advancing the opportunities offered by the measures that are implemented.

The employee survey is accompanied by a comprehensive communications campaign at all levels, with the aim of strengthening employees' confidence in the survey program as well as in leadership. In addition, all managers receive training to help them respond to and implement the findings of the survey. This helps continuously improve GEA's employer branding.

81 percent of all GEA employees participated in the 2021 employee survey for the reporting period. This was seven percentage points higher than in the previous year. There were improvements in ten of the twelve areas covered by the survey, with engagement and sustainability scoring highest. These were also the highest rated areas in 2020. GEA scored six points higher in the employee communication and growth opportunities categories than in the previous year.

In 2022, three areas of focus identified from the most recent employee survey were addressed. Based on other findings from the survey, GEA took actions such as enhancing HR management's role in developing action plans and making it easier for managers to access detailed survey results. A total of around 5,500 initiatives were launched in response to the feedback during the reporting period, leveraging the survey's findings to optimize existing processes and implement new ones. The survey consisted of a total of 37 questions distributed across the twelve different dimensions. With a score of 71 percent, the dimension engagement represents a key element. The three statements from this dimension yielded a varied overall picture: While the majority of employees would recommend GEA as a good place to work and are motivated to make the company successful, there is still room for improvement in terms of retaining employees.

As in the previous year, sustainability and engagement are the top-rated areas. While rewards and benefits, trust in leadership and growth opportunities remain the lowest scoring areas, significant improvements have been made in these areas. This is clear evidence of the success of the follow-up process from the previous year. An increase of five points was recorded in the area of hands-on management, which was also a focal point in the previous year.

The employee survey conducted in the year under review had a participation rate of 82 percent and engagement increased to 74 percent. This survey will also be analyzed in detail so that appropriate measures can be implemented in 2023. We are particularly pleased that 78 percent of our employees agreed with the statement "I would recommend GEA as a good place to work." This motivates GEA to continue its current programs and further increase employee satisfaction.

Work/life balance

GEA is committed to ensuring that its employees have an as healthy as possible work/life balance. Employees can only achieve their full potential if they have a healthy work-life balance. GEA supports employees through a variety of measures. For instance, some sites have experienced contact persons to answer questions from expectant mothers and fathers or to discuss flexible working arrangements. Similarly, GEA also provides support in finding childcare and, under certain conditions, pays tax-free allowances for places in daycare facilities.

Employees experiencing particular challenges in achieving a work-life balance due to the birth of a child or the need to care for a dependent produced videos for senior executives, thus raising awareness of this issue. In addition, GEA cooperates with an external service provider to help employees in Germany find suitable options to provide daycare for children and look after dependents in need of care. This offering also includes free social counseling. Information about other work-life balance programs provided by GEA in other countries can be found in the Sustainability Report 2022.

Pension plan

GEA grants its employees pension benefits almost exclusively under defined contribution pension schemes. Employees are able to actively shape their pension plans in cooperation with GEA. Supporting company pension schemes allows GEA to respond to demographic change and retain qualified employees over the long term. The group continuously optimizes existing administrative processes and global pension-related service structures to improve both the transparency and economic efficiency of the pension schemes. In doing so, the company ensures that the pension plans fully comply with all statutory and regulatory requirements.

Mobility

Despite the advanced degree of digitalization and the opportunities it brings, such as home working or video conferencing, GEA will remain reliant on employee mobility. However, keeping the carbon footprint of business travel as small as possible is a key concern for the company. GEA therefore launched various initiatives. In Germany and the Netherlands, for example, GEA provides a company car program for executives under which only fully electric vehicles may be leased. Similar schemes are due to be rolled out in other countries over the next few years. In addition, employees have a greater incentive to travel to work by green means of transport, with GEA granting reimbursement for public transport passes, for example.

GEA works with a central service provider to book necessary long-distance business trips. To meet market requirements and safeguard the company's sustained long-term competitiveness, it is still important to be able to deploy the know-how and expertise of GEA's employees worldwide as needed. The service provider ensures that the required international assignments are carried out efficiently and in a climate-friendly manner.

Occupational health management

Only employees who are healthy and feel well can perform to their best. GEA's measures to promote health go above and beyond the legal requirements, for investments in employee health and well-being are investments in the future.

Health management is decentralized at GEA and is the responsibility of the divisions and regions as well as the respective sites. The "GEA Care" health program, which will centralize health management in the future, has been integrated in the group's Mission 26 strategy. Existing local offerings are being optimized and new global, digital offerings are being created for the entire GEA workforce.

Safeguarding against workplace accidents and hazards is just as important as general health, individual preparedness and prevention. Protecting and promoting health is not only a social obligation and an expression of GEA's corporate culture, it is also an integral part of its corporate strategy "Mission 26". At the local level, the group's health management frequently exceeds the healthcare provisions required by law and the established occupational safety measures. It includes additional aspects and various initiatives, such as health days, nutrition advice and programs to prevent mental overload. A health portal provided by an external provider is also available to employees.

Health management is already an established component of the healthcare package available at numerous GEA sites. In addition to plants such as Oelde, Wallau or Bönen, the Düsseldorf site also hosted the first GEA Care Days in 2022. GEA plans to combine all health management activities under the global umbrella of GEA Care in the future. In addition to the health days, GEA's plans include mandatory occupational medical examinations or flu vaccinations, as well as offers of psychosocial support, stress management, and other in-person and online offerings.

The company's goal is to establish offerings and procedures that meet the needs of employees. What makes sense for one location may not necessarily be relevant for another, and cultural, religious and regional factors always need to be taken into account. Working closely with healthcare providers, health insurance companies and company physicians, maintaining close ties between the HR department and the works council and getting a clear understanding of the needs of the workforce are the only way to bring about sustainable success and establish a long-term health management scheme.

This ambitious program builds on the wealth of experience available at German sites that already offer very successful and, in some cases, very comprehensive sustainable health management programs in various forms. In 2023, all health management activities will be inventoried and documented in order to create a comprehensive catalog of our knowledge and experience. This will help us to avoid duplication of effort, identify potential synergies and keep costs in check, especially for our online programs and offerings.

Further information on the topic of employees can be found in the GEA Sustainability Report 2022.

Compliance and governance

Responsible corporate governance

GEA is committed to responsible and sustainable corporate governance to prevent any potential damage to the company, its employees, business partners, shareholders or other stakeholders. In light of this, fairness, integrity and lawful conduct are treated with the highest priority throughout the group. GEA also protects its reputation as a trustworthy business partner through ethical conduct and respect for the interests of all stakeholders in its dealings with employees, business partners and the general public.

The group relies on being notified early on when serious violations of laws or internal policies occur. GEA therefore values an open corporate culture and encourages its employees and external third parties to report any compliance risks to their existing contacts within the company in confidence.

Significant fines for non-compliance with laws and regulations in the economic, environmental and social areas were not imposed on GEA during the reporting period.

Corporate governance

Responsible corporate governance aimed at sustainable value creation in the interest of all stakeholders is the benchmark for the actions of the Executive Board and Supervisory Board. According to the provisions of the German Corporate Governance Code (GCGC), the competence profile of the Supervisory Board should also include expertise on sustainability issues that are important to the company. Within the Supervisory Board, the Presiding and Sustainability Committee (formerly called the Presiding Committee) is responsible for the sustainability strategy and fundamental environmental, social and governance (ESG) issues, including their implementation. Topics such as technical and product-related sustainability have been assigned to the Innovation and Product Sustainability Committee (formerly known as the Innovation Committee), while the topics of taxonomy and sustainability reporting are the responsibility of the Audit Committee. The rules of procedure of the Supervisory Board and the committees have been adapted accordingly.

Information on the compensation of the Executive Board is provided in the Remuneration Report, and information on the competence profile of the Supervisory Board is included in the Corporate Governance Statement.

Compliance

Compliance management

Compliance is defined as a group-wide principle established to ensure adherence to the rule of law as well as internal corporate policies. All GEA employees are required to ensure that there are no compliance violations in their respective areas of responsibility. A detailed outline of GEA's compliance management system can be found in the Corporate Governance Statement in this Annual Report 2022 and on the corporate website www.gea.com.

GEA tackles the serious effects of potential compliance violations with its compliance management system (CMS). It is used to analyze, inform and educate as well as to control, define processes and monitor the applicable compliance rules. The CMS is structured in such a way that measures are adopted centrally by a compliance team at GEA Group Aktiengesellschaft and then rolled out in the company. In addition, the compliance team ensures that compliance measures are implemented in the relevant legal entities.

The appropriateness and implementation of the CMS for the subareas of anti-corruption and antitrust law was audited and certified in accordance with IDW PS 980. In the reporting period, GEA obtained the third and highest certification level for the audit to be carried out by an external auditing firm in 2021 in the form of a so-called effectiveness audit. For this purpose, ten selected legal entities were audited by means of interviews and random sample audits. Based on the findings, it was assessed that GEA's global compliance measures have been effectively implemented and applied in the legal entities. In April 2022, GEA received an auditor's certificate without restrictions. In the process, the auditors highlighted some of GEA's compliance processes as best practices. New compliance goals are established, or existing ones are reviewed, as part of a rolling three-year plan for issues to be addressed.

Compliance Handbook

At GEA, a Code of Conduct and compliance guidelines based on it apply to all employees worldwide. These comprise an Integrity Policy, a Third Party Policy and a Competition Policy, which govern anti-corruption and anti-money laundering, conflicts of interest as well as antitrust and competition law at GEA. The code of conduct and policies are summarized in a Compliance Handbook that is available to all employees worldwide in 19 languages. The Integrity Policy, Third Party Policy and Competition Policy were adapted to legal and strategic developments in the reporting period. Moreover, the Code of Conduct and the formerly separate Code of Corporate Responsibility were combined and are now also part of the Compliance Handbook. By signing their employment contracts, all GEA employees confirm that they have read and accept the references to the group policies contained therein, including the Code of Conduct.

Other compliance topics, such as quality, health, safety and environment (QHSE), tax compliance and export control are addressed by the relevant specialist departments and are covered by corresponding guidelines issued by these departments.

Integrity system and alternative reporting channels

GEA employees and external parties can report violations in several ways. One cornerstone of the reporting system is the use of a certified whistleblower system, which has been adapted to the Whistleblower Directive of the European Union and the German implementation act on which it is based. The new EU directive comprises significantly more reporting categories than before, including topics related to sustainability, human rights and InfoSec. The electronic system allows people to report compliance violations anonymously or by name. Furthermore, the whistleblower system was expanded to include a telephone reporting channel in cooperation with an external law firm.

The number of reports via the whistleblower system remained roughly the same in 2022 compared to the previous year. No significant compliance risks were reported in the reporting period, and accordingly, no cases were recorded. Many reports are received directly by the compliance team as well as by the Executive Board or the management of the divisions or legal entities. The whistleblower system can also be used to report potential human rights violations (in the category of violations of the Code of Conducts – principles of social responsibility). In 2022, 18 reports on core compliance topics such as corruption and conflicts of interest were submitted via the whistleblower system or alternative channels.

Preventive processes

Processes to prevent compliance violations play a key role in GEA's compliance management system. For example, external third parties working in close contact with customers (sales agents) must undergo a strict risk vetting process for anti-corruption purposes prior to entering into a contract with GEA. Notably, every sales agent contract must be reviewed and approved by the compliance team. The review of other selected business partners in the purchasing division is carried out as part of an EcoVadis analysis, including compliance issues. This involves identifying risk indicators (red flags) in a structured and documented review process that also covers the expertise and integrity of the business partner.

Strict internal approval and reporting requirements apply to numerous other matters, such as contracts carrying antitrust risks, invitations and gifts, conflicts of interest and sponsorship and donations. To meet these approval and reporting obligations, GEA has introduced various IT tools that make it possible to document the relevant issues in an audit-compliant format.

Training and consulting

Across the entire group, more than 9,000 employees are considered to be relevant to the area of compliance. This group includes all managers, sales and purchasing staff and all other employees with decision-making authority and direct contact with customers or suppliers. They receive regular training on compliance issues as part of a training plan. Each year, compliance-relevant employees alternate between classroom training and e-learning sessions. The following training courses on compliance topics were completed in 2022:

- Compliance trainings: These comprehensive group training sessions primarily focus on compliance management, anti-corruption, money laundering prevention, conflicts of interest and competition law, as well as an overview of the internal control system. In 2022, a total of 2,142 employees were trained on compliance topics as part of an e-learning program and 3,152 in classroom training sessions*. The participation rate is around 100 percent.

Alongside training courses and e-learning, GEA used other communication measures to raise employee awareness of compliant conduct in the reporting period. In the video series “Stephan Petri Asks”, GEA’s Chief Compliance Officer Dr. Stephan Petri discusses key compliance topics with other senior executives to help explain these issues to employees. These video compliance talks are regularly made available on the intranet. In addition, there is the comic strip character “Laurel Smith”. It tells the story of a fictional new GEA employee who encounters various compliance and data protection issues. Employees can readily identify with the story, which prompts them to consider and comment on complex themes.

Audits

In order to counter the potential compliance risks associated with the use of sales agents, all contracts concluded with sales agents throughout the group were reviewed to ensure they were aligned with the compliance guidelines applicable at GEA. Of course, future contracts will also be submitted to the same review process. Sales agents are external parties who work for GEA on a commission basis and are not employees. Using a third-party tool, all contracts were scrutinized and assessed for risk criteria. If the findings of the review were positive, a new contract with updated compliance requirements was drawn up.

Another review to reduce compliance risks is carried out before approving travel accounting claims as well as invitations and gifts. If the expenses are above the thresholds applicable at GEA, they are only reimbursed if the expenses have been preapproved via the compliance approval tool.

Compliance risk analyses are conducted annually as part of a compliance risk assessment in the legal entities. For these analyses, between four and ten interviews are conducted with individual, randomly selected legal entities. The statements are analyzed and documented using IT tools, and the compliance risks are assessed. Self-assessments are carried out at all legal entities where interviews are not conducted. The aim is to determine whether the compliance measures taken are effective and risk-appropriate or if they need to be modified. Accordingly, additional compliance measures were rolled out at numerous legal entities based on the audit findings. In the reporting period, all 172 operating legal entities were audited, five of which included interviews.

*) The lower number of training sessions compared to the previous year is attributable to the fact that far more employees than necessary were already trained in the preceding year.

Compliance violations

Violations of group-wide compliance rules are sanctioned according to the degree of culpability as well as the severity of the misconduct. The sanctions imposed range from a reprimand to a warning letter to, ultimately, termination of employment. In particularly severe cases, GEA reserves the right to sue the person in question for damages and/or report the violation to the competent authority.

GEA expects all employees to report any signs of compliance violations. Managers must ensure that serious misconduct, particularly in the areas of corruption, competition law and data protection, is reported to the Compliance Team.

18 compliance investigations have been carried out in the reporting period – all in the areas of anti-corruption and conflicts of interest or violations of internal compliance requirements and human rights, as well as violations in the areas of human resources and QHSE. The investigations identified some violations of compliance guidelines, which were penalized with appropriate measures implemented by Compliance Committees convened for each individual case. There were no reports of human rights violations in the reporting period. Any violations of human rights must be reported to the Sustainability Department. Furthermore, no sanctions were imposed on GEA in 2022 for violations of anti-corruption or money laundering regulations or antitrust law.

Protection of personal data

Information and its use to achieve corporate goals are of paramount importance for a globally active, innovative company like GEA. Protecting the privacy of every individual whose personal data it processes is equally important to GEA. This includes employees, customers, suppliers, other contracting partners, as well as job applicants and applies to all GEA companies and specialist departments that handle personal data.
A key strategic theme in 2022 was the strategic collaboration with Procurement, IT, Business Process Management and InfoSec. This will be continued in 2023.

The EU General Data Protection Regulation (GDPR) and the German laws based on it, as well as foreign legal standards, form the basis for the company's data protection activities. Violations of the GDPR are punishable by fines of up to four percent of the group revenue and could lead to exclusion from public contracts. Furthermore, privacy violations could damage GEA's reputation over the long term. The company therefore requires adherence to data protection regulations and reserves the right to take action against anyone who fails to comply with data protection laws. Such actions may include, for example, disciplinary measures or claims for damages.

The Data Protection Policy provides all employees at GEA with guidelines and behavioral recommendations to avoid data protection incidents or violations. The Data Protection Policy forms part of GEA's global compliance principles and is supplemented by classroom-based training for employees working in sensitive areas as well as e-learning measures for all employees with a user account. The related data protection management system also covers all organizational aspects, i.e., the roles, tasks and responsibilities related to the processing of personal data. In the area of data protection, 2,806 employees participated in e-learning sessions while 1,709 received in-person training in 2022.

The data protection management system has been integrated with the "Service Now" digital workflow platform, which is used for processes such as the incident management system. When an incident is reported via Service Now, a corresponding data protection review process is automatically initiated. Should this review result in the identification of a data protection breach, a review is carried out to determine whether the violation is subject to reporting duty.

In the reporting period, GEA recorded an unchanged but high number of reports and requests for advice, in some cases several per day. This should be viewed as positive since it demonstrates that employee awareness of this issue is increasing globally. It can be interpreted as a sign that the quality of monitoring has improved.

Compliance with data protection requirements and the applicable data protection laws is reviewed on a regular basis. These reviews are performed by the company's data protection officers and other business units with audit rights or by external auditors. Third-party suppliers are audited via supplier self-declarations, audits and certificates. By December 31, 2022, more than 800 additional relationships with suppliers and subcontractors had been reviewed with regard to data protection compliance. More than 95 suppliers and subcontractors had their contracts amended to ensure compliance with the GDPR.

In addition, GEA has a Group Data Protection Officer who coordinates and supports group-wide data protection initiatives. He reports directly to the Executive Board, the Supervisory Board and the Audit Committee.

Information security, business continuity and crisis management

The company's success also heavily relies on Information Security and ensuring Business Continuity. This is particularly true in light of the increasing interconnectivity of GEA's systems and the crucial importance of information for the company's business. Information Security is one of GEA's key strategic priorities. Value creation processes are being structured and optimized in such a way that secure data handling is guaranteed. For this purpose, GEA is continuously improving its security measures. The ongoing Global Security Program was established to further reinforce the company's Information and Cyber Security.

The overall objective of Information Security is to protect company-relevant information – both proprietary information and that of customers and partners. To achieve this, the confidentiality, integrity and availability of this information must be ensured. Confidentiality means preventing unauthorized access to information. Integrity ensures that information is reliable and accurate. Availability refers to the ability of authorized persons to access data, objects and resources promptly and without interruption.

The protection of information is regulated in the GEA Information Security Policy as well as subordinate policies, procedures, processes and other implementation documents.

The Information Security Management System (ISMS) enables GEA to counteract growing security threats with methods to protect sensitive information of all types from theft, loss, unauthorized disclosure, unlawful access, misuse, alteration, destruction or other malicious infractions. Two lines of defense within the ISMS protect against major security risks. The first line of defense consists of seven focus areas and addresses risks (vulnerabilities and threats) where they arise:

- IT Security – Secure information in office IT network & systems
- OT Security (Production) – Secure information in production & engineering network & systems
- Product Security – Secure GEA's digital products and customer information
- Internet security – Secure web & social media presence
- Physical Security – Secure information in sites, buildings & offices
- Supplier security – Secure information in procurement and supply chain
- HR security – Secure information in people's minds and prevent oversight & insider threat

The second line of defense is the Information & Cyber Security Team led by the Chief Information Security Officer (CISO). The CISO is responsible for all Information Security, Business Continuity and Crisis Management governance and steering tasks The CISO regularly reports to the Executive Board and the Audit Committee of the Supervisory Board.

Within the scope of the global ISMS, all managing directors are responsible for maintaining an appropriate information security management system in their respective legal entity.

The implementation of the ISMS is also depending on the GEA employees. Mandatory information security trainings are held annually for all active employees, so they can be closely involved and familiarize themselves with the measures. Moreover, a global communication campaign creates additional awareness and sensitivity for the Information Security topics. A series of explanatory videos addresses content from the ISMS policies such as email fraud or proper visitor management. Beyond prevention measures, the videos also provide information on what to do in the event of security incidents to address those as quickly as possible and prevent damage. Furthermore, a global phishing simulation and two new mandatory security trainings were conducted in the reporting period.

In the event of a security incident, information security investigations can be ordered by the Executive Board, the Chief Compliance Officer or the CISO. Beneath the level of the global ISMS, all managing directors are responsible for maintaining an appropriate information security management system for their respective entity. No complaints about infringement of protection or loss of customer data were identified at GEA in 2022.

Due to the increased security risks, especially related to the conflict between Russia and Ukraine, the total number of cyberattacks has increased significantly. More and more government institutions, authorities and companies, therefore, require their suppliers to provide adequate security and to demonstrate that they have market-specific certifications in addition to the ISO 27001 standard.

In the context of the war in Ukraine, GEA has demonstrated successful crisis management in terms of security risks in its business operations as well as in relation to its employees and their families. Immediately after the outbreak of the war, three crisis management objectives were established:

1. Protect human lives
2. Safeguard GEA assets
3. Analyze the impact on business operations and ensure their continuity

For example, personal protection measures included evacuating employees and their families to safe third countries. Employees also received assistance in finding accommodations and jobs in the respective host countries, and psychological assistance was arranged for the Ukrainian and Russian GEA employees and their families.

To safeguard GEA assets, the sites and employees' access in Ukraine were temporarily disconnected from the GEA IT network. Furthermore, GEA has taken additional security measures against cyberattacks from Russia and Belarus. For example, we improved firewall rules or restricted access rights for accounts to ward off potential cyberattacks.

After assessing the impact on business operations, business in Ukraine was able to continue after an initial halt. In Russia, restructuring measures were initiated in line with the applicable sanctions. The risk of a gas shortage due to a gas embargo in Europe was countered by establishing business continuity plans for the 38 European sites.

Further information on the topic of compliance and corporate governance can be found in the GEA Sustainability Report 2022.

Internal Audit

Internal Audit is an independent control function in the three lines model of integrated corporate governance, risk and compliance. It audits and advises on behalf of the Executive Board and reports quarterly to the Executive Board, the extended management circle and the Audit Committee of the GEA Group Aktiengesellschaft Supervisory Board. It also maintains continuous communication with the divisions, regions and central functions of the group as well as with the group statutory auditor. The independent and objective auditing and consulting services are aimed at creating added value and improving business processes. To this end, binding measures are agreed with the audited units and their timely implementation is monitored. Internal Audit supports GEA in achieving its corporate goals by using a systematic and targeted approach to evaluate and improve the effectiveness of risk management, controls, as well as management and monitoring processes. Internal Audit's activities cover all legal entities, business operations, functions and employees of the GEA Group. In fulfilling its duties and responsibilities, it has full audit rights and has full and unrestricted access to all operating and business facilities and all information and systems.

Internal Audit is tasked with protecting corporate assets, verifying process efficiency and compliance, as well as checking the completeness of documentation. This also includes compliance investigations, independent of and related to specific events, audits of export controls and all central functions of the group. In the reporting period, the Compliance Department was audited, in particular the area of data protection. A total of 59 audits were carried out at GEA entities worldwide; due to COVID-19 some of them were conducted as remote audits. Of these, a total of 37 audits were completed by the end of December 2022 with the publication of a final report.

Disclosures on the European Union Taxonomy Regulation

Background and objectives of the Taxonomy Regulation

The European Union (EU) aims to be climate neutral by 2050. The purpose of the European Commission's Action Plan on Sustainable Finance is to promote investment in sustainable economic activities. Regulation (EU) 2020/852 (the "Taxonomy Regulation" or "Regulation") is an integral part of the Action Plan and a classification system that defines the economic activities that contribute to the achievement of the following six environmental objectives: (1) climate change mitigation, (2) climate change adaptation, (3) sustainable use and protection of water and marine resources, (4) transition to a circular economy, (5) pollution prevention and control, and (6) protection and restoration of biodiversity and the ecosystem.

The Taxonomy Regulation defines an economic activity as environmentally sustainable and therefore taxonomy-aligned if it

- contributes substantially to one or more of the six environmental objectives (**substantial contribution**),
- does not significantly harm any of the five further EU environmental objectives (**do no significant harm or DNSH**), and
- is carried out in compliance with minimum social safeguards (**minimum safeguards**).

Each economic activity is assessed on the basis of technical screening criteria. So far, these criteria have only been published and put into law for the first two environmental objectives. The screening criteria for the remaining environmental objectives are currently expected to be binding in fiscal year 2023. As a result, the disclosures for fiscal year 2022 relate solely to the first two objectives.

An economic activity is considered taxonomy-eligible if it complies with the description provided in Annexes I and II to the delegated act of June 4, 2021. An economic activity is considered taxonomy-aligned if it complies with the technical screening criteria and it can be demonstrated that the economic activity does not violate minimum safeguards from a social perspective.

Comprehensive reporting for fiscal year 2022

Against the backdrop of the Taxonomy Regulation, GEA will report in full on the proportions of revenue, capital expenditure (CapEx), and operating expense (OpEx) attributable to taxonomy-eligible and non-taxonomy-eligible economic activities in fiscal year 2022. The proportions attributable to taxonomy-aligned and non-taxonomy-aligned economic activities will also be included for the first time.

Currently, the reporting covers the two environmental objectives of climate change mitigation and climate change adaptation. GEA's economic activities are geared towards the climate change adaptation objective.

The following assessment and reporting is based on the Taxonomy Regulation (EU) 2020/852, which came into force in July 2020. Commission Delegated Regulation (EU) 2021/2139 establishing technical screening criteria of June 2021 and Commission Delegated Regulation (EU) 2021/2178 on disclosure specifications of July 2021 were also taken into account, in addition to all other relevant publications in connection with the Taxonomy Regulation.

Assessment methodology

GEA is committed to playing its part in the fight against climate change and in achieving the EU's climate targets. Therefore, GEA has formed a dedicated project team in 2022 comprising the Controlling, Accounting, Sustainability and Investor Relations departments, which is responsible for the structured, group-wide organization and implementation of the requirements of the Taxonomy Regulation, including the necessary reporting structures and control mechanisms. The project team reports regularly to the Steering Committee with the participation of the Chief Financial Officer. The procedure was documented and established in a business process.

A complete top-down analysis of all of GEA's economic activities was performed based on the technical screening criteria as defined in the Taxonomy Regulation. The activities identified based on this analysis were then allocated to the economic activities listed in the Taxonomy Regulation and other delegated regulations. Subsequently, the identified activities were then discussed and verified on a bottom-up basis with heads of the business units and the product managers. The taxonomy-alignment of these economic activities was evaluated with regard to the technical screening criteria and compliance with the minimum safeguards for the first time for fiscal year 2022. The results have been documented in consultation with the heads of the business units and the product managers.

A possible **significant contribution** to the environmental objectives (1) climate change mitigation and (2) climate change adaptation was verified for each taxonomy-eligible economic activity on an individual basis at a product level. As part of the analysis, GEA only identified economic activities that make a significant contribution to climate change mitigation.

The **DNSH criteria** are primarily based on legal requirements and regulations that apply in the EU and can be reviewed at the local level. Environmental requirements were discussed and assessed by the project team with local management or with central functions such as QHSE, Compliance and Risk Management. Individual criteria for assessing taxonomy alignment laid out in the Taxonomy Regulation were analyzed and assessed on a product-specific and site-specific basis. The DNSH-criteria related to the relevant appendices under the Regulation are met.

The Regulation requires a climate risk and vulnerability assessment to be performed for certain economic activities. In this context, the sites where taxonomy-relevant activities were identified were assessed with respect to the parameters and approach defined by the Regulation. New food projects in particular are frequently developed and manufactured jointly by several locations. In the year under review, following a risk-based approach the sites that are essential for the success of the projects were assessed. The threshold applied is 10 percent of the total project value. The climate risk assessment was able to rule out corresponding climate risks for all taxonomy-relevant sites. The project team ensures that the risk assessment required by the Regulation will be expanded in the future for any additional taxonomy-relevant sites.

Potential risks of water shortage and water quality impairment are identified and internally assessed with the help of the "Aqueduct Water Risk Atlas" as part of the annual, group-wide water stress analysis. Necessary measures were initiated.

The analysis and evaluation were carried out for all taxonomy-relevant products through interviews with the responsible product experts and engineers. All product experts and engineers confirmed that the use of chemicals does not lead to any significant environmental pollution. GEA cannot completely rule out the possible use and presence of chemicals under the Regulation, particularly in the case of purchased components. The socio-economic benefits arising from the use of the substance outweigh the risks to human health and the environment associated with its use. Furthermore, there are no suitable alternative materials or technologies that contribute economically and technically to the same quality and use of the product.

Within the scope of the assessment under the Natura 2000 network of protected areas and UNESCO World Heritage Sites, it could be excluded that taxonomy-relevant sites are located in or near biodiversity-sensitive areas. Furthermore, GEA was able to demonstrate certification in accordance with the international environmental management standard ISO 14001 for the majority of taxonomy-relevant sites, which is primarily aimed at environmental protection and environmental management.

The evaluation of the availability and application of techniques that support the transition to a circular economy was carried out for all taxonomy-relevant products, provided that the criteria according to the regulation were applicable. GEA has techniques and processes in place that support the transition to a circular economy e.g. through the design for high durability, recyclability, easy disassembly and adaptability of products manufactured.

The **minimum safeguards** relate in particular to the OECD Guidelines, the United Nations Guiding Principles, the ILO Core Labor Standards and the Universal Declaration of Human Rights. Compliance with these principles, standards and rights is implemented and monitored on the basis of a Group-wide management approach, with a particular focus on compliance with human and employee rights and combating bribery and corruption. GEA has developed guidelines, processes and systems through which potential risks and violations of minimum social standards can be identified and combated.

In the course of the Supply Chain Act, GEA will ensure that the implementation of the requirements of the Minimum Safeguards under the Taxonomy Regulation related to human rights are further expanded and monitored.

For further information, please refer to the “Compliance & Corporate Governance” and “Supply Chain” sections of this report.

Data is collected on a decentralized basis by the group companies. These collect relevant revenue, capital and operating expense for taxonomy-eligible activities and report them to the Global Corporate Center in a predetermined format. The data is consolidated and key figures collated on a centralized basis.

Notes on GEA‘s underlying assumptions

The Taxonomy Regulation is only applicable to GEA’s economic activities to a certain extent, since the production of technologies, plant and machinery for the manufacture of beverages, food and pharmaceutical products is not included as a specific economic activity in the Taxonomy Regulation. As a system and machinery manufacturer and supplier, GEA enables customers in the food and pharmaceutical industries in particular to make a sustainable contribution to the climate neutrality of the European economy through the use of new technologies and machines. This is reflected in GEA’s corporate purpose, “engineering for a better world.”

As a result, the economic activity “3.6 Manufacture of other low-carbon technologies” is considered to be of great importance to GEA, as it includes technologies aimed at significantly reducing greenhouse gas emissions in other sectors of the economy. The product portfolio analysis classified economic activities as taxonomy-eligible if they target and demonstrably achieve significant reductions in life-cycle greenhouse gas emissions compared to the best-performing alternative technology or solution available on the market.

There are some areas which are fairly open to interpretation in connection with economic activity 3.6 Manufacture of other low-carbon technologies. This section addresses the underlying assumptions and provides information about how GEA estimated the reduction in greenhouse gas emissions.

The economic activity involves the manufacture of technologies which target and demonstrably achieve significant reductions in life-cycle greenhouse gas emissions compared to the best-performing alternative technology or solution available on the market. Greenhouse gas reductions should be determined using life cycle analyses based on standards set by the Regulation and verified by an independent third party. With reference to GEA’s business model, GEA does not consider the life cycle analysis standards required by the Regulation to be appropriate in all business areas and for all technologies. The reasons for this vary depending on the business area and technology. GEA focuses exclusively on the use phase in the life cycle analysis of certain machinery and equipment, as it is primarily the use phase of our customer-specific machinery and equipment that has a significant impact on the greenhouse gas emissions of GEA’s business activities. GEA developed a tool specifically to calculate the potential reductions offered by integrated solutions for production processes and utilities designed to save energy and reduce greenhouse gas emissions. The calculation is based on the standard calculation defined by the Regulation. In accordance with the Regulation, these calculations were audited by an external independent consulting firm. Since the aforementioned technologies, equipment and projects are customer-specific solutions, the methodology and accuracy of the assumptions and assessment parameters were reviewed in each case rather than the individual, quantifiable reductions pursuant to the Regulation. The audit confirmed that the calculation was accurate and appropriate. GEA requires customer-specific information and data to perform life cycle analyses for pioneering technologies and equipment, with a particular focus on the food industry. Due to the limited availability of data, official analyses by scientifically recognized organizations were used to calculate potential reductions in greenhouse gas emissions. As a result, GEA assumes that the calculations used to estimate the reductions in greenhouse gas emissions are sufficiently reliable.

Other facilities (such as CO_2 recovery systems in brewery plants) prevent the need for additional purchases of CO_2 and therefore inherently lead to reduced greenhouse gas emissions. Therefore, no separate life cycle analysis is performed for these business activities. For materiality reasons, manufacturing of equipment for the production of hydrogen was not included in the reporting and not factored in when calculating the key performance indicators according to the Taxonomy Regulation.

Although the reduction in greenhouse gas emissions is required to be substantial according to the Regulation, it does not specify any threshold. GEA assumes that any reduction will be based on technological advances rather than efficiency gains within the existing system. From GEA’s point of view, a reduction of 10 percent is considered substantial and therefore makes a significant contribution to climate change mitigation. However, each case must be considered on its own merits.

The reference standard – which involves taking the currently prevailing conditions on the market into account – is also questionable. Reference technology is therefore the technology predominantly available on the market. The technology must be (directly) linked to reductions in greenhouse gas emissions and demonstrated using the life cycle analyses above. For example, GEA compares certain ovens and freezers with previous models, as these are widely available on the market and will continue to be available on the market. This approach also guarantees that the data used for the purposes of the calculation is consistently reliable.

Key taxonomy-relevant economic activities

GEA is one of the largest suppliers of systems and components to the food, beverage and pharmaceutical industries worldwide. In the context of the Regulation, it is primarily operating in the areas of “manufacturing”, “energy” and “water supply, sewerage, waste management and remediation activities.” In addition to GEA’s value-creating activities, other activities were identified that can be classified as environmentally sustainable capital expenditure (CapEx) or operating expense (OpEx) under the Regulation. These include, in particular, the areas of “traffic” and “transport,” which relate to the company’s own vehicle fleet as well as freight transport, and “construction and real estate activities,” which relate to the new construction of the company’s own sites and production facilities.

Based on the analysis, GEA identified the following economic activities defined by the Regulation with revenue components that were considered taxonomy-relevant in 2022:

Economic activity under the Taxonomy Regulation	Description of the economic activity under the Taxonomy Regulation	Application of the economic activity at GEA
3.1 Manufacture of renewable energy technologies	Manufacture of renewable energy technologies, where renewable energy is defined in Article 2(1) of Directive (EU) 2018/2001	• Manufacturing of heat pumps • Manufacturing of technologies for the production of bio diesel, bio ethanol, bio gas and hydrogenated vegetable oil (HVO) and bio mass
3.5 Manufacture of energy efficiency equipment for buildings	Manufacture of energy efficiency equipment for buildings	• Manufacturing of refrigeration systems for building (such as shopping malls, airports, production plants)
3.6 Manufacture of other low carbon technologies	Manufacture of technologies aimed at substantial GHG emission reductions in other sectors of the economy, where those technologies are not covered in the economic activities 3.1 to 3.5	• Manufacturing of technologies for the development and production of alternatives to milk and meat e.g. plant-based, insect or fermented proteins, or in-vitro meat • Design and manufacturing of customized Sustainable Engineering Solutions ("SEnS") that aim for process technology changes to reduce greenhouse gas emissions • Manufacturing of electric ovens using electric heating rods instead of industry standard direct gas burners • Manufacturing of freezing tunnels with highly energy-efficient pre-cooling sections • Technologies for the production of active material for lithium batteries, e.g. spray dryers for the production of cathode material as well as the crystallization of active material • Manufacturing of plants for CO_2 recovery in breweries
4.25 Production of heat/cool using waste heat	Construction and operation of facilities that produce heat/cool using waste heat	• Manufacturing of waste heat recovery systems (e.g. by mechanical or thermal compression or Organic Rankine Cycle)
5.1 Construction, extension and operation of water collection, treatment and supply systems	Construction, extension and operation of water collection, treatment and supply systems	• Manufacturing of plants for the purification and reprocessing of wastewater and industrial process wastewater e.g. as drinking water and/or service water
5.9 Material recovery from non-hazardous waste	Construction and operation of facilities for the sorting and processing of separately collected non-hazardous waste streams into secondary raw materials involving mechanical reprocessing, except for backfilling purposes	• Manufacturing of technologies for the conversion of manure into bio fertilizer and bedding from cow dung
6.3 Urban and suburban transport, road passenger transport	Purchase, financing, leasing, rental and operation of urban and suburban transport vehicles for passengers and road passenger transport	• Leasing of factory buses
6.4 Operation of personal mobility devices, cycle logistics	Selling, purchasing, financing, leasing, renting and operation of personal mobility or transport devices where the propulsion comes from the physical activity of the user, from a zero-emissions motor, or a mix of zero-emissions motor and physical activity. This includes the provision of freight transport services by (cargo) bicycles	• Leasing of (electric) bicycles
6.5 Transport by motorbikes, passenger cars and light commercial vehicles	Purchase, financing, renting, leasing and operation of vehicles designated as category M1, N1, both falling under the scope of Regulation (EC) No 715/2007 of the European Parliament and of the Council, or L (2- and 3-wheel vehicles and quadricycles)	• Leasing of sales and service vehicles as well as incentive cars
6.6 Freight transport services by road	Purchase, financing, leasing, rental and operation of vehicles designated as category N1, N2 or N3 falling under the scope of EURO VI, step E or its successor, for freight transport services by road	• Leasing of trucks for freight transportation
6.12 Retrofitting of sea and coastal freight and passenger water transport	Retrofit and upgrade of vessels designed and equipped for the transport of freight or passengers on sea or coastal waters, and of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers	• Technologies for saving fuel consumption in the shipping industry
7.3 Installation, maintenance and repair of energy efficiency equipment	Individual renovation measures consisting in installation, maintenance or repair of energy efficiency equipment	• Installation, maintenance, and repair of energy-efficient equipment in owned and/or leased buildings
7.4 Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	Installation, maintenance and repair of charging stations for electric vehicles in buildings and parking spaces attached to buildings	• Installation of charging stations for electric vehicles (incl. maintenance, servicing etc.)
7.5 Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings	• Installation, maintenance and repair of equipment for measuring, regulating and controlling the energy performance of owned and/or leased buildings
7.6 Installation, maintenance and repair of renewable energy technologies	Installation, maintenance and repair of renewable energy technologies, on-site	• Maintenance and repair of heat pumps and heat exchanger/heat recovery systems installed as a building services system • Installation, maintenance and repair of solar- and photovoltaic systems
7.7 Acquisition and ownership of buildings	Buying real estate and exercising ownership of that real estate	• Construction of a production center incl. administration building as well as warehouse and logistics areas for own use in Koszalin, Poland • Construction of a CO_2-neutral pharmaceutical and technology center • Leasing of (existing) buildings at GEA locations
9.2 Research, development and innovation for direct air capture of CO_2	Research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the direct air capture of CO_2 in the atmosphere	• Research on and development of carbon capture plants

Sustainable initiatives

Sustainable mobility concept

Promoting a sustainable mobility concept plays an important role in protecting the environment and combating climate change. Through the global "Green Fleet" initiative, GEA is taking responsibility in the fight against climate change and playing its part in achieving German and European climate targets, while also reducing its own greenhouse gas emissions footprint. The mobility policy adopted in August 2021 stipulates that all new company cars for GEA executives in Germany must be 100 percent electric; this policy will be gradually rolled out to other countries. GEA is also investing in charging infrastructure too as part of its efforts to make its fleet more sustainable. Other measures include subsidizing electric bicycles for GEA employees and the use of electric forklifts.

The Taxonomy Regulation provides a considerable scope of discretion when it comes to classifying and assessing electric vehicles. Depending on the purpose of the company, they can be allocated to either "3.3. Manufacture of low carbon technologies for transport" or "6.5. Transport by motorbikes, passenger cars and light commercial vehicles". GEA considers its growing sustainable fleet to be sustainable, even though the criteria for taxonomy-alignment defined by the Regulation regarding tires are not met and, therefore, cannot be designated as taxonomy-aligned. Since GEA cannot influence the tire type provided at the time of delivery, this criterion should not conclusively determine the GEA's level of compliance with the Regulation.

GEA does not consider the technical screening criteria in the context of pollution prevention and control to be either relevant or purposeful. GEA is therefore considering the possibility of reassessing its sustainable fleet in the coming reporting period.

Factories of the future

In addition to developing and manufacturing sustainable technologies, products and applications, GEA develops sustainable, efficient and competitive manufacturing facilities for its own manufacturing as well as for its customers. The "Factory of the Future" in Poland is designed to be a competitive, carbon-neutral manufacturing center which meets GEA's needs and is based on industry best practices. It will set new standards when it comes to optimizing GEA's global production structure and performance, enables business growth and secure our long-term competitiveness. The aim is for the expanded site to become a world-class center of excellence for pump and component manufacturing, which facilitates sustainable, efficient and flexible production practices in line with the objectives of GEA's Mission 26. The site going into operation represents a key step in the implementation of GEA's Global Manufacturing Footprint Strategy, which aims to leverage synergies, pool expertise, reduce waste and increase efficiency.

As part of the Global Manufacturing Footprint Strategy, GEA will invest in the construction of a new pharmaceutical technology center specializing in the freeze-drying of pharmaceuticals. The construction of the new carbon-neutral site will increase the efficiency of our production processes with an optimized assembly layout and improved in-house logistics. This will drive continuous growth and innovation in the strategically important pharmaceutical sector.

GEA has taken into account the Delegated Regulation (EU) 2022/1214 of March 2022 relating to economic activities in certain energy sectors (natural gas and nuclear power) in its portfolio analysis. The additional economic activities therein are currently not relevant for GEA. Consequently, no turnover, capital expenditure or operating expense from activities 4.26 - 4.31 are included in the KPI under the Regulation.

Key Performance Indicators (KPI) under the Taxonomy Regulation

Based on the analysis of GEA's product portfolio and business activities, the following KPI defined in the Taxonomy Regulation were calculated:

in %	Dec. 31, 2022	Dec. 31, 2021	Change
Turnover			
Taxonomy-eligible	8.3	6.2	33.9
Taxonomy-aligned	7.7	-	-
Capital expenditure			
Taxonomy-eligible	37.4	6.8	450.0
Taxonomy-aligned	20.7	-	-
Operating expense			
Taxonomy-eligible	10.6	3.1	241.9
Taxonomy-aligned	9.7	-	-

The proportions are presented in detail at the end of this section. The previous year's figures related to taxonomy-alignment are omitted due to the first-time application in fiscal year 2022.

Definition of KPI

The definitions of turnover, capital expenditure and operating expense are derived from the Taxonomy Regulation.

Associates and joint ventures are accounted for using the equity method. GEA's share in the earnings of equity-accounted investments in associates and joint ventures is recognized in the consolidated income statement within "other financial income" and "other financial expenses".

GEA did not issue any ecologically sustainable bonds or debt securities in the year under review.

Turnover

Revenue, as presented in the Consolidated Income Statement in the Consolidated Financial Statements of GEA Group Aktiengesellschaft of the Annual Report, represents the denominator for the KPI. The accounting policies presented in the Notes to the Consolidated Financial Statements apply accordingly. The numerator is determined based on the proportion of revenue that group companies have identified as taxonomy-eligible or taxonomy-aligned ("taxonomy-relevant").

Capital expenditure

The additions in the fiscal year presented in the "Additions" line of this Annual Report in the statement of changes in property, plant and equipment and intangible assets, as well as additions to investment property in the fiscal year, represent the capital expenditure and thus the denominator for the KPI. The accounting policies presented in the Notes to the Consolidated Financial Statements apply accordingly. The numerator is equivalent to the proportion of the denominator which group companies have identified as taxonomy-relevant and meets one of the following criteria:

- There is a connection between assets or processes and taxonomy-relevant economic activities;
- It relates to the purchase of products from taxonomy-relevant economic activities and individual measures that make it possible for the group to reduce carbon and other greenhouse gas emissions in the performance of its economic activities (primarily expenditure towards buildings and mobility), provided these measures are implemented within 18 months of the reporting date.

No investment plans to expand taxonomy-eligible economic activities apply.

Taxonomy-relevant capital expenditure includes expenditure that is directly and exclusively attributable to taxonomy-relevant products, technologies and applications. Examples include machinery used exclusively to manufacture taxonomy-relevant products, service and sales vehicles, and construction costs for new administrative buildings and production facilities.

Capital expenditure which is not directly taxonomy-eligible or taxonomy-aligned is calculated indirectly in relation to taxonomy-relevant revenues. This includes general expenses required to generate taxonomy-relevant revenues, such as machinery, IT equipment or the transport of goods. The factor of the taxonomy-relevant revenue KPI is applied to the total sum of capital expenditure – reduced by the portion of directly allocated capital expenditure.

There were no additions as a result of business combinations in the year under review.

Operating expense

The denominator for the KPI consists of direct, non-capitalized costs related to research and development, building renovations, leasing, maintenance and repair of machinery and equipment. The numerator is equivalent to the proportion of the denominator which group companies have identified as taxonomy-relevant and meets one of the following criteria:

- There is a connection between assets or processes and taxonomy-relevant economic activities;
- It relates to the purchase of products from taxonomy-relevant economic activities and individual measures that make it possible for the group to reduce carbon and other greenhouse gas emissions in the performance of its economic activities as well as building renovations, provided these measures are implemented within 18 months of the reporting date.

Taxonomy-relevant operating expense includes expenditure that is directly and exclusively attributable to taxonomy-relevant products, technologies and applications. Examples include research and development costs, renovation costs for buildings owned by GEA, and maintenance and repair of machinery and equipment.

Operating expense which is not directly taxonomy-eligible or taxonomy-aligned is calculated indirectly in relation to taxonomy-relevant revenues. This relates to operating expense required to keep the assets in functional condition. The factor of the taxonomy-relevant revenue KPI is applied to the total sum of operating expense – reduced by the portion of directly allocated operating expense.

No investment plans to expand taxonomy-eligible economic activities apply.

Development and explanation of KPI

The methodology used to calculate the key figures changed compared to the previous year in that, for the first time, some taxonomy-relevant data was retrieved from the accounting systems. In addition, as in the previous year, manual disclosures from the divisions and business units were required. These disclosures were requested on a centralized basis by Corporate Controlling using an in-house template and consolidated for the purpose of calculating the key figures.

In contrast to the previous year, no training expenses were included in operating expense in the year under review. The analysis of training expenses with a taxonomy-relevant purpose requires a high administrative effort, while its impact on the KPI is not considered material, and is therefore no longer carried out. This did not have any significant impact on the operating expense indicator. As a result, GEA assumes that the calculations used to estimate the indicators are sufficiently reliable.

The taxonomy-eligible Turnover-KPI increased from 6.2 percent in the previous year to 8.3 percent. The improvement was mainly driven by revenue increases and product innovations related to the manufacturing of other low-carbon technologies, such as New Food projects and plants for the CO_2 recovery in breweries, as well as revenue increases related to water collection, treatment and supply systems and material recovery from non-hazardous waste. The taxonomy-aligned Turnover-KPI was calculated for the first time in 2022. It amounts to 7.7 and mainly comprises the aforementioned sales areas.

The taxonomy-eligible CapEx-KPI increased significantly to 37.4 percent as compared with the previous year. The increase is attributable to the progress of construction and subsequent opening of the production center in Koszalin, Poland, and the purchase of land for the planned technology center in Elsdorf, Germany. Continuous investments in a sustainable vehicle fleet and investments in energy-efficient building equipment as well as machinery and equipment for the New Food business further increased the CapEx-KPI.

The difference between the CapEx-KPI for taxonomy-eligibility and for taxonomy-alignment is mainly the result of leasing for own buildings that do not yet comply with energy-efficiency requirements set out by the Regulation and the classification of the electric fleet as a taxonomy-eligible investment only, as the criteria for alignment regarding tires are not met and therefore cannot be reported as taxonomy-aligned.

The taxonomy-eligible OpEx-KPI of 10.6 percent has likewise increased substantially compared with the previous year. The taxonomy-eligible operating expenses mainly include the installation, maintenance and repair of energy-efficient equipment in own buildings as well as the maintenance and repair of taxonomy-relevant plant and machinery. Compared with the previous year, the installation, maintenance and repair of own solar and photovoltaic systems were included for the first time in the OpEx-KPI. The OpEx-KPI for taxonomy-alignment amounts to 9.7 percent and was calculated for the first time for 2022. In essence, it comprises the aforementioned expense types.

In principle, the increase of the taxonomy-eligible Turnover-KPI led to an increase of the CapEx and OpEx-KPI, as capital expenditures as well as operating expenses are calculated proportionately based on the taxonomy-eligible revenue.

Further information

When identifying taxonomy-eligible or taxonomy-aligned economic activities, GEA's product portfolio was always assigned to only one economic activity within the meaning of the Regulation in order to prevent double counting. Double counting was also avoided by only taking into account external revenue in the denominator for the Turnover-KPI in situations where multiple divisions were involved in a taxonomy-relevant activity and this led to intercompany revenue. The clear allocation of economic activities also prevented double counting of capital expenditure and operating expense.

Where revenue, CapEx and OpEx could not be fully allocated to a taxonomy-eligible or taxonomy-aligned activity, these expenses were allocated based on appropriate parameters or reasonable and transparent assumptions. Examples of appropriate parameters for CapEx or OpEx include production output or machine hours. If such information is unavailable, an appropriate allocation is made based on alternative parameters such as future revenue.

Proportion of turnover from products or services associated with taxonomy-aligned or taxonomy-eligible economic activities - disclosure covering year 2022[1]

				Substantial contribution criteria						DNSH criteria (‚Do No Significant Harm')										
Economic activities (1)	Code(s) (2)	Absolute turnover (3)	Proportion of turnover (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Bio-diversity and eco-systems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Bio-diversity and eco-systems (16)	Minimum safe-guards (17)	Taxo-nomy-aligned pro-portion of turnover 2022 (18)	Taxo-nomy-aligned pro-portion of turnover 2021[3] (19)	Category (enabling activity) (20)	Category (transi-tional activity) (21)
		k€	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E	T
A. TAXONOMY ELIGIBLE ACTIVITIES																				
A.1 Environmentally sustainable activities (Taxonomy-aligned)																				
Activity 3.1[2]	C.28, C28.13	29,868	0.6	0.6	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.6	N/A	E	/
Activity 3.5	C.28.25	7,852	0.2	0.2	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.2	N/A	E	/
Activity 3.6	C.28, C.28.21, C.27	225,291	4.4	4.4	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	4.4	N/A	E	/
Activity 4.25	D.35.30	3,308	0.1	0.1	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.1	N/A	/	/
Activity 5.1	E.36.00, F.42	51,629	1.0	1.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	1.0	N/A	/	/
Activity 5.9	E.38.32	80,530	1.6	1.6	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	1.6	N/A	/	/
Activity 9.2	M.72.1	466	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	E	/
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**398,944**	**7.7**	**7.7**	**0**	**0**	**0**	**0**	**0**	**N/A**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**7.7**	**N/A**	**E**	**/**
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Activity 5.1	E.36.00, F.42	17,146	0.3																	
Activity 6.12	C.33.15	14,263	0.3																	
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**31,409**	**0.6**														**0.6**	**N/A**	**/**	**T**
Total (A.1 + A.2)		**430,353**	**8.3**														**8.3**	**N/A**	**E**	**T**
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
Turnover of Taxonomy non-eligible activities (B)		**4,734,361**	**91.7**																	
Total (A + B)		**5,164,714**	**100**																	

1) When using rounded amounts and percentages, minor differences may occur due to standard rounding rules.
2) The activity is taxonomy-eligible in its entirety. However, only a proportion of it is taxonomy-aligned. Therefore, the activity may be reported under both A1 and A2. However, only the proportion reported under A1 may be counted as taxonomy-aligned in the turnover KPI of the non-financial undertaking.
3) Due to the first-time application of taxonomy alignment, the disclosure of prior-year figures is not required for the current reporting year.

Proportion of CapEx from products or services associated with taxonomy-aligned or taxonomy-eligible economic activities - disclosure covering year 2022[1]

				Substantial contribution criteria						DNSH criteria (‚Does Not Significantly Harm')										
Economic activities (1)	Code(s) (2)	Absolute CapEx (3)	Proportion of CapEx (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Bio-diversity and eco-systems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Bio-diversity and eco-systems (16)	Minimum safe-guards (17)	Taxo-nomy-aligned pro-portion of CapEx 2022 (18)	Taxo-nomy-aligned pro-portion of CapEx 2021[3] (19)	Category (enabling activity) (20)	Category (transi-tional activity) (21)
		k€	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E	T
A. TAXONOMY ELIGIBLE ACTIVITIES																				
A.1 Environmentally sustainable activities (Taxonomy-aligned)																				
Activity 3.1[2]	C.28, C28.13	1,523	0.6	0.6	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.6	N/A	E	/
Activity 3.5	C.28.25	1,820	0.7	0.7	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.7	N/A	E	/
Activity 3.6	C.28, C.28.21, C.27	12,761	4.8	4.8	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	4.8	N/A	E	/
Activity 4.25	D.35.30	407	0.2	0.2	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.2	N/A	/	/
Activity 5.1	E.36.00, F.42	1,928	0.7	0.7	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.7	N/A	/	/
Activity 5.9	E.38.32	4,129	1.5	1.5	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	1.5	N/A	/	/
Activity 6.4	N.77.11, N.77.21	62	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	/	/
Activity 6.5	N.77.11	1,958	0.7	0.7	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.7	N/A	/	/
Activity 7.3	F.43.2, C.33.12, S.95.22	1,389	0.5	0.5	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.5	N/A	E	/
Activity 7.4	F.43.21	697	0.3	0.3	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.3	N/A	E	/
Activity 7.5	F.43.2, 43.21, 43.22, 43.29	395	0.1	0.1	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.1	N/A	E	/
Activity 7.6	F.43.2, C.28.13	1,791	0.7	0.7	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.7	N/A	E	/
Activity 7.7	L.68	26,544	9.9	9.9	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	9.9	N/A	/	/
Activity 9.2	M.72.1	17	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	E	/
CapEx of env.sustainable activities (Taxonomy-aligned (A.1)		**55,421**	**20.7**	**20.7**	**0**	**0**	**0**	**0**	**0**	**N/A**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**20.7**	**N/A**	**E**	**/**

Economic activities (1)	Code(s) (2)	Absolute CapEx (3)	Proportion of CapEx (4)	Substantial contribution criteria: Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	DNSH criteria (‚Does Not Significantly Harm'): Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Taxonomy-aligned proportion of CapEx 2022 (18)	Taxonomy-aligned proportion of CapEx 2021[3] (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
		k€	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E	T
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Activity 5.1	E.36.00, F.42	608	0.2																	
Activity 6.3	H.49.31, H.49.39, N.77.11	1,106	0.4																	
Activity 6.5	N.77.11	18,351	6.8																	
Activity 6.6	N.77.12, H.49.41	89	0.0																	
Activity 6.12	C.33.15	506	0.2																	
Activity 7.3	F.43.2, C.33.12, S.95.22	1,022	0.4																	
Activity 7.7	L.68	23,016	8.6																	
CapEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**44,699**	**16.7**														**16.7**	**N/A**	**E**	**T**
Total (A.1 + A.2)		**100,120**	**37.4**														**37.4**	**N/A**	**E**	**T**
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
CapEx of Taxonomy non-eligible activities (B)		**167,925**	**62.6**																	
Total (A+B)		**268,045**	**100**																	

1) When using rounded amounts and percentages, minor differences may occur due to standard rounding rules.
2) The activity is taxonomy-eligible in its entirety. However, only a proportion of it is taxonomy-aligned. Therefore, the activity may be reported under both A1 and A2. However, only the proportion reported under A1 may be counted as taxonomy-aligned in the CapEx KPI of the non-financial undertaking.
3) Due to the first-time application of taxonomy alignment, the disclosure of prior-year figures is not required for the current reporting year.

Proportion of OpEx from products or services associated with taxonomy-aligned or taxonomy-eligible economic activities - disclosure covering year 2022[1]

				Substantial contribution criteria						DNSH criteria (‚Does Not Significantly Harm')										
Economic activities (1)	Code(s) (2)	Absolute OpEx (3)	Proportion of OpEx (4)	Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Bio-diversity and eco-systems (10)	Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Bio-diversity and eco-systems (16)	Minimum safe-guards (17)	Taxo-nomy-aligned pro-portion of OpEx 2022 (18)	Taxo-nomy-aligned pro-portion of OpEx 2021[3] (19)	Category (enabling activity) (20)	Category (transi-tional activity) (21)
		k€	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E	T
A. TAXONOMY ELIGIBLE ACTIVITIES																				
A.1 Environmentally sustainable activities (Taxonomy-aligned)																				
Activity 3.1[2]	C.28, C.28.13	1,099	0.8	0.8	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.8	N/A	E	/
Activity 3.5	C.28.25	212	0.1	0.1	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.1	N/A	E	/
Activity 3.6	C.28, C.28.21, C.27	6,148	4.3	4.3	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	4.3	N/A	E	/
Activity 4.25	D.35.30	737	0.5	0.5	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.5	N/A	/	/
Activity 5.1	E.36.00, F.42	2,035	1.4	1.4	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	1.4	N/A	/	/
Activity 5.9	E.38.32	2,674	1.9	1.9	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	1.9	N/A	/	/
Activity 6.4	N.77.11, N.77.21	50	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	/	/
Activity 7.3	F.43.2, C.33.12, S.95.22	778	0.5	0.5	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.5	N/A	E	/
Activity 7.4	F.43.21	53	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	E	/
Activity 7.5	F.43.2	70	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	E	/
Activity 7.6	F.43, 43.21, 43.22, 43.29, C.28.13	27	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	E	/
Activity 9.2	M.72.1	13	0.0	0.0	0	0	0	0	0	N/A	Y	Y	Y	Y	Y	Y	0.0	N/A	E	/
CapEx of env.sustainable activities (Taxonomy-aligned (A.1)		**13,895**	**9.7**	**9.7**	**0**	**0**	**0**	**0**	**0**	**N/A**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**9.7**	**N/A**	**E**	**/**

Economic activities (1)	Code(s) (2)	Absolute OpEx (3)	Proportion of OpEx (4)	Substantial contribution criteria: Climate change mitigation (5)	Climate change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	DNSH criteria (‚Does Not Significantly Harm'): Climate change mitigation (11)	Climate change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguards (17)	Taxonomy-aligned proportion of OpEx 2022 (18)	Taxonomy-aligned proportion of OpEx 2021[3] (19)	Category (enabling activity) (20)	Category (transitional activity) (21)
		k€	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	%	E	T
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Activity 5.1	E.36.00, F.42	463	0.3																	
Activity 6.12	C.33.15	385	0.3																	
Activity 7.3	F.43.2, C.33.12, S.95.22	475	0.3																	
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**1,323**	**0.9**														**0.9**	**N/A**	**E**	**T**
Total (A.1 + A.2)		**15,217**	**10.6**														**10.6**	**N/A**	**E**	**T**
B. TAXONOMY NON-ELIGIBLE ACTIVITIES																				
OpEx of Taxonomy non-eligible activities (B)		**127,760**	**89.4**																	
Total (A+B)		**142,977**	**100**																	

1) When using rounded amounts and percentages, minor differences may occur due to standard rounding rules.
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3) Due to the first-time application of taxonomy alignment, the disclosure of prior-year figures is not required for the current reporting year.

Template 1 Nuclear and fossil gas related activities

Row	Nuclear energy related activities	
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle	No
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies	No
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades	No
	Fossil gas related activities	
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels	No
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels	No
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels	No

OPPORTUNITIES AND RISK REPORT

Opportunity and risk management targets

As an international company, GEA faces increasingly stringent regulatory requirements, higher stakeholder expectations, and a more volatile market environment, which is reflected in shorter innovation and production cycles with increased competitive intensity.

In light of this development, the systematic and uniform identification, assessment, and management of opportunities and risks across the group represents an ongoing task for GEA and is an integral part of the group's various workflows.

For GEA, the group-wide opportunity and risk management system is an integral part of value-oriented corporate governance, contributing to the group's long-term viability and its successful future development. GEA defines opportunities as positive and risks as negative deviations from planned short-term operational and long-term strategic targets.

The key variables for the assessment of opportunities and risks are the amount of the potential reward or loss and their probability of occurrence. The probability of occurrence refers to the estimated probability or statistically expected value for the occurrence of a certain event in a given period in the future. The expected value of the reward or loss is determined by multiplying these two figures. The result is calculated to provide both current and target values.

The current value describes the maximum reward/loss that results if, in the event of the occurrence of an opportunity/risk, control measures do not take effect because they either do not exist or do not function as planned. The target value of an opportunity/risk describes the potential reward/loss that results if existing control measures take effect when an opportunity/risk occurs. It is calculated by subtracting (in case of risks) or adding (in case of opportunities) the evaluated control measure from or to the current value, taking into account the costs for the respective control measures.

GEA's medium-term planning is a key component in its approach to managing opportunities and risks. This process is used to prepare decisions on core technologies and markets, along with the corresponding allocation of resources. The objective is to ensure stability by diversification and by concentration on future markets. At the same time, developments that may jeopardize GEA's continued existence should be identified at an early stage.

Opportunities and risks arising from significant operating decisions – for example by accepting certain orders and implementing capital expenditure projects – are assessed and hence actively managed by the relevant departments and decision-makers at all group levels and in all functional units in a decision-making process that takes materiality criteria into account.

By integrating opportunity and risk information into existing planning and management processes, GEA is able to identify potential opportunities and risks on an aggregated level at an early stage and increase planning certainty for future development.

By regularly and systematically analyzing and managing opportunities and risks, GEA not only complies with the German regulatory requirements under the Aktiengesetz (AktG – German Stock Corporation Act), but also provides a comprehensive management tool within the group that focuses on maintaining and increasing enterprise value. The opportunity and risk management process is supported by an audit-compliant IT solution that forms the basis for management reporting at the various group levels.

Overall assessment of the opportunity and risk position and changes compared with the previous year

The identified risks from operating activities and the potential negative impact on earnings did not change to any significant degree compared with the previous year. However, as all planning is subject to certain forecasting risks, flexible adaptation to a rapidly changing economic environment may prove necessary.

This is particularly applicable given the limited reliability of forecasts and forward-looking statements due to the impact of recently observed volatile prices on the primary and secondary markets (raw materials, energy, transport) caused by the war in Ukraine and further changes in sales markets as a result of the pandemic.

GEA's strategic orientation successfully proven itself in the highly volatile economic environment of the past few years. Moving forward, GEA will continue to position itself as a provider of sustainable solutions for the food, beverage and pharmaceutical industries. This strategy is substantiated by the seven key levers of “Mission 26,” which aims to accelerate profitable growth in the main sales markets by 2026. Unlocking and utilizing these operational opportunities is a central pillar of GEA's business activities.

The structure of GEA with its regional and sectoral diversification continues to offer substantial protection against the clustering of individual risks into a single risk that could jeopardize the group's continuation as a going concern. Furthermore, the group is not significantly dependent on individual business partners, whether suppliers or customers.

The risk-bearing capacity is defined as the maximum level of risk that GEA Group can bear over time without jeopardizing its own continued existence. The loss of a B rating is interpreted as a development that could jeopardize the company's continued existence and has been simulated for the past fiscal years using the most relevant performance indicators equity ratio and return on assets. On the basis of the current risks, GEA Group has sufficient coverage potential to compensate for them, even in the event of a loss of an investment grade rating.

In its overall assessment of the group-wide risk landscape, the Executive Board does not currently see any sufficiently likely risks or risk combinations that could endanger the company's continued existence as a going concern.

Opportunity and risk management system

At GEA, the five divisions run the operating business and have global responsibility for revenue and profitability. These divisions are each organized into up to six business units. The Global Corporate Center supports the divisions/business units with financial, legal, technical and other services. The global focus of the divisions and the Global Corporate Center is complemented by the country organizations and their companies, which provide the necessary market proximity and required organizational infrastructure.

The goal of GEA's group-wide opportunity and risk management system is to identify the main opportunities and risks in these operating and central business areas at an early stage, analyze their main influencing factors, adequately assess their impacts, identify actions to exploit opportunities and minimize risks and communicate these to the responsible decision-makers. The principles, framework, organization and responsibilities for GEA's opportunity and risk management system are clearly defined and are based on the international COSO II model.

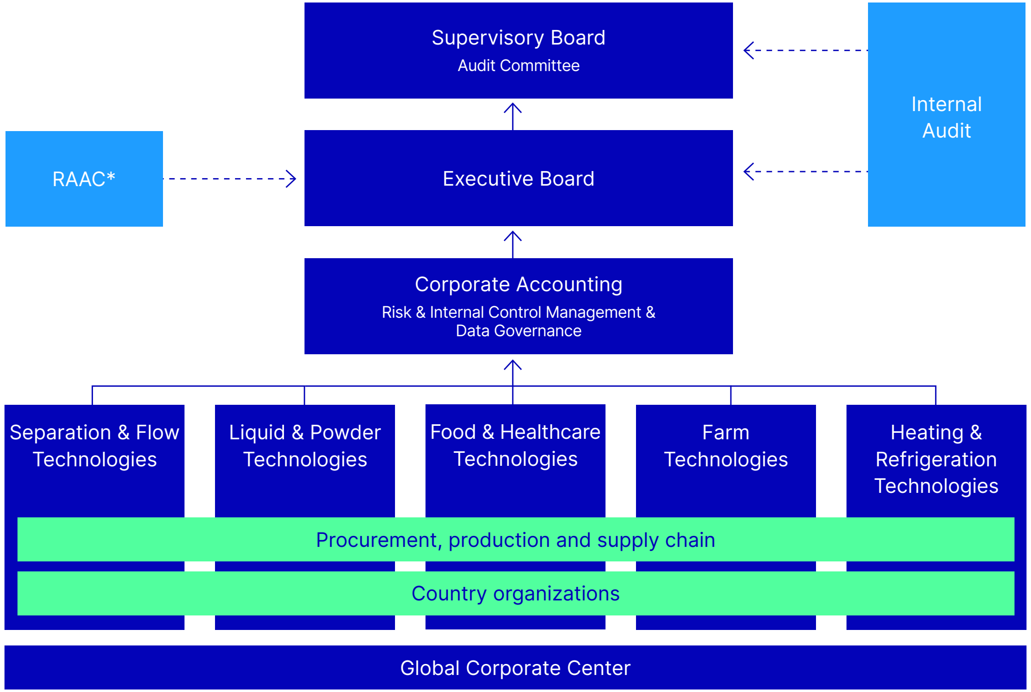
The development of GEA's opportunity and risk management system also reflects current regulatory requirements. Since the end of 2021, an interdisciplinary working group has been working to improve the identification and assessment of climate risks, as well as the definition and implementation of measures to reduce climate risks and enhance climate opportunities in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). As part of this, GEA has conducted qualitative and quantitative scenario analyses for various time horizons, evaluating the financial impact along the entire value chain from procurement to production up to the customer markets.

The main features of the opportunity and risk management system consist of the following components:

Organization and responsibilities

- The Supervisory Board is responsible for overseeing and supervising the Executive Board's activities. In connection with this, it also monitors the functionality and effectiveness of corporate governance requirements within the group. The Supervisory Board and the Audit Committee respectively monitor the effectiveness of the risk management system.
- The GEA Executive Board has overall responsibility for the organization and group-wide structure of the corresponding corporate governance system. Within the GEA Executive Board, the CFO is responsible for designing the opportunity and risk management system (in particular the opportunity and risk strategy/opportunity and risk policy/framework concept), in compliance with regulatory requirements.
- The central Corporate Accounting unit, specifically the Risk & Internal Control Management & Data Governance department, supports the CFO in developing a framework for group-wide opportunity and risk management, ensures the exchange of information within the GEA group at the level of the operating and central business units and coordinates regular management reporting. It is also responsible for the preparation, dissemination, and further development of uniform group-wide methods, tools and procedures for identifying, assessing, managing and reporting relevant opportunities and risks.
- The operating business units and group companies, as well as the process and project managers, are responsible for the continuous identification, assessment and management of opportunities and risks, as well as for communicating these to the responsible units.
- Internal Audit is responsible for regularly reviewing the risk management system instituted by the Executive Board in accordance with section 91 (2) of the AktG.
- In accordance with section 317 (4) of the Handelsgesetzbuch (HGB – German Commercial Code), the external auditor assesses whether the Executive Board has taken the measures required under section 91 (2) of the AktG to institute a monitoring system and whether the early warning system is fit for purpose.

Opportunity and risk management system organization



*) RAAC: Risk Assessment and Advisory Committees

Tools

At GEA, the opportunity and risk management system is an integral part of the group-wide corporate governance system and is based on the following elements:

- A group-wide guideline – the Enterprise Risk Management Policy – sets out the principles, framework, organization, and responsibilities for GEA's opportunity and risk management system and is further specified in more detailed work instructions.
- A catalog of opportunity and risk categories supports the identification of all relevant opportunities and risks.
- Standardized assessment and reporting methods are used to identify and evaluate opportunities and risks. Opportunities and risks can be aggregated at the level of business units, divisions and the group in order to identify group risks and opportunities at an early stage. As a rule, opportunities and risks are assessed on the basis of a one-year period. This period corresponds to the forecast period.
- Reporting limits for the identification of opportunities and risks are defined at the various group hierarchy levels. If these limits are exceeded, the opportunities and risks must be included in the periodic reporting. A financial impact on EBIT of EUR 0.25 million, without taking into account a minimum probability of occurrence or any risk mitigation measures, represents the lower reporting limit for opportunities and risks. This low reporting limit ensures that a comprehensive review of opportunities and risks is carried out and is not limited to material risks or those that might jeopardize the company's continued existence.
- A financial impact on EBIT of EUR ≥ 1.0 million, without taking into account a minimum probability of occurrence, represents the materiality threshold for internal ad hoc risk reporting. If this materiality threshold is exceeded during risk assessment, the responsible units within the group must be informed without delay, even outside the regular reporting cycle.

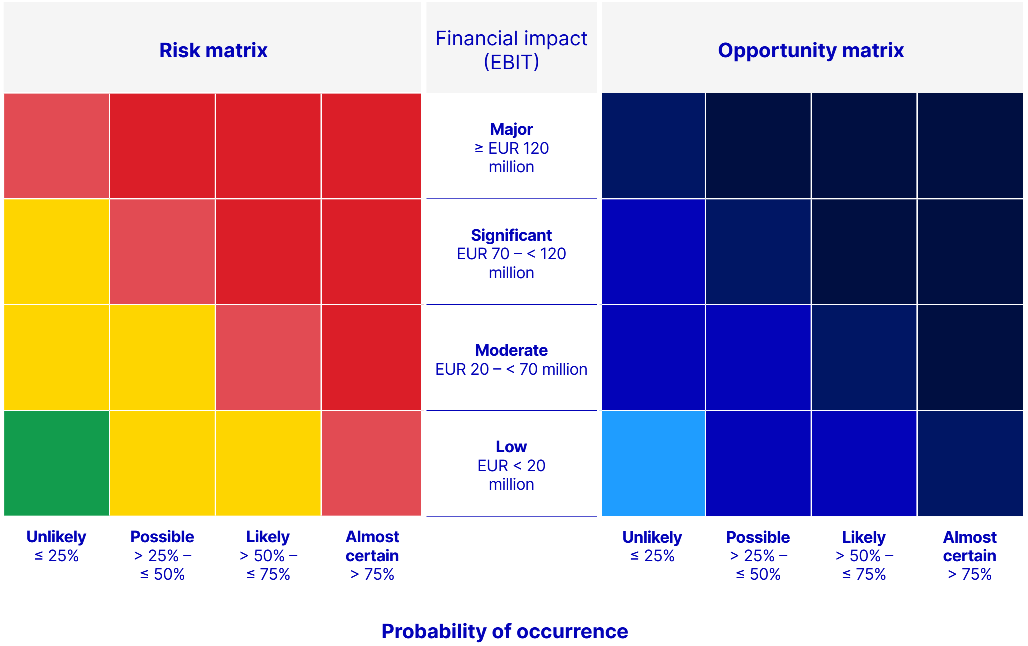
- The opportunity and risk management process is defined as a uniform group-wide control loop. It comprises the following steps:
- **Identification**: Continuous monitoring of the opportunity/risk situation with regard to recorded and unidentified opportunities and risks;
- **Assessment**: Determination of the forecast reward or loss and probability of occurrence according to the current and target method, as well as analysis of possible changes in the opportunity/risk situation over time;
- **Management**: Development and implementation of specific measures or revisions to current measures to exploit opportunities or manage risks from a business perspective;
- **Monitoring**: Analysis of the opportunity/risk situation with regard to the value and timeliness of action plans and opportunities to optimize the existing opportunity and risk management process;
- **Reporting**: Regular communication of relevant opportunity and risk information to the management board/committee of the operating and central business area.

Opportunity and risk management system: Tools – control loop

The risk and opportunity management cycle is a continuous process

- Risk Assessment and Advisory Committees (RAAC) have been set up to provide target-oriented information to the management bodies at the various levels of hierarchy within the group. These interdisciplinary committees represent a multiplier for the establishment of a sustainable opportunity and risk culture within the operating and central business units and ensure the harmonization and optimization of complete and timely periodic reporting. Reporting to the group's Executive Board encompasses evaluated risk reports, consolidated financial projections, monthly consolidated financial statements and regular meetings of the Global Executive Committee, which enable the various opportunities and risks to be fully identified and analyzed.
- The specific requirements of the group's project business are addressed by “Risk Boards” at the operational business unit and group parent company level.
- Before a binding quotation is submitted or an agreement signed, the commercial and contractual terms of potential orders are examined in detail by specialists from various departments in order to avoid taking on uncontrollable risks.
- The opportunity and risk management system therefore already starts before risks arise, in the form of a critical examination of the opportunity and risk profile of quotations. In the event of an inappropriate opportunity or risk profile, the signing of the contract is prohibited.
- The identification, analysis and evaluation of opportunities and risks, and the definition of specific measures to exploit opportunities and mitigate risks, as well as their ongoing monitoring, are supported by an audit-compliant web-based IT application.
- The financial impacts have been allocated to four categories for all organizational units within the GEA group on the basis of their average earnings contribution (EBIT) over the past three years. The following key figures apply to the GEA group:

Opportunities and risks and matrix (net basis)



Adequate provisions have been recognized for all identifiable risks arising from the group's operating activities provided that the recognition criteria for liabilities have been met. The following section provides details of existing risks. The assessment is based on countermeasures implemented to minimize risk (target value) in the GEA group's risk and opportunity matrix. Risks that are not yet known or currently regarded as insignificant may also have an adverse effect on business activities.

Key features of accounting-related internal control system (ICS)

GEA has an internal control system (ICS) and an opportunity and risk management system for the group accounting process. The ICS is based on a comprehensive system of guidelines, instructions, organizational and procedural rules, business processes (including the assignment of responsibilities and supervision) to ensure the traceable implementation of and compliance with legal requirements and internal rules, the elements of which are intended to prevent procedural and organizational risks in financial reporting as well as in the directly or indirectly related business processes.

All important policies are stored in the GEA Policies and Procedures Center and can therefore be directly accessed by any employee. These uniform standards within the GEA Group help ensure that the requirements of national and international regulations and the requirements and specifications of the Executive Board are met in full. In particular, these standards aim to give appropriate consideration to business requirements as well as legal conditions. The actual application of these standards is primarily the responsibility of the operating business units.

In order to ensure that uniform procedures are established throughout the group, the following key principles of GEA's ICS must be applied in all business functions: Clearly defined areas of responsibility, the separation of functions in all areas of activity, dual signature rules, compliance with group policies and regulations, instructions and procedural requirements (handbooks), the obligation to obtain comparable offers before awarding contracts above a defined size, protection of data from unauthorized access and the conduct of training sessions.

Key measures and rules that are relevant for financial reporting and are designed to ensure uniform accounting at all subsidiaries are: accounting and account allocation manuals, a uniform chart of accounts, consolidation and calculation manuals, the approval of entries using the dual control principle and the restricted authorization of certain entries to selected persons only. Guidelines and IT systems are updated on a continuous basis to reflect legal and business requirements.

The Chief Information Security Officer (CISO) is responsible for ensuring the implementation of appropriate IT guidelines throughout the group based on regulatory and substantive requirements.

Key features of the internal control and risk management system and statement on the appropriateness and effectiveness of these systems*

The implemented internal control and risk management system is based on a rolling process and ensures the early identification, assessment, and management of those risks and opportunities that could materially influence the company's ability to achieve its strategic, operating, financial and compliance-related objectives.

The internal control system is used to ensure the following:

- Compliance with laws and regulations
- Security of company assets / prevention of the loss of assets
- Profitability and efficiency of business processes
- Prevention, mitigation and identification of deficiencies and irregularities.

The internal control system of the GEA Group was established and structured on the basis of the internationally recognized COSO model (Committee of the Sponsoring Organizations of the Treadway Commission). This model is a framework for establishing internal controls in business processes. The GEA Group has implemented the 2013 version "Internal Control – Integrated Framework".

Since 2021, the Risk & Internal Control Management & Data Governance department in the central Corporate Accounting unit has been responsible for developing the requirements for the internal control and risk management system on a continuous basis. An annual structured survey (self assessment questionnaire (SAQ)) is conducted to determine whether all of the required ICS components are sufficiently implemented in the respective companies.

Within these companies, local management is responsible for implementing a formalized internal control system in accordance with the ICS rules and regulations applicable throughout the Group. The functionality of the local ICS must be reviewed and confirmed annually by the local management. The companies to be audited are selected every year based on quantitative and qualitative criteria. The findings of the annual ICS audits are compiled at the Group level and communicated to the Executive Board and Audit Committee of the Supervisory Board based on their materiality.

*) This statement of the Executive Board is a disclosure required by GCGC 2022; because this disclosure is extraneous to the management report, it is not subject to the audit.

A systematic process that has been established within the risk management framework uses a periodic bottom-up workflow to ensure that all significant operational and central business units and global functions can identify and assess the relevant opportunities and risks and manage them in a targeted manner by implementing suitable measures to increase opportunities and minimize risks.

The auditor regularly subjects the early warning system to a periodic assessment in accordance with the provisions of the German Control and Transparency in Business Act (KonTraG) and the provisions of Section 317(4) of the German Commercial Code (HGB). The result of this audit is presented to the Executive Board and the Supervisory Board. In addition, the adequacy of the risk management system was assessed by an external auditor in the current fiscal year in accordance with the requirements of auditing standard 981 of the Institute of Public Auditors in Germany (IDW). The audit confirmed the appropriateness of the risk management system.

Process-independent monitoring is performed by the Internal Audit department. As part of its multi-year risk-based audit planning process, it assesses the appropriateness and effectiveness of the governance processes and systems implemented by the GEA Group.

The Executive Board and the Audit Committee are informed on a regular basis about the audits performed by Internal Audit, the results of ICS audits, the opportunity and risk inventory as well as any changes in the above. The monitoring activities of the Executive Board found no evidence that the implemented internal control and risk management system was inappropriate or ineffective in the period from 1 January to 31 December 2022.

Risks

Six main categories, each with several sub-categories, are available to the operational and central business units for the classification of risk. The main categories provide an outline of the GEA group's current risk landscape.

Overview of all material risks to which GEA is exposed

Material risks	Probability of occurrence	Financial impact (net)
Legal and compliance risks		
Civil procedure USA – Steuben Foods Inc.	almost certain	low
Civil procedure USA – Holcim	unlikely	significant
Compliance risks	possible	low
Financial risks		
Inability to use loss carryforwards	unlikely	major
Currency risk	unlikely	moderate
Interest rate risk	unlikely	low
Credit risk	unlikely	low
Liquidity risk	unlikely	low
Operational risks		
Procurement risk	possible	low
Production risks	likely	low
Sales risk	possible	moderate
Order risks	possible	moderate
IT infrastructure	unlikely	moderate
Information security	possible	moderate
Personnel risks	possible	moderate
Strategic risks		
Risks arising from trade restrictions	possible	low
Acquisition, divestment, and integration risks	likely	low
Risks arising from future megatrends	possible	moderate
Project risks		
Reduced project financing options for customers	possible	low
Margin risk for long-term contracts	possible	moderate
Sustainability- related risks		
Environment/social/governance	possible	moderate

Legal and compliance risks

This category includes legal and compliance risks, with a focus on corruption, money laundering, antitrust violations and data protection .

Legal risks

GEA Group Aktiengesellschaft, as well as the companies in which it holds a direct or indirect interest, may become involved in a large number of national and international legal disputes or regulatory proceedings in the course of their business activities. For the companies concerned, this could give rise to payment or other obligations or result in extraordinary income. In general, the outcome of individual proceedings cannot be assessed with complete confidence since all legal disputes involve a degree of uncertainty.

If necessary, in light of the relevant circumstances, risk provisions are recognized in case such proceedings result in an adverse outcome. However, the outcome of these proceedings cannot be predicted with any degree of certainty. Consequently, the proceedings may impact income or expenses if the amounts that have been set aside for them are higher or lower than required.

Individual legal risks are not quantified in detail, since disclosing the specific probability of occurrences could have a material effect on the group’s position in current litigation or other legal disputes.

The reporting for previous fiscal years specified risks arising from certain civil proceedings in the USA. This concerned the two following cases:

(1) Steuben Foods Inc.

GEA Process Engineering, Inc. (“GPNA”) and GEA Procomac SpA (“Procomac”) are defendants in a lawsuit filed by Steuben Foods Inc. (“Steuben”) pending at the U.S. District Court of the Western District of New York. In February 2021, the court decided in favor of GNPA and Procomac with regard to the scope and extent of the patents at issue and dismissed Steuben’s complaint.

In its complaint, Steuben alleged that GPNA and Procomac infringed on its patents by selling eight bottling lines to customers in the United States; Steuben seeks unspecified damages. Steuben has filed an appeal against the decision of the U.S. District Court with the U.S. Court of Appeals for the Federal Circuit. GPNA and Procomac considered that the decision of the U.S. District Court strengthened their position that there was no infringement of any valid and enforceable patent claims and continued to defend themselves against the claims made. The procedure has since been concluded by means of a settlement. Based on the settlement, the financial impact of this risk was rated as low and the probability of occurrence classified as almost certain.

(2) Holcim

On January 27, 2021, GEA Systems North America Inc. (“GSNA”) was notified by its customer Holcim that the building housing an SCR exhaust gas cleaning plant for a cement factory of Holcim in Texas, USA, which was sold to Holcim by GSNA in 2015 and completed in 2016, structurally collapsed in December 2020. Holcim alleges a design defect in the plant and disclosed damages to date in the amount of approx. USD 44.5 million and could potentially increase to a total of USD 94.61 million.

Based on a preliminary root cause analysis, GSNA considers it probable that excessive temperatures negligently reached during operation of the plant by Holcim led to the collapse of the SCR building. GSNA intends to defend itself against any claims. Overall, the potential financial impact for this risk is considered as significant, but the probability of occurrence is assessed as low.

Compliance risks

The group-wide compliance management system covers all identified material compliance risks, with a particular focus on combating corruption, money laundering and antitrust violations, as well as data protection. These risks could have a significant financial impact and damage the reputation of GEA. Additional material topics (for example, export control compliance) are addressed by the relevant specialist departments. Fundamentally, the group-wide compliance management system aims to identify risks at an early stage and mitigate them through the implementation of appropriate countermeasures. Overall, the probability of occurrence for these risks is assessed as possible, but the financial impact is rated as low.

Financial risks

This category comprises tax and financial risks.

Tax risks

GEA's central tax department has issued guidelines to ensure that tax risks are identified and minimized at an early stage. These risks were reviewed and evaluated regularly and systematically.

The applicable national tax rules may affect the use of loss carryforwards and thus the recoverability of the deferred taxes recognized in the consolidated financial statements and current taxation. Furthermore, future changes to the ownership structure could significantly reduce or even render impossible the use of German loss carryforwards (section 8c of the Körperschaftsteuergesetz (KStG – German Corporate Income Tax Act)). The ability to use U.S. loss carryforwards could also be restricted in the case of certain changes to the ownership structure of GEA Group Aktiengesellschaft under IRC section 382 (limitation on net operating loss carryforwards following an ownership change).

Moreover, in Germany and abroad, there is considerable uncertainty regarding future changes to and the application of tax legislation due to both the continuing pressure to institute tax reforms and the high discernible level of scrutiny by the tax authorities.

The tax risks presented that are considered unlikely to occur could have a major impact on GEA's financial position and results of operations.

Financial risks

Due to its worldwide operations, GEA is continuously exposed to various financial risks in the course of ordinary activities, which could have a significant impact on its net assets, financial position and results of operations. The material financial risks include currency, interest rate, credit, and liquidity risk. These risk types are mitigated through active financial risk management, using appropriate derivative and non-derivative hedging instruments.

The Executive Board of GEA Group Aktiengesellschaft has implemented an effective set of group guidelines to appropriately monitor and thus largely limit or hedge these financial risks throughout the group. These guidelines define individual objectives with regard to protecting assets, eliminating security shortfalls and enhancing efficiency when identifying and analyzing risks, as well as the relevant organizational structures, responsibilities and expertise. The guidelines are based on the principles of system security, separation of functions, transparency and immediate documentation.

As the financial risks are limited or hedged through appropriate countermeasures, GEA's net risk exposure is generally considered to be low in terms of financial impact and the risks are assessed as being unlikely to occur.

<u>(1) Currency risks</u>

The global nature of GEA's business is characterized by significant cash flows in foreign currencies, such as the U.S. dollar, which are subject to potential exchange rate fluctuations. Hedging and managing the currency risk associated with foreign currency exposure is an important component of the group guideline in effect and is overseen by the central Treasury & Corporate Finance unit as part of its role.

The guideline requires all group companies to hedge foreign currency items as they arise in order to fix prices on the basis of hedging rates. Currency risks are hedged for recognized hedged items, unrecognized firm commitments and highly probable transactions. The hedging periods are determined by the maturity of the hedged items and are usually up to 12 months, but in exceptional cases may exceed that period significantly. Despite the hedging requirement, changes in exchange rates may affect sales opportunities outside the eurozone.

Group companies are generally required to report all outstanding exposures relating to transactions in goods and services, along with financing transactions, in major transaction currencies to GEA's central Treasury & Corporate Finance unit.

This unit is required to hedge significant positions by entering into matched-maturity derivative contracts with external banks. In addition, most intragroup borrowing arrangements in foreign currencies managed via the central Treasury & Corporate Finance unit are hedged directly.

The hedging of financial transactions and transactions conducted by subsidiaries outside the eurozone is also coordinated with the central Treasury & Corporate Finance unit. GEA's group companies are similarly exposed to foreign currency risk whenever their cash flows are denominated in a currency other than their own functional currency. In general, these foreign currency risks are hedged through the use of appropriate derivative instruments.
The volatilities from the hedged item (underlying) and the hedging transaction therefore largely neutralize each other over their duration.

(2) Interest rate risks

Due to GEA`s worldwide operations, liquidity is raised and invested in the international money and capital markets in different currencies (but mainly in euros), at different maturities and different interest rates. The resulting financial liabilities and investments are exposed to potential market interest rate risk, which is appropriately assessed and managed by central Financial Risk Management on an ongoing basis. Derivative instruments may be used on a case-by-case basis as part of the risk management function to hedge interest rate risk and systematically reduce the interest rate volatility of the hedged items. Such interest rate hedges are only entered into by the central Treasury & Corporate Finance unit.

(3) Credit risks

Credit risk or counterparty risk relates to the full or partial default of a business partner and is characterized by their failure to meet their contractually agreed financial obligations towards GEA. The group is exposed to such default risk from both its operating business (especially in the case of trade receivables) and its financing activities (including bank deposits and other financial instruments). GEA assesses the likelihood of default before entering into a business relationship and subsequently monitors the risk on an ongoing basis.

As a preventive measure to mitigate credit risk, the financial standing of potential customers is individually ascertained via an internal risk board procedure before orders are accepted. Active receivables management, including non-recourse factoring and tailored credit insurance, are also used as ongoing measures to appropriately mitigate credit risk.

In the case of export transactions, confirmed and unconfirmed letters of credit are used alongside sureties, guarantees and cover notes from export credit agencies such as Euler Hermes. The local monitoring function is performed by the relevant group company. However, if the potential risk of default is assessed to be material, the monitoring function is escalated to Group Management in order to optimize the management of such risk or to prevent a potential accumulation of risks. Since trade receivables and contract assets are usually due from a large number of customers spanning different industries and regions, there is no concentration of risk.

In addition, a counterparty limit system for cash and cash equivalents is used by Financial Risk Management to continuously assess and manage counterparty default risk. A maximum risk limit is defined for each counterparty, which in most cases is derived from the ratings assigned by recognized credit rating agencies or from a counterparty's credit default swap spread. If the individual limit is exceeded, measures appropriate to the relevant situation are taken in order to prevent a concentration of risks.

Cash and cash equivalents are primarily deposited with banks and financial institutions with an investment grade rating of A+ to BBB- from Standard and Poor's (S&P) as of the reporting date. Based on local conditions, lower volumes of cash are also held at banks with a non-investment grade rating in certain countries. The maximum credit risk is limited to the carrying amount of the financial instruments and the contract assets.

(4) Liquidity risks
GEA is exposed to liquidity risk in that it may be unable to meet payment obligations because it has insufficient cash funds available at its disposal. The central Treasury & Corporate Finance unit is responsible for monitoring and managing this risk. The necessary funds are made available to the companies by Group Management accordingly.

In this context, cash flow from operating activities is to be considered the most important source of liquidity. Cash pools have been established in 17 countries in order to further optimize borrowing and the allocation of cash funds within GEA. To achieve this, the cash pools automatically balance the accounts of the participating group companies on a daily basis by crediting or debiting a target account at GEA Group Aktiengesellschaft. This largely prevents separate cash investments and borrowings by these subsidiaries. Any additional liquidity requirements are generally borrowed by GEA Group Aktiengesellschaft, which also invests surplus liquidity.

Operational risk

The category operational risk comprises risks related to procurement, production, sales, orders, as well as IT infrastructure, information security and personnel risks.

The operational risk presented below can take different forms. The elements of the GEA risk management system are designed to help identify emerging risks before they materialize so that appropriate measures can be implemented on a case-by-case basis to avoid negative impacts on the group's financial position and results of operations. As a rule, potential operational risks are to be minimized by avoiding significant dependencies and ensuring a balanced mix of fixed and flexible capacities.

Procurement risk
Raw materials and other input materials are purchased by the global purchasing function to manufacture GEA products by the operating business units. Purchase prices may fluctuate significantly depending on market conditions and impact the cost structure of GEA's products.

In 2022, prices on the raw material and industrial markets again increased globally for products purchased by GEA (e.g., stainless steel and carbon steel, aluminum, certain chemicals, semi-conductors and logistics) either as semi-finished products (e.g., pipes, tubing, rolled coils) to be further processed at its production sites or indirectly as integrated parts of components or systems (e.g., pumps, valves, electric drives). Alongside the impact on materials prices, Russia's war of aggression against Ukraine also increased energy supply costs – for direct and indirect gas and electricity consumption – for GEA in the year under review. Furthermore, due in particular to longer freight routes, increased fuel costs and higher inflation, GEA also observed price increases in the area of logistics services and related areas (e.g., travel, temporary employment).

Since the beginning of 2021, GEA has continuously assessed the impact of market prices on its expenses through a dedicated central team in the global purchasing function. This team actively tracks the market development of key indices (e.g., steel, oil, labor cost index, inflation rates, currencies) using trusted international sources (e.g., MEPS, LME, Bloomberg, Thomson Reuters, Eurostat and the IMF). Based on this information, the procurement function has implemented measures to limit the impact of market developments on GEA's profitability.

Among other things, these measures include:
- Use of active master agreements to ensure supply quantities/supply continuity
- Negotiations with suppliers to secure prices
- Transfer of certain volumes to alternative suppliers
- Modification of specifications to make alternative designs/components possible
- Passing on costs to customers (especially in the project business)

The sources used to observe the markets all indicate that the raw materials and industrial markets will become more settled only after 2023. In addition, price increases are expected in indirect categories (e.g., energy, temporary employment, travel, logistics, packaging). Consequently, GEA anticipates further negative effects in 2023. The central team will continue to actively track the market in 2023, while the procurement function will continue to take measures to counter rising prices alongside its planned cost savings activities. GEA Group also experiences latent effects from delays in global supply chains for raw materials and other inputs.

As the procurement risks are partly limited or hedged through appropriate countermeasures, the occurrence of these risks for GEA is generally considered to be possible, while their potential financial impact is rated as low.

Production risks

The GEA group's production locations could experience operational interruptions or material damage due to the worsening of the local pandemic situation or other unfavorable circumstances and developments, which could compromise the fulfillment of contractual obligations to GEA's customers.

GEA considers itself well positioned to handle the potential continued disruption to supply chains worldwide and the resulting longer delivery times, since – thanks to the global production and supply chain functions' extensive measures to minimize risk – the probability of occurrence is rated as likely, while the potential financial impact is rated as low.

Sales risk

GEA is generally exposed to the overall economic and political opportunities and risks in the countries and regions where the group operates. As a company that supplies process technology and components for diverse production processes, particularly in the food, beverage and pharma industries, GEA is exposed to industry-specific risks.

The COVID-19 pandemic may continue to impact macroeconomic development. Although GEA's early and consistent crisis management meant the company experienced only slight effects in the past year, negative impacts on GEA's business activities over and above those already included in forecast considerations are considered possible. The consequence would be an additional negative impact on earnings. Based on the diversified product and customer structure, the probability of occurrence is rated as possible and the potential financial impact as moderate, since the GEA group's performance is generally independent of regional crises on its main sales markets thanks to its worldwide presence.

Order risks

An economic downturn leading to a reduction in order intake and selling prices falling below the level of fiscal year 2022 could negatively impact earnings in the medium term due to capacity underutilization and capacity adjustment measures. GEA's specialized product and customer structure, in addition to the group's flexible architecture, mitigates the impact of demand fluctuations in specific sub-markets on overall performance. In addition, the currently very high order backlog could also have a mitigating effect on demand fluctuations over a certain time period. Overall, the probability of occurrence for this risk is assessed as possible and the financial impact is rated as moderate.

IT infrastructure risks

GEA's business processes are highly dependent on its IT infrastructure and business-critical IT systems. Whether caused by internal or external circumstances, the failure or malfunction of critical systems can give rise to risks relating to confidentiality, availability and integrity. Key business processes could be compromised as a result. Extensive infrastructure measures, such as the standardization and modernization of IT devices, cloud migration and the replacement of outdated network technology, have already been advanced in order to minimize operational risks. At the same time, these measures have laid the foundation for a long-term scalable platform for the digitalization of business processes and development of digital products. This risk is rated as unlikely, with moderate financial implications for GEA. Moreover, longer-term programs to create new, harmonized IT applications have been launched in the areas of ERP, distribution, logistics and engineering. The global harmonization of business processes is a multi-year undertaking. However, the different programs are designed in such a way that long-term advantages for GEA will begin to be realized at an early stage.

As one of the core elements, the global process and ERP system landscape has begun to be consolidated to create a new structural framework for data and business processes at GEA. GEA has now reached its first major implementation milestones worldwide. Even more important than the system migration to SAP S/4 HANA is the creation of harmonized structures and processes, as well as GEA's transformation into a process-oriented organization.

Information technology risks

GEA protects the confidentiality, integrity, and availability of the information and information assets of its business partners as well as its own by means of a global Information Security Management System (ISMS) based on the ISO/IEC 27001 standard. Nevertheless, the likelihood of security risks occurring cannot be completely ruled out due to the continuously changing potential threat situation. The probability of this risk arising is assessed as possible, while the potential financial impact is rated as moderate.

Personell risks

To counter demographic risk and ensure that it continues to have adequately qualified personnel in the future, GEA has initiated a comprehensive package of preventative measures. Interdisciplinary working groups at GEA develop innovative concepts to actively offset the effects of demographic change. Dedicated and qualified employees are a critical success factor for GEA. GEA has various staff policy measures in place to counter the risk that it will be unable to fill vacant positions adequately or that it will lose skilled employees. The measures aim to position GEA as an attractive employer and generate long-term employee loyalty. The probability that vacant positions will not be filled adequately and permanently is rated as possible, with a moderate financial impact for the group.

Strategic risks

This category comprises risks arising from trade restrictions as well as acquisition, divestment and integration risks, and risks arising from future megatrends.

Risks arising from trade restrictions

In general, GEA is only affected by punitive tariffs to a small extent. The sanctions against Russia and Belarus due to the war in Ukraine have led to a decline in revenue on the Russian and Belarussian market. Since further sanctions may be imposed, additional revenue declines are possible. However the potential financial impact is rated as rather low in relation to GEA's overall income.

With regard to the current geopolitical developments in China and Taiwan, a risk is anticipated for GEA if the situation develops into a military conflict and / or the decoupling process between the USA and China continues. Decoupling describes a process of the USA and China gradually reducing their ties with each other through the use of state measures, sacrificing short-term gains to secure or enhance their long-term competitive position. In such a case, punitive tariffs and economic sanctions could continue to impact GEA's business in China. Further trade restrictions against China are currently considered possible. At present, the financial risk for GEA cannot be reliably quantified.

Acquisition, divestment, and integration risks

Acquisitions and divestments entail risks related to the integration respectively to the transfer of employees, processes, technologies and products. It cannot be ruled out, therefore, that the goals of the measures in question will not be able to be fully achieved or realized within the time frame envisaged.

Moreover, such transactions may give rise to substantial administrative and other expenses. Portfolio measures may also result in the need for additional financing and thus may impact negatively on financing requirements and the financing structure. These risks are countered by a structured integration concept and close supervision by internal experts as well as specific training measures. Risks arising from acquisitions and divestments are rated as likely with low financial impact.

Risks arising from future megatrends

The enduring financial success of GEA as a technology group depends to a large extent on its ability to offer tailored customer solutions that provide outstanding product and process efficiency. As a result, GEA must maintain and continually expand its innovation strength. GEA's "Mission 26" strategy strengthens decentralized areas of innovation and develops key technologies in a targeted manner. However, there is still a potential risk that, in some areas, new and existing competitors will bring products with better performance parameters to market maturity faster.

Digital products and services are a core component of GEA's value proposition, as illustrated by GEA's self-monitoring machinery and self-optimizing plants. GEA's "Mission 26" pools and expands on existing digital expertise so that more targeted use can be made of the corresponding opportunities. Digitalization in GEA's target markets is accompanied by increasing regulation worldwide. In this context, the European Union has published draft regulations in the form of the EU Data Act, the EU AI Regulation and the Cybersecurity Resilience Act. Comparable regulations for the digitalization of industry are also being issued in other regions. The goal of these regulations is to ensure the security in the digitalization of industry. The enhanced requirements applicable to manufacturers due to the digitalization process are taken into account in GEA's "Mission 26" strategy.

The probability that GEA fails to promptly identify potential risks emanating from the emergence of megatrends affecting the social, political and economic landscape is rated as possible, while the potential financial impact is assessed as moderate.

Project risks

(1) Reduced project financing options for customers

A significant proportion of GEA's business consists of projects that depend on the financing options of its customers. A general decline in demand, shifts in currency parities, or a credit squeeze could make it more difficult to implement such projects. For the same reason, existing orders could be deferred or even canceled. That probably of such risks materializing on a global scale is considered possible. The financial impact of this risk is classified as low, particularly thanks to GEA's diversified positioning.

(2) Margin risks for long-term contracts

Long-term orders for customer-specific projects are an important element of GEA's business. The percentage of innovative products in the GEA range can also harbor technological risk. This is particularly the case with the complex solutions, machinery and equipment produced by the Liquid & Powder Technologies division – which, on account of its size or customized design, cannot always be tested in their entirety prior to roll out. In addition, multi-year warranty obligations may remain in force for several years after the project's acceptance.

Technical problems, quality problems at subcontractors and missed deadlines may lead to cost overruns. There is therefore an extensive risk management system in place at the level of the group parent company and operating business units (divisions) to closely monitor order-related risks. This comes into effect before binding quotations are submitted. Adequate provisions have been recognized for all foreseeable risks in this area. That such risks will materialize is considered possible. The multi-stage approval process necessary in advance of submitting a binding quotation or signing an agreement is one of the main reasons why the financial impacts of this risk are rated as moderate.

Sustainability-related risks

GEA's actions in the areas of environmental, employee and social matters, anti-corruption and bribery matters, as well as the respect of human rights, contribute significantly to its public perception and can lead to non-financial risks. Consequently, material risks are taken into account.

Since 2019, GEA has identified sites in regions experiencing water scarcity each year. To verify the resulting risks, all sites with a very high or high water scarcity risk are examined in respect of known water risks and their impact on business operations. In addition, water conservation measures have also been put in place. In 2021, GEA set a goal to develop and implement a water strategy by 2026 at these sites as part of its "Mission 26" strategy.

GEA engages in active environmental management. As part of this engagement, GEA continuously invests in environmental protection and regular decontamination works and maintains an ongoing dialog with the relevant authorities to provide information on the countermeasures it implements to minimize risk. Adequate provisions are recognized, in line with the options provided for by law, for the containment or decontamination measures required in the event contamination is identified.

Furthermore, GEA follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and the associated amendments to established reporting standards on the disclosure of climate-related information. The TCFD was established by the Financial Stability Board to develop a uniform framework for reporting climate-related risks and opportunities. The focus is on disclosing financial risks that companies face from climate change. The process of identifying and assessing potential long-term climate risks and opportunities is supported by the use of scenario analyses. The potential risk of transitory steel price volatility on the purchasing side, as well as the opportunity of capturing additional revenue potential in the areas of alternative proteins and heat pumps, were taken into account. With regard to physical risks, own production sites that are particularly sensitive to climate change were the focus. Details of GEA's climate-related risks and opportunities are disclosed in the appendix of the Sustainability Report. Please see the Sustainability Report for further information on the planning assumptions and the results of the qualitative and quantitative scenario analyses conducted.

Additional environmental risks caused by historical contamination and mining damage on GEA land due to past business activities are remediated through appropriate risk-mitigation measures and supervised by internal and external specialists. Provisions for dealing with this contamination and mining damage are recognized in the balance sheet to the extent required. As part of its safety management program, GEA also reviews the risks posed by natural hazards, such as storms, floods and earthquakes, to its largest sites by total insurance value. These sites are classified according to hazard, in partnership with the insurer FM Global.

Other sustainability-related aspects, including hazardous activities, product liability, and the risk of human rights violations and conflict minerals, are addressed accordingly in the sections on occupational safety, sustainable solutions, supply chain, employees and compliance in the non-financial statement.

GEA's actions in the areas of environmental, employee and social matters, anti-corruption and bribery matters, as well as the respect of human rights can give rise to both risks and opportunities. Although GEA rates the probability of occurrence as possible, it estimates the risk of financial impact to be moderate.

Opportunities

Overall assessment of opportunities and changes compared with the previous year

GEA's end markets continue to offer a variety of opportunities for lasting positive business performance. A key task of the opportunity and risk management system is to systematically evaluate both internal and external information in order to identify opportunities at an early stage and appropriately assess the potential they offer (see "Risk and opportunity management targets" in this section). Based on that, GEA is working on a fixed set of measures aimed at transforming opportunities into real economic successes.

Unlocking and utilizing operational opportunities is a central pillar of GEA's business activities. By making targeted investments in its operating business units, GEA utilizes the opportunity to systematically drive forward its future growth and strengthen its position in global growth markets over the long term. Forecasting the group's economic development is based on certain assumptions. A more positive than expected overall development of these parameters could have a corresponding impact on GEA's financial position and results of operations.

As part of the "Mission 26" strategy, GEA intends to expand its position in its key industries over the period to 2026 and, at the same time, use seven levers to accelerate its profitable growth and improve its customer service. Sustainability, innovation and digitalization, new food and excellence initiatives in the areas of sales, service and operations have been identified as major influencing factors. GEA is also considering targeted acquisitions. Through these initiatives, GEA aims to achieve the following medium-term financial goals:

- Increase in annual revenue growth by an average of 4.0 to 6.0 percent between 2022 and 2026
- Increase in EBITDA margin before restructuring expenses to more than 15 percent by 2026
- Increase in ROCE (Return on Capital Employed) to more than 30 percent

In the multiple periods considered in "Mission 26", GEA rates the likelihood of occurrence as possible with significant financial impacts.

Selected areas of "Mission 26" are presented below.

(1) Innovation & Digitalization

The innovation strategy is based on four key growth drivers that have a significant influence on the business and are of great importance to GEA's customers:

- Environmental Sustainability,
- New Food,
- Digital Solutions,
- Modularization and Configuration.

By 2026, GEA aims to significantly increase the proportion of newly developed products (products that are less than five years old) in these areas: The aim is for this share to increase to 30 percent in 2026. To achieve this target, GEA will increase its R&D spending to 3.0 percent of revenue over the coming years.

In the past fiscal year, “GEA Digital” was established as the new matrix organization within GEA's innovation network. As of the end of the fiscal year, more than 200 engineers, software developers and data experts worked together in this organization, developing digital products and services in connection with new business models. A reference architecture – “GEA Cloud” – has been created for digital services, which serves to continuously improve the availability, productivity and sustainability of customers' machinery and equipment. Together with the subscription business model, this generates non-cyclical, recurring revenue, which GEA will continue to develop in the coming years.

(2) New food

New food comprises sustainably produced food, such as plant-based milk and meat alternatives. The product range also includes in vitro meat and precision fermented proteins, as well as high quality food ingredients. New food manufacturing processes are highly complex and can use plant-based raw materials (e.g., grains, pulses and nuts), fungi, algae, insects or even singular animal cells, among other things. The trend towards new food is steadily growing, as these foods are considered sustainable, safe and ethically responsible. In addition, new food is seen as a potential basis for long-term, healthy nutrition for a growing world population. GEA intends to benefit from this trend with its broad portfolio, which covers all processing steps.

(3) Sales Excellence

As part of the Sales Excellence initiative, GEA intends to use its global regional and country (R&C) organization to define an appropriate route-to-market for each business unit, to make accelerated growth in existing markets possible and open up additional growth opportunities in “white spots” (markets with lower market penetration). In addition, GEA will concentrate on enhancing organizational effectiveness by defining uniform sales roles and incentive systems, and strengthen the organization's sales expertise through standardized sales tools and a group-wide sales handbook. This should result in average organic revenue growth of 4.0 to 5.0 percent annually from the sale of new machinery and equipment between 2022 and 2026.

(4) Service Excellence

A further target of the “Mission 2026” strategy is to achieve organic growth with a CAGR of 5.0 to 6.0 percent between 2022 and 2026 for the service business, as well as transitioning it from a transaction-based to a recurring model. GEA intends to positively develop the number of installed equipment through stronger sales of new machines in the coming years, significantly increasing the service potential. To generate both growth and recurring service revenues, GEA is focusing on three levers, based on its internal performance benchmarking and maturity assessment:

- Optimizing and expanding the offering for the basic service business in the individual operating business units.
- Enhanced efforts to optimize and improve operating performance (e.g., replacement parts logistics, active sales channel management, etc.).
- Transforming the service portfolio into a broader solution offering that is recurring in nature (service contract configurator, subscriptions, etc.).

Each operational business unit has drawn up implementation plans and measures to systematically capitalize on the identified opportunities.

(5) Acquisitions

Although most of the “Mission 26” levers focus on enhancing organic growth, the strong cash generation means it is also possible to invest in external growth. GEA continuously monitors and actively seeks out acquisition opportunities to strengthen its portfolio – provided they appear to be value accretive and deliver targeted enhancements to GEA’s potential.

Since M&A transactions require the availability of appropriate target companies, the effects of successful acquisitions are not taken into account in the group’s medium-term objectives. However, GEA has defined clear financial guidelines for value-enhancing transactions. In this respect, external growth through acquisitions offers an additional opportunity.

Sustainability-related opportunities

GEA is convinced that the company’s sustainable and climate-friendly positioning enhances the business model’s resilience while simultaneously opening up new business opportunities. As a solutions provider, GEA supports its customers` ongoing sustainable transformation with solutions such as heat pumps and more energy-efficient products, which help significantly improve their climate and sustainability impact. GEA`s innovations to control carbon dioxide emissions are in demand in the glass, steel and cement industries, for example. Furthermore, GEA foresees opportunities in new markets such as plant-based alternatives to meat and dairy products, where GEA solutions are already being used.

At its own sites, GEA can leverage opportunities offered by resource efficiency in production and distribution processes, as well as the expansion of climate-neutral production. The further consistent improvement of energy efficiency in production, coupled with the use of renewable – preferably self-generated – energy, will reduce GEA’s exposure to energy price developments and contribute to save operating costs. Applying the “local-for-local” principle in purchasing ensures improvements in metrics such as shorter reaction times and lowers reliance on transportation, resulting in lower climate-related costs.

By consistently focusing on sustainability, GEA is making an important contribution toward addressing global challenges, which has been well received by external interest groups. GEA’s commitment to sustainability is also reflected in its very good ESG ratings and rankings.

With our focus on sustainability aspects in “Mission 26” and the strategy’s emphasis on becoming an “Attractive Employer,” GEA aims to sustainably improve its standing in the labor market. The implementation of a minimum quota of women of 21 percent at the top three management levels by 2026 and the deployment of diverse talent pools underscores GEA’s commitment to diversity as a key to success and a means of securing GEA’s future talent needs.

At the same time, information security is an important prerequisite and opportunity for the digitalization of GEA’s products and internal processes as well as for generating new customer orders. GEA’s current and new customers and business partners will all benefit from the information security management system (ISMS) and can be confident in both the protection of their data and uninterrupted service.

GEA sees great opportunities to further improve its production sites towards becoming best-in-class as part of digitalization, productivity and space optimization programs offers. The underpinning of GEA’s lean culture creates opportunities to further optimize and streamline processes in all production and administrative areas.

REPORT ON EXPECTED DEVELOPMENTS

GEA's Report on Expected Developments takes into account relevant facts and events that were known at the date of preparation of the management report and that could influence the future development of its business.

Economic environment in 2023

As described in the "Report on economic position" in the section "Macroeconomic environment," GEA, as a global industrial technology company, considers growth in global gross domestic product (GDP) and GDP forecasts made by the IMF to be key indicators for its own performance.

World Economic Outlook IMF (January 2023)	Forecast (percentage change)	
	2023	2022
Wordlwide	2.9 %	3.4 %
Advanced economies	1.2 %	2.7 %
Emerging markets and developing countries	4.0 %	3.9 %

In its January update of the World Economic Outlook for 2023, the IMF expects global economic growth to slow down compared to 2022, with projected growth of 2.9 percent in 2023. Following a strong increase of 6.2 percent in 2021, global economic growth was 3.4 percent in 2022.

While the IMF expects growth in the advanced economies to slow down significantly, the organization expects a slight acceleration of growth for the emerging markets and developing countries.

The IMF anticipates growth of 1.2 percent in advanced economies in 2023, compared with 2.7 percent in 2022, and growth of 4.0 percent in emerging markets and developing countries in 2023, compared with 3.9 percent in 2022.

Among the advanced economies, the U.S. is projected to slow down to 1.4 percent in 2023 after experiencing growth of 2.0 percent in 2022, while the Eurozone is expected to grow by around 0.7 percent in 2023 after expanding by around 3.5 percent in 2022.

For the major emerging market economies China, India, Russia, and Brazil, the IMF expects growth for all four countries in 2023. The strongest increase is expected for India at 6.1 percent, followed by China at 5.2 percent, Brazil at 1.2 percent and Russia at 0.3 percent.

According to the IMF, the risks outweigh the opportunities with regard to this year's growth forecasts. While pent-up demand in some countries as well as a stronger decline in inflation rates could lead to stronger growth, a renewed COVID-19-related lockdown in China, escalation of the Ukraine war, or further interest rate hikes by central banks would lead to lower growth rates than currently expected.

Furthermore, the global economy is also expected to be affected by political tensions and trade disputes in 2023, particularly between the U.S. and China or between China and Taiwan.

Economic environment for GEA

For fiscal year 2023, GEA expects the global megatrends to have a positive impact on business development. The continued growth of the world's population and the global middle class is driving up the global demand for food. At the same time, quality demands on food products are also rising. There is an increased demand for food that is healthy, functional and safe. Furthermore, the interest for efficient production methods that also conserve valuable resources is on the rise.

In the medium to long term, the United Nations believe that the world's population, which currently stands at around 7.8 billion, will continue to rise. Compared to 2007, the world's population has already grown by around 1 billion people and by 2 billion since 1995 (United Nations, World Population Prospects 2019). The United Nations expect the global population to grow further, albeit at a reduced pace, to between 8.4 and 8.7 billion in 2030 and between 8.9 and 10.6 billion by 2050. With an estimated increase of between 1.1 and 2.8 billion until 2050, Asia and Africa will contribute almost exclusively to the population growth.

Moreover, the proportion of the world's population considered at least middle class will continue to increase, with the bulk of this growth coming from the Asia-Pacific region. The size of the middle class in this region is expected to grow from around 2 billion people in 2020 to 3.5 billion people in 2030 (Brookings Institution, 2017). The middle class is expected to grow by a moderate amount in Africa and Central and South America, while the size of the middle class in Europe and North America is predicted to maintain its stable development.

Accordingly, GEA expects that the growth of the middle class will lead to a further increase in the number of people who can afford processed foods, beverages and dairy products. This is similarly true for pharmaceutical products.

Growth in the customer industries

Based on its own latest estimates, external reports and analyses conducted by industry associations, the following trends are forecast for GEA's main customer industries:

Milk production

Global milk production increased slightly in 2022, with the growth rate being the lowest in the last two decades. The main reasons for this development were high costs for feed, fertilizer, and energy as well as unfavorable weather conditions and labor shortages in some regions. Milk prices increased since mid-2020 and reached a new record level in April 2022. Much of this increase was attributable to tightening global markets due to limited availability of raw materials and high demand from China. Dairy prices have again weakened significantly since mid-2022. One of the main reasons for the decline in milk prices from mid-2022 was the decrease in exports of dairy products to China. This was attributable to rising domestic dairy production, high inventory levels, and falling demand due to a decline in hospitality and catering activities caused by strict COVID-19 measures. Imports declined in several countries due to the economic downturn, high milk prices, and the depreciation of currencies against the US dollar. Nevertheless, the milk price was still slightly above the last record year in 2013.

Due to rising costs for farmers, no significant growth in milk production is expected in the short term. Milk prices are expected to stabilize due to lower demand and the low growth rate in milk production.

Over the medium to long term, the global milk market is still expected to record slight growth due to demand for milk, particularly from emerging markets. However, regional factors, such as unfavorable weather conditions or political decisions, could lead to sharp fluctuations in milk production and prices, which would adversely impact the willingness of dairy enterprises to invest in the short term.

Dairy Processing

In 2022, companies faced supply chain bottlenecks, high transportation costs, and changes in consumer behavior due to increased inflation. As a result, the industry saw only modest growth. Nonetheless, it can still be assumed that global dairy product consumption will continue to rise due to the growing population and per capita income. Demand in emerging markets – especially South Asia – will be a major driver of demand growth, while dairy consumption growth in North America and Western Europe will be relatively modest due to the already high level of per capita dairy consumption.

Enriched as well as functional dairy products are gaining in importance. With consumers still consuming less outside of their homes than before the pandemic, more higher-quality dairy products are being offered for consumption at home. Therefore, dairies are primarily focusing on the flexible production of functional, high-value dairy products as well as the related product innovations. As a consequence, a continued strong focus on small and mid-sized investments, especially for innovative production technologies and system modifications, is still expected.

Food

Following the positive trend in 2021, food demand continued to increase in 2022. The strong recovery in the out-of-home channels in 2021 continued in 2022, albeit at much lower growth rates. The focus of consumers was mainly on preparing and eating food at home. The global demand for food increased in 2022, primarily due to developing countries and emerging markets. In 2023, economies around the world will be burdened by increased and sustained inflation and correspondingly high interest rates. With that in mind, consumers are attempting to reduce spending and delay or cancel non-essential purchases. This includes a shift from buying brand products to less expensive private-label brands. New developments to watch in 2023 focus on the production of meat substitutes and the extension of shelf life. Globally, sales of alternative proteins have slowed significantly. While revenues in less mature markets continue to increase, the key primary driver is negative growth in the U.S., the largest market in the world. However, this does not mean that growth will not resume once the economic situation of consumers improves. A steady increase in global demand for processed foods can be expected in the medium term. The main growth driver here is increasing demand from emerging markets, which, in turn, is driven by growing per capita consumption, population growth and rising incomes.

Beverages

Following a sharp decline in 2020 due to the pandemic, demand for alcoholic beverages continued to recover in 2022 and ultimately returned to 2019 levels. Demand for non-alcoholic beverages, which was less affected by the pandemic, already exceeded 2019 levels in 2022 and is expected to grow at higher rates than before the pandemic over the next few years. Along with an expanding global middle-class population, particularly in emerging economies, the key drivers of growth are the steadily increasing demand for innovative, functional and healthy drinks (e.g. low-sugar drinks, energy drinks and sports drinks, and alcohol-free beer). The trend of global and regional manufacturers increasingly expanding their portfolios of alcoholic and non-alcoholic beverages to participate in the growth in existing and new categories of alcoholic and alcohol-free beverages will continue.

Pharma

Due to the COVID-19 pandemic, the pharmaceutical industry around the world focused its efforts on the development of drugs, particularly vaccines, which ultimately led to especially strong growth in global pharmaceutical production in 2021. The strong growth of 2021 is expected to continue with a lower rate in the coming years. This growth is fueled by the expansion of the global middle class, better access to medical products, especially in the emerging markets, as well as the aging population in advanced economies. The pharmaceutical market is showing solid growth, mainly driven by innovative medicines and increasing demand for better healthcare, especially in emerging markets. Over-the-counter drugs only play a minor role compared to prescription drug sales. The prescription drug market is dominated by original products. While vaccines and antivirals against the coronavirus generated additional revenues and the development of mRNA drugs received a boost, other pharmaceutical areas were negatively impacted. This is mainly attributable to a lower amount of new patients and barriers to healthcare access due to the pandemic. Growth rates have returned to pre-pandemic levels in most segments. Overall, capital expenditure in the pharmaceutical sector is expected to grow slowly in the medium term.

Chemical

After a positive development for the chemical industry in 2021 with global production growth of over 5 percent, negative develops such as rising energy and raw material prices, supply chain issues, and weaker demand impacted global growth in 2022, resulting in growth of less than 2 percent. Further weakening of the global economy and continued high energy and raw material costs, particularly in Europe, are expected to keep chemical production growth at a moderate level in 2023.

In the medium-term, however, the rise in the world's population, ongoing urbanization, and the reclassification of rural land are set to fuel demand for, above all, petrochemicals (petroleum-based chemical products) and specialty chemicals. The still relatively low per-capita consumption of chemical-pharmaceutical products in the emerging markets compared with developed countries is likely to be a major growth driver as well. Capital expenditure is therefore forecast to increase further, particularly in Asia – which now accounts for significantly more than half of global chemical consumption.

Business outlook

The outlook is based on the IMF market forecasts and other assumptions explained in "Economic environment 2023". Following an increase of 3.4 percent in 2022, the global economy is expected to grow by a further, albeit weaker, rate of 2.9 percent in 2023.

Despite the overall positive growth expectations, the current economic environment continues to be characterized by comparatively high energy, material, and personnel costs. GEA intends to meet these challenges in particular by adjusting the prices of its own product, project and service portfolio. The company continues to assume that there will not be another prolonged COVID-19-related lockdown in China and that the war in Ukraine will not escalate. The company also does not expect any significant interest rate hikes by global central banks.

Under these circumstances, GEA is very confident, from its current perspective, in realizing the financial outlook described below. This does not take into account any significant deterioration or improvement in the parameters described beyond the statements made above that could have a negative or positive impact on global economic development or GEA's business performance.

With regard to the 2023 fiscal year, GEA is expecting for the overall group:

Outlook* for fiscal year 2023	Expectations for 2023	2022
Revenue growth (organic)	more than 5 % (significantly rising)	EUR 5,165 million
EBITDA before restructuring expenses (at constant exchange rates)	EUR 730 to 790 million	EUR 712 million
ROCE (at constant exchange rates)	at least 29 %	31.8 %

*) For revenue, "slight" indicates a change of up to +/- 5%, while a change of more than +/- 5% is referred to as "significant".

At the same time, GEA is aiming for a further increase in the EBITDA margin (before restructuring expenses), i.e. a figure of more than 13.8 percent.

GEA is expecting the following trends to materialize for the individual divisions:

Revenue growth (organic)*	Expectations for 2023	2022
Separation & Flow Technologies	significantly rising	EUR 1,416 million
Liquid & Powder Technologies	significantly rising	EUR 1,716 million
Food & Healthcare Technologies	slightly rising	EUR 1,001 million
Farm Technologies	slightly rising	EUR 742 million
Heating & Refrigeration Technologies	significantly rising	EUR 524 million
Consolidation	–	EUR -234 million

*) For revenue, "slight" indicates a change of up to +/- 5%, while a change of more than +/- 5% is referred to as "significant".

EBITDA before restructuring expenses (at constant exchange rates)[1]	Expectations for 2023	2022
Separation & Flow Technologies	slightly rising	EUR 360 million
Liquid & Powder Technologies	significantly rising	EUR 166 million
Food & Healthcare Technologies	significantly rising	EUR 107 million
Farm Technologies	significantly rising	EUR 86 million
Heating & Refrigeration Technologies	significantly rising	EUR 57 million
Others	significantly declining	EUR -65 million
Consolidation	-	EUR 0 million

1) For earnings figures, "slight" indicates a change of up to +/- 10%, while a change of more than +/- 10% is deemed "significant".

ROCE (3rd party; at constant exchange rates)[1]	Expectations for 2023	2022
Separation & Flow Technologies	significantly declining	37.2 %
Liquid & Powder Technologies	–[2]	–[2]
Food & Healthcare Technologies	slightly rising	15.2 %
Farm Technologies	slightly rising	20.0 %
Heating & Refrigeration Technologies	significantly rising	25.5 %

1) GEA defines changes in ROCE of up to +/- 3 percentage points as "slight" and changes in excess of +/- 3 percentage points as "significant".
No ROCE is determined for the "Other" segment.
2) ROCE for 2022 and 2023 is not meaningful due to the negative capital employed.

Further expectations

Dividend policy and dividend proposal

GEA has a strong and sustainable business model. The company wants its shareholders to participate in this with an attractive dividend. A regular payout ratio is targeted of approximately 50 percent of consolidated earnings before restructuring expenses. In addition, in the interest of an attractive dividend policy, GEA aims to pay a dividend that is 5 cents higher than the previous year`s figure.
The Executive Board and Supervisory Board will propose to the Annual General Meeting that a dividend of EUR 0.95 per share, EUR 0.05 higher than in the previous year, be paid out for fiscal year 2022.

Medium-term financial targets to 2026

At the end of September 2021, GEA presented new medium-term financial targets as part of "Mission 26", which it aims to achieve by the end of fiscal year 2026. Accordingly, group revenues are expected to grow organically by an average of 4 to 6 percent annually until then. The EBITDA margin before restructuring expenses is expected to increase to more than 15 percent (2022: 13.8 percent) and ROCE (ratio of EBIT before restructuring expenses to capital employed) is expected to be more than 30 percent at the end of 2026 (2022: 31.8 percent). For more details, please refer to the section "Fundamental Information about the Group".

Summary

Due to the record-breaking order backlog, GEA expects organic revenue growth of more than 5 percent and EBITDA before restructuring measures in a range of EUR 730 to 790 million (at constant exchange rates) in fiscal year 2023. At the same time, GEA is aiming for a further increase in the EBITDA margin (before restructuring expenses), meaning a figure of more than 13.8 percent. The company anticipates that the return on capital employed (ROCE) will be at least 29 percent (at constant exchange rates).

Düsseldorf, March 1, 2023

Stefan Klebert Johannes Giloth Marcus A. Ketter

CONSOLIDATED FINANCIAL STATEMENTS

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03

Consolidated Balance Sheet
as of December 31, 2022

Assets (EUR thousand)	Section	12/31/2022	12/31/2021
Property, plant and equipment	5.1	722,744	649,110
Goodwill	5.2	1,475,571	1,481,241
Other intangible assets	5.3	381,758	381,520
Other non-current financial assets	5.4	46,161	65,382
Other non-current assets	5.5	6,294	4,148
Deferred taxes	7.7	350,131	379,861
Non-current assets		**2,982,659**	**2,961,262**
Inventories	5.6	846,315	714,926
Contract assets	7.1	373,162	335,550
Trade receivables	5.7	730,945	682,460
Income tax receivables		52,002	33,772
Other current financial assets	5.4	70,429	61,038
Other current assets	5.5	131,378	107,223
Cash and cash equivalents	5.8	718,727	928,296
Assets held for sale	5.9	15,394	49,844
Current assets		**2,938,352**	**2,913,109**
Total assets		**5,921,011**	**5,874,371**

Equity and liabilities (EUR thousand)	Section	12/31/2022	12/31/2021
Issued capital		496,945	513,753
Capital reserve		1,217,861	1,217,861
Retained earnings		488,394	282,089
Accumulated other comprehensive income		77,329	62,091
Equity attributable to shareholders of GEA Group AG		**2,280,529**	**2,075,794**
Non-controlling interests		415	417
Equity	6.1	**2,280,944**	**2,076,211**
Non-current provisions	6.2	101,640	142,187
Non-current employee benefit obligations	6.3	605,391	837,134
Other non-current financial liabilities*	6.4	216,898	373,817
Non-current contract liabilities	7.1	4,942	228
Other non-current liablities	6.6	773	1,129
Deferred taxes	7.7	110,990	101,913
Non-current liabilities		**1,040,634**	**1,456,408**
Current provisions	6.2	234,164	236,470
Current employee benefit obligations	6.3	293,117	253,257
Other current financial liabilities*	6.4	260,298	180,743
Trade payables	6.5	791,777	725,563
Current contract liabilities	7.1	839,566	765,933
Income tax liabilities		80,210	65,527
Other current liabilities	6.6	96,971	80,485
Liabilities held for sale	5.9	3,330	33,774
Current liabilities		**2,599,433**	**2,341,752**
Total equity and liabilities		**5,921,011**	**5,874,371**

*) In the previous year, the line items “Other non-current financial liabilities” and “Other current financial liabilities” were designated as “Non-current financial liabilities” and “Current financial liabilities” respectively.

Consolidated Income Statement
for the period January 1 – December 31, 2022

(EUR thousand)	Section	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Revenue	7.1	5,164,714	4,702,905
Cost of sales		3,448,923	3,147,451
Gross profit		**1,715,791**	**1,555,454**
Selling expenses		593,170	546,746
Research and development expenses		98,275	95,248
General and administrative expenses		584,470	545,466
Other income	7.2	615,042	388,253
Other expenses	7.3	595,874	379,842
Net result from impairment and reversal of impairment on trade receivables and contract assets		3,961	4,106
Other financial income	7.5	7,723	4,645
Other financial expenses	7.6	9,751	5,451
Earnings before interest and tax (EBIT)		**460,977**	**379,705**
Interest income	7.5	10,540	7,669
Interest expense	7.6	24,802	29,322
Profit before tax from continuing operations		**446,715**	**358,052**
Income taxes	7.7	71,673	58,521
thereof current taxes		104,926	98,463
thereof deferred taxes		–33,253	–39,942
Profit after tax from continuing operations		**375,042**	**299,531**
Profit or loss after tax from discontinued operations	7.8	**26,386**	**5,641**
Profit for the period		**401,428**	**305,172**
thereof attributable to shareholders of GEA Group AG		401,430	305,174
thereof attributable to non-controlling interests		–2	–2

(EUR)		01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Basic and diluted earnings per share from continuing operations		2.13	1.66
Basic and diluted earnings per share from discontinued operations		0.15	0.03
Basic and diluted earnings per share	7.9	**2.28**	**1.70**
Weighted average number of ordinary shares used to calculate basic and diluted earnings per share (million)		**175.9**	**180.0**

Consolidated Statement of Comprehensive Income
for the period January 1 – December 31, 2022

(EUR thousand)	Section	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Profit for the period		**401,428**	**305,172**
Items, that will not be reclassified to profit or loss in the future			
Actuarial gains/losses on pension and other post-employment benefit obligations	6.3.1	152,989	30,933
thereof changes in actuarial gains and losses		219,174	40,793
thereof tax effect		–66,185	–9,860
Result from fair value measurement of financial instruments		–2,477	–
thereof changes in unrealized gains and losses		–2,477	–
thereof tax effect		–	–
Items, that were reclassified to profit or loss or will be reclassified subsequently			
Exchange differences on translating foreign operations		15,928	57,531
thereof changes in unrealized gains and losses		15,524	57,253
thereof realized gains and losses		404	278
Result from fair value measurement of financial instruments		581	1,160
thereof changes in unrealized gains and losses		801	1,528
thereof tax effect		–220	–368
Reclassification in profit or loss from fair value measurement of financial instruments		–581	–1,160
thereof net result from impairment and reversal of impairment on financial assets		–801	–1,528
thereof tax effect		220	368
Result of cash flow hedges	3.4	1,175	–1,195
thereof changes in unrealized gains and losses	3.4	–373	–1,967
thereof realized gains and losses	3.4	2,051	260
thereof tax effect	3.4	–503	512
Other comprehensive income		**167,615**	**87,269**
Total comprehensive income		**569,043**	**392,441**
thereof attributable to GEA Group AG shareholders		569,045	392,443
thereof attributable to non-controlling interests		–2	–2

Consolidated Cash Flow Statement
for the period January 1 – December 31, 2022

(EUR thousand)	Section	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Profit for the period		401,428	305,172
plus income taxes		71,673	58,521
minus profit or loss after tax from discontinued operations		–26,386	–5,641
Profit before tax from continuing operations		446,715	358,052
Net interest income		14,262	21,653
Earnings before interest and tax (EBIT)		**460,977**	**379,705**
Depreciation, amortization, impairment losses, and reversal of impairment losses on non-current assets		193,065	189,565
Other non-cash income and expenses		18,161	35,172
Employee benefit obligations from defined benefit pension plans		–41,157	–41,801
Change in provisions and other employee benefit obligations		35,153	67,329
Losses and disposal of non-current assets		–2,650	–6,225
Change in inventories including unbilled construction contracts*		–96,611	3,335
Change in trade receivables		–47,975	40,033
Change in trade payables		64,530	63,338
Change in other operating assets and liabilities		–4,455	36,301
Tax payments		–107,425	–90,883
Cash flow from operating activities of continued operations		**471,613**	**675,869**
Cash flow from operating activities of discontinued operations		–2,279	6,132
Cash flow from operating activities		**469,334**	**682,001**
Proceeds from disposal of non-current assets		9,400	13,423
Payments to acquire property, plant and equipment, and intangible assets		–203,802	–129,854
Contribution in non-current financial assets		–	–3,535
Payments from non-current financial assets		–12,439	–1,324
Interest income		4,377	2,104
Dividend income		4,425	4,177
Proceeds from sale of subsidiaries and other businesses		22,262	2,551
Cash flow from investing activities of continued operations		**–175,777**	**–112,458**
Cash flow from investing activities of discontinued operations		–6	–12
Cash flow from investing activities		**–175,783**	**–112,470**
Dividend payments		–159,590	–153,418
Payments for acquisition of treasury shares		–205,578	–93,792
Payments from lease liabilities		–63,682	–61,870
Repayments of borrower's note loans		–50,000	–
Repayments of finance loans		–5,393	–157,743
Interest payments		–13,251	–12,629
Cash flow from financing activities of continued operations		**–497,494**	**–479,452**
Cash flow from financing activities of discontinued operations		–56	–73
Cash flow from financing activities		**–497,550**	**–479,525**
Effect of exchange rate changes on cash and cash equivalents		–5,570	16,339
Change in cash and cash equivalents		–209,569	106,345
Cash and cash equivalents at beginning of period		**928,296**	**821,844**
Cash and cash equivalents total	5.8	**718,727**	**928,298**
thereof restricted cash and cash equivalents	5.8	16,383	109
less cash and cash equivalents classified as held for sale		–	–2
Cash and cash equivalents reported in the balance sheet		**718,727**	**928,296**

*) Including advanced payments received.

Consolidated Statement of Changes in Equity
as of December 31, 2022

(EUR thousand)	Issued capital	Capital reserves	Retained earnings	Accumulated other comprehensive income: Translation of foreign operations	Accumulated other comprehensive income: Result from fair value measurement of financial instruments	Accumulated other comprehensive income: Result of cash flow hedges	**Equity attributable to shareholders of GEA Group AG**	Non-controlling interests	**Total**
Balance at Jan. 1, 2021 (180,492,172 shares)	**520,376**	**1,217,861**	**177,152**	**5,541**	**–**	**101**	**1,921,031**	**418**	**1,921,449**
Profit for the period	–	–	305,174	–	–	–	**305,174**	–2	**305,172**
Other comprehensive income	–	–	30,933	57,531	–	–1,195	**87,269**	–	**87,269**
Total comprehensive income	–	–	336,107	57,531	–	–1,195	**392,443**	–2	**392,441**
Purchase of treasury shares	–6,623	–	–87,170	–	–	–	**–93,793**	–	**–93,793**
Dividend payment by GEA Group Aktiengesellschaft	–	–	–153,418	–	–	–	**–153,418**	–	**–153,418**
Adjustment Hyperinflation*	–	–	1,466	113	–	–	**1,579**	–	**1,579**
Changes in combined Group	–	–	7,952	–	–	–	**7,952**	–	**7,952**
Change in other non-controlling interests	–	–	–	–	–	–	**–**	1	**1**
Balance at Dec. 31, 2021 (178,195,139 shares)	**513,753**	**1,217,861**	**282,089**	**63,185**	**–**	**–1,094**	**2,075,794**	**417**	**2,076,211**
Profit for the period	–	–	401,430	–	–	–	**401,430**	–2	**401,428**
Other comprehensive income	–	–	152,989	15,928	–2,477	1,175	**167,615**	–	**167,615**
Total comprehensive income	–	–	554,419	15,928	–2,477	1,175	**569,045**	–2	**569,043**
Purchase of treasury shares	–16,808	–	–190,457	–	–	–	**–207,265**	–	**–207,265**
Dividend payment by GEA Group Aktiengesellschaft	–	–	–159,590	–	–	–	**–159,590**	–	**–159,590**
Adjustment Hyperinflation*	–	–	740	612	–	–	**1,352**	–	**1,352**
Changes in combined Group	–	–	1,193	–	–	–	**1,193**	–	**1,193**
Change in other non-controlling interests	–	–	–	–	–	–	**–**	–	**–**
Balance at Dec. 31, 2022 (172,365,312 shares)	**496,945**	**1,217,861**	**488,394**	**79,725**	**–2,477**	**81**	**2,280,529**	**415**	**2,280,944**

*) Effect of accounting for Hyperinflation in Argentina and Turkey.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. Reporting principles

1.1 Basis of presentation

The accompanying consolidated financial statements include GEA Group Aktiengesellschaft, Peter-Müller-Strasse 12, 40468 Düsseldorf/Germany (entry HRB 65691 in the commercial register of the Local Court of Düsseldorf) and its subsidiaries, which together make up the GEA group ("GEA"). GEA Group Aktiengesellschaft is a listed corporation. The consolidated financial statements were prepared in accordance with International Financial Reporting Standards (IFRS) and related interpretations issued by the International Accounting Standards Board (IASB), as adopted by the EU in compliance with Regulation (EC) No. 1606/2002 of the European Parliament and of the Council on the application of international accounting standards. The disclosures pertaining to section 315e of the Handelsgesetzbuch (HGB – German Commercial Code) are contained in the Notes to the Consolidated Financial Statements.

The accompanying consolidated financial statements have been prepared in euro (EUR). Unless otherwise stated, all amounts, including the prior-year figures, are presented in thousands of euro (EUR thousand). All amounts have been rounded to the nearest whole number using standard rounding rules. Adding together individual amounts may therefore result in differences in the order of EUR 1 thousand in certain cases.

To improve the clarity of presentation, various items in the consolidated balance sheet and income statement have been aggregated and are explained accordingly in the notes. Assets and liabilities are classified as current and non-current items. The income statement is prepared using the cost of sales method.

The cash flow statement is prepared using the indirect method for cash flow from operating activities and the direct method for cash flow from investing and financing activities.

1.2 First-time adoption of financial reporting standards

The financial reporting standards presented below were applied by GEA for the first time in the year under review:

Standard/Interpretation		Applicable to fiscal years beginning on or after
IFRS 3	Amendments to IFRS 3 "Business Combinations" (issued by the IASB in May 2020)	January 1, 2022
IAS 16	Amendments to IAS 16 "Property, Plant and Equipment" – Proceeds before Intended Use (issued by the IASB in May 2020)	January 1, 2022
IAS 37	Amendments to IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" – Onerous Contracts – Cost of Fulfilling a Contract (issued by the IASB in May 2020)	January 1, 2022
IFRS 1, IFRS 9, IFRS 16 and IAS 41	Improvements to IFRSs 2018–2020 Cycle – amendments under the IASB's annual improvements project (issued by the IASB in May 2020)	January 1, 2022

The initial application of these reporting standards had no significant impact on the consolidated financial statements.

1.3 Financial reporting standards not yet applied

The financial reporting standards and interpretations as well as amendments to existing standards and interpretations presented below were issued but not yet mandatory to be applied to the preparation of the IFRS consolidated financial statements as of December 31, 2022.

Unless otherwise stated, the new standards and interpretations have been adopted into EU law. GEA will not be applying the new standards and interpretations prematurely.

Standard/Interpretation		Applicable to fiscal years beginning on or after
IFRS 10 and IAS 28	Amendments to IFRS 10 and IAS 28 - Sale or Contribution of Assets between an Investor and its Associate or Joint Venture (issued by the IASB in September 2014)	Initial application date postponed indefinitely by IASB
IAS 1	Amendments to IAS 1 "Presentation of Financial Statements" - Disclosure of Accounting Policies (issued by the IASB in February 2021)	January 1, 2023
IAS 8	Amendments to IAS 8 „Accounting policies, changes in accounting estimates and errors" - Definition of Accounting Estimates (issued by the IASB in February 2021)	January 1, 2023
IAS 12	Amendments to IAS 12 „Income Tax" - Deferred Tax related to Assets and Liabilities arising from a Single Transaction (issued by the IASB in May 2021)	January 1, 2023
IFRS 17	IFRS 17 „Insurance Contracts" incl. amendments to IFRS 17 (issued by the IASB in May 2017, June 2020 and December 2021)	January 1, 2023
IFRS 16	Amendments to IFRS 16 „Leases" - Lease Liability in a Sale and Leaseback (issued by the IASB in September 2022)	January 1, 2024 (subject to endorsement by the EU)
IAS 1	Amendments to IAS 1 "Presentation of Financial Statements" - Classification of Liabilities as Current or Non-Current (issued by the IASB in January 2020, July 2020, updated in October 2022)	January 1, 2024 (subject to endorsement by the EU)

GEA does not expect the revised accounting standards to be applied from January 1, 2023 to have any significant impact on the consolidated financial statements due to its current business model. GEA is currently examining the impact on the consolidated financial statements of the revised accounting standards to be applied after January 1, 2023. GEA also does not currently expect any significant impact from their first-time adoption.

2. Accounting policies, and estimates and management judgment

Basis for consolidation

GEA's consolidated financial statements include all significant companies in which GEA Group Aktiengesellschaft directly or indirectly holds the majority of voting rights or otherwise directly or indirectly controls, for example based on contractual arrangements. Control exists when GEA is exposed, or has rights, to variable returns from involvement with the investee on the one hand, and has the ability to affect those returns through its power over the investee on the other. Despite the ongoing Russia-Ukraine war, GEA does not currently envisage any significant, lasting restrictions on the exercise of its rights in relation to the assets or management of its Russian subsidiaries.

Acquired subsidiaries are accounted for using the acquisition method. The consideration and contingent consideration transferred on acquisition as well as the identifiable net assets acquired are generally measured at fair value. Subsequent changes in fair value are recognized in profit or loss. This does not apply to adjustments to provisional figures made during the measurement period.

The difference between the consideration transferred and the interest acquired in the net assets measured at fair value is recognized as goodwill.

The consolidated group changed as follows in fiscal year 2022:

Number of companies	2022	2021
Consolidated group as of January 1	**182**	**188**
German companies (including GEA Group AG)	27	28
Foreign companies	155	160
Initial consolidation*	-	1
Merger	-2	-
Liquidation	-	-2
Sale	-2	-5
Consolidated group as of December 31	**178**	**182**
German companies (including GEA Group AG)	27	27
Foreign companies	151	155

*) Refers to the initial consolidation of GEA (Tianjin) Farm Technology Co.,Ltd. in 2021

A total of 45 subsidiaries (previous year: 48) were not consolidated since their effect on the group's net assets, financial position, and results of operations is not material even when viewed in the aggregate. Their consolidated revenue amounts to 0.2 percent (previous year: 0.1 percent) of the group's aggregate consolidated revenue, while their earnings account for 0.2 percent (previous year: -0.2 percent) of recognized earnings before tax of the complete group, and their equity accounts for 0.7 percent (previous year: 1.2 percent) of consolidated equity. The subsidiaries are measured at cost and recognized as other non-current financial assets, as their fair value cannot be determined with sufficient certainty.

A complete list of all subsidiaries, associates and joint ventures can be found in No. 12.4 of the Notes to the Consolidated Financial Statements.

Investments in associates and joint ventures

Associates are entities over which a group company can exercise significant influence, namely by participating in the investee's financial and operating policy decisions. This generally relates to companies in which GEA directly or indirectly holds 20 to 50 percent of the voting rights.

Joint ventures are joint arrangements whereby the parties involved have joint control over the arrangement and rights to its net assets. Joint control exists when decisions about the relevant activities of the joint arrangement require the unanimous consent of GEA and the other parties that collectively control the arrangement.

Associates and joint ventures are accounted for using the equity method at the group's share of adjusted equity. They are initially recognized at cost. Any goodwill arising on acquisition is included in the carrying amount of the investment.

GEA's share in the earnings of equity-accounted investments in associates and joint ventures is recognized in the income statement within other financial income and other financial expenses. The share of changes not recognized in profit or loss is recognized in other comprehensive income.

Interests in associates and joint ventures are reported in the balance sheet under other non-current financial assets.

As of the reporting date, one investment in associates (previous year: one) and four investments in joint ventures (previous year: four) were accounted for using the equity method.

Acquisitions

Goodwill may have to be reported in the balance sheet as a result of acquisitions. When an acquired company is initially consolidated, all its identifiable assets, liabilities and contingent liabilities are recognized at their acquisition-date fair value. As a rule, land and buildings are measured on the basis of independent appraisals. If intangible assets are identified, their fair values are calculated using an appropriate measurement method. These measurements are made on the basis of assumptions by management with respect to the future value of the relevant assets and the discount rate. Obligations for contingent consideration are recognized on the basis of the current forecast.

Currency translation

The group companies prepare their annual financial statements on the basis of their respective functional currencies.

Foreign currency transactions entered into by companies included in the consolidated financial statements are translated into the functional currency at the exchange rate prevailing at the transaction date. Monetary assets and liabilities are translated at the applicable exchange rate at each reporting date. The exchange rate gains and losses resulting from these items are generally reported in the income statement under other income or expenses.

All financial statements of companies whose functional currencies differ from the reporting currency are translated into the reporting currency used in GEA's consolidated financial statements. The assets and liabilities of the companies included in the consolidated financial statements are translated at the middle rates prevailing at the reporting date. The income statements of these companies are translated at the average rates for the period under review. If these average rates are not a reasonable approximation of the actual transaction rates, the income statements are translated at the relevant transaction rates. In the case of countries with high levels of inflation, currencies are always translated at the closing rate. Any translation differences are reported in equity under other comprehensive income and adjusted.

Property, plant and equipment

Items of property, plant and equipment are carried at cost less cumulative depreciation and impairment losses, plus reversals of impairment losses.

Items of property, plant and equipment are depreciated on a straight-line basis using the relevant residual values and the following useful lives:

	Useful life in years
Buildings and parts of buildings	2 to 60
Technical equipment and machinery, other equipment	2 to 25
Operating and office equipment	2 to 25

Expenses for major regular maintenance are amortized over the remaining useful life of the asset concerned or over the period to the next maintenance date.

Please refer to the section "Impairment losses on property, plant and equipment, and intangible assets" for information on the impairment of property, plant and equipment.

Leases

GEA assesses at contract inception whether a contract is, or contains, a lease.

As lessee, GEA recognizes the cost of the right-of-use asset in the amount of the present value of the future lease payments plus directly attributable costs at the commencement date. The right-of-use asset is depreciated over the lease term (scheduled depreciation) and adjusted, where necessary, for impairment losses and any re-measurement of lease liabilities. If ownership passes to GEA at the end of the lease term, e.g., because the company has exercised a purchase option, the underlying asset is subject to scheduled depreciation over its useful life.

At the commencement date, a liability equal to the present value of future lease payments must be recognized for each lease agreement. Rather than separating leasing from non-leasing components, GEA accounts for each leasing component and all its associated non-leasing components as a single leasing component.

Essentially, as the lessee, GEA uses the incremental borrowing rate for discounting future lease payments, since the rate implicit in the lease cannot easily be determined. During the term of the lease, the lease liability is measured using the effective interest method.

GEA has concluded several leasing agreements, mainly in the real estate area, that include renewal and termination options. While some of its vehicle lease arrangements feature purchase options. Contractual terms of this kind offer GEA a maximum of operational flexibility. In assessing whether GEA is reasonably certain or not to exercise such options, GEA takes all facts and circumstances into consideration that are relevant in financial terms. The measurement of the lease liability takes into account all options whose exercise is deemed to be reasonably certain.

The lease liabilities are remeasured if there is a change in the assessment of purchase, renewal or termination options, or if adjustments to lease payments are made.

GEA applies the relevant recognition exemption to leased assets of low value and to short-term leases (agreements of 12 months and less), which means that lease expenses will be recognized for such arrangements. GEA has decided against voluntarily applying IFRS 16 to its intangible assets.

The group discloses right-of-use assets within property, plant, and equipment in the same balance sheet item as the underlying assets, in the same way as if they were owned by GEA. GEA is disclosing lease liabilities as part of its financial liabilities.

Material lease agreements are to be found primarily in the areas of real estate, vehicles and IT. The average residual term of IT equipment and vehicle lease agreements is around two years, while for real estate it is around three years.

Where GEA is the lessor, leases are classified either as finance or operating leases. Leases which essentially transfer all risks and rewards associated with ownership of the asset are classified as finance leases. A receivable is reported in the amount of the net investment under the lease. The interest income subsequently generated is recognized in profit or loss. All other lease transactions in which the group is the lessor are treated as operating leases. In this case, the asset leased for use remains on the balance sheet and is amortized. The lease payments are recognized as income using the straight-line method over the term of the lease.

Please refer to the section “Impairment losses on property, plant and equipment, and intangible assets” for information on the impairment of right-of-use assets.

Investment property

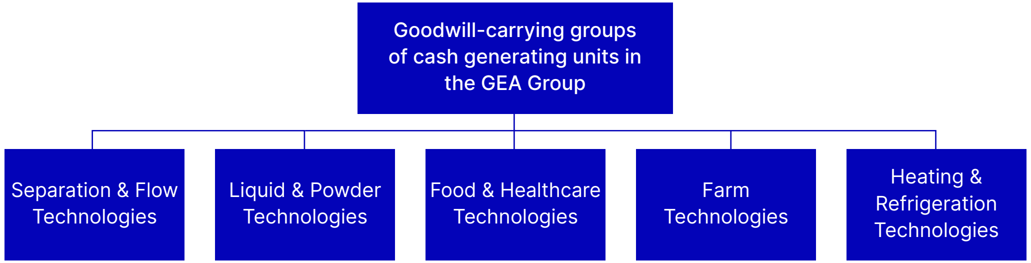
Property that is held to earn rentals or for capital appreciation is reported as investment property. In the case of property that is held partly to generate rental income and partly to produce or supply goods or services, or for administrative purposes, the entire property is classified as investment property if the own use proportion is insignificant. This is assumed to be the case if the proportion is below 10 percent.

Costs are depreciated using the straight-line method over a period of between 10 and 50 years. Please refer to the section “Impairment losses on property, plant and equipment, and intangible assets” for information on the impairment of investment property.

Investment property is reported in the balance sheet under property, plant and equipment.

Goodwill

Goodwill arising from business combinations is recognized as an intangible asset.



Please refer to the section “Impairment losses on property, plant and equipment, and intangible assets” for information on the impairment of goodwill.

Other intangible assets

Other intangible assets include both internally generated and purchased assets. Internally generated intangible assets comprise capitalized development costs and internally developed software. In addition to contract-based rights, purchased intangible assets mainly contain technologies, brand names and customer relationships. Technologies, brand names and customer relationships are usually acquired in connection with takeovers. Internally generated and purchased intangible assets are recognized at cost.

Intangible assets with finite useful lives are amortized on a straight-line basis using the following useful lives:

	Useful life in years
Market-related intangible assets	2 to 20
Customer-related intangible assets	2 to 20
Contract-based intangible assets	2 to 20
Technology-based intangible assets	2 to 20
Internally generated intangible assets	2 to 20

Indefinite-lived intangible assets are examined each year to determine whether the classification of the asset as indefinite-lived can be retained. Any change to a finite useful life is applied prospectively.
Please refer to the section “Impairment losses on property, plant and equipment, and intangible assets” for information on the impairment of other intangible assets.

Impairment losses on property, plant and equipment, and intangible assets

The carrying amounts of intangible assets, items of property, plant and equipment, and groups of cash-generating units with goodwill are reviewed if they are likely to have been impaired by events or changes in circumstances. In addition, indefinite-lived intangible assets and cash-generating units with goodwill are tested for impairment at least once a year.

The impairment test compares the asset’s carrying amount against its recoverable amount (“impairment test”). The recoverable amount is defined as the higher of internal value in use and fair value less costs of disposal (net realizable value). An estimate of fair value less costs to sell is only required if the value in use is less than the carrying amount. If the carrying amount exceeds the recoverable amount, an impairment loss in the amount of the difference is recognized. In this case, the impairment loss is first deducted from the goodwill of the cash-generating unit with goodwill. Any amount exceeding goodwill is allocated proportionately to the carrying amounts of non-current non-financial assets. Fair value less costs of disposal is generally the benchmark for measuring the impairment of business units classified as “held for sale“.

Previously recognized impairment losses are reversed if the reasons for the impairment no longer apply, except in the case of goodwill. Impairment losses are reversed up to a maximum of the amortized historical cost.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

At GEA, financial assets include trade receivables, cash and cash equivalents and other financial assets.

Financial assets are recognized as soon as GEA receives a cash payment or is entitled to receive cash flows. In the case of regular way purchases of non-derivative financial assets, the settlement date, i.e. the delivery date of the financial assets, is decisive. Assets are derecognized as soon as the right to receive cash payments or other financial assets expires as a result of payment, waiver, statutory limitation, offsetting, or any other factor, or the right is transferred to another person, with the risks passing in full to the purchaser. In the case of regular way sales of non-derivative financial assets, the settlement date is taken to be the date of derecognition, in line with the principle used for recognition.

Depending on the company’s business model for managing these financial assets and on the assets’ contractual cash flow characteristics, financial assets are recognized either at amortized cost or at fair value using the effective interest method. In the case of financial assets not measured at fair value, directly attributable transaction costs are included on initial recognition.

Any fluctuation in value during fair-value measurement are recognized either through profit or loss or through other comprehensive income. Financial assets measured at amortized cost are measured by applying the effective interest method in subsequent periods, and are to be tested for impairments. Gains and losses are recognized in profit or loss if the asset is derecognized, modified or impaired.

Individual financial assets are tested for indications of impairment at each reporting date. The assessment of impairment risks is subject to uncertainty and is partly influenced by management judgment. An impairment loss is recognized in the amount of the expected lifetime credit defaults. Additional information concerning credit risks related to trade receivables may be found in No. 3.1 of the Notes to the Consolidated Financial Statements.

At GEA, financial liabilities include trade payables and other financial liabilities.

Initial recognition of these financial instruments is at fair value, less transaction costs incurred. With the exception of derivative financial instruments, they are subsequently measured at amortized cost using the effective interest method.

Trade receivables

Trade receivables include no interest component and are recognized in the balance sheet at their principal amount less appropriate impairments.

Trade receivables that are sold to financial services companies under factoring agreements are derecognized once substantially all the risks and rewards have been transferred to the financial services company. Trade receivables that are not derecognized in this context are classified as “measured at fair value through other comprehensive income” (FVOCI).

Cash and cash equivalents

Cash and cash equivalents comprise cash, demand deposits and highly liquid financial assets that are readily convertible to known amounts of cash at any time and are subject to only insignificant risk of changes in value.

Other financial assets

Other financial assets include other equity investments, other securities, financial receivables (except trade receivables) and derivative financial instruments.

Other equity investments not held for sale are allocated to the “at fair value through other comprehensive income” (FVOCI) measurement category. In some cases, the acquisition costs can be an appropriate estimate of the fair value. This can be the case if there is not enough current information available to measure fair value, or if there is a wide range of potential measurements for the fair value and the acquisition costs correspond to the best estimate of the fair value within that range.

In the case of debt instruments measured at fair value through other comprehensive income, any interest income, re-measurements of currency translation gains/losses, and impairment losses/reversals of impairment losses are carried in the income statement and measured in the same way as financial assets measured at amortized cost. The remaining changes in fair value are recognized in other comprehensive income. When the asset is derecognized, the accumulated gain or loss resulting from changes in fair value are reclassified to the income statement.

Derivative financial instruments are used exclusively for hedging purposes, in particular to hedge currency risk. They are always carried at fair value. If derivative financial instruments are not included in a designated hedging relationship, they are allocated to the “Measured at fair value through profit or loss” (FVTPL) category, and their fair value changes are recognized through profit or loss.

Trade payables

Trade payables also include liabilities for goods received or services rendered that have been invoiced by or formally agreed with the supplier. There is a low uncertainty regarding the amount of the obligation of services not yet invoiced. Trade payables are recognized at fair value. This corresponds to the settlement amount in the case of liabilities due within one year.

GEA participates in a Supply Chain Finance (SCF) program. Under this program, GEA's suppliers can sell their receivables to a bank to receive earlier payment. The participating bank agrees to pay invoiced amounts owed by GEA to the participating suppliers and to receive payment from GEA at a later date. The aim of this program is to facilitate the efficient processing of payments.

This agreement does not result in any material changes to the liabilities that are subject to it, nor does it provide for a legal exemption. As a result of this program, these liabilities are not derecognized.

From GEA's perspective, the agreement does not significantly extend invoice payment terms beyond those that are customary in the market. GEA does not incur any additional interest charges on the payment of trade payables to the bank. Amounts related to suppliers that are subject to factoring are therefore reported under trade payables, as the nature and purpose of such liabilities corresponds to other trade payables and thus form part of the working capital used in GEA's normal business cycle.

Other financial liabilities

Other financial liabilities include borrower's note loans, liabilities to banks, lease liabilities and miscellaneous other financial liabilities. Other financial liabilities also include derivative financial instruments. The recognition and measurement methods presented under other financial assets also apply in this case.

Other assets

Other assets are generally recognized at their nominal value. Other non-current assets also include the net assets resulting from defined benefit pension plans.

Taxes

Deferred taxes are recognized for temporary differences between the carrying amounts in the respective national tax accounts and those in the IFRS financial statements that are included in the consolidated financial statements, as well as on consolidation transactions and tax loss carryforwards.

When assessing the recoverability of deferred tax assets, management judges the extent to which realization of the deferred tax assets is sufficiently likely. The question of whether the deferred tax assets can actually be realized depends on whether sufficient future taxable income can be generated against which the temporary differences or tax loss carry-forwards can be offset. Management therefore analyzes the timing of the reversal of deferred tax liabilities and expected future taxable income. Management expects that deferred tax assets can be realized on the basis of expected future taxable income. Deferred tax assets decline if the estimate of expected taxable income decreases, if tax benefits available as a result of tax strategies are reduced, or if the amount or timing of future tax benefits is restricted by changes in the law (further details can be found in the No. 7.7 of the Notes to the Consolidated Financial Statements).

Deferred tax assets and liabilities are offset if there is a legally enforceable right to set off current tax assets against current tax liabilities and if the deferred taxes relate to income taxes levied by the same taxation authority.

Deferred tax liabilities are not recognized on taxable temporary differences arising from investments in subsidiaries, associates, or joint ventures as long as the Company is able to control the timing of the reversal of temporary differences, and reversal is unlikely in the foreseeable future.

IFRIC 23 provides clarification on how to apply the recognition and measurement requirements set out in IAS 12 when uncertainty exists about the income tax treatment and covers current and deferred tax assets or liabilities. In making the assessment, the assumption must be made that tax authorities will audit all amounts within their authority and that they possess all the relevant information required to audit such amounts. In cases where it is considered unlikely that the tax authority will accept uncertain tax treatment, either the most likely amount or the expected amount is to be applied to each instance of uncertain tax treatment, depending on which method is more appropriate for predicting the resolution of the uncertainty concerned.

Companies within the group are subject to tax in a large number of different jurisdictions. The interpretation of tax regulations in particular may be subject to uncertainty when assessing worldwide income tax assets and liabilities. Differing points of view taken by the respective tax authorities with regard to the correct interpretation of tax laws and regulations cannot be ruled out. Changes in assumptions about the correct interpretation of tax laws and regulations, such as those resulting from changes in interpretations by the courts, are reflected in the recognition of uncertain income tax assets and liabilities within the relevant fiscal year.

Inventories

Inventories are recognized at the lower of cost and net realizable value. Acquisition cost is calculated at average cost or using the first-in, first-out (FIFO) method. Production cost includes direct costs plus materials and production overheads, depreciation, and production-related administrative costs. Net realizable value is calculated as the estimated sale proceeds less costs incurred until completion and selling expenses. Previously recognized impairment losses must be reversed if the reasons for the impairment no longer apply. Impairment losses are reversed up to a maximum of the amortized historical cost.

Costs of obtaining customer-specific project contracts (which are to be capitalized under IFRS 15) are carried in inventories and subject to scheduled amortization over the contract term. In cases where the amortization period would amount to one year or less, the incremental costs of obtaining a contract are expensed immediately.

Assets held for sale, liabilities held for sale, and discontinued operations

A non-current asset or a disposal group is classified as “held for sale” when its carrying amount is to be recovered principally through a sale transaction rather than through continued use. These are reported separately in the balance sheet as “assets held for sale” or “liabilities held for sale”. On initial classification as “held for sale”, non-current assets or assets and liabilities of disposal groups are first measured in accordance with the applicable IFRS. They are then measured at the lower of their carrying amount and fair value less costs to sell. Disposal groups are measured in aggregate. These assets cease to be depreciated when they are classified as “held for sale”.

If a disposal group represents a separate major line of business or geographical area of operation, it qualifies as a discontinued operation whose income and cash flows are reported separately in the income statement and cash flow statement respectively. Prior-year figures are also adjusted accordingly. Revenue and expenditures from intra-group transactions are taken into account when presenting results from discontinued operations if they continue to be incurred after the disposal of a discontinued operation.

As a general principle, the disclosures in the notes to the consolidated financial statements relate to the assets or liabilities recognized in the corresponding line items and to continuing operations. Where disclosures relate to GEA including assets held for sale, as well as the associated liabilities, and discontinued operations, this is indicated either by a statement that the disclosures refer to the complete group, or by another comment.

Subscribed capital

Ordinary shares are classified as equity. In fiscal years when treasury shares are held, these are deducted from the equity attributable to the shareholders of GEA Group Aktiengesellschaft and issued capital is reported in lieu of subscribed capital.

Obligations under pension plans

Obligations under pension plans relate to post-employment benefit obligations. Defined benefit obligations are calculated using the projected unit credit method. The present value of these obligations reflects expected future wage, salary and pension trends, since the entitlements achievable in the period up to the retirement age depend on these. The present value of the pension obligations is also based on further actuarial assumptions, namely the discount rate and mortality rates. Claims under supplementary healthcare benefit insurance are included in the actuarial measurement of assumptions made in respect of healthcare cost trends. The actuarial assumptions could differ significantly from actual future outcomes as a result of changes in market and economic conditions, and could therefore have a material effect on the level of the obligation and the related expenses. The pension obligations are measured on the basis of actuarial reports by independent actuaries.

In order to provide these pension benefits, the company in some cases holds financial assets in long-term funds outside GEA or has taken out qualifying insurance policies. To the extent that entitlements are funded by such external assets (plan assets), their fair value is offset against the present value of the defined benefit obligation. The resulting balance is reported under non-current employee benefit obligations or other non-current assets (net carrying amount). The discount rate used to measure the net carrying amount is calculated at the end of each year. This is the rate used to calculate the present value of future cash outflows expected to be required to settle the obligation. In order to calculate the discount rate, the group uses the interest rate on high-quality corporate bonds denominated in the same currency in which the benefits are paid and whose terms to maturity correspond to those of the pension obligations.

Other significant assumptions relating to pension obligations are partly based on market conditions (further details can be found in No. 6.3.1 of the Notes to the Consolidated Financial Statements).

Actuarial gains and losses from the re-measurement of the net carrying amount are recognized in other comprehensive income in the year in which they arise and reported in retained earnings after adjustment for tax effects. This also applies to the recognition of the difference between the actual returns on plan assets and the returns calculated using the discount factor. Costs from unwinding the discount on the net carrying amount are recognized in interest expenses; income is recognized in interest income. Current and past service cost for the period, as well as gains and losses from settlements, are recognized in the relevant function costs.

Other employee benefit obligations

Other employee benefit obligations comprise other long-term benefits and all short-term benefits. Short-term employee benefit obligations are expected to be settled in full no more than 12 months after completion of the service rendered. They include wages, salaries, social insurance contributions, paid vacation, and profit-sharing arrangements. They are recognized as an expense at the same time as the remunerated work or service is discharged. Any expenditure in excess of the payments already made is reported as a deferred liability at the reporting date. Other long-term employee benefits, such as jubilee payments or partial retirement arrangements, are recognized at the actuarial present value of the obligation at the reporting date. Securities are pledged to the beneficiaries to protect vested partial retirement credits against the employer’s insolvency. The fair value of these securities is offset against the corresponding liability.

Also reported under other employee benefit obligations are liabilities in respect of severance payments and social plans resulting from, among other things, obligations in connection with restructuring provisions.

Restructuring provisions

Restructuring provisions are recognized as soon as the company has a constructive obligation to carry out restructuring measures, having given notice of the restructuring plan to the parties affected. In assessing whether the criteria for recognition have been met, the management must make certain assumptions as to whether the announcement has given rise to valid expectations among the parties affected that the company will carry out the restructuring, and whether major changes to the restructuring plan are anticipated.

In order to determine the amount of the restructuring provisions, management must, above all, estimate the amount of the expected severance payments. To this end, the management must make assumptions with regard to the wage structure and length of service of the employees affected by the cuts, as well as to the manner in which the downsizing program is to be implemented. Severance obligations recognized in this context are reported under employee benefit obligations.

Provisions

Provisions for uncertain liabilities are recognized where there is a legal or constructive obligation to a third party, a future outflow of resources is likely, and the expected settlement value can be estimated reliably. The present value of the settlement amount is recognized if the interest rate effect is material. Amounts are discounted at the market rates for the appropriate maturity and currency. Discount unwinding costs are reported in interest expense.

Changes in the estimated probability of a present obligation, the outflow of resources embodying economic benefits, or the interest rate applicable could result in items previously classified as contingent liabilities needing to be reported as provisions, or could also lead to a requirement to adjust the amount of provisions (further details can be found in the No. 6.2 of the Notes to the Consolidated Financial Statements). In the area of environmental protection and mining, in particular, the applicable interest rate has a significant impact on the amount of the provisions. In some cases, the duration of the expected obligations is far longer than the period for which interest rates with corresponding residual terms are available on the market. GEA therefore derives the interest rate to be applied for the appropriate term on the basis of reliable and most recently available historical market data over an extended period under consideration.

When establishing warranty provisions, the warranty expense at the time when the reserve is recognized is reported in cost of sales. In all other cases, provisions are recognized when the product is accepted. The provision is measured on the basis of both the warranty expense actually incurred in the past and on the evaluated overall risk inherent in the system or product. Provisions are also recognized if a claim is made under a warranty and a loss is likely. Recourse claims against suppliers are capitalized if their services are subject to a warranty and it is highly likely that the claim can be enforced.

Provisions for expected losses from onerous contracts are recognized if the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The unavoidable costs also include the unavoidable overheads needed to meet the contractual obligations.

In some cases, GEA companies are parties to litigation. The outcome of this litigation could have a material effect on the group's net assets, financial position, and results of operations. Management regularly analyzes current information on these legal disputes and recognizes provisions for probable obligations, including estimated legal costs. Both internal counsel and external lawyers are used for making this assessment. When deciding on the need to recognize provisions, management takes into account the probability of an unfavorable outcome and its ability to estimate the amount of the obligation with sufficient reliability. The filing of a suit or the formal filing of a claim against a GEA company does not necessarily imply that a provision must be recognized for the corresponding risk (further details can be found in No. 8.1 of the Notes to the Consolidated Financial Statements).

Other liabilities

Other liabilities that solely consist of non-financial liabilities are recognized at the settlement amount.

Contract assets and liabilities

Contract assets are recognized if the contract costs incurred and the gains recognized exceed the progress billings and advance payments received or due. Advance payments on orders and the gross amount due to customers for contract work are carried under "contract liabilities." Advance payments on orders are stated at their nominal amount. If the advance payments received or due exceed the capitalized costs and recognized gains, less the progress billings at the reporting date, they are reported as a liability under contract liabilities.

Revenue Recognition

GEA reports revenue according to three revenue types, namely construction contracts, components business and services:

- Revenues from construction contracts are recognized over time in accordance with IFRS 15 ("percentage-of-completion method") since the customer obtains control through their specifications over the duration of the contract and because GEA is entitled to reimbursement of the costs incurred so far, plus an appropriate margin, if the customer cancels a contract. The percentage of completion is determined using the cost-to-cost method, which is derived from the ratio of contract costs incurred to the total estimated contract costs as of the reporting date. Contract costs include direct costs plus materials and construction overheads, depreciation, production-related administrative costs, and such other costs that are specifically chargeable to the customer under the terms of the contract. Adjustments are made for variations in contract work, claims, and incentive payments insofar as these will probably result in revenue that is capable of being reliably estimated. Changes in estimates or differences between the estimated cost and the actual cost have a direct impact on recognized earnings from construction contracts. In addition, estimation limits must be observed. In line with this method, construction contracts are measured at the amount of the contract costs incurred as of the reporting date plus the profit attributable to the proportion of work completed. The costs incurred and the related profits are reported under contract assets, less progress billings and advance payments received or due. If, while a performance obligation is being satisfied, the contract costs incurred are not proportionate to the progress of the performance of said contract, revenues will be recognized only to the extent of the contract costs incurred ("zero-profit method"). A profit is only recognized when the contract costs incurred are matched by corresponding progress of the performance of the contract. Contract costs are recognized as an expense in the period in which they are incurred. If it is foreseeable that total contract costs will exceed contract revenue, the expected loss is recognized as an impending loss according to IAS 37.
- Revenue from the sale of components is recognized when such components are transferred to the customer and the contractual performance obligations are therefore met. Performance obligations are satisfied as the customer obtains control over the goods sold to them, i.e. when they can direct the use of and obtain essentially all of the remaining benefits from the goods.
- Revenue from services is recognized over the period in which the service is performed. If only the sale of spare parts is involved, revenue is recognized at a specific point in time.

Revenue is measured at the fair value of the consideration received or to be received. Customer bonuses, discounts or rebates reduce the amount of revenue recognized. Payments for differences in the overall contract, claims, and premiums are included in the contract revenue as variable components. The amount of such payments is calculated at contract inception using the "expected-value" method – if there are several different possible amounts – or the "most likely amount" method – if there are just two possible amounts. The effects of significant financing components can be ignored when determining the amount of revenue to be recognized if the vendor expects, at contract inception, that the period between the transfer of a promised good or service to the customer and the date of payment will be one year or less. Discretion must be applied when judging whether or not revenues are to be recognized "over time", as well as with regard to the allocation of the transaction price to the performance obligation. Where stand-alone selling prices are not directly observable, these are estimated.

Share-based payment

GEA provides share-based payment programs for the Executive Board and selected managers in the form of cash-settled plans, which are recognized as an expense over the vesting period. Entitlements under these plans are recognized at fair value as of the reporting date. Changes in the fair value of the provision for share-based payment programs are recognized as an interest expense or interest income (further details can be found in No. 6.3.3 of the Notes to the Consolidated Financial Statements).

Research and development

Research expenditures are recognized immediately as an expense. Development expenses intended to significantly enhance a product or process are capitalized, provided that the recognition criteria of IAS 38 are satisfied. All other development expenditures are recognized immediately as expenses. Capitalized development expenditures for completed projects are reported at cost less cumulative amortization and impairment losses. Capitalized development costs for intangible assets not yet available for use are tested for impairment once a year.

Development costs that are required under construction contracts are capitalized as part of the cost of the asset.

Government grants

Government grants are recognized at fair value, provided the group meets the conditions necessary to receive the grant. Government grants covering expenses, such as short-time allowances or similar measures, are recognized over the period in which such costs are incurred. Government grants for capital expenditure are deducted from the acquisition cost of the respective asset.

Accounting in high-inflation economies

Financial statements are adjusted on the basis of historical costs of acquisition and sales, whereby line items in the balance sheet that are not yet expressed in a monetary unit must be translated using a general price index. The same applies to income and expenses. Translation of monetary assets and liabilities is not required if they are subject by contractual arrangement to changes in price or are expressed as current values.

Management judgment and estimates

Preparation of the consolidated financial statements requires management to make judgments and estimates to a limited extent. These relate to the application of accounting policies and reported amounts of assets and liabilities as well as of income and expenses. The estimates are based on all currently available information. Results that actually occur may differ from these estimates.

Estimates and their underlying assumptions are continuously reviewed. Adjustments of estimates are recognized prospectively.

Management judgment

The following table shows material management judgment.

	Material management judgment
Goodwill and other intangible assets	• Valuation based on management assumptions using the discounted cash flow method
Restructuring provisions	• Management's assessment of whether there is a valid expectation that the restructuring will be implemented and whether there are significant changes to the restructuring plan
Classification and evaluation under IFRS 5	• Consideration of all events and circumstances relevant in assessing the timing of classification of a non-current asset or a disposal group as “held for sale”
Revenue recognition	• Recognition of revenues from construction contracts over time or at a point in time

Estimates

Material estimates are described in the following table.

	Material estimates
Goodwill and other intangible assets*	• Determination of the discount rate using capital market parameters • Estimation of future cash flows
Taxes*	• Management's estimate of the recoverability of deferred tax assets based on expected future taxable income
Restructuring provisions	• Estimation of the amount of expected severance payments, considering management's assumptions regarding the salary structure, length of service of the employees affected by the reduction in force and the manner in which the reduction in force will be implemented
Provisions and contingent liabilities*	• In making management's decision on the need for a provision, consideration is given to the probability of an unfavorable outcome and the ability to estimate the amount of the obligation with sufficient reliability • Recognition of items previously classified as contingent liabilities as provisions or changes in provision amounts due to changes in the probability estimate of a present obligation of the economic outflow of resources as well as the applicable interest rate are possible • Derivation of the interest rate to be applied on the basis of reliable and most recently available historical market data over an extended observation period for provisions where the duration of the expected obligation is far in excess of the period for which the interest rate can be read directly on the market with corresponding residual terms • Derivation of the cost increase rate to be applied based on reliable and most recently available market data
Obligations from pension plans*	• Determination of the present value taking into account actuarial assumptions • Determination of the discount rate
Trade receivables*	• Recognition of impairment losses in the amount of the loan losses expected over the entire remaining term to maturity
Revenue recognition	• Determination of the stage of completion from the ratio of contract costs incurred up to the reporting date to the total contract costs estimated at the reporting date („cost-to-cost” method) when revenue is recognized over time • Determination of revenues from variable components based on the expected value method or the most probable amount method

*) Influenced by the current macroeconomic environment that results from remaining pandemic impacts, inflation, increase of interest rates and geopolitical risks.

3. Risk management and financial instruments

3.1 Financial Risk Management

Basic information concerning financial risk management is provided in the Group Management Report in the section entitled “Opportunities and Risk Report”, subsection “Financial Risks“.

Credit risk

Impairments on financial instruments measured at fair value through other comprehensive income amounted to EUR 4,183 thousand (previous year: EUR 14,902 thousand) as of the reporting date.

The maximum credit risk is limited to the carrying amount of the financial instruments and the contract assets.

Additional information concerning credit risks in general is provided in the Group Management Report in the section entitled “Opportunities and Risk Report”, subsection “Financial Risks“.

Trade receivables and contract assets

GEA applies the “simplified approach” to trade receivables and contract assets, and recognizes lifetime expected credit losses as soon as the assets are recorded. In the context of this simplified approach, GEA calculates expected credit losses according to risk category while taking into account historic loss rates. Assignment to a specific risk category is based on common credit risk attributes. For GEA, these are the customer’s geographical location and the aging structure of the related asset. In order to take forward-looking information into account, historic loss rates were adjusted using scaling factors. These were based on predictions of the gross domestic product (GDP) of the corresponding regions. As of December 31, 2022, the weighted average scaling factor is 1.1. It was 1.3 as of December 31, 2021.

Due to the Russia-Ukraine war, GEA has analyzed the effects of considering Russia as a separate risk category on expected credit losses. Considering Russia as a separate risk category did not result in any material effects on expected credit losses.

Contract assets relate to ongoing work that has yet to be invoiced. Essentially, they exhibit the same risk characteristics as trade receivables for the same types of contract. GEA has thus concluded that the predicted loss rates for trade receivables that are not overdue constitute a best estimate with which to represent the loss rates pertaining to contract assets.

An individual impairment is made when one or more events have occurred that adversely affect the debtor’s financial standing. These events include delays in payment, threat of insolvency, and concessions made by the debtor due to payment difficulties.

Trade receivables and contract assets are derecognized immediately when there is reasonable doubt as to their realizability. This is the case, for instance, if the debtor is found to be insolvent.

The table below shows the expected credit losses on trade receivables and contract assets that are not credit-impaired as of December 31, 2022:

(EUR thousand)	Gross carrying amount	Weighted average loss rate	Range of loss rates	Loss allowance
Not overdue	999,337	0.86%	0.10% - 5.10%	8,591
of which contract assets	376,191	0.81%	0.10% - 5.10%	3,029
of which trade receivables	623,146	0.89%	0.10% - 5.10%	5,562
Overdue (trade receivables)	94,530	4.70%	0.60% - 75.00%	4,447
of which overdue less than 181	88,853	3.03%	0.60% - 23.30%	2,688
of which overdue between 181 and 360	3,217	19.40%	4.90% - 45.50%	624
of which overdue between 361 and 720	1,781	36.72%	11.10% - 75.00%	654
of which overdue more than 720	679	70.80%	47.40% - 75.00%	481
Total	**1,093,867**			**13,038**

The table below shows the expected credit losses on trade receivables and contract assets that are not credit-impaired as of December 31, 2021:

(EUR thousand)	Gross carrying amount	Weighted average loss rate	Range of loss rates	Loss allowance
Not overdue	929,427	1.06%	0.20% - 4.40%	9,838
of which contract assets	338,674	0.92%	0.20% - 4.40%	3,124
of which trade receivables	590,753	1.14%	0.20% - 4.40%	6,714
Overdue (trade receivables)	82,770	5.32%	0.70% - 75.00%	4,401
of which overdue less than 181	77,232	3.59%	0.70% - 14.20%	2,775
of which overdue between 181 and 360	3,679	17.91%	3.90% - 36.90%	659
of which overdue between 361 and 720	1,276	41.54%	8.30% - 61.40%	530
of which overdue more than 720	583	75.00%	75.00%	437
Total	**1,012,197**			**14,239**

The table below reconciles the impairments on trade receivables and contract assets as of January 1 with the impairments as of December 31:

	2022	2021
Impairments as of January 1	**76,993**	**89,357**
Derecognition	–9,739	–8,393
Expenses from remeasurement of impairments (Reversal)	–15,114	–20,807
Income from remeasurement of impairments (Addition)	11,153	16,701
Exchange rate effects	1,312	3,146
Other changes	–33	–3,011
Impairments as of December 31	**64,572**	**76,993**

During the 2022 fiscal year, the change in the impairments was essentially related to credit-impaired trade receivables and contract assets. At EUR 3,655 thousand, the largest decline in impairments was attributable to the DACH (Germany, Austria, and Switzerland) and Eastern Europe region. Further material declines of EUR 3,200 thousand were attributable to the Asia Pacific region, EUR 2,254 thousand to the North America region and EUR 2,221 thousand to the Western Europe, Middle East and Africa region. In the remaining regions, impairment losses decreased by EUR 1,091 thousand.

During the 2021 fiscal year, the change in the impairments was essentially related to credit-impaired trade receivables and contract assets. At EUR 7,793 thousand, the largest decline in impairments was attributable to the Western Europe, Middle East and Africa region. Further material declines of EUR 3,187 thousand were attributable to the Northern and Central Europe region and EUR 2,076 thousand to the North America region. In the remaining regions, impairment losses increased by EUR 692 thousand.

In fiscal year 2022, trade receivables with a contractual amount of EUR 1,479 thousand (previous year: EUR 332 thousand) were still subject to enforcement activity.

Any collateral for trade receivables or contract assets had no material effect on the scale of the impairments calculated.

Additional information concerning credit risks related to trade receivables and contract assets is provided in the Group Management Report in the section entitled “Opportunities and Risk Report”, subsection “Financial Risks“.

Cash and cash equivalents

The estimated impairment on cash and cash equivalents was calculated on the basis of expected credit losses within a 12-month period. External ratings and short remaining maturities lead GEA to believe that the credit risk pertaining to its cash and cash equivalents is low. No material impairments on cash and cash equivalents were identified in fiscal year 2022.

Additional information concerning credit risks associated with cash and cash equivalents is provided in the Group Management Report in the section entitled “Opportunities and Risk Report”, subsection “Financial Risks”.

Other financial assets

GEA calculates expected credit losses on its other financial assets according to risk category while taking into account published credit ratings and credit default swaps. Assignment to a specific risk category is based on the geographical location of the counterparty. When losses accrue, the estimated impairment is calculated on the basis of expected losses within a 12-month period. GEA assumes that the credit risk has increased significantly if the credit risk deteriorates by two rating levels within a fiscal year. In such case, the expected credit losses over the entire remaining maturity are recorded.

The procedures for effecting individual impairments and derecognizing other financial assets are comparable with those applied to trade receivables and contract assets.

To reduce the credit risk involved, derivative financial instruments are only entered into with financial institutions with a sufficient credit rating.

As of December 31, 2022, impairments on other financial assets totaled EUR 7,568 thousand. The increase of EUR 3,088 thousand was due to the addition of impairment losses on credit-impaired financial assets.

As of December 31, 2021, impairments on other financial assets totaled EUR 4,480 thousand. The increase of EUR 145 thousand was due to the addition of impairment losses on credit-impaired financial assets.

Liquidity risks

The following tables show the undiscounted contractually agreed interest and principal payments for financial liabilities, including derivative financial instruments with negative fair values:

		Cash flows					
(EUR thousand)	Carrying amount	< 1 year	1-2 years	2-3 years	3-4 years	4-5 years	> 5 years
2022							
Trade payables	791,777	791,777	–	–	–	–	–
Borrower's note loan	201,971	102,413	1,434	101,434	–	–	–
Liabilities to banks	5,167	5,496	131	–	–	–	–
Lease liabilities	165,233	62,210	44,969	28,584	15,814	8,364	20,710
Currency derivatives not included in a hedging relationship	11,847	680,701	4,891	1,862	–	–	–
Currency derivatives included in a cash flow hedge	–	–	–	–	–	–	–
Miscellaneous other financial liabilities*	92,978	83,207	4,265	154	160	166	8,010
2021							
Trade payables	725,563	725,467	96	–	–	–	–
Borrower's note loan	251,967	2,700	130,629	1,579	123,507	–	–
Liabilities to banks	10,747	11,048	357	55	–	–	–
Lease liabilities	165,816	59,108	44,592	31,076	20,839	12,053	20,946
Currency derivatives not included in a hedging relationship	11,683	585,482	38,220	1,092	1,244	–	–
Currency derivatives included in a cash flow hedge	1,094	14,863	–	–	–	–	–
Miscellaneous other financial liabilities*	113,253	101,437	6,279	144	150	157	7,601

*) In the previous year, the line item „Miscellaneous other financial liabilities" was designated as „Other financial liabilities".

All financial liabilities outstanding as of December 31, 2022, are included in the table above on the basis of expected contractual cash flows. Projected figures for future new liabilities are not taken into account. Foreign currency amounts are translated at the closing rates. In the case of financial liabilities that can be repaid at any time, it is assumed that they will be repaid within one year.

Payments for derivative financial instruments totaling EUR 687,454 T EUR (previous year: EUR 640,901 thousand) were partially offset by payments received from these instruments of EUR 676,970 thousand (previous year: EUR 626,554 thousand).

As of December 31, 2022, the group held cash credit lines of EUR 914,902 thousand (previous year: EUR 988,125 thousand), of which EUR 204,902 thousand had been utilized (previous year: EUR 260,436 thousand). The cash credit lines are composed of the following items:

(EUR thousand)	Maturity	12/31/2022 approved	12/31/2022 utilized	12/31/2021 approved	12/31/2021 utilized
Borrower's note loan (2023)	February 2023	100,000	100,000	128,000	128,000
Borrower's note loan (2025)	February 2025	100,000	100,000	122,000	122,000
Bilateral credit lines	until further notice	64,902	4,902	88,125	10,436
Syndicated credit line („Club Deal“)	August 2026	650,000	–	650,000	–
Total		**914,902**	**204,902**	**988,125**	**260,436**

Section 6.4 of the Notes to the Consolidated Financial Statements contains more information on GEA's other financial liabilities.

As of December 31, 2022, guarantee lines for the performance of contracts, advance payments and warranty obligations of EUR 1,111,837 thousand were available to the group as a whole (previous year: EUR 1,096,317 thousand), EUR 459,052 thousand of which has been utilized (previous year: EUR 411,268 thousand). The guarantees are generally payable at first demand. As is generally the case for this type of order collateral and financing instrument, GEA Group Aktiengesellschaft drew on guarantees only in extremely rare cases in recent years.

As of the year-end, EUR 101,428 thousand (previous year: EUR 95,661 thousand) of group guarantees were granted to the former group company Lurgi AG's customers to collateralize that company's contractual obligations in the not likely event of a default. The group guarantees are denominated in foreign currencies, among other currencies.

As of December 31, 2022, EUR 4,748 thousand (previous year: 9,232 thousand) of bank and group guarantees under GEA Group Aktiengesellschaft credit lines were granted to customers of GEA Refrigeration Italy S.p.A. and GEA Refrigeration Iberica S.A., which were sold as of October 29, 2021, to collateralize contractual obligations. To hedge against a payment default, a return guarantee of EUR 7,307 thousand (previous year: EUR 15,216 thousand) has been issued by the acquirer in favor of GEA Group Aktiengesellschaft.

Additional information concerning liquidity risks is provided in the Group Management Report in the section entitled "Opportunities and Risk Report", subsection "Financial Risks".

Foreign currency risks and foreign currency sensitivity analysis

The foreign currency risk presented in the sensitivity analysis results from the following transactions:

- From recognized foreign currency transactions:
  The translation of foreign currency receivables or liabilities at the closing rate has a direct effect on profit or loss.
- From currency derivatives:
  If a hedge has been executed for economic reasons and is not included in a documented hedging relationship, the corresponding currency risk exposure will have a direct effect on earnings. If currency derivatives are included in documented hedging relationships in the form of cash flow hedges, exchange rate fluctuations will have a direct effect on equity.

The currency pairs in which the major part of the foreign currency cash flows are settled are included as relevant risk variables in the foreign currency sensitivity analysis. The following table shows the sensitivity of a 10 percent increase or decrease in the euro from the perspective of the group:

(EUR thousand)	2022					
Base currency	Foreign currency	Net risk exposure	Profit/loss for the year		Equity	
			+ 10 %	- 10 %	+ 10 %	- 10 %
EUR	USD	–114,539	9,906	–12,108	658	–804
EUR	GBP	26,890	–2,397	2,929	–	–
EUR	CAD	14,532	–1,315	1,607	–	–
EUR	CNY	–11,601	995	–1,216	–	–
EUR	ZAR	10,768	–977	1,194	–	–
EUR	CHF	–9,572	876	–1,071	–	–

(EUR thousand)	2021					
Base currency	Foreign currency	Net risk exposure	Profit/loss for the year		Equity	
			+ 10 %	- 10 %	+ 10 %	- 10 %
EUR	USD	–119,675	10,339	–12,637	675	–825
EUR	GBP	31,087	–2,886	3,527	–	–
EUR	CNY	–22,297	1,381	–1,689	669	–817
EUR	ZAR	19,006	–1,739	2,125	–	–
EUR	NZD	–12,104	1,103	–1,349	–	–
EUR	RUB	–10,089	917	–1,121	–	–

The net risk relates to all contractually agreed foreign currency cash flows, collated into a single net position, and translated into euros at the closing rate. Net positions with a positive sign represent future cash inflows in foreign currency. Net positions with a negative sign represent future cash outflows.

Additional information concerning currency risks is provided in the Group Management Report in the section entitled “Opportunities and Risk Report”, subsection “Financial Risks”.

Interest rate risks and interest rate sensitivity analysis

The interest rate sensitivity analysis presents the effects of changes in market interest rates on interest income and expenses, and equity. The sensitivity analyses are based on the following assumptions:

- Non-derivative fixed-rate financial instruments are exposed to on-balance-sheet interest rate risk only if they are measured at fair value. GEA measures such financial instruments at amortized cost.
- Non-derivative variable-rate financial instruments whose interest payments are not included as hedged items in a hedging relationship that is recognized as a cash flow hedge are subject to interest rate risk in the income statement.
- Interest rate derivatives included in a hedging relationship that is recognized as a cash flow hedge are subject to equity-related interest rate risk in the amount of the effective portion of the hedging relationship.
- Interest rate derivatives not included in a hedging relationship that is recognized as a cash flow hedge are subject to interest rate risk in the income statement.
- Currency derivatives are not subject to material interest rate risk and therefore have no effect on interest rate sensitivity.

The sensitivity analysis assumes a linear shift in the yield curves for all currencies of +100 or -100 basis points as of the reporting date. This results in the following effects for the simulated scenarios:

	12/31/2022		12/31/2021	
(EUR thousand)	+ 100 basis points	- 100 basis points	+ 100 basis points	- 100 basis points
Interest rate risk recognized in profit or loss	–	–	–200	–

The calculation is based on a notional value of EUR 0 thousand (previous year: EUR 50,000 thousand).

Additional information concerning interest rate risks is provided in the Group Management Report in the section entitled “Opportunities and Risk Report”, subsection “Financial Risks”.

3.2 Financial instruments: Classifications and fair values

The following tables show the carrying amount and fair values of financial assets and financial liabilities as of December 31, 2022, including their levels in the fair value hierarchy. In cases where a financial instrument is not measured at fair value and the carrying amount presents a reasonable approximation of its fair value, the latter is not disclosed separately.

	Carrying amount					Fair value			
(EUR thousand)	Total 12/31/2022	Amortized cost	Fair value through profit or loss	Fair value recognized in other comprehensive income	Measurement in accordance with other IFRSs	Total 12/31/2022	Level 1	Level 2	Level 3
Assets									
Trade receivables	730,945	650,031	–	80,914	–	80,914	–	80,914	–
Cash and cash equivalents	718,727	718,727	–	–	–	–	–	–	–
Other financial assets	116,590	68,888	16,782	2,499	27,951	19,751	–	9,976	9,775
of which investments in unconsolidated subsidiaries	22,135	–	–	–	22,135	–	–	–	–
of which at-equity investments	5,816	–	–	–	5,816	–	–	–	–
of which other investments	2,499	–	–	2,499	–	2,499	–	–	2,499
of which other securities	7,276	–	7,276	–	–	7,276	–	–	7,276
of which derivatives included in a hedging relationship	470	–	–	–	–	470	–	470	–
of which derivatives not included in a hedging relationship	9,506	–	9,506	–	–	9,506	–	9,506	–
of which remaining other financial assets	68,888	68,888	–	–	–	–	–	–	–
Liabilities									
Trade payables	791,777	791,777	–	–	–	–	–	–	–
Other financial liabilities*	477,196	299,280	12,683	–	165,233	223,573	–	222,737	836
of which bonds and other securitized liabilities	201,971	201,971	–	–	–	195,823	–	195,823	–
of which liabilities to banks	5,167	5,167	–	–	–	5,167	–	5,167	–
of which lease liabilities	165,233	–	–	–	165,233	–	–	–	–
of which derivatives included in a hedging relationship	–	–	–	–	–	–	–	–	–
of which derivatives not included in a hedging relationship	11,847	–	11,847	–	–	11,847	–	11,847	–
of which contingent consideration	836	–	836	–	–	836	–	–	836
of which remaining other financial liabilities*	92,142	92,142	–	–	–	9,900	–	9,900	–

*) In the previous year, the line items „Other financial liabilities“ and „Remaining other financial liabilities“ were designated as „Financial liabilities“ and „Remaining financial liabilities“ respectively.

	Carrying amount					Fair value			
(EUR thousand)	Total 12/31/2021	Amortized cost	Fair value through profit or loss	Fair value recognized in other comprehensive income	Measurement in accordance with other IFRSs	Total 12/31/2021	Level 1	Level 2	Level 3
Assets									
Trade receivables	682,460	511,754	–	170,706	–	170,706	–	170,706	–
Cash and cash equivalents	928,296	928,296	–	–	–	–	–	–	–
Other financial assets	126,420	76,925	10,654	244	38,597	10,898	–	4,586	6,312
of which investments in unconsolidated subsidiaries	33,091	–	–	–	33,091	–	–	–	–
of which at-equity investments	5,506	–	–	–	5,506	–	–	–	–
of which other investments	244	–	–	244	–	244	–	–	244
of which other securities	6,068	–	6,068	–	–	6,068	–	–	6,068
of which derivatives included in a hedging relationship	–	–	–	–	–	–	–	–	–
of which derivatives not included in a hedging relationship	4,586	–	4,586	–	–	4,586	–	4,586	–
of which remaining other financial assets	76,925	76,925	–	–	–	–	–	–	–
Liabilities									
Trade payables	725,563	725,563	–	–	–	–	–	–	–
Other financial liabilities*	554,560	375,431	12,219	–	165,816	292,172	–	290,193	1,979
of which bonds and other securitized liabilities	251,967	251,967	–	–	–	257,594	–	257,594	–
of which liabilities to banks	10,747	10,747	–	–	–	10,747	–	10,747	–
of which lease liabilities	165,816	–	–	–	165,816	–	–	–	–
of which derivatives included in a hedging relationship	1,094	–	–	–	–	1,094	–	1,094	–
of which derivatives not included in a hedging relationship	11,683	–	11,683	–	–	11,683	–	11,683	–
of which contingent consideration	536	–	536	–	–	536	–	–	536
of which remaining other financial liabilities*	112,717	112,717	–	–	–	10,518	–	9,075	1,443

*) In the previous year, the line items „Other financial liabilities“ and „Remaining other financial liabilities“ were designated as „Financial liabilities“ and „Remaining financial liabilities“ respectively.

Financial assets and liabilities that are measured at fair value, or for which a fair value is disclosed in the notes to the consolidated financial statements, are required to be categorized according to the fair value hierarchy described in the following. Categorization within the levels of the fair value hierarchy is based on the measurement of the underlying inputs:

Level 1 inputs: quoted prices (unadjusted) in active markets for identical financial assets and liabilities.

Level 2 inputs: quoted market prices that are observable as direct (prices) or indirect (derived from prices) inputs used to measure fair value and that are not quoted prices as defined by Level 1.

Level 3 inputs: inputs that are not based on observable market data.

There were no transfers into or out of the levels of the fair value hierarchy in fiscal year 2022.

The fair values of trade receivables and trade payables, cash and cash equivalents, term deposits, remaining other financial assets as well as remaining other financial liabilities essentially correspond to the carrying amounts; this is due to the predominantly short remaining maturities.

Due to existing factoring agreements, trade receivables that have not been derecognized are measured at fair value. The fair value is calculated based on yield curves observable in the market. These are categorized within Level 2 of the fair value hierarchy.

Derivatives comprise solely currency derivatives. Fair value is determined on the basis of quoted foreign exchange rates, taking into account forward premiums and discounts observable in the market. Accordingly, these are categorized within Level 2 of the fair value hierarchy.

A receivable relating to the former raw material activities of Metallgesellschaft AG that had previously been impaired was allocated to Level 3 financial instruments; its fair value is determined by means of a present value calculation on the basis of the debtor's payment plan.

As the debtor operates a copper mine, its payment plan is influenced by the price of copper. Gains and losses from the subsequent measurement of the receivable are carried in profit or loss from discontinued operations.

The following table shows the changes in fair value in fiscal year 2022:

(EUR thousand)	
Fair value 01/01/2022	**6,068**
Redemption	–1,834
Interest expense	–94
Currency translation	107
Revaluation	–
Fair value 12/31/2022	**4,247**

As of December 31, 2022, the key non-observable input factors of the above-mentioned receivable consisted of expected annual cash inflows of between EUR 1,215 thousand and EUR 2,306 thousand and an average, risk-adjusted discount rate of 6.7 percent.

A potential change in one of the key, non-observable input factors could have affected the fair values of the receivables as follows (the other input factors remaining the same):

	12/31/2022	
	Profit or loss	
(EUR thousand)	Increase	Decrease
Expected cash flows (10% movement)	425	–425
Risk-adjusted discount rate (movement 100 basis points)	–71	73

In the first half-year of 2022, GEA invested EUR 4,998 thousand in a fund that primarily invests in new food technologies. The fund shares are assigned to Level 3 of the fair value hierarchy and are reported as other securities. The fair value is determined using the International Private Equity and Venture Capital Valuation Guidelines (IPEV Valuation Guidelines), which provide guidance on typical issues in the valuation of unlisted equity instruments and investment funds. In valuing the fund's shares, the price of recent transactions is taken into account and performance is analyzed to reflect any value adjustments since the most recent transaction.

The following table shows the changes in fair value in fiscal year 2022:

(EUR thousand)	
Fair value 01/01/2022	**–**
Deposit	4,998
Redemption	–
Currency translation	–310
Revaluation	–1,659
Fair value 12/31/2022	**3,029**

As of December 31, 2022, the main unobservable input factor is the "Net Total Value to Paid-in-Capital" multiplier. This multiplier indicates the ratio of the value of fund shares plus dividends to paid in capital.

GEA's other equity investments that are measured at fair value through other comprehensive income upon their initial recognition as financial assets were also allocated to Level 3 of the hierarchy. Their fair value is determined by using inputs that are not based on observable market data.

During fiscal year 2022, GEA acquired an investment of EUR 4,732 thousand in an asset management company. This equity instrument is also reported under other investments and allocated to Level 3 of the fair value hierarchy. The fair value is determined in accordance with the IPEV Valuation Guidelines using the sum of the parts method.

The following table shows the changes in fair value in fiscal year 2022:

(EUR thousand)	
Fair value 01/01/2022	**–**
Deposit	4,732
Redemption	–
Revaluation	–2,477
Fair value 12/31/2022	**2,255**

As of December 31, 2022, the main unobservable input parameters are the value of the asset management and the value of the investments held by the company in other entities.

Other financial liabilities resulting from contingent purchase price considerations for acquisitions are assigned to Level 3 of the fair value hierarchy. The fair value of these liabilities is determined by means of present value calculations, which take into account various inputs that are not observable in the market and are based to a large extent on corporate planning, as specified in the respective purchase price clauses.

The fair value of borrower's note loans and liabilities to banks is measured on the basis of the yield curve, taking into account credit spreads. They are therefore allocated to Level 2 of the fair value hierarchy. The interest accrued to the reporting date is included in the fair value.

Included in remaining other financial liabilities is a contractual obligation undertaken in the context of a company acquisition. The fair value of this debt instrument is determined based on the contractually fixed cash flows using the ultimate forward rate published by the European Insurance and Occupational Pensions Authority. Accordingly, it is assigned to Level 2 of the fair value hierarchy.

Certain remaining other financial liabilities resulting from the sale of the GEA HX segment are categorized within Level 3 of the fair value hierarchy since their fair value measurement is based on the present value of future cash outflows expected due to the contractual obligations associated with the sale. As of December 31, 2022, no separate disclosure is made in the table presented above, as the carrying amount is a reasonable approximation of fair value.

3.3 Financial instruments: Income and expenses

The measurement effects from financial instruments are largely recognized in profit or loss. The following table shows net income from financial instruments, broken down by IFRS 9 measurement category:

	12/31/2022			12/31/2021		
(EUR thousand)	Net income	thereof interest income/ expense	thereof impairment losses/ reversals of impairment losses	Net income	thereof interest income/ expense	thereof impairment losses/ reversals of impairment losses
Financial assets measured at amortized cost	88,686	6,295	41	48,873	3,734	3,570
Financial assets measured at fair value recognized in other comprehensive income	860	–	801	1,535	–	1,528
Equity instruments measured at fair value recognized in other comprehensive income	24	–	–	24	–	–
Financial assets / liabilities measured at fair value through profit or loss	2,628	–	–	16,921	–	–
Financial liabilities measured at amortized cost	–51,990	–10,453	–	–35,917	–11,460	–
Total	**40,208**	**–4,158**	**842**	**31,436**	**–7,726**	**5,098**

3.4 Derivative financial instruments and netting agreements

Derivative financial instruments

The following table presents the notional values and fair values of the derivative financial instruments as of the reporting date. The notional value in foreign currency is translated at the closing rate:

	12/31/2022		12/31/2021	
(EUR thousand)	Notional value	Fair value	Notional value	Fair value
Assets				
Currency derivatives not included in a hedging relationship	337,278	9,506	364,152	4,586
Currency derivatives included in a cash flow hedge	7,290	470	–	–
Total	**344,568**	**9,976**	**364,152**	**4,586**
Liabilities				
Currency derivatives not included in a hedging relationship	684,527	11,847	625,863	11,683
Currency derivatives included in a cash flow hedge	–	–	14,863	1,094
Total	**684,527**	**11,847**	**640,726**	**12,777**

Derivative financial instruments not included in recognized hedging relationships

Derivatives that are not held for sale and not included in hedging relationships are reported here. This item therefore includes derivative financial instruments that are used to hedge currency risks as part of financial risk management, but for which compliance with the hedge accounting requirements of IFRS 9 is not documented (economic hedges). The change in fair value is recognized in profit or loss.

Derivative financial instruments included in recognized hedging relationships

As part of hedging its currency risk, GEA determines the existence of an economic relationship between the hedging instrument and the hedged item based on the amount, currency, and timing of the respective cash flows. GEA assesses whether the designated derivative is expected to be effective with respect to changes in the cash flows of the hedged item using the hypothetical derivative method.

To hedge its currency risk, GEA designates the spot portion of forward exchange contracts at a hedge ratio of 1:1. The forward elements of forward exchange contracts are excluded from designation. They are recognized and disclosed separately in equity under the cost of hedging reserve. The critical terms of the forward exchange contract correspond to the hedged item.

Currency derivatives with a maturity of less than one year are concluded to hedge foreign currency risk. As of December 31, 2022, the average hedging rate is 1.04 for the EUR/USD currency pair. As of this reporting date, there are no open currency derivatives for other currency pairs. As of December 31, 2021, the average hedging rate was 1.21 for the EUR/USD currency pair and 7.97 for the EUR/CNY currency pair.

The following table shows the hedged items designated as cash flow hedges:

(EUR thousand)	Cash flow hedge reserve	Cost of hedging reserve
12/31/2022		
Exchange rate risk		
Sales	167	–86
Inventory purchases	–	–
12/31/2021		
Exchange rate risk		
Sales	–947	–147
Inventory purchases	–	–

As of December 31, 2022, no material hedge ineffectiveness was identified for hedging relationships designated as cash flow hedges.

If a hedged forecast transaction (hedged item) subsequently results in the recognition of a non-financial item (e.g. inventories), the cumulative amount of the cash flow hedge reserve and the hedging cost reserve is recognized directly in the cost of the non-financial item as soon as it is recognized in the balance sheet.

For all remaining hedged forecast transactions, the amount recognized in the cash flow hedge reserve and the cost of hedging reserve is reclassified to profit or loss as soon as the hedged future cash flows affect profit or loss.

The following table shows the hedging instruments designated as cash flow hedges:

(EUR thousand)	as of reporting date: Notional value	as of reporting date: Assets	as of reporting date: Liabilities	Line item in the statement of financial position that includes the hedging instrument	during the reporting period: Change in fair value of the hedging instrument - recognized in accumulated other comprehensive income	during the reporting period: Costs of hedging - recognized in accumulated other comprehensive income	during the reporting period: Amount reclassified from the cash flow hedge reserve into profit or loss	during the reporting period: Amount reclassified from the cost of hedging reserve into profit or loss
2022								
Exchange rate risk								
Currency derivatives - Sales	11,203	470		other financial assets, other financial liabilities*	–82	–291	1,674	377
Currency derivatives - Inventory purchases	–	–	–	other financial assets, other financial liabilities*	–	–	–	–
2021								
Exchange rate risk								
Currency derivatives - Sales	34,305	–	1,094	other financial assets, other financial liabilities*	–1,692	–275	182	78
Currency derivatives - Inventory purchases	–	–	–	other financial assets, other financial liabilities*	–	–	–	–

*) In the previous year, the line item „Other financial liabilities" was designated as „Financial liabilities".

In both the current fiscal year and the previous year, no amounts were reclassified to the cost of inventories.

The following table includes a reconciliation of the relevant equity components and an analysis of the items of accumulated other comprehensive income resulting from the recognition of cash flow hedges:

(EUR thousand)	Cash flow hedge reserve	Cost of hedging reserve
As of 01/01/2021	**110**	**–9**
Change in the fair value		
Exchange rate risk - Sales	–1,692	–275
Exchange rate risk - Inventory purchases	–	–
Amount reclassified into profit or loss		
Exchange rate risk - Sales	182	78
Exchange rate risk - Inventory purchases	–	–
Amount included in the initial cost of non-financial items		
Exchange rate risk - Inventory purchases	–	–
Taxes on movements in reserves during the reporting period	453	59
As of 12/31/2021	**–947**	**–147**
As of 01/01/2022	**–947**	**–147**
Change in the fair value		
Exchange rate risk - Sales	–82	–291
Exchange rate risk - Inventory purchases	–	–
Amount reclassified into profit or loss		
Exchange rate risk - Sales	1,674	377
Exchange rate risk - Inventory purchases	–	–
Amount included in the initial cost of non-financial items		
Exchange rate risk - Inventory purchases	–	–
Taxes on movements in reserves during the reporting period	–478	–25
As of 12/31/2022	**167**	**–86**

Netting agreements

GEA Group Aktiengesellschaft has entered into netting agreements with banks under the German Master Agreement for Financial Derivatives Transactions. As a general rule, the amounts owed under such agreements by each counterparty from all outstanding transactions in the same currency on a single day are aggregated to a single net amount payable by one party to the other. In the event of a credit event, such as late payment, all outstanding transactions under the agreement will be terminated, the value on termination calculated, and a statement of account is prepared on a net basis.

The following table shows the financial assets and liabilities for which the group as a whole has entered into netting agreements:

(EUR thousand)	Gross amounts of financial assets/liabilities	Net amounts of financial assets/liabilities, presented in the balance sheet	Respective amounts not netted in the balance sheet	Net amounts
12/31/2022				
Receivables from derivatives	9,814	9,814	7,621	2,193
Liabilities from derivatives	11,366	11,366	7,621	3,745
12/31/2021				
Receivables from derivatives	4,428	4,428	3,624	804
Liabilities from derivatives	12,935	12,935	3,624	9,311

The receivables and liabilities shown are carried under other financial assets and other financial liabilities respectively.

4. Divestments

4.1 Refrigeration contracting and service business in France

4.1.1 Companies sold

In fiscal year 2022, GEA sold the following company via the sale of shares:

Business	Head office	Sale Date	Percentage of voting interest (%)
GEA Refrigeration France SAS	Les Sorinières (France)	February 28, 2022	100.0

On February 28, 2022, GEA completed the sale of its refrigeration contracting and service operations in France, which was contractually agreed in October 2021. All shares of the French company GEA Refrigeration France SAS, Les Sorinières, France, were sold in this transaction.

The company, whose business includes the manufacture of tailored refrigeration solutions for industrial customers, was allocated to the Heating & Refrigeration Technologies division. The transaction was carried out as part of GEA's portfolio optimization strategy. The transaction does not affect GEA's compressor business in France, which retains its strategic importance and will be retained by GEA.

The assets and liabilities sold in the transaction form a disposal group within the meaning of IFRS 5 and have been classified as “held for sale” as of September 30, 2021. The purchase agreement was signed on October 25, 2021. The sale resulted in a deconsolidation gain of EUR 517 thousand in the first half of 2022, which is recognized in other income, plus additional expenses of EUR 1,136 thousand. The additional expenses include transaction costs for consulting and legal fees, which are recognized in general and administrative expenses as well as severance payments. The outgoing assets include goodwill of EUR 15,156 thousand. In addition, cumulative expenses of EUR 1,193 thousand in the other comprehensive income were allocated to this disposal group.

Agreement on the final sale price was reached on September 20, 2022. This led to the reimbursement of EUR 547 thousand of the purchase price to the purchaser. Consequently, the deconsolidation effect was adjusted, resulting in the recognition of a final deconsolidation loss of EUR 30 thousand in other expenses.

Overall, restructuring expenses of EUR 2,683 thousand (of which EUR 964 thousand in 2022) were recognized in connection with the sale of the company.

4.1.2 Assets and liabilities sold

At the time of the sale, the following assets and liabilities were sold:

(EUR thousand)	2022
Property, plant and equipment	–2,951
Goodwill	–15,156
Deferred taxes	–1,219
Inventories	–3,510
Contract assets	–7,940
Trade receivables	–17,651
Other current financial assets	–591
Other current assets	–827
Cash and cash equivalents	–23,091
Total assets	**–72,936**
Non-current employee benefit obligations[1]	901
Other non-current financial liabilities[2]	844
Current provisions	1,948
Current employee benefit obligations	4,241
Other current financial liabilities[2]	1,248
Trade payables	7,394
Current contract liabilities	8,564
Income tax liabilities	713
Other current liabilities	4,101
Total equity and liabilities	**29,954**
Net assets and liabilities	–42,982
Consideration received, satisfies in cash	42,952
Cash and cash equivalents disposed of	–23,091
Net cash inflows	19,861

1) Reduced by expenses recognized in other comprehensive income in the amount of EUR 1,193 thousand
2) In the previous year and in the half-yearly financial report as of June 30, 2022, the actual line items “Other non-current financial liabilities” and “Other current financial liabilities” were referred to as “Non-current financial liabilities” and “Current financial liabilities”, respectively.

4.2 Completion of other disposals

In addition to an immaterial transaction within the Separation & Flow Technologies division in the Netherlands in the first quarter of 2022, the sale of the metering, blending and calibration business activities of GEA Diessel GmbH (Food & Healthcare Technologies division) was finalized on July 15, 2022. The related assets and liabilities were classified and disclosed as “held for sale” as of December 31, 2021. This asset deal resulted in a disposal gain and a restructuring income, respectively, of around EUR 450 thousand.

5. Notes to the Consolidated Balance Sheet: Assets

5.1 Property, plant and equipment

Property, plant and equipment changed as follows:

(EUR thousand)	Land and buildings	Technical equipment and machinery	Other equipment, operating and office equipment	Assets under construction	**Total**
Jan. 1, 2021					
Cost	710,799	493,649	424,329	31,850	**1,660,627**
Cumulative depreciation and impairment losses	–340,305	–382,774	–306,254	–3,503	**–1,032,836**
Carrying amount	**370,494**	**110,875**	**118,075**	**28,347**	**627,791**
Changes in 2021					
Additions	58,872	16,387	44,294	32,552	**152,105**
Disposals and reclassifications as held for sale	–8,093	–1,118	–3,967	–1,548	**–14,726**
Depreciation	–47,650	–23,832	–47,962	–55	**–119,499**
Impairment losses	–788	–24	–	–293	**–1,105**
Changes in consolidated group and business combinations	–	–	–	60	**60**
Currency translation	8,942	2,648	1,094	455	**13,139**
Other changes	3,458	9,683	1,976	–23,772	**–8,655**
Carrying amount at Dec. 31, 2021	**385,235**	**114,619**	**113,510**	**35,746**	**649,110**
Jan. 1, 2022					
Cost	744,539	505,563	439,285	38,279	**1,727,666**
Cumulative depreciation and impairment losses	–359,304	–390,944	–325,775	–2,533	**–1,078,556**
Carrying amount	**385,235**	**114,619**	**113,510**	**35,746**	**649,110**
Changes in 2022					
Additions	41,502	27,530	61,843	75,031	**205,906**
Disposals and reclassifications as held for sale	–3,156	–1,249	–994	–362	**–5,761**
Depreciation	–47,292	–25,424	–51,658	–9	**–124,383**
Impairment losses	–	–2,121	–870	–	**–2,991**
Changes in consolidated group and business combinations	–	–	–	–	**–**
Currency translation	–350	–563	–443	–178	**–1,534**
Other changes	5,837	9,719	4,217	–17,376	**2,397**
Carrying amount at Dec. 31, 2022	**381,776**	**122,511**	**125,605**	**92,852**	**722,744**
Dec. 31, 2022					
Cost	765,923	528,081	485,307	93,931	**1,873,242**
Cumulative depreciation and impairment losses	–384,147	–405,570	–359,702	–1,079	**–1,150,498**
Carrying amount	**381,776**	**122,511**	**125,605**	**92,852**	**722,744**

The impairment loss recognized in the current fiscal year mainly relates to the discontinuation of a product line within the division Separation & Flow Technologies. This amounts to EUR 2,977 thousand and is reported as restructuring expenses.

Leases

The carrying amounts of the right-of-use assets, including changes during the reporting period, are shown below.

(EUR thousand)	Land and buildings	Technical equipment and machinery	Other equipment, operating and office equipment	Vehicles	Computer Hardware and other IT Equipment	Total
Jan. 1, 2022						
Carrying amount	114,540	849	1,541	31,424	12,233	**160,587**
Changes in 2022						
Additions	30,698	10	2,346	19,694	9,383	**62,131**
Disposals and reclassifications as held for sale	–	–	–	–107	–	**–107**
Depreciation	–34,569	–241	–1,022	–19,868	–8,097	**–63,797**
Currency translation	57	4	–14	–147	–	**–100**
Other changes	1,276	–289	67	824	–1	**1,877**
Carrying amount at Dec. 31, 2022	**112,002**	**333**	**2,918**	**31,820**	**13,518**	**160,591**

The following amounts were recognized in the income statement in the reporting period:

(EUR thousand)	Jan. 01, 2022 - Dec. 31, 2022	Jan. 01, 2021 - Dec. 31, 2021
Interest expenses for Lease Liabilities	4,292	3,691
Expense from short-term leases	6,219	6,085
Expense for small-ticket-leases	2,349	2,165
Expense from variable lease payments	4,665	3,802

The statement of cash flows includes the following amounts:

(EUR thousand)	Jan. 01, 2022 - Dec. 31, 2022	Jan. 01, 2021 - Dec. 31, 2021
Total Cash-Out for Lease contracts	81,207	77,613

The table below shows possible future lease payments that are not included in the measurement of lease liabilities at the balance sheet date, in the event that:

- renewal options are exercised for which it is “not reasonably certain” that they will be exercised at the time the financial statements are prepared.
- Termination options are not exercised for which it is deemed “reasonably certain” that they will be exercised at the time the financial statements are prepared.

(EUR thousand)	2023	2024	2025	2026	2027
Possible additional payments due to the utilization of extension options	1,471	2,048	4,069	5,070	4,821
Possible additional payments due to unused termination options*	5,537	4,748	3,302	1,036	504

*) In the case of indefinite term, automatically renewing contracts, if a termination option is not exercised, the term is assumed to be extended by one year.

For periods after December 31, 2027, additional lease payments totaling EUR 24,266 thousand would be possible if all renewal options are exercised for which it is “not reasonably certain” that they will be exercised at the time the financial statements are prepared. The non-exercise of termination options that were deemed to be reasonably certain at the time the financial statements were prepared could result in additional lease payments of approximately EUR 1,200 thousand for this period.

Lease concessions granted in connection with COVID-19 that are not presented as lease modifications relate to leases of real estate and vehicles. The resulting effects are recognized as negative variable lease payments and amount to approximately EUR 0 thousand (previous year: EUR 205 thousand).

As a lessor, GEA leases out real estate. The underlying lease agreements were classified as operating leases (please see “Investment property”).

Investment property

The carrying amount of investment property amounted to EUR 825 thousand as of the reporting date (previous year: EUR 823 thousand). Of this, EUR 698 thousand (previous year: EUR 698 thousand) is allocable to land and EUR 127 thousand (previous year: EUR 125 thousand) to buildings.

The fair value of investment property is EUR 3,075 thousand (previous year: EUR 3,300 thousand). Since these fair values are calculated on the basis of comparable market-based prices that are determined internally, they are categorized within Level 2 of the fair value hierarchy.

5.2 Goodwill

The following table shows the allocation of goodwill to the divisions bearing goodwill:

(EUR thousand)	Separation & Flow Technologies	Liquid & Powder Technologies	Food & Healthcare Technologies	Farm Technologies	Heating & Refrigeration Technologies	**Total**
Carrying amount 12/31/2020	**834,652**	**212,132**	**170,095**	**120,704**	**164,490**	**1,502,073**
Reallocation	12,146	–18,710	33,433	–10,065	–16,804	**–**
Reclassification as held for sale	–	–	–	–	–20,832	**–20,832**
Carrying amount 12/31/2021	**846,798**	**193,422**	**203,528**	**110,639**	**126,854**	**1,481,241**
Reallocation	–	–	–	–	–	**–**
Reclassification as held for sale	–	–	–550	–	–5,120	**–5,670**
Carrying amount 12/31/2022	**846,798**	**193,422**	**202,978**	**110,639**	**121,734**	**1,475,571**

Reclassifications in fiscal year 2021

In fiscal year 2021, goodwill of EUR 1,193 thousand was allocated to the Bock Group, which falls under the Heating & Refrigeration Technologies division, and was classified as “held for sale”. This goodwill was disposed of upon completion of the sale of the Bock Group on February 26, 2021.

In connection with the sale of the refrigeration contracting and service business in Spain and Italy, goodwill of EUR 5,189 thousand allocated to the Heating & Refrigeration Technologies division was classified as held for sale and impaired in the amount of EUR 3,682 thousand. The remaining goodwill of EUR 1,507 thousand was disposed of upon completion of the sale of the refrigeration contracting and service business in Spain and Italy on October 29, 2021.

Moreover, remaining goodwill of EUR 14,450 thousand is attributable to the sale of the refrigeration contracting and service business in France and was classified as “held for sale” as of December 31, 2021.

Reclassifications in fiscal year 2022

In fiscal year 2022, additional goodwill assigned to the Heating & Refrigeration Technologies division was allocated to the refrigeration contracting and service business in France in the amount of EUR 706 thousand and classified as “held for sale.” This goodwill was disposed of upon completion of the transaction on February 28, 2022.

As part of the sale of the metering, blending and calibration activities of GEA Diessel GmbH, goodwill of EUR 417 thousand allocated to the Food & Healthcare Technologies division was classified as “held for sale”. This goodwill was disposed of upon completion of the sale on February 15, 2022.

Another goodwill of EUR 134 thousand allocated to the Food & Healthcare Technologies division that is classified as “held for sale” is attributable to a low-value asset deal and was disposed of upon completion of the transaction in 2022 as well.

Further information on these transactions can be found in note 4 of the Notes to the Consolidated Financial Statements.

Goodwill of EUR 4,414 thousand allocated to the Heating & Refrigeration Technologies division is attributable to the sale of the transport cooling business in South Africa and was classified as “held for sale” as of December 31, 2022, and impaired in the amount of EUR 1,698 thousand.

Further details can be found in note 5.9 of the Notes to the Consolidated Financial Statements.

Impairment test

As of January 1, 2021, GEA made some minor adjustments to its divisional structure. In this context the goodwill was reallocated.

In terms of the annual impairment test on October 31, 2022 (previous year: October 31, 2021), the goodwill was tested for impairment at the level of the groups of cash-generating units with goodwill. For this purpose, the recoverable amounts of the cash-generating divisions with goodwill are compared with their carrying amounts, including goodwill.

The recoverable amount for these units is determined by calculating the value in use using the “discounted cash flow” method. The cash flows used are, in principle, the operating cash flows after taxes from the consolidated budget and medium-term planning prepared by the Executive Board. Besides the months November and December of the 2022 fiscal year, this covers the budget for 2023 and two further planning years. The corresponding plan values were derived using a “bottom-up” approach. The Supervisory Board approved the planning for 2023 (budget) and took note of the medium-term planning for the years 2024 and 2025. Assumptions for the period beyond the planning horizon are based on the cash flows in the last planning year, extrapolated using a uniform growth rate of 1.5 percent (previous year: 1.0 percent). The increase in the growth rate is mainly attributable to higher long-term inflation expectations. In addition, the underlying growth rates do not exceed the average long-term growth rates for the markets in which GEA operates.

The planning assumes continued stable growth in the food and beverage sales markets. The planning assumptions take into account, in particular, expectations regarding revenue trends as well as EBITDA before restructuring measures. In addition, growth forecasts for individual areas also factor in actual past growth rates. Future acquisitions are not included in the planning process. EBITDA before restructuring measures is expected to increase slightly to significantly over the planning period depending on the division. The effects of rising material costs and increased supply shortages were also taken into account in the measurement.

Due to the high level of uncertainty caused by the Russia-Ukraine war, various scenarios were established to calculate the value in use for the divisions with relevant business activities in either of the two countries concerned. Within GEA, this mainly refers to the Farm Technologies division. For this reason, scenarios were only derived for the Farm Technologies division and which were only defined for the impairment test. The derivation of the scenarios was essentially driven by the question, which effects the Russia-Ukraine war has on the profit situation of the Farm Technologies division and how to weight them. Especially an intensification of the sanctions represents a main risk to be considered by GEA. The potential opportunities and risks relating to the scenarios derived were considered in the cash flow. The following table shows the different scenarios:

Scenario	Description	Weighting
Scenario 1	Return to historic earnings level before the start of the war	10%
Scenario 2	Adoption of the existing planning figures	60%
Scenario 3	Discontinuation of Russian-related operating activities	30%

GEA continuously monitors the legislation related to climate change. So far, no indications have been identified that would materially affect GEA’s impairment test. If necessary, the basic assumptions used in the calculation of value in use would be adjusted accordingly.

The total cost of capital assumed for discounting is based on a risk-free interest rate of 1.75 percent (previous year: 0.10 percent) and a market risk premium of 7.25 percent (previous year: 7.25 percent). In addition, beta factors derived from the respective peer group, a borrowing risk premium and capital structure were taken into account for each measurement object. Additionally, specific tax rates, country risk premiums and inflation differentials are also applied to the cash-generating groups with goodwill.

Cash flows for the individual divisions are discounted using the following rates:

(%)	10/31/2022 Discount rate (after-tax)	10/31/2022 Discount rate (pre-tax)	10/31/2021 Discount rate (after-tax)	10/31/2021 Discount rate (pre-tax)*
Separation & Flow Technologies	9.46	11.29	8.47	10.40
Liquid & Powder Technologies	9.24	10.56	8.36	9.95
Food & Healthcare Technologies	9.39	10.67	8.84	10.45
Farm Technologies	8.79	10.19	8.06	9.64
Heating & Refrigeration Technologies	8.64	9.82	7.58	8.62

*) The previous year figures for the discount rate (pre-tax) have been adjusted.

The impairment test performed for the goodwill confirmed its recoverability. Even if the above-mentioned parameters were to change, none of the cash-generating groups discussed in the previous passage would be impaired. As such, GEA was able to confirm the recoverability of the goodwill even on the basis of the latest capital market parameters as of December 31, 2022.

5.3 Other intangible assets

The carrying amount of intangible assets changed as follows:

(EUR thousand)	Market-related intangible assets	Customer-related intangible assets	Contract-based intangible assets	Technology-based intangible assets	Internally generated intangible assets	**Total**
Jan. 1, 2021						
Cost	107,692	278,812	151,793	157,196	344,480	**1,039,973**
Cumulative amortization and impairment losses	–24,675	–205,384	–113,687	–98,221	–216,161	**–658,128**
Carrying amount	**83,017**	**73,428**	**38,106**	**58,975**	**128,319**	**381,845**
Changes in 2021						
Additions	–	–	16,710	3,234	29,240	**49,184**
Disposals and reclassifications as held for sale	–	–	–1	–9	–69	**–79**
Amortization	–910	–10,102	–5,894	–9,622	–29,827	**–56,355**
Impairment losses	–969	–978	–997	–1,018	–	**–3,962**
Currency translation	726	19	39	513	336	**1,633**
Other changes	–	–	4,440	958	3,856	**9,254**
Carrying amount at Dec. 31, 2021	**81,864**	**62,367**	**52,403**	**53,031**	**131,855**	**381,520**
Jan. 1, 2022						
Cost	108,255	279,758	173,260	159,519	363,035	**1,083,827**
Cumulative amortization and impairment losses	–26,391	–217,391	–120,857	–106,488	–231,180	**–702,307**
Carrying amount	**81,864**	**62,367**	**52,403**	**53,031**	**131,855**	**381,520**
Changes in 2022						
Additions	–	–	25,249	3,451	33,439	**62,139**
Disposals and reclassifications as held for sale	–80	–	–14	–	–43	**–137**
Amortization	–930	–6,671	–6,580	–8,723	–32,944	**–55,848**
Impairment losses	–398	–3,655	–154	–439	–822	**–5,468**
Currency translation	507	–6	2	271	218	**992**
Other changes	–	–	–1,535	980	–885	**–1,440**
Carrying amount at Dec. 31, 2022	**80,963**	**52,035**	**69,371**	**48,571**	**130,818**	**381,758**
Dec. 31, 2022						
Cost	107,817	280,046	189,994	161,368	390,510	**1,129,735**
Cumulative amortization and impairment losses	–26,854	–228,011	–120,623	–112,797	–259,692	**–747,977**
Carrying amount	**80,963**	**52,035**	**69,371**	**48,571**	**130,818**	**381,758**

The additions to internally generated intangible assets are primarily attributable to the Farm Technologies and Food & Healthcare Technologies divisions. In the Farm Technologies division, costs relating to developments in automated feeding and digital solutions, in particular, were capitalized. The additions in the Food & Healthcare Technologies division are largely due to developments in the areas of thermoforming and slicers, as well as the associated automation solutions.

The impairment loss recognized in the current fiscal year mainly relates to two companies within the divisions Liquid & Powder Technologies and Separation & Flow Technologies, where specific customer-related, technology-based and internally generated intangible assets are not used any longer. The impairment loss attributable to the two divisions amounts to EUR 5,314 thousand. Hereof EUR 2,920 thousand are reported as restructuring expenses.

Amortization of intangible assets in the amount of EUR 55,848 thousand in fiscal year 2022 (previous year: EUR 56,355 thousand) is reported in cost of sales and, where this relates to discontinued operations, in profit or loss from discontinued operations.

In fiscal year 2022, expenditure on research and development amounted to EUR 132.083 thousand (previous year: EUR 127.047 thousand). These figures include refunded expenses totaling EUR 12.488 thousand (previous year: EUR 13.020 thousand) that are recorded in cost of sales. For more details, please refer to the “Research and Development” section under “Fundamental Information about the Group” in the Group Management Report.

An indefinite useful life is assumed for market-related intangible assets of EUR 73,772 thousand (previous year: EUR 73,653 thousand). These assets are company and product names of the acquired companies. These are established brands in their respective sectors and will continue to be used indefinitely after the company in question has been acquired, which is why there are no indications of a limited useful life. Accordingly, these brands are tested for impairment at least once a year.

For this purpose, as was the case in the previous year, the value in use is initially verified on the basis of the recoverable amount of the cash-generating unit to which the brand belongs. The acquired company represents the cash-generating unit for purposes of the brand impairment test.
With regard to the key assumptions for determining the value in use, reference is made to the comments discussing goodwill impairment testing (see section 5.2).

The allocation of carrying amounts of acquired brands with indefinite useful lives and the discount rates for purposes of impairment testing are presented in the table below. Company or product names allocated to other brands each accounted for less than 10 percent of the total value of all intangible assets with indefinite useful lives.

	10/31/2022			10/31/2021		
Brand	Carrying amount (EUR thousand)	Discount rate (after-tax) in %	Discount rate (before-tax) in %	Carrying amount (EUR thousand)	Discount rate (after-tax) in %	Discount rate (before-tax) in %*
Comas (Food & Healthcare Technologies)	15,598	10.52	13.73	15,598	9.58	12.03
Imaforni (Food & Healthcare Technologies)	11,350	10.52	12.96	11,350	9.58	11.96
Hilge (Separation & Flow Technologies)	10,035	9.05	11.82	10,035	7.43	10.06
Aseptomag (Separation & Flow Technologies)	9,847	6.56	7.77	9,210	5.99	7.18
Procomac (Liquid & Powder Technologies)	8,067	10.44	12.94	8,067	8.86	11.11
Other	18,875	7.11-10.44	9.59-13.00	19,393	5.35-8.86	6.22-10.94
Total	**73,772**			**73,653**		

*) The previous year figures for the discount rate (pre-tax) have been adjusted.

If the value in use of one cash-generating unit is less than its carrying amount, the brand is tested for impairment on the basis of its fair value less costs of disposal (Fair Value Hierarchy Level 3) using the relief from royalty method. Under this approach, the value of a brand is calculated on the basis of the future royalties that GEA would have to pay if it had to license the brands from third parties. The brand-related revenue is multiplied by the estimated royalty rate. The brand-related revenue is derived from the budget and medium-term planning prepared by the Executive Board. The Supervisory Board approved the budget for 2023 and took note of the medium-term planning for fiscal years 2024 and 2025. The royalty rate assumptions are derived from information already available and range between 0.5 percent and 1.0 percent (previous year: 0.5 percent to 1.0 percent) for the fiscal year. The cash flows calculated in this way are then discounted using a brand-specific after-tax discount rate.

The impairment test performed as of the measurement date did not lead to any impairment requirement in fiscal year 2022 or in the previous year.

5.4 Other financial assets

Other financial assets are composed of the following items:

(EUR thousand)	12/31/2022	12/31/2021
Investments in unconsolidated subsidiaries	22,135	33,091
At-equity investments	5,816	5,506
Other Equity investments	2,499	244
Other securities	7,276	6,068
Receivables from subsidiaries and investment companies	2,276	2,316
Derivative financial instruments	514	134
Miscellaneous other financial assets	5,645	18,023
Other noncurrent financial assets	**46,161**	**65,382**
Receivables from subsidiaries and investment companies	10,515	12,193
Derivative financial instruments	9,462	4,452
Miscellaneous other financial assets	50,452	44,393
Other current financial assets	**70,429**	**61,038**
Total	**116,590**	**126,420**

Investments in companies accounted for using the equity method mainly consists of joint ventures.

Information on credit risks in connection with other financial assets and further information about other financial assets, including derivatives, can be found in section 3 of the Notes to the Consolidated Financial Statements.

5.5 Other assets

Other assets are composed of the following items:

(EUR thousand)	12/31/2022	12/31/2021
Prepaid expenses	4,937	2,837
Other receivables from tax authorities	1,357	1,311
Other noncurrent assets	**6,294**	**4,148**
Prepaid expenses	33,830	34,189
Other receivables from tax authorities	97,496	72,987
Miscellaneous other assets	52	47
Other current assets	**131,378**	**107,223**
Total	**137,672**	**111,371**

5.6 Inventories

Inventories are composed of the following items:

(EUR thousand)	12/31/2022	12/31/2021
Raw materials, consumables, and supplies	182,741	150,765
Work in progress	212,305	174,718
Assets for third parties under construction	16,989	13,984
Finished goods and merchandise	374,376	302,324
Advance payments	59,904	73,135
Total	**846,315**	**714,926**

Inventories of EUR 3,102 million were recognized as an expense in fiscal year 2022 (previous year: EUR 2,820 million). Impairment losses on inventories were EUR 11,539 thousand in the reporting period (previous year: EUR 7,466 thousand). In the current reporting period, prior-year impairment losses on inventories amounting to EUR 5,783 thousand (previous year: EUR 4,465 thousand) were reversed due to changes in assessments. The impairment losses as well as the reversals were recognized in the cost of sales. The incremental costs of obtaining a contract included in the cost of sales amounted to EUR 0 thousand in the year under review (previous year: EUR 13 thousand).

5.7 Trade receivables

Trade receivables are composed of the following items:

(EUR thousand)	12/31/2022	12/31/2021
Trade receivables from third parties	711,210	668,988
Trade receivables from affiliated companies	19,735	13,472
Total	**730,945**	**682,460**

Trade receivables include receivables of EUR 607 thousand (previous year: EUR 1,044 thousand) that will not be realized until more than one year after the reporting date.

The total amount of impairments on trade receivables are EUR 55,853 thousand (previous year: EUR 67,560 thousand). Additional information concerning impairments related to trade receivables may be found in No. 3 of the Notes to the Consolidated Financial Statements.

5.8 Cash and cash equivalents

Cash and cash equivalents were composed of the following items as of the reporting date:

(EUR thousand)	12/31/2022	12/31/2021
Unrestricted cash	702,344	928,187
Restricted Cash	16,383	109
Total	**718,727**	**928,296**

Cash and cash equivalents comprise cash funds and demand deposits. Restricted cash mainly consists of bank deposits. Due to the legal restrictions in Russia, cash and cash equivalents of EUR 14,255 thousand were available to only a limited extent for group companies not based in Russia as of the reporting date.

During the year, the standard market interest rate for short-term bank deposits in the eurozone was 0.0 percent (previous year: -0.2 percent). The average interest rate at the end of the year was 1.8 percent (previous year: -0.3 percent).

5.9 Assets and liabilities held for sale

As of December 31, 2022, assets held for sale are reported at a carrying amount of EUR 15.394 thousand (previous year: EUR 49.844 thousand) with their corresponding liabilities reported at EUR 3.330 thousand (previous year: EUR 33.774 thousand). This relates primarily to the sale of the transport cooling business in South Africa described below.

Sale of the transport cooling business in South Africa

On September 19, 2022, GEA signed a contract with South African company Transport Cooling Africa Proprietary Limited and the Swedish Beijer Ref AB on the sale of the assets and liabilities of the transport cooling business and the transfer of employees by means of an asset deal. The transport cooling business is part of the business activities of GEA Africa Proprietary Limited, Midrand, South Africa, and comprises the supply of transport cooling products for trucks and trailers; it is allocated to the Heating & Refrigeration Technologies division. The assets (including goodwill) of EUR 14,588 thousand and liabilities of EUR 3,330 thousand to be sold in the transaction form a disposal group and have been classified as “held for sale”. In this context, goodwill amounting to EUR 4,414 thousand was allocated to the disposal group. The disposal group has been measured at its fair value less cost to sell.

In fiscal year 2022, expenses of EUR 2,711 thousand (including the impairment of allocated goodwill of EUR 1,698 thousand) were recognized in connection with this transaction and classified as restructuring expenses.

The transaction was closed on January 31, 2023.

The following assets and liabilities were classified as held for sale:

(EUR thousand)	12/31/2022
Property, plant and equipment	100
Goodwill	2,716
Non-current assets	**2,816**
Inventories	9,218
Trade receivables	2,554
Current assets	**11,772**
Total assets*	**14,588**

(EUR thousand)	12/31/2022
Other non-current financial liabilities	29
Non-current liabilities	**29**
Other current financial liabilities	57
Trade payables	3,244
Current liabilities	**3,301**
Total liabilities*	**3,330**

*) Items do not include assets and liabilities to affiliated companies.

6. Consolidated Balance Sheet Disclosures: Equity and liabilities

6.1 Equity

Issued capital

The issued capital in the amount of EUR 496,945 thousand (previous year: EUR 513,753 thousand) corresponds to subscribed capital of EUR 520,376 thousands less the notional value of the repurchased shares of EUR 23,430 thousand.

Subscribed capital

The subscribed capital of GEA Group Aktiengesellschaft as of December 31, 2022 was EUR 520,376 thousand (previous year: EUR 520,376 thousand). The shares are bearer shares and are divided into 180,492,172 (previous year: 180,492,172) no-par value shares. All the shares are fully paid up.

As in the previous year, the shares have a notional value (rounded) of EUR 2.883 each (previous year: EUR 2.883).

All shares convey the same rights. Shareholders are entitled to receive dividends as declared and are entitled to one vote per share at the Annual General Meeting. Treasury shares held by the company on the day of the Annual General Meeting do not carry voting rights and are not eligible for dividends.

Treasury shares

Under a resolution adopted by the Annual General Meeting of April 19, 2018, in accordance with section 71(1) no. 8 AktG, GEA Group Aktiengesellschaft is authorized to purchase own shares amounting to up to 10 percent of the total amount of the share capital. This authorization was exercised and a share buyback program was launched on August 12, 2021. The buyback was set to run through the end of the 2022 fiscal year at the latest and to took place in two tranches. The buy-back program started on August 16, 2021. In the first tranche of this share buyback program, a total of 2,297,033 no-par-value shares corresponding to share capital of EUR 6,623 thousand were repurchased in the period from August 16, 2021 to December 31, 2021. A further 872,834 no-par value shares corresponding to share capital of EUR 2,516 thousand were repurchased in the period from January 1, 2022 to February 17, 2022. In the second tranche of the share buyback program, a total of 4,956,993 no-par-value shares corresponding to share capital of EUR 14,291 thousand were repurchased in the period from July 6, 2022 to December 31, 2022. This corresponds to some 4.50 percent of the share capital of GEA Group Aktiengesellschaft, which was repurchased in the two tranches of the share buyback program. The total value of shares acquired during the 2022 fiscal year amounts to EUR 205,479 thousand (previous year: EUR 93,754 thousand).

Transaction costs amounting to EUR 1,786 thousand (previous year: EUR 38 thousand) were recognized directly in equity.

Authorized capital

(EUR thousand)	Annual General Meeting resolution	Expiring on	Amount (EUR thousand)
Authorized Capital I	April 30, 2021	April 29, 2026	52,000
Authorized Capital II	April 30, 2021	April 29, 2026	52,000
Authorized Capital IIII	April 30, 2021	April 29, 2026	52,000
Total			**156,000**

In the case of the Authorized Capital I and in accordance with Article 4(3) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the share capital by up to EUR 52,000 thousand by issuing new no-par value shares against cash contributions until April 29, 2026 (Authorized Capital I) and, in accordance with Article 5(4) of the Articles of Association, to set a starting date for profit rights in case that differs from the date stipulated by law. The authorization may be exercised fully or in partial amounts, on one or several occasions. Shareholders are generally entitled to subscribe to the new shares. The statutory preemptive right may also be granted by the new shares being underwritten by one or more banks with the obligation of offering them to the shareholders for preemptive subscription (indirect preemptive right). The Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights (i) insofar as this is necessary to eliminate fractional amounts, and (ii) in order to grant the creditors of convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the company a right to subscribe to new shares to the extent to which they would be entitled after exercising the option or conversion rights or after fulfilling conversion obligations. Furthermore, the Executive Board is authorized, with the approval of the Supervisory Board, to stipulate the further details of capital increases from Authorized Capital I and the terms and conditions of the share issue.

In the case of the Authorized Capital II and in accordance with Article 4(4) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the company's share capital by up to EUR 52,000 thousand by issuing new no-par value shares against cash and/or in-kind contributions until April 29, 2026 (Authorized Capital II) and, in accordance with Article 5(4) of the Articles of Association, to set a starting date for profit rights that differs from the date stipulated by law. The authorization may be exercised fully or in partial amounts, on one or several occasions. Shareholders are generally entitled to subscribe to the new shares. The statutory preemptive right may also be granted by the new shares being underwritten by one or more banks with the obligation of offering them to the shareholders for preemptive subscription (indirect preemptive right). Furthermore, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights in the case of capital increases against in-kind contributions, in particular, for the purpose of business combinations or the acquisition of companies, parts of companies, or equity interests in companies or other assets. In addition, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights if the new shares are to be issued to persons who are in an employment relationship with GEA Group Aktiengesellschaft or one of its group companies. In such cases, the new shares may also be issued via a bank or another company meeting the requirements of section 186 (5) sentence 1 of the AktG. In addition, the Executive Board is authorized, with the consent of the Supervisory Board, to exclude the statutory shareholders' preemptive right to use the scrip dividend to offer shareholders the option (wholly or partially) of contributing their dividend claim in part or in whole as an in-kind contribution to the company in return for new shares in the company. Finally, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights (i) insofar as it is necessary to eliminate fractional amounts, and (ii) in order to grant the creditors of convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the Company a right to subscribe to new shares to the extent to which they would be entitled after exercising the option or conversion rights or after fulfilling conversion obligations. The Executive Board is furthermore authorized, with the approval of the Supervisory Board, to stipulate the further details of the capital increases from Authorized Capital II and the terms and conditions of the share issue.

In the case of the Authorized Capital III and in accordance with Article 4(5) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the share capital of the company by up to EUR 52,000 thousand by issuing new no-par value shares against cash contributions until April 29, 2026 (Authorized Capital III) and, in accordance with Article 5(4) of the Articles of Association, to define a starting date for profit rights that differs from the date stipulated by law. The authorization may be exercised fully or in partial amounts, on one or several occasions. Shareholders are generally entitled to subscribe to the new shares. The statutory preemptive right may also be granted by the new shares being underwritten by one or more banks with the obligation of offering them to the shareholders for preemptive subscription (indirect preemptive right). The Executive Board is authorized, with the approval of the Supervisory Board, to exclude shareholders' subscription rights if the issue price of the new shares is not significantly lower than the stock exchange price for company shares of the same kind at the time of setting the issue price. In line with the modalities of this disapplication of preemptive rights, the shares issued in accordance with section 203(1) and section 186(3) no. 4 of the AktG may not exceed 10% of the share capital of the Company either at the time at which this authorization takes effect or at the time at which it is exercised (upper limit). The upper limit is reduced by the proportionate amount of the share capital allocable to shares of the company issued during the term of the Authorized Capital III under disapplication of preemptive rights in accordance with section 71(1) no. 8 sentence 5, and Section 186(3) sentence 4 of the AktG. The upper limit is also reduced by the proportionate amount of the share capital allocable to shares issued to service convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the company, as long as the convertible or option bonds have been issued during the term of the Authorized Capital III under disapplication of preemptive rights in accordance with section 186(3) sentence of the 4 AktG. Furthermore, the Executive Board is authorized, with the approval of the Supervisory Board, to disapply shareholders' preemptive rights (i) insofar as it is necessary to eliminate fractional amounts, and (ii) in order to grant the creditors of convertible or option bonds with option or conversion privileges or obligations issued by GEA Group Aktiengesellschaft or a subordinate group company of the Company a right to subscribe to new shares to the extent to which they would be entitled after exercising the option or conversion rights or after fulfilling conversion obligations. The Executive Board is furthermore authorized, with the approval of the Supervisory Board, to stipulate the further details of the capital increases from Authorized Capital III and the terms and conditions of such share issuance.

Contingent capital

(EUR thousand)	12/31/2022	12/31/2021
Bonds with warrants and convertible bonds according Annual General Meeting resolution 30. April 2021	52,000	52,000
Total	**52,000**	**52,000**

Under a resolution adopted by the Annual General Meeting on April 30, 2021, the share capital was contingently increased by up to EUR 52,000 thousand subject to the issuance of bearer shares (Article 4(6) of the Articles of Association, Contingent Capital 2021). The contingent capital increase will only be implemented to the extent that the holders of conversion or option privileges from convertible bonds or option bonds, profit participation rights or profit participating bonds or a combination of these instruments issued against cash contributions by GEA Group Aktiengesellschaft or a subordinate group company of the company on the basis of the authorization by the Annual General Meeting resolution dated April 30, 2021, exercise their conversion or option privileges, or, if they are obliged to convert or exercise options, satisfy their obligation to convert or exercise options, and if no cash settlement is granted or own shares or shares of another listed company are used in settlement. The new shares are to be issued at the option or conversion price to be specified in accordance with the aforementioned authorization resolution in each case. The new shares bear dividend rights from the beginning of the fiscal year in which they were created as a result of the exercising of conversion or option rights or the fulfillment of conversion or option obligations. The Executive Board is authorized to determine the further details of the implementation of the contingent capital increase.

The Executive Board is authorized, with the consent of the Supervisory Board, to issue bearer or registered convertible bonds or bonds with warrants, profit participation rights or participating bonds or a combination of these instruments (collectively referred to as “bonds”) with a total nominal value of up to EUR 750,000 thousand on one or more occasions through April 29, 2026 and to grant or impose on the holders of such bonds conversion or option rights or obligations for shares in the company with a proportionate share of share capital totaling up to EUR 52,000 thousand in accordance with the relevant terms and conditions of the bonds. The bonds may be issued against cash or in-kind contributions. The respective terms and conditions may also include a conversion or option obligation. The bonds may also be issued by GEA Group Aktiengesellschaft group company within the meaning of section 18 of the AktG. In such cases, the Executive Board is authorized, with the approval of the Supervisory Board, to assume a guarantee for the bonds on behalf of the company and to grant or impose conversion or option rights or obligations on the holders of bonds in exchange for GEA Group Aktiengesellschaft shares. Shareholders are generally entitled to subscribe to the bonds. The statutory subscription right may also be granted by the bonds being underwritten by a bank or bank consortium with the obligation of offering them to the shareholders for preemptive subscription (indirect subscription right). The Executive Board is authorized, subject to the consent of the Supervisory Board, to exclude fractional shares from the shareholders’ subscription rights and to exclude the subscription rights under certain conditions and within the limits set by the Annual General Meeting. The exclusion of the preemptive right is possible in such cases where bonds are issued against contributions in kind (in particular for the purpose of business combinations or the acquisition of companies, parts of companies, or equity interests in companies or other assets) or in cases where bonds are issued for cash at an issue price that does not materially fall below the theoretical market value of the bonds. The pro rata amount of capital stock represented by shares to be issued to service bonds carrying conversion or option rights or obligations that are issued with the exclusion of shareholders’ preemptive rights may not exceed 10 percent in the aggregate of the company’s capital stock outstanding at the time the resolution is adopted by the Annual General Meeting (excluding the issue with the exclusion of preemptive rights for fractional amounts); for such purposes, shares issued or sold with the exclusion of preemptive rights on the basis of other authorizations granted to the Executive Board during the term of such authorization are also taken into account. These offsets no longer apply, and the original amount of the authorization will be available again as soon as a subsequent Annual General Meeting authorizes the Executive Board to issue or sell shares again while excluding shareholders’ preemptive rights.

As in the previous year, no bonds with warrants or convertible bonds were issued in fiscal year 2022.

Capital reserves

Capital reserves primarily reflect the effects from the business combination of the former Metallgesellschaft Aktiengesellschaft and the former GEA AG as well as premiums from issuing shares of the former Metallgesellschaft AG.

Capital reserves were unchanged compared with the previous year at EUR 1,217,861 thousand.

Retained earnings and comprehensive income

The changes in retained earnings and net retained profits are reported in the statement of changes in equity. Actuarial gains and losses on the measurement of non-current employee benefit obligations are included in retained earnings. In addition, retained earnings are reduced by offsetting the acquired treasury shares.

The distribution of profits is based on the annual financial statements of GEA Group Aktiengesellschaft prepared in accordance with the HGB.

Accumulated other comprehensive income

The accumulated other comprehensive income includes unrealized gains and losses from exchange rate differences arising from currency translation of foreign subsidiaries as well as the effective portion of the change in the value of derivatives designated as cash flow hedges.

Non-controlling interests

Non-controlling interests in GEA companies amounted to EUR 415 thousand (previous year: EUR 417 thousand).

Capital management

GEA Group Aktiengesellschaft's key financial objective is to sustainably grow its enterprise value in the interests of investors, employees, customers, and suppliers, while safeguarding and securing the group's solvency at all times.

Improving profitability and, as a result, increasing the return on capital employed therefore takes priority in all business decisions. Our strict focus on contract margin quality is also derived from this. Equally, external growth through potential acquisitions is viewed from the perspective of this goal.
Capital management, in the form of generating sufficient liquidity reserves, plays a crucial role in the pursuit of these enterprise goals. Not only does this help secure GEA's long-term existence, but it also creates the entrepreneurial flexibility needed to enhance and update current business activities and to take advantage of strategic opportunities. It is achieved by managing liquidity reserves and available credit lines on an ongoing basis using short- and medium-term forecasts of future liquidity trends and borrowing requirements.

The group's financial management encompasses liquidity management, group financing, and the management of interest rate and currency risks. The central financial management operations within GEA Group Aktiengesellschaft are responsible for reducing financing costs as far as possible, optimizing interest rates for financial investments, minimizing counterparty credit risk, leveraging economies of scale, hedging interest rate and exchange rate risk exposures as effectively as possible, and ensuring compliance with loan covenants. The goal of GEA's financing strategy is not only to be able to meet its payment obligations whenever they fall due, but also to ensure that sufficient cash reserves are always available in the form of credit lines, in addition to maintaining a strategic cash position. The centralized liquidity portfolio is managed mainly for capital preservation and risk reduction by diversifying the cash investments.

The capital structure is monitored regularly using various key financial indicators so as to optimize capital costs. Core indicators include the equity ratio and the net debt to equity ratio (gearing). Net debt for the complete group is calculated as follows:

(EUR thousand)	12/31/2022	12/31/2021
Liabilities to banks	–5,167	–10,747
Borrower's note loan	–201,971	–251,967
Lease liabilities	–165,233	–165,816
Cash and cash equivalents	718,727	928,296
Net liquidity (+)/Net debt (-)	**346,356**	**499,766**
Equity	**2,280,944**	**2,076,211**
Equity ratio	**38.5%**	**35.3%**
Gearing	–15.2%	–24.1%

Net liquidity decreased by EUR 153,410 thousand in the course of the fiscal year, closing the year at EUR 346,356 thousand on December 31, 2022.

Two international rating agencies, Moody's and Fitch, again rated GEA Group Aktiengesellschaft's ability to meet its financial obligations. The ratings for GEA are as follows:

	2022		2021	
Agency	Rating	Outlook	Rating	Outlook
Moody's	Baa2	stable	Baa2	stable
Fitch	BBB	stable	BBB	stable

GEA's investment grade rating in the "BBB" range enables access to good financing opportunities both with banks and directly on the capital markets. The current ratings reflect GEA's strong solvency and ensure access to the international financial markets.

6.2 Provisions

The following table shows the composition of and changes in provisions in 2022:

(EUR thousand)	Guarantees, warranties	Financial guarantee contracts	Litigation risks	Follow-up costs	Environ-mental protection, mining	Impending Losses	Other provisions	**Provisions**
Balance at Jan. 1, 2022	**95,060**	**2,266**	**10,769**	**56,674**	**122,898**	**4,674**	**86,316**	**378,657**
thereof non-current	9,680	–	2,342	2,280	120,725	–	7,160	**142,187**
thereof current	85,380	2,266	8,427	54,394	2,173	4,674	79,156	**236,470**
Additions	48,951	–	6,396	36,826	12,080	618	45,851	**150,722**
Utilization	–26,794	–225	–2,634	–18,820	–1,164	–2,887	–48,091	**–100,615**
Reversal	–18,801	–	–646	–12,204	–304	–187	–8,898	**–41,040**
Changes in consolidated group	–	–	–50	–	–	–	–	**–50**
Compounding and change in interest rate	–	–	–	–102	–51,032	–	–80	**–51,214**
Exchange differences	–438	1	154	172	5	–13	–537	**–656**
Balance at Dec. 31, 2022	**97,978**	**2,042**	**13,989**	**62,546**	**82,483**	**2,205**	**74,561**	**335,804**
thereof non-current	11,455	–	1,554	2,211	80,095	–	6,325	**101,640**
thereof current	86,523	2,042	12,435	60,335	2,388	2,205	68,236	**234,164**

Provisions for guarantees and warranties

Provisions for guarantees and warranties relate to warranty commitments for products and equipment. As is customary in the industry, the guarantees and warranties on which they are based are granted in connection with certain performance criteria relating to products or equipment (e.g., guaranteed output volume, quality of product manufactured). Warranties usually have a contractual term of between one and two years from the date on which the products or equipment are accepted. In addition to warranties explicitly agreed under contract, product liability rules apply in many sales countries and may also stipulate that the manufacturer is liable beyond the contractually defined term of the warranty. In some cases, recourse claims exist in the form of insurance refunds or subcontractor guarantees. The level of provisions is based on management's best estimate.

GEA expects to progressively settle most of the provisions for guarantees and warranties over the coming year.

Provisions for financial guarantee contracts

Provisions for financial guarantee contracts comprise obligations under indemnification agreements as well as warranties and undertakings relating to the sale of business activities. The changes in these provisions in fiscal year 2022 are due to utilization.

Litigation risks

Provisions are recognized for risks arising from expected or pending litigation against GEA companies if it is believed that there is likely to be an unfavorable outcome to the proceedings. Assessments by counsel for the Company or legal experts were used to determine the likelihood of such litigation. The probable obligations related to damages or sanctions have been recognized as provisions. The timing of the cash outflows is based on the best estimates of legal experts.

Follow-up costs

This item comprises the cost of residual work that is incurred after a contract has already been invoiced and the profit from the contract has been recognized. The amount of the expected cost is stated. Payments are made almost in their entirety in the following year.

Environmental protection, mining

This item mainly comprises provisions for the clean-up of pit water from past mining activities and for the clean-up of other instances of groundwater contamination. The obligations are expected to extend well beyond 2050.

Based on knowledge acquired in fiscal year 2022, GEA adjusted its expectations regarding future cash outflows for commitments stemming from environmental protection and mining. These are the main reasons for the additions for environmental protection and mining obligations presented in the table. The decline in provisions in the fiscal year is mainly due to changes in interest rates, which, viewed in isolation, reduced the obligations by EUR 53,859 thousand. The changes recognized in profit or loss impacted almost exclusively earnings from discontinued operations.

Provisions for impending losses

This item includes both impending losses from pending transactions in connection with point-in-time revenue recognition and impending losses resulting from contracts with customers for which revenue is recognized over time pursuant to IFRS 15. As soon as an impending loss becomes known, its expected amount is reported immediately.

Other provisions

Other provisions comprise provisions for a range of individual items. As of December 31, 2022, other provisions included provisions for restructuring measures within the meaning of IAS 37 for non-personnel expenses of EUR 2.6 million (previous year: EUR 2.4 million).

6.3 Employee benefit obligations

Employee benefit obligations comprise the following items:

(EUR thousand)	Section	12/31/2022	12/31/2021
Obligations under pension plans and supplementary healthcare benefits		557,691	784,733
thereof defined benefit pension plans	6.3.1	548,010	772,675
thereof obligations under supplementary healthcare benefits	6.3.1	9,463	11,889
thereof defined contribution pension plans	6.3.2	218	169
Other employee benefit obligations		2,240	2,090
Partial retirement		6,028	9,473
Jubilee benefits		8,353	10,507
Redundancy plan and severance payments		17,225	12,111
Other non-current obligations to employees		13,854	18,220
Non-current employee benefit obligations		**605,391**	**837,134**
Redundancy plan and severance payments		18,465	19,178
Outstanding vacation, flexitime/overtime credits		63,172	57,584
Bonuses		187,939	156,729
Other current obligations to employees		23,541	19,766
Current employee benefit obligations		**293,117**	**253,257**
Total employee benefit obligations		**898,508**	**1,090,391**

The decline in non-current obligations related to partial retirement and jubilee benefits is due in particular to the sharp increase in the discount rate. The increase in current employee benefit obligations is primarily attributable to bonuses and provisions for inflation compensation bonuses granted to employees in Germany.

As of December 31, 2022, provisions amounting to EUR 32,482 thousand (previous year: EUR 26,229 thousand) had been established for severance payments in connection with restructuring measures within the meaning of IAS 37, of which EUR 15,257 thousand is reported as current employee benefit obligations (previous year: EUR 14,118 thousand).

6.3.1 Obligations under defined benefit pension plans and supplementary healthcare benefits

Wherever possible, defined benefit pension obligations and obligations under supplementary healthcare benefits are disclosed below in the aggregate and explained together.

Furthermore, the information is presented including “assets and liabilities held for sale.” Where reconciliation to items in the financial statements is required, this is presented in a separate line, reclassified as “held for sale.”

All obligations were valued by actuaries as of December 31, 2022 and as of December 31, 2021.

Defined benefit plans

GEA employees are offered various benefit options, mainly in the form of defined benefit and defined contribution plans.

Defined benefit plan obligations exist in Germany and, outside of Germany, mainly in the USA and the United Kingdom. In addition, other foreign companies have typical country-specific pension plans that are funded in part by plan assets. Benefits and investments correspond to the country-specific economic environment and requirements.

GEA views the granting of pension benefits as an opportunity to foster employee loyalty and engagement. It is therefore a standard feature of the remuneration concept and has an employee contribution component, where this is appropriate. In connection with this, GEA monitors developments in the labor market and regularly checks that the benefits it grants are appropriate and in line with the market.

In GEA’s assessment, the pension obligations do not give rise to any risks over and above the normal risk level nor beyond the general risks specified.

Pension benefits in Germany

In Germany, GEA grants old-age, disability, and survivors’ benefits to many of its employees. New employees are generally only granted benefits that are partly funded by employee contributions.

As part of the general benefits provided, all employees have the opportunity to voluntarily defer part of their compensation. Under this arrangement, an agreed amount of their salary plus an employer contribution of up to 100 percent of the deferred amount is converted into a pension benefit. A corresponding collective bargaining agreement was entered into in 2002 and revised in 2008. Under this agreement, post-retirement benefits are adjusted by one percent annually.

According to GEA’s new executive pension scheme, executives are granted benefits in the form of an asset-backed defined benefit plan. The plan assets are managed under a Contractual Trust Arrangement (CTA) and invested in mixed funds. The size of the employer’s contributions to the plan assets depends on the amount of the fixed salaries of the beneficiaries. Beneficiaries can also contribute from their own income by means of deferred compensation. The beneficiaries are then entitled to the net earnings generated by the plan assets. There is also a notional premium guarantee.

In addition to the currently open benefit plans, there are a number of historical pension plans in the company. These plans are generally closed to new employees but are maintained unchanged for employees who were members at the time the plan was closed. The plans include obligations under “Bochumer Verband” and “Essener Verband”, as well as obligations established independently by their predecessors. Entitlements also exist from the earlier executive pension scheme, which has been closed to new members since the end of the fiscal year 2014. Post-retirement benefits from the earlier executive pension plan are adjusted by one percent each year.

The pension obligations are partly funded by pension liability insurance policies.

Pension benefits outside Germany

Pension benefits outside Germany mainly exist in the USA and the United Kingdom.

In the USA, there are pension obligations from various pension plans that were closed in succession up to December 31, 2000. No further benefits are earned from a defined benefit plan for periods of service after the respective closure date. Old-age and survivors’ benefits accrued at the closure date of the respective plan were fixed on the basis of pensionable income at the closure date. Benefits may be paid out in the form of annuities or lump-sum payments. Existing pension obligations are partly funded by plan assets. The assets are held separately from the company in an external trust. The companies have appointed independent trustees in accordance with statutory provisions to manage the funding of obligations and the investment of assets according to the company’s specifications. Any funding deficit is established annually in accordance with legal requirements and may be spread over a fixed time period if required. The statutory basis for minimum funding was last amended in 2012 by the Moving Ahead for Progress in the 21st Century Act (MAP-21).

In the United Kingdom, there are pension obligations from two UK pension plans, one of which has been closed for a number of years and applies exclusively to former employees. The second plan is closed to new employees but continues to provide old-age and survivors’ benefits to the currently active participants based on pensionable income in the year before the employment relationship ends; these benefits are funded by salary-dependent employee contributions to plan assets. The accrued entitlements and current benefits in the United Kingdom are adjusted in accordance with statutory requirements on the basis of inflation. Pension obligations from both plans are funded by plan assets. The companies appointed independent trustees in accordance with statutory provisions to manage the funding of obligations and the investment of assets according to the company’s specifications. Company pension plans are valued every three years in accordance with legal requirements, and any deficit is established. If the plan is underfunded, the trustee prepares a funding plan to regulate the funding of the deficit, taking into account the actuary’s recommendations and the type and circumstances of the respective plan.

Supplementary healthcare benefits

In addition to occupational pension benefits, certain retired employees are granted health insurance subsidies. New entitlements to health insurance subsidies are no longer granted in Germany. There are now only a few employees with such benefits in active employment. Existing obligations from supplementary healthcare plans are not funded by plan assets. GEA does not see these benefits posing a particular risk due to the low level of the obligations.

Obligations under supplementary healthcare benefits relate mainly to Germany.

Provisions and funded status

The changes in the present value of the defined benefit obligation, the plan assets, and the provisions were as follows:

	12/31/2022		12/31/2021	
(EUR thousand)	Germany	Other countries	Germany	Other countries
Present value of defined benefit obligation at beginning of fiscal year	**794,126**	**143,805**	**846,545**	**148,853**
Current service cost	16,797	2,648	15,623	2,876
Interest Cost from discounting unwinding on obligations	8,546	2,978	5,698	2,408
Employee contributions	–	405	–	388
Remeasurement of present value of obligation	–215,387	–31,655	–24,932	–6,972
Actuarial gains/ losses from changes in demographic assumptions	–	–153	–	–648
Actuarial gains/ losses resulting from changes in financial assumptions	–230,343	–34,414	–29,774	–5,558
Actuarial gains/ losses resulting from experience adjustments	14,956	2,912	4,842	–766
Past service cost	544	–	–	968
Payments without settlements	–33,059	–9,047	–30,810	–11,756
Transfer of assets	–115	–	–	–
Changes in combined group due to acquisitions	–	–1,337	–17,998	–553
Other changes in combined group	1,000	–	–	–
Currency translation	–	3,329	–	7,593
Present value of defined benefit obligation at end of fiscal year	**572,452**	**111,126**	**794,126**	**143,805**
Fair value of plan assets at beginning of the fiscal year	**55,093**	**97,676**	**44,772**	**92,003**
Interest income on plan assets	621	2,068	323	1,570
Employer contributions	6,965	4,757	6,024	3,217
Employee contributions	–	405	–	388
Remeasurement: return from plan assets in excess/ shortage of interest income	–6,403	–15,179	4,951	3,956
Payments without settlements	–3,646	–7,150	–814	–9,192

	12/31/2022		12/31/2021	
(EUR thousand)	Germany	Other countries	Germany	Other countries
Changes in combined group due to acquisitions	–	–	–163	–
Currency translation	–	1,663	–	5,734
Fair value of plan assets at the end of fiscal year	**52,630**	**84,240**	**55,093**	**97,676**
Effect of asset ceiling at beginning of fiscal year	**–**	**–**	**–**	**–**
Changes in asset ceiling	–	6,309	–	–
Currency translation	–	–234	–	–
Effect of asset ceiling at the end of fiscal year*	**–**	**6,075**	**–**	**–**
Funded status/ Net carrying amount	**519,822**	**32,961**	**739,033**	**46,129**
Reclassification as held for sale	–	–	–1,138	–2,037
Net carrying amount	**519,822**	**32,961**	**737,895**	**44,092**
thereof net asset	124	4,566	–	2,565
thereof net liability	519,946	37,527	737,895	46,657

*) Including EUR 3,220 thousand effect from minimum funding requirement of a plan in the United Kingdom.

Changes to the net carrying amount of the defined benefit obligations from defined benefit plans and supplementary healthcare benefits for fiscal years 2022 and 2021 are as follows:

	12/31/2022		12/31/2021	
(EUR thousand)	Germany	Other countries	Germany	Other countries
Net carrying amount at beginning of fiscal year	**739,033**	**46,129**	**801,773**	**56,850**
Changes through profit or loss	25,266	3,558	20,998	4,682
Current service cost	16,797	2,648	15,623	2,876
Past service cost	544	–	–	968
Net interest on net defined benefit liability	7,925	910	5,375	838
Changes through OCI	–208,984	–10,167	–29,883	–10,928
Return from plan assets in excess interest income	6,403	15,179	–4,951	–3,956
Actuarial gains/ losses from changes in demographic assumptions	–	–153	–	–648
Actuarial gains/ losses resulting from changes in financial assumptions	–230,343	–34,414	–29,774	–5,558
Actuarial gains/ losses resulting from experience adjustments	14,956	2,912	4,842	–766
Effect of asset ceiling/ minimum funding requirement	–	6,309	–	–
Cash-effective changes	–36,378	–6,654	–36,020	–5,781
Employer contributions	–6,965	–4,757	–6,024	–3,217
Payments without settlements	–29,413	–1,897	–29,996	–2,564
Other changes	885	95	–17,835	1,306
Transfer of assets	–115	–	–	–
Changes in combined group due to acquisitions	–	–1,337	–17,835	–553
Other changes in combined group	1,000	–	–	–
Currency translation	–	1,432	–	1,859
Funded status/ Net carrying amount	**519,822**	**32,961**	**739,033**	**46,129**
Reclassification as held for sale	–	–	–1,138	–2,037
Net carrying amount	**519,822**	**32,961**	**737,895**	**44,092**

As in the previous year, there are no reimbursement claims within the meaning of IAS 19.116. One pension plan in the United Kingdom and one in Canada are in a surplus, which are not recognized because no future economic benefits in the form of reductions in future contributions or refunds from the plan are available to GEA. Due to the minimum funding requirement of the plan in the United Kingdom, an additional liability is recognized in accordance with IFRIC 14.24.

The following overview shows the net carrying amount broken down into plans with and without plan assets:

	12/31/2022		12/31/2021	
(EUR thousand)	Germany	Other countries	Germany	Other countries
Present value of funded obligations	225,817	98,446	242,606	127,208
Fair value of plan assets	52,630	84,240	55,093	97,676
Funded status/ Net carrying amount of funded obligations	**173,187**	**14,206**	**187,513**	**29,532**
Present value of unfunded obligations	346,635	12,680	551,520	16,597
Funded status/ Net carrying amount of unfunded obligations	**346,635**	**12,680**	**551,520**	**16,597**
Funded status/ Net carrying amount (before asset ceiling)	**519,822**	**26,886**	**739,033**	**46,129**
Reclassification as held for sale	–	–	–1,138	–2,037
Net carrying amount (before asset ceiling)	**519,822**	**26,886**	**737,895**	**44,092**

The following overview shows the present value of the defined benefit obligation broken down into active employees, former employees with terminated vested benefits, and benefit recipients:

	12/31/2022		12/31/2021	
(EUR thousand)	Germany	Other countries	Germany	Other countries
Active employees	162,402	41,841	270,282	54,418
Vested terminated employees	83,013	17,609	127,044	26,563
Pensioners	327,037	51,676	396,800	62,824
Total	**572,452**	**111,126**	**794,126**	**143,805**

Plan assets

The plan assets used to cover the pension obligations were as follows at the respective reporting dates:

	12/31/2022		12/31/2021	
(Percent)	Germany	Other countries	Germany	Other countries
Quoted prices in active marktes	68.7	92.0	62.9	87.4
Equity instruments	–	34.9	–	37.7
Debt instruments	68.7	51.3	62.9	42.4
Real estate	–	1.8	–	0.1
Insurance	–	0.5	–	–
Other	–	3.5	–	7.2
No quoted prices in active marktes	31.3	8.0	37.1	12.6
Equity instruments	–	1.3	–	1.3
Debt instruments	–	0.8	–	0.8
Real estate	–	0.1	–	0.1
Insurance	30.7	5.5	36.3	10.3
Other	0.6	0.3	0.8	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**

Particularly in Germany, GEA has decided to utilize the internal financing effect of the pension provisions and supplementary healthcare benefits and only fund a relatively small proportion of the pension obligations using plan assets.

In the USA and the United Kingdom, a large proportion of the pension obligations is funded by plan assets in accordance with the legal framework. The above table shows how the plan assets have been invested. A proportion of both the German and foreign plan assets is managed by insurance companies in accordance with their specific investment guidelines. In Germany, this is one of the predominant forms for the investment of plan assets. A large portion of plan assets in Germany are also managed under a Contractual Trust Arrangement (CTA) and are invested in mixed funds. Part of the plan assets of German pension plans is also managed by pension funds and an endowment fund and is mainly invested in fixed-income securities and term deposits, with only a relatively small proportion invested in equities. The objective of these external investments is to ensure secure returns and preserve the value of the underlying assets in order to fund current and future pension benefits. There are currently no plans to change this investment strategy.

Assets invested in the capital markets are exposed to general capital market and investment risk. GEA continually monitors market trends and has developed appropriate investment policies that adequately balance risk and income expectations, while taking the respective statutory and regulatory frameworks into account.

In fiscal year 2023, EUR 7,166 thousand is expected to be added to the plan assets of German pension plans and EUR 4,192 thousand to plans outside Germany.

The actual return on plan assets in 2022 was EUR −18,893 thousand (previous year: EUR 10,800 thousand).

Actuarial assumptions

As of the respective reporting date, the following weighted actuarial assumptions were used to calculate the present value of the defined benefit obligations. These assumptions are used to calculate net pension expenses in the following year.

	12/31/2022		12/31/2021	
(Percent)	Germany	Other countries	Germany	Other countries
Discount factor	3.80	4.69	1.10	2.03
Inflation	2.20	0.99	2.00	1.05
derived: wage and salary growth rate	3.20	1.26	3.00	1.31
derived: pension growth rate	2.20	–	1.74	–
derived: growth rate in cost of health care benefits	3.95	7.12	3.75	6.61

The actuarial measurement factors for German plans are established by GEA in consultation with actuarial experts. The corresponding assumptions for plans outside Germany are determined taking into account country-specific conditions with the help of local experts in consultation with the global experts and GEA. The discount rate is set using a recognized method based on the return on high-quality corporate bonds determined as of the reporting date, taking into account the currency and maturities of the underlying liabilities. For countries that do not have a liquid market in corporate bonds that are suitable for setting the discount rate, interest rates on government bonds are referred to instead to define the rate.

All other assumptions correspond to GEA's long-term projections. The nominal rate of wage and salary increases is calculated based on expected inflation and a real growth rate. The rate of pension benefit increases in Germany is also determined based on inflation, provided the pension benefit adjustments are determined in accordance with the rise in the cost of living. In addition, the financial position of the relevant company is also taken into account. If a firm pension adjustment commitment has been made, this is taken into account accordingly. Outside of Germany, the pension adjustment is also generally determined on the basis of inflation. The growth rate assumed for the cost of supplementary healthcare benefits in Germany equates to the forecast inflation rate plus a growth rate based on historical data. Based on this data, the growth rate is not expected to change in the future.

Klaus Heubeck's 2018G mortality tables were used as a basis for measuring all German plans as of December 31, 2022. On this basis, the life expectancy of a 65-year-old pensioner as of the reporting date is 20.80 years for men and 24.20 years for women (previous year: 20.66 years/24.08 years). Country-specific measurement bases were used for pension liabilities outside Germany.

The sensitivities presented below apply to the discount rate and inflation, which have been identified as actuarial assumptions that have a significant influence on GEA's benefit obligations. Since the wage and salary increase rate, the pension increase rate and the growth rate in the cost of supplementary health benefits are derived from inflation, sensitivity to inflation was used to measure the sensitivity of these assumptions together. The same calculation methods were used for sensitivities as for the recognized provisions. The ranges used to compute the sensitivities of the assumptions are based on the changes that are deemed possible until the next reporting date, given historical experience. The meaningfulness of historical experience for forecasts of future outcomes and neglecting to update a number of assumptions simultaneously may represent limitations of these methods.

(EUR thousand)	12/31/2022	
Increase (+)/ Decrease (-) of DBO	Germany	Other countries
Increase of discount factor by 50 basis points	–31,063	–5,120
Decrease of inflation by 25 basis points	–9,695	–792

A one-year increase in life expectancy results in an increase of around 4.35 percent in the present value of the defined benefit obligations, on average.

Future cash flows

The following benefit payments are expected to be made under the German and foreign plans in the coming years:

(EUR thousand)	2023	2024	2025	2026	2027	2028 - 2032
German plans	36,746	35,663	37,474	35,288	37,832	181,142
Foreign plans	9,452	7,919	7,478	8,459	8,077	40,584

The average weighted duration of pension obligations and supplementary healthcare benefits is:

	12/31/2022		12/31/2021	
(Years)	Germany	Other countries	Germany	Other countries
Duration	11.8	10.3	15.5	12.2

6.3.2 Defined contribution plans

Various group companies – especially in the USA and Scandinavia – operate defined contribution plans. Under these plans, the obligation does not lie with GEA but with the respective pension funds. Contributions totaling EUR 23,896 thousand were made in fiscal year 2022 (previous year: EUR 21,609 thousand). Contributions of EUR 70,614 thousand were made to state pension insurance systems (previous year: EUR 71,518 thousand). These contributions are recognized as personnel expenses at the same time as the relevant service is rendered.

Two nationwide, joint pension plans operated by several employers in the Netherlands were recognized as defined contribution plans since the obligation on the part of the employers is limited to the payment of contributions, as set out in the terms and conditions of the pension plans. The employers are neither liable for any underfunding nor do they participate in any plan overfunding.

The terms and conditions of both plans require a minimum funding level to be maintained. If this level is not met, a stabilization plan must be submitted to the Dutch Central Bank. Neither a surplus nor a deficit would result in additional payments from or into the plan for the participating companies. However, if the minimum funding level is not met, pension benefits may be reduced or future contributions payable by the participating companies may be increased.

One of the mutual pension plans has around 600,000 beneficiaries, of whom around 500 belong to GEA. Contributions amounting to EUR 4,489 thousand (previous year: EUR 4,229 thousand) were made to this multi-employer pension plan in fiscal year 2022.

The other joint pension plan has around 1.3 million beneficiaries, of whom around 500 belong to GEA. Contributions amounting to EUR 3,925 thousand (previous year: EUR 3,985 thousand) were made to this plan in fiscal year 2022.

6.3.3 Share-based payment

Share-based payments in fiscal year 2022 for the group as a whole totaled EUR 3,295 thousand (previous year: EUR 7,790 thousand). The carrying amount of liabilities arising from share-based payment transactions in the group as a whole amounted to EUR 13,876 thousand as of December 31, 2022 (previous year: EUR 14,699 thousand).

Performance Share Plan

With effect from January 1, 2019, as part of its new remuneration system, GEA launched a tranche with the name “Performance Share Plan” for members of the Executive Board who had signed up for the plan. This is a cash-settled share-based payment plan whereby members of the Executive Board are granted a certain number of phantom shares on a preliminary basis.

During the fiscal years 2020 and 2021, a tranche of the performance share plan with a three-year performance period was granted each year. The Performance Shares are paid out once the three-year performance period has expired. Under this program, the Total Shareholder Return (TSR) of GEA Group Aktiengesellschaft relative to the benchmark index (STOXX® Europe TMI Industrial Engineering), together with growth in EPS (earnings per share), adjusted for effects of restructuring measures and transactions, determine how many Performance Shares are ultimately rewarded. Starting from fiscal year 2022, the Executive Board is awarded annual tranches with a four-year performance period. At the end of the four-year performance period, the payout is calculated as the arithmetic mean of the annual target achievement of the strategic targets and the TSR of GEA Group Aktiengesellschaft shares relative to the benchmark (DAX 50 ESG).

To calculate the relative TSR performance, the TSR performance of all peer companies is ranked, whereupon the relative position of GEA Group Aktiengesellschaft is determined by referring to its ranking within this peer group. Once the performance of GEA Group Aktiengesellschaft’s shares reaches the median in the TSR comparison, 100 percent of the Performance Shares are rewarded; if it reaches the lower quartile or below, target achievement is 0 percent. If the relative TSR performance of GEA Group Aktiengesellschaft’s shares is at the third quartile, 200 percent of the Performance Shares are issued. Other performance figures are interpolated between these values.

The total amount paid out corresponds to the final number of Performance Shares rewarded to a participant multiplied by the average share price over the last quarter of the three-year performance period, taking into account dividends paid out. The amount paid out is limited to 200 percent of the issued amount (cap).

Since the start of issuance, 110,439 Performance Shares have been granted on a preliminary basis for the 2020 tranche, 104,706 for the 2021 tranche and 61,226 for the 2022 tranche. The number of shares will remain constant over the performance period until the final issuance of Performance Shares. In some cases, the payout for the Performance Shares awarded is reduced pro rata temporis.

Taking into account the fair value as of December 31, 2022 of EUR 11,751 thousand (previous year: EUR 12,990 thousand) for the 2020, 2021 and 2022 tranches, calculated using a Monte Carlo simulation, the group as a whole incurred an expense of EUR 2,759 thousand in fiscal year 2022 (previous year: EUR 6,425 thousand).

Global Incentive Plan

Starting 1 January 2020, a long-term remuneration program in the form of a cash-settled share-based payment plan called the “GEA Incentive Program” was launched for members of the Global Executive Committee, including the heads of the divisions and sales regions as well as the head of Human Resources. This program applies exclusively to the years 2020 to 2022.

Under the program, participants are awarded an allocation of Performance Share Units equal in value to a virtual initial award at the beginning of the performance period. To participate in the plan, managers must personally invest in shares of GEA Group Aktiengesellschaft. The number of ordinary GEA Group Aktiengesellschaft shares to be held over the three-year performance period is determined by dividing the required amount of personal investment by the average daily closing price of ordinary GEA Group Aktiengesellschaft shares in the first quarter of the relevant grant year.

The Performance Share Units are paid out once the three-year performance period has expired. The payment is calculated based on the virtual initial award multiplied by the performance factor, which is calculated as the ratio of the respective average daily closing price of ordinary GEA Group Aktiengesellschaft shares in the final quarter of the last calendar year of the respective performance period ("End Price") and the first quarter of the first calendar year of the respective performance period ("Starting Price"). The amount of the payout is limited to 300 percent of the virtual initial award. Payment is only made if the share price at the end of the performance period is higher than the share price at the beginning.

The number of Performance Share Units at the grant date amounted to 35,986 for the 2020 tranche, 32,770 for the 2021 tranche and 24,549 for the 2022 tranche.

The vesting period of the Global Incentive Program is the full three-year performance period. The fair value is determined by means of a Monte Carlo simulation. The fair value of the claims under the Global Incentive Program amounted to EUR 2,125 thousand as of December 31, 2022 (previous year: EUR 1,590 thousand). The Global Incentive Program resulted in an expense of EUR 535 thousand (previous year: EUR 1,349 thousand) for the group as a whole in fiscal year 2022).

6.4 Other financial liabilities

Other financial liabilities as of December 31, 2022, were composed of the following items:

(EUR thousand)	12/31/2022	12/31/2021
Borrower's note loan	99,935	249,824
Liabilities to banks	131	412
Lease liabilities	106,749	110,166
Liabilities to employees and officers	2	–
Liabilities from derivatives	306	1,602
Miscellaneous other financial liabilities[1]	9,775	11,813
Other noncurrent financial liabilities[2]	**216,898**	**373,817**
Borrower's note loan	102,036	2,143
Liabilities to banks	5,036	10,335
Lease liabilities	58,484	55,650
Liabilities to subsidiaries and investment companies	21,439	33,901
Liabilities to employees and officers	17,369	19,620
Liabilities from derivatives	11,541	11,175
Miscellaneous other financial liabilities[1]	44,393	47,919
Other current financial liabilities[2]	**260,298**	**180,743**
Total other financial liabilities	**477,196**	**554,560**

1) In the previous year, the line item „Miscellaneous other financial liabilities" was designated as „Other financial liabilities".
2) In the previous year, the line items „Other non-current financial liabilities" and „Other current financial liabilities" were designated as „Non-current financial liabillties" and „Current financial liabilities" respectively.

The financing of GEA as of December 31, 2022 mainly consists of the following items:

(EUR thousand)	Carrying amount 12/31/2022	Carrying amount 12/31/2021	Notional value 12/31/2022	Fair value 12/31/2022	Interest basis	Maturity
Borrower's note loan - tranche I	100,822	100,781	100,000	100,485	fix	February 26, 2023
Borrower's note loan - tranche II	101,149	101,120	100,000	95,463	fix	February 26, 2025
Borrower's note loan - tranche III	–	28,036	–	–	variable	February 26, 2023, premature repayment on February 28, 2022
Borrower's note loan - tranche IV	–	22,030	–	–	variable	February 26, 2025, premature repayment on February 28, 2022
Bilateral credit lines	5,167	10,747	4,902	5,167	fix / variable	until further notice

Borrower's note loan

In February 2018, GEA Group Aktiengesellschaft issued a borrower's note loan with a volume of EUR 250,000 thousand. The borrower's note loan comprises four separate tranches with maturities of five and seven years, each divided into a fixed and a variable-interest part. The borrower's note loan was placed with institutional investors both at home and abroad. GEA repaid tranches III and IV early on February 28, 2022.

Liabilities to Banks

Transaction costs for unused credit lines as of the end of the year are allocated on a straight-line basis over the term.

Liabilities to banks totaling EUR 432 thousand (previous year: EUR 640 thousand) were secured as of December 31, 2022.

Cash credit lines, guarantee credit lines and derivative financial instruments

Disclosure related to Cash credit lines, guarantee credit lines and derivative financial instruments may be found in section 3 of the Notes to the Consolidated Financial Statements.

Miscellaneous other financial liabilities

As of the current reporting date and the previous year, no miscellaneous other financial liabilities were secured.

6.5 Trade payables

Trade payables were as follows as of December 31, 2022:

(EUR thousand)	12/31/2022	12/31/2021
Trade payables to third parties	785,246	719,738
thereof from supply chain financing arrangements	19,841	14,290
Trade payables to affiliated companies	6,531	5,825
Total	**791,777**	**725,563**

Trade payables of EUR 791,777 thousand (previous year: EUR 725,467 thousand) are due within one year. As of the reporting date, trade payables with a residual term of more than one year amounted to EUR 0 thousand (previous year: EUR 96 thousand).

As of the current reporting date and the previous year, no trade payables were secured.

6.6 Other liabilities

Other liabilities as at December 31, 2022, comprised the following items:

(EUR thousand)	12/31/2022	12/31/2021
Other noncurrent liabilities	**773**	**1,129**
Other liabilities from tax	79,312	61,696
Liabilities relating to social security	14,613	13,349
Deferred income	3,044	5,440
Other remaining liabilities	2	–
Other current liabilities	**96,971**	**80,485**
Total other liabilities	**97,744**	**81,614**

7. Consolidated Income Statement Disclosures

7.1 Revenue

Revenue is composed of the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
From construction contracts*	2,233,328	1,946,037
From components business*	1,130,276	1,147,878
From service agreements	1,801,110	1,608,990
Total	**5,164,714**	**4,702,905**

*) Prior-year figures have been adjusted.

Disaggregation of revenue

GEA disaggregates its revenues from contracts with customers according to revenue type as well as geographical region. The disaggregation of the revenue corresponds with the presentation in segment reporting (see section 9.1 of the Notes to the Consolidated Financial Statements for further information).

Account balances

The table below provides information on trade receivables, contract assets and contract liabilities arising from contracts with customers.

(EUR thousand)	12/31/2022	12/31/2021
Trade receivables	730,945	682,460
Trade receivables included in assets held for sale	2,554	17,999
Contract assets	373,162	335,550
Contract assets included in assets held for sale	–	6,769
Contract liabilities	844,508	766,161
Contract liabilities included in assets held for sale	–	8,124

Trade receivables are unconditional claims for payment asserted by the group in respect of services rendered and invoiced. Trade receivables do not generally have an interest component and are due within 30 days as a rule.

(EUR thousand)	12/31/2022	12/31/2021
Capitalized production cost of construction contracts	3,236,716	3,111,359
plus net gain from construction contracts	636,038	600,893
less progress billings	–3,779,130	–3,685,686
less advance payments received and invoiced on construction contracts	–217,967	–179,259
less impairment	–8,719	–9,433
Reclassification credit balance	506,224	497,676
Total contract assets	**373,162**	**335,550**

Contract assets relate to the group’s entitlement to consideration in respect of performance arising from construction contracts that had not been invoiced as of the reporting date. Amounts recognized as contract assets are reclassified to trade receivables as soon as the group obtains an unconditional right to payment.

(EUR thousand)	12/31/2022	12/31/2021
Advance payments for orders	4,942	228
Non-current contract liabilities	**4,942**	**228**
Advance payments for orders	333,342	268,257
Gross amount due to customers for contract work	506,224	497,676
Current contract liabilities	**839,566**	**765,933**
Total contract liabilities	**844,508**	**766,161**

Contract liabilities are essentially advance payments from customers for the construction of customer-specific plant and equipment for which revenues are realized over time.

Bank guarantees amounting to EUR 287.868 thousand (previous year: EUR 250.316 thousand) have been issued as collateral for advance payments received on orders.

The following material changes occurred with regard to contract assets in the reporting period:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Transfer from contract assets recognized at the beginning of the period to trade receivables	–339,171	–303,568
Due to contract modifications*	2,126	2,705
Due to deconsolidation of subsidiaries	–7,940	–10,242
Due to reversal of impairment and impairment	714	–820

*) Include effects from sanction-related contract terminations as a result of the Russia-Ukraine war amounting to EUR 1,590 thousand

In the current reporting period, impairments on contract assets amounting to EUR 1.163 thousand (previous year: EUR 1.521 thousand) were reversed.

During the year under review, the following changes had a material effect on contract liabilities:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Revenue recognized that was included in contract liability balance at the beginning of the period	–693,936	–579,918
Due to deconsolidation of subsidiaries	–8,564	–7,399

In the 2022 fiscal year, revenues in connection with performance obligations satisfied either fully or in part in earlier reporting periods amounted to EUR 3,140 thousand (previous year: EUR 1.905 thousand). This was due to contract modifications.

Contract assets comprise performances in the amount of EUR 13.775 thousand (previous year: EUR 18.930 thousand), for which the invoicing is delayed as of December 31, 2022.

The following revenue expectations for subsequent periods are connected with existing performance obligations from contracts with customers that had either not been processed at all or only in part as of December 31, 2022:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Revenue recognition < 1 year	2,948,577	2,469,516
Revenue recognition > 1 year	244,129	315,922
Total	**3,192,706**	**2,785,438**

Performance obligations

The group's revenues are founded on the performance obligations summarized below:

Construction contracts

GEA Group manufactures customized turnkey production lines and engineering components for the food processing industry and a wide range of other processing industries for integration in production processes on the customer's premises. Performance obligations arising from construction contracts are satisfied over the duration of the contract in accordance with the stage of completion, and the underlying revenues are recognized over time.

As a rule, an order is commenced upon receipt of an initial advance payment by the customer. Thereafter, work is billed according to the contractual agreements, with such progress billings usually payable within 30 days. Advance payments received are recognized as contract liabilities if they are not matched by a corresponding performance. Performances that have not been invoiced are recognized as contract assets. If a customer cancels a contract, the group is entitled to reimbursement of the costs incurred until such time, plus an appropriate margin.

The duration of the order depends on the size of the plant or equipment and the complexity of the design. Application areas vary from industry to industry, and although construction contracts can run over several months, the time to completion is rarely more than twelve months. In the project business, which comprises the development and construction of process solutions, the time taken to complete plant and equipment is typically more than twelve months.

Obligations arising from guarantees and warranty commitments are reflected in the provisions and do not usually constitute distinct performance obligations (see section 6.2 of the Notes to the Consolidated Financial Statements for further information).

Components business

The group's components business comprises the sale of both standardized and modular equipment for a large number of process industries. Depending on the terms of delivery, customers usually gain control over the individual machines and components when they take delivery of and accept the items at the point of destination, or earlier if the goods are transferred to a shipping agent.

It is at this point that invoices are generated and revenues realized. The invoices are usually payable within 30 days. In the components business, discounts are granted that are deducted from the consideration payable.

Obligations arising from guarantees and warranty commitments are reflected in the provisions and do not usually constitute distinct performance obligations (see section 6.2 of the Notes to the Consolidated Financial Statements for further information).

Services

The group's service portfolio comprises services spanning the entire life cycle of customer plant and equipment, including the sale of spare parts. Performance obligations such as assembly, commissioning, maintenance, and plant modernization are satisfied in line with the performance completed to date.

Such work is usually invoiced upon completion of the respective service and acceptance by the customer, with payment due within 30 days. In the service business, discounts granted are deducted from the consideration payable.

Obligations arising from guarantees and warranty commitments are reflected in the provisions and do not usually constitute distinct performance obligations (see section 6.2 of the Notes to the Consolidated Financial Statements for further information).

7.2 Other income

Other income is composed of the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Exchange rate gains	438,249	266,839
Gains on the measurement of foreign currency derivatives	132,633	74,036
Rental and lease income	202	1,407
Income from disposal of non-current assets	3,750	5,555
Income from compensation payments and cost reimbursements	2,503	6,299
Miscellaneous other income	37,705	34,117
Total	**615,042**	**388,253**

7.3 Other expenses

Other expenses are composed of the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Exchange rate losses	449,989	289,964
Losses on the measurement of foreign currency derivatives	128,822	57,288
Goodwill impairment	1,698	3,682
Expenses on the disposal of consolidated subsidiaries	1,133	17,517
Losses on the disposal of non-current assets	311	702
Cost of money transfers and payment transactions	1,097	1,004
Miscellaneous other expenses*	12,824	9,685
Total	**595,874**	**379,842**

*) Include expenses for legal disputes

The expenses recognized in the reporting year from the disposal of consolidated companies is primarily attributable to a subsequent purchase price adjustment for Royal De Boer Stalinrichtingen B.V. and GEA Farm Technologies Japy SAS, which were sold on December 31, 2020. This resulted in expenses of EUR 1,195 thousand from disposal of consolidated companies. Furthermore, on February 18, 2022 an agreement was reached on the final purchase price for the sale of the Bock Group, which reduced losses on the disposal of consolidated companies by EUR 92 thousand. In addition, the agreement on the final purchase price for the sale of the shares of the French company GEA Refrigeration France SAS led to expenses of EUR 30 thousand in the losses. In total, this resulted in losses of EUR 1,133 thousand from disposal of consolidated companies. The corresponding expenses incurred in the previous year resulted from the sale of the Bock Group companies, GEA Refrigeration Ibérica S.A. and GEA Refrigeration S.p.A. (previous year: EUR 17,517 thousand).

The goodwill impairment due to the classification as “held for sale” relates to the portion of goodwill of the Heating & Refrigeration Technologies division allocated to the transport cooling business in South Africa. In previous year, the goodwill impairment due to the classification as “held for sale” relates to the portion of goodwill of the Heating & Refrigeration Technologies division allocated in connection with the sale of the refrigeration contracting and service business in Spain and Italy. Further information, please refer to 5.2 of the Notes to the Consolidated Financial Statements.

7.4 Presentation of selected income and expenses by cost type

Cost of materials

The cost of materials increased by EUR 175,437 thousand in the reporting period to EUR 2,331,578 thousand (previous year: EUR 2,156,141 thousand). The cost of materials was 44.6 percent of gross revenue* and was therefore lower than the previous year's figure of 45.3 percent.

Personnel expenses

Personnel expenses increased by EUR 111,191 thousand in 2022 to EUR 1,622,121 thousand (previous year: EUR 1,510,930 thousand). The cost of unwinding the discount on expected pension obligations is not recognized under personnel expenses, but under financial and interest expenses. Personnel expenses include wages and salaries in the amount of EUR 1,343,031 thousand (previous year: EUR 1,243,691 thousand) as well as social security contributions and expenses for post-employment benefits of EUR 279,117 thousand previous year: EUR 267,302 thousand). Personnel expenses were reduced in the 2022 fiscal year by changes in employee benefit obligations which were deferred in accordance with IAS 37 for restructuring measures in the amount of EUR 13,983 thousand (previous year: EUR 1,866 thousand) and government grants of EUR 27 thousand (previous year: EUR 63 thousand). The ratio of personnel expenses to gross revenue* thus decreased to 31.1 percent (previous year: 31.7 percent).

Depreciation, amortization and impairment losses

Depreciation and amortization totaling EUR 180,231 thousand (previous year: EUR 175,854 thousand) were charged on property, plant and equipment, investment property and intangible assets in the reporting period. Impairment losses totaling EUR 8,459 thousand (previous year: EUR 5,067 thousand) were charged on property, plant and equipment and intangible assets, including goodwill. In addition, there were impairment losses on goodwill totaling EUR 1,698 thousand (previous year: EUR 6,093 thousand), which were recognized in connection with the classification as held for sale and included in other expenses.

Impairments on non-derivative financial assets excluding trade receivables amounted to EUR 5,440 thousand in the reporting period (previous year: EUR 2,558 thousand). Of this amount, EUR 2,672 thousand (previous year: EUR 2,558 thousand) was attributable to non-current financial assets. Impairment losses on equity investments and marketable securities are contained in the financial expenses item. In the current reporting year, reversals of impairment losses on current financial assets were recognized in the amount of EUR 0 thousand (previous year: EUR 843 thousand). Inventories were adjusted in the amount of EUR 11,539 thousand (previous year: EUR 7,466 thousand). These impairment losses and the remaining impairment losses were recognized in cost of sales.

*) Gross revenue consists of sales, increase or decrease in finished and work in process and other own work capitalized.

7.5 Financial and interest income

Other financial income

Financial income comprises the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Income from reversal of impairment losses on financial assets	–	843
Income from at-equity investments	1,473	1,536
Income from other equity investments	5,057	2,266
thereof from unconsolidated subsidiaries	5,033	2,242
Gain on net monetary positions (hyperinflation)	1,193	–
Total	**7,723**	**4,645**

Income from at-equity investments is related to income from joint ventures.

Due to hyperinflation, business activities in Argentina and - since fiscal year 2022 - activities in Turkey are no longer accounted for on a historical cost basis, but adjusted for the effects of inflation. For Argentina, the consumer price index IPC (Índice de precios al consumidor) is used for this purpose. As of the reporting date, the applicable index value was 3,874.0 (January 1, 2022: 1,988.8). In the previous year, the applicable index value was 1,988.8 as of the reporting date (January 1, 2021: 1,317.6). For Turkey, the consumer price index of the International Monetary Fund (IMF) is used. As of the reporting date, the applicable index value was 1,128.5 (January 1, 2022: 687.0).

Interest income

Interest and similar income is composed of the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Interest income on receivables, cash investments, and marketable securities	6,295	3,734
thereof to affiliated companies	242	271
Interest income from other employee benefit obligations	342	–
Interest income from changes in interest rates other provisions	106	878
Other interest income	3,797	3,057
Total	**10,540**	**7,669**

The following table shows the interest income on financial instruments broken down by IFRS 9 measurement category, along with the interest income on assets measured in accordance with other requirements:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Financial assets measured at amortized cost	6,295	3,734
Financial assets not measured in accordance with IFRS 9	4,245	3,935
Total	**10,540**	**7,669**

7.6 Financial and interest expenses

Other financial expenses

Financial expenses are composed of the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Impairment loss on equity investments in unconsolidated subsidiaries	2,672	2,558
Impairment losses on financial assets	2,768	–
Losses transferred under profit and loss transfer agreements	1,703	1,945
Expenses from measurement at fair value	1,659	–
Loss on net monetary positions (hyperinflation)	949	948
Total	**9,751**	**5,451**

Additional information regarding accounting due to hyperinflation is provided in No. 7.5 of the Notes to the Consolidated Financial Statements.

Interest expense

Interest and similar expenses comprised the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Interest expenses on liabilities to banks	5,373	5,169
Interest expenses on lease liability	4,292	3,691
Interest cost from discount unwinding on pension and medical care obligations	8,870	6,213
Interest cost from discount unwinding on discounted provisions and other employee benefit obligations	544	7,548
Other interest expenses	5,723	6,701
thereof to affiliated companies	252	3
Total	**24,802**	**29,322**

The following table shows the interest expense on financial instruments broken down by IFRS 9 measurement category, along with the interest expense on liabilities measured in accordance with other requirements:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Financial liabilities at amortized cost	10,453	11,460
Financial liabilities not measured in accordance with IFRS 9	14,349	17,862
Total	**24,802**	**29,322**

If a source of financing can be allocated to a specific investment, the actual borrowing costs are capitalized as part of the cost of the investment. No material borrowing costs were capitalized in fiscal year 2022 or in the previous year.

In fiscal year 2022, expenses totaling EUR 1,097 thousand (previous year: EUR 1,004 thousand) were incurred for fees that were not included in the calculation of the effective interest rate.

7.7 Income taxes

Income taxes for continuing operations are composed of the following items:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Current taxes	104,926	98,463
Deferred taxes	–33,253	–39,942
Total	**71,673**	**58,521**

The expected tax expense is calculated using the tax rate of 30.00 percent (previous year: 30.00 percent) applicable to German group companies. This includes an average trade tax rate of 14.17 percent (previous year: 14.17 percent) in addition to the uniform corporate income tax rate of 15.00 percent (previous year: 15.00 percent) and the solidarity surcharge of 0.825 percent (previous year: 0.825 percent). The following table shows a reconciliation of the expected tax rate to the effective tax rate of 16.04 percent (previous year: 16.34 percent):

	01/01/2022 - 12/31/2022		01/01/2021 - 12/31/2021	
	(EUR thousand)	(%)	(EUR thousand)	(%)
Profit before tax	**446,715**		**358,052**	
Expected tax expense	134,015	30.00	107,416	30.00
Non-tax-deductible expense	19,373	4.34	16,445	4.59
Tax-exempt income	–12,132	–2.72	–7,295	–2.04
Change in valuation allowances	–55,353	–12.39	–48,171	–13.45
Change in tax rates	–236	–0.05	–664	–0.19
Foreign tax rate differences	–17,727	–3.97	–15,128	–4.23
Taxes relating to other periods	–1,337	–0.30	–4,896	–1.37
Other	5,071	1.13	10,814	3.03
Income tax and effective tax rate	**71,673**	**16.04**	**58,521**	**16.34**

The "Non-tax-deductible expenses" of EUR 19,373 thousand (previous year: EUR 16,445 thousand) are based on a multitude of individual facts. Significant non-tax-deductible expenses fall upon Germany (EUR 7,207 thousand), Denmark (EUR 1,990 thousand) and France (EUR 1,025 thousand). The previous year included tax effects on the losses from the sale of the companies of Bock group (EUR 3,000 thousand) and the sale of the refrigeration contracting and service operations in Spain and Italy (EUR 1,991 thousand).

The change in valuation allowances of EUR -55,353 thousand (previous year: EUR -48,171 thousand) is mainly attributable to a reassessment of the recoverable amount of deferred tax assets on tax loss carryforwards. Due to the positive outlook for future business development*, GEA expects to increase the usability of tax loss carryforwards, particularly in the USA (EUR -43,133 thousand) and Germany (EUR -23,111 thousand).

The taxation differences outside Germany of EUR -17,727 thousand (previous year: EUR -15,128 thousand) result from different tax rates outside Germany compared with the German tax rate of 30.00 percent. The tax rates for foreign companies vary between 0.00 percent (UAE) and 35.00 percent (Argentina). Significant tax income is generated in Denmark, China and Ireland.

Taxes relating to other periods amounted to EUR -1,337 thousand (previous year: EUR -4,896 thousand); they comprise prior-period current taxes of EUR -3,017 thousand and prior-period deferred taxes of EUR 1,680 thousand.

Other reconciliation effects in the amount of EUR 5,071 thousand (previous year: EUR 10,814 thousand) mainly include withholding tax and other foreign tax expense of EUR 5,207 thousand (previous year: EUR 9,613 thousand).

*) For further information regarding future business development please see chapter no. 5.2.

Deferred taxes as of December 31, 2022, changed as follows:

	01/01/2022 Net	Effects recognized in profit and loss	Effects recognized in OCI	Other[1]	12/31/2022 Net	Deferred tax assets	Deferred tax liabilities
(EUR thousand)							
Property, plant and equipment	–49,749	–1,145	–	–157	–51,051	5,007	56,058
Goodwill	–27,800	–381	–	–203	–28,384	3,556	31,940
Other intangible assets	–74,589	6,746	–	–10	–67,853	984	68,837
Other non-current financial assets	–4,913	1,402	–	1	–3,510	437	3,947
Other non-current assets	–92	–104	–	–	–196	–	196
Non-current assets	**–157,143**	**6,518**	**–**	**–369**	**–150,994**	**9,984**	**160,978**
Inventories	147,946	21,099	–	388	169,433	177,497	8,064
Trade receivables and contract assets	–80,231	–12,840	–	151	–92,920	26,393	119,313
Other current assets	–2,799	19,031	–35	106	16,303	31,064	14,761
Other current financial assets	–58	–23,084	–	–1	–23,143	187	23,330
Cash and cash equivalents	1,611	–1,583	–	–	28	96	68
Current assets	**66,468**	**2,623**	**–35**	**644**	**69,701**	**235,237**	**165,536**
Total assets	**–90,674**	**9,141**	**–35**	**275**	**–81,293**	**245,221**	**326,514**
Non-current provisions	29,631	–3,186	–	–11,422	15,024	15,052	28
Non-current employee benefit obligations	134,341	10,962	–66,185	997	80,115	81,156	1,041
Other non-current financial liabilities[2]	23,167	1,179	–468	69	23,947	26,309	2,362
Other non-current liabilities and contract liabilities	464	2,066	–	7	2,536	1,938	–598
Non-current liabilities	**187,603**	**11,022**	**–66,653**	**–10,349**	**121,622**	**124,455**	**2,833**
Current provisions	22,670	–8,053	–	333	14,950	34,019	19,069
Current employee benefit obligations	15,767	1,568	–	145	17,480	18,015	535
Other current financial liabilities[2]	16,788	2,661	–	36	19,485	20,907	1,422
Trade payables	12,448	3,905	–	94	16,447	31,605	15,158
Other current liabilities and contract liabilities	–78,981	–10,138	–	–62	–89,181	18,500	107,681
Current liabilities	**–11,309**	**–10,057**	**–**	**546**	**–20,819**	**123,046**	**143,865**
Total equity and liabilities	**176,294**	**965**	**–66,653**	**–9,803**	**100,803**	**247,501**	**146,698**
Total deferred taxes on temporary differences	**85,620**	**10,106**	**–66,688**	**–9,528**	**19,510**	**492,722**	**473,212**
Tax loss carryforwards	192,328	23,147	–	4,156	219,631	219,631	–
Offsetting of deferred taxes	–	–	–	–	–	–362,222	–362,222
Total recognized deferred taxes	**277,948**	**33,253**	**–66,688**	**–5,372**	**239,141**	**350,131**	**110,990**

1) Change in deferred taxes relating to IFRS 5, Currency Translation and Deconsolidation
2) In the previous year, the line items “Other non-current financial liabilities” and “Other current financial liabilities” were designated as “Non-current financial liabilities” and “Current financial liabilities” respectively.

Deferred taxes as of December 31, 2021, changed as follows:

	01/01/2021 Net	Effects recognized in profit and loss	Effects recognized in OCI	Other[1]	12/31/2021 Net	Deferred tax assets	Deferred tax liabilities
(EUR thousand)							
Property, plant and equipment	–47,483	–2,734	–	469	–49,749	4,756	54,505
Goodwill	–28,589	1,629	–	–840	–27,800	4,250	32,050
Other intangible assets	–77,352	2,825	–	–62	–74,589	108	74,697
Other non-current financial assets	–3,326	–1,553	–	–34	–4,913	464	5,377
Other non-current assets	–53	–39	–	–	–92	–	92
Non-current assets	**–156,803**	**128**	**–**	**–467**	**–157,143**	**9,578**	**166,721**
Inventories	155,348	–8,448	–	1,046	147,946	154,331	6,386
Trade receivables and contract assets	–72,120	–8,492	–	381	–80,231	30,924	111,156
Other current assets	2,229	–5,245	44	173	–2,799	15,636	18,435
Other current financial assets	446	–500	–	–3	–58	343	401
Cash and cash equivalents	1,639	–2	–	–26	1,611	1,736	125
Current assets	**87,542**	**–22,688**	**44**	**1,570**	**66,468**	**202,971**	**136,502**
Total assets	**–69,261**	**–22,560**	**44**	**1,103**	**–90,674**	**212,549**	**303,223**
Non-current provisions	22,655	2,375	–	4,601	29,631	29,631	–
Non-current employee benefit obligations	134,247	8,573	–9,860	1,380	134,341	134,676	335
Other non-current financial liabilities[2]	17,826	5,341	468	–468	23,167	24,925	1,758
Other non-current liabilities and contract liabilities	–1,016	1,480	–	–	464	464	–
Non-current liabilities	**173,712**	**17,769**	**–9,392**	**5,513**	**187,603**	**189,696**	**2,093**
Current provisions	–1,656	23,821	–	505	22,670	36,985	14,315
Current employee benefit obligations	13,851	1,618	–	298	15,767	16,415	649
Other current financial liabilities[2]	10,642	6,602	–	–456	16,788	18,517	1,729
Trade payables	52,658	–40,715	–	504	12,448	38,174	25,727
Other current liabilities and contract liabilities	–110,595	31,527	–	87	–78,981	6,476	85,457
Current liabilities	**–35,100**	**22,854**	**–**	**938**	**–11,309**	**116,567**	**127,876**
Total equity and liabilities	**138,612**	**40,623**	**–9,392**	**6,451**	**176,294**	**306,263**	**129,969**
Total deferred taxes on temporary differences	**69,351**	**18,063**	**–9,348**	**7,554**	**85,620**	**518,812**	**433,192**
Tax loss carryforwards	165,906	21,879	–	4,543	192,328	192,328	–
Offsetting of deferred taxes	–	–	–	–	–	–331,279	–331,279
Total recognized deferred taxes	**235,257**	**39,942**	**–9,348**	**12,097**	**277,948**	**379,861**	**101,913**

1) Change in deferred taxes relating to IFRS 5, Currency Translation and Deconsolidation
2) In the previous year, the line items "Other non-current financial liabilities" and "Other current financial liabilities" were designated as "Non-current financial liabilities" and "Current financial liabilities" respectively.

For temporary balance sheet differences of EUR 18,810 (previous year: EUR 7,673) no deferred tax assets were recognized as of December 31, 2022 since it is not reliably certain that sufficient taxable income will be available in the future against which the deferred tax assets can be utilized.

The group recognizes deferred tax liabilities of EUR 48,177 thousand (previous year: EUR 48,176 thousand) in connection with leases for rights of use reported under property, plant and equipment, and deferred tax assets of EUR 49,570 thousand (previous year: EUR 49,745 thousand) for lease liabilities reported under other financial liabilities.

The amount of income taxes in revenue reserves is EUR 69,979 thousand (previous year: EUR 136,632 thousand) for actuarial gains and losses on pensions and similar obligations. In accumulated other comprehensive income, income taxes amount to EUR -35 thousand (previous year: EUR 468 thousand) for unrealized gains and losses from cash flow hedges.

Deferred tax liabilities of EUR 3,186 thousand (previous year: EUR 2,539 thousand) were recognized as of December 31, 2022, for expected dividend payments from subsidiaries. In this context, as of December 31, 2022, deferred tax liabilities of EUR 3,390 thousand (previous year: EUR 3,269 thousand) were recognized for withholding taxes likely to be incurred.

As of December 31, 2022, no deferred taxes were recognized for taxable temporary differences arising from investments in subsidiaries in the amount of EUR 259,722 thousand (previous year: EUR 231,550 thousand) since the company is able to control their reversal and no reversals will be made in the foreseeable future.

Deferred tax assets include an amount of EUR 1,032 thousand recognized for a Polish subsidiary. Of this amount, EUR 513 thousand is attributable to the capitalization of deferred taxes on tax loss carryforwards. In the previous fiscal year, 2021, this subsidiary generated a tax loss. However, GEA assumes favorable business development in future years so that the tax assets recognized as of December 31, 2022 will be recoverable using estimated future taxable income.

As of December 31, 2022, GEA recognized deferred tax assets in the amount of EUR 219,631 thousand (previous year: EUR 192,328 thousand) on tax loss carryforwards:

(EUR thousand)	12/31/2022	12/31/2021
Deferred tax assets on domestic tax loss carryforwards		
Corporate income tax	56,681	62,000
Trade tax	65,319	54,000
Deferred tax assets on foreign tax loss carryforwards	97,631	76,328
Total	**219,631**	**192,328**

The total amount of the deferred tax assets on tax loss carryforwards largely relates to Germany and the U.S.

Deferred tax assets were fully impaired for corporate income tax loss carryforwards of EUR 743,279 thousand (previous year: EUR 952,924 thousand), trade tax loss carryforwards of EUR 626,585 thousand (previous year: 777,106 thousand), and loss carryforwards in connection with U.S. state taxes of EUR 2,308,245 thousand (previous year: EUR 2,064,059 thousand) as their utilization is not sufficiently certain.

Also, as a general rule, deferred tax assets are not recognized in Germany for corporate income tax loss carryforwards (EUR 85,949 thousand; previous year: EUR 85,949 thousand) and trade tax loss carryforwards (EUR 33,656 thousand; previous year: EUR 33,656 thousand) prior to fiscal unity. Outside Germany, deferred tax assets are not recognized for income tax loss carryforwards of EUR 25,518 thousand (previous year: EUR 16,916 thousand).

The tax loss carryforwards of the German companies can be carried forward for an indefinite period. Foreign tax loss carryforwards can generally only be utilized for a limited period. The significant tax loss carryforwards of the foreign companies are expected to expire in 2029.

In the context of the so-called OECD/G20 Inclusive Framework, over 135 countries agreed on introducing a global minimum taxation. The aim of this is to subdue multinational groups of companies to a minimum tax rate of 15 percent in the countries where the group operates. In December 2021, the OECD published a draft legal framework, to be used as a white paper to amend local tax laws, followed by detailed guidelines, annotations and interpretations in March 2022. Currently, fiscal year 2024 is envisaged to be the first effective year of the minimum tax implementation in local tax laws. Once the changes in tax laws are in force in the countries where the group operates, the group may be subject to the minimum tax.

The group closely monitors the progress of the legislative process in each country in which the group operates.

7.8 Income from discontinued operations

Discontinued operations include, in particular, obligations related to the environmental protection and mining activities of the former Metallgesellschaft AG.

The result from discontinued operations in the fiscal year includes income of EUR 40.9 million (previous year: EUR 26.1 million) as well as expenses of EUR 3.5 million (previous year: EUR 28.1 million). The pre-tax profit from discontinued operations thus amounted to EUR 37.4 million (previous year: loss of EUR 2.0 million). The increase in profit from discontinued operations is mainly attributable to the environmental protection and mining obligations. The interest rates relevant to the measurement of these obligations were adjusted to reflect current market conditions. This was offset by adjustments to short- to medium-term cost expectations.

Overall, profit after tax from these discontinued operations of EUR 26.4 million (previous year: EUR 5.6 million) had an impact on consolidated profit. This profit will be allocated in full to the shareholders of GEA Group Aktiengesellschaft. Tax expense attributable to discontinued operations amounted to EUR 11.0 million (previous year: EUR 7.6 million tax income).

7.9 Earnings per share

Earnings per share are calculated as follows:

(EUR thousand)	01/01/2022 - 12/31/2022	01/01/2021 - 12/31/2021
Profit for the period attributable to shareholders of GEA Group Aktiengesellschaft	401,430	305,174
thereof from continuing operations	375,044	299,533
thereof from discontinued operations	26,386	5,641
Weighted average number of shares outstanding (thousand)	175,920	179,976
Basic and diluted earnings per share (EUR)		
from profit for the period	2.28	1.70
thereof attributable to continuing operations	2.13	1.66
thereof attributable to discontinued operations	0.15	0.03

7.10 Appropriation of net profit

GEA Group Aktiengesellschaft reported net income for the fiscal year of EUR 165,321 thousand in accordance with the HGB (previous year: EUR 187,684 thousand). Of this amount, EUR 2,000 thousand was transferred to other retained earnings (previous year: EUR 27,000 thousand). Including profit brought forward of EUR 1,433 thousand (previous year: EUR 339 thousand), the net retained profits amounted to EUR 164,754 thousand (previous year: EUR 161,023 thousand).

The Executive Board and Supervisory Board will propose to the Annual General Meeting that the net retained profits be appropriated as follows:

Appropriation (EUR thousand)	2022	2021
Dividend payment to shareholders	163,715	159,590
Profit carried forward	1,039	1,433
Total	**164,754**	**161,023**

The dividend payment corresponds to the payment of a dividend of EUR 0.95 per share for a total of 172,331,076 eligible shares (previous year: 177,322,305 shares) at the time of the Annual General Meeting.

8. Contingent Liabilities, other Financial Obligations, Contingent Assets, and Litigation

8.1 Contingent liabilities

GEA has issued or instructed the issue of both bank and group guarantees in favor of customers or lenders. The obligations presented in the following table relate to contingent liabilities for which the primary debtor is not a consolidated company of the group as a whole.

	Bank guarantees		Group guarantees	
(EUR thousand)	2022	2021	2022	2021
Guarantees for prepayments	7,426	7,817	–	207
Warranties	2,261	1,650	–	17
Performance guarantees	5,219	7,210	101,275	96,343
Other declarations of liability	2,046	173	8,493	7,438
Total	**16,952**	**16,850**	**109,768**	**104,005**
thereof attributable to Lurgi	–	–	101,428	95,661

Most of the group guarantees are attributable to the operating activities of Lurgi, which were disposed of in previous years (further details can be found in No. 3 of the Notes to the Consolidated Financial Statements).

The other guarantees relate mainly to customers of unconsolidated companies and to banks. The beneficiaries are entitled to asset claims under the guarantees if the primary debtor fails to meet its contractual obligations, for example, in the case of late or defective delivery, noncompliance with warranted performance parameters or failure to repay loans in accordance with the contractual requirements.

The guarantees include contingent liabilities of EUR 7,901 thousand resulting from joint ventures (previous year: EUR 7,709 thousand); there is no further liability above and beyond this.

All guarantees issued by or on the instructions of GEA Group Aktiengesellschaft are issued on behalf of and with recourse against the relevant primary debtor.

In addition to the liability risks resulting from bank and group guarantees, there are risks in particular from court, arbitration, or out-of-court disputes that could result in cash outflows.
Further information on this topic can be found in the “Legal Risks” section of the Management Report.

8.2 Other financial obligations

The other financial obligations of the group as of December 31, 2022, are composed of purchase commitments amount to EUR 196,791 thousand (previous year: EUR 173,934 thousand). EUR 117,281 thousand (previous year: EUR 159,736 thousand) of the purchase commitments are attributable to inventories and EUR 74,638 thousand (previous year: EUR 8,862 thousand) to property, plant and equipment.

The group has entered into various lease agreements, which had not commenced as of December 31, 2022. The future lease payments for these non-cancelable leases amount to EUR 176 thousand (previous year: EUR 819 thousand) for the next year, EUR 323 thousand (previous year: EUR 4,063 thousand) for years two to five and EUR 0 thousand (previous year: EUR 5,098 thousand) for the period thereafter.

9. Segment Reporting

9.1 Description of operating segments

GEA's business activities are divided into five divisions, which are organized based on similar technologies, as follows:

Segment	Activities
Separation & Flow Technologies	Manufacture of process-related components and machinery, notably separators, decanters, homogenizers, valves and pumps.
Liquid & Powder Technologies	Process solutions for the dairy, beverage, food, chemical and other industries; the portfolio includes brewing systems, liquid processing and filling, concentration, precision fermentation, crystallization, purification, drying, powder handling and packaging, as well as systems for emission control.
Food & Healthcare Technologies	Solutions for food processing and the pharmaceutical industry, for example preparing, marinating and further processing of meat, poultry, seafood and vegan products; pasta and confectionery production; baking, slicing, packaging, and frozen food processing and granulators and tablet presses for the pharmaceutical industry.
Farm Technologies	Integrated customer solutions for efficient and profitable milk production and livestock farming, e.g. automatic milking and feeding systems, conventional milking solutions, manure handling and digital herd management tools.
Heating & Refrigeration Technologies	Sustainable energy solutions in the field of industrial refrigeration and heating for a wide array of industries including food, beverage, dairy, and oil and gas.

A Global Corporate Center continues to bundle all supporting management and administrative functions and performs the management functions for the entire group. The functions bundled in the Global Corporate Center do not constitute independent operating segments. The operating expenses of the Global Corporate Center are allocated, where possible, to the divisions.

Activities that are not part of core business are not disclosed in the data of the divisions. This includes liabilities related to discontinued operations.

The breakdown into divisions is consistent with internal management and reporting to the Executive Board and Supervisory Board.

In fiscal year 2022, GEA made an adjustment to the allocation of centrally incurred costs in accordance with IFRS 8.27c and IFRS 8.27e. The resulting effect on the segment earnings and segment assets of the individual divisions is negligible.

(EUR million)	Separation & Flow Technologies	Liquid & Powder Technologies	Food & Healthcare Technologies	Farm Technologies	Heating & Refrigeration Technologies	**Total segments**	Others	Consolidation	**GEA**
01/01/2022 - 12/31/2022									
Order backlog[1]	592.0	1,495.9	664.8	290.7	222.9	**3,266.3**	–	–73.6	**3,192.7**
Order intake[1]	1,537.0	1,865.1	1,094.1	825.2	581.1	**5,902.6**	–	–223.7	**5,678.9**
External revenue	1,282.2	1,683.0	967.5	735.7	496.4	**5,164.7**	–	–	**5,164.7**
Intersegment revenue	133.4	32.7	33.8	6.3	27.2	**233.5**	–	–233.5	**–**
Total revenue	1,415.6	1,715.6	1,001.3	742.0	523.6	**5,398.2**	–	–233.5	**5,164.7**
EBITDA before restructuring expenses	360.2	165.6	107.3	86.1	57.1	**776.4**	–64.6	0.2	**712.0**
as % of revenue	25.4	9.7	10.7	11.6	10.9	**14.4**	–	–	**13.8**
EBITDA	335.4	160.7	103.4	79.4	49.8	**728.7**	–74.9	0.2	**654.0**
EBIT before restructuring expenses	316.8	129.6	65.5	58.2	42.9	**613.0**	–84.3	0.3	**529.1**
as % of revenue	22.4	7.6	6.5	7.8	8.2	**11.4**	–	–	**10.2**
EBIT	288.5	124.7	58.7	50.9	32.5	**555.3**	–94.6	0.3	**461.0**
as % of revenue	20.4	7.3	5.9	6.9	6.2	**10.3**	–	–	**8.9**
ROCE in % (3rd Party)[2]	37.2	–	15.2	20.0	25.5	**–**	–	–	**31.8**
Profit or loss from discontinued operations	–	–	–	–	–	**–**	26.4	–	**26.4**
Segment assets	2,736.9	2,029.4	1,406.0	717.4	581.4	**7,471.2**	3,471.2	–5,021.4	**5,921.0**
Capital employed (reporting date, 3rd Party)[3]	855.9	–157.5	452.1	278.7	154.5	**1,583.8**	6.3	–	**1,590.1**
Net working capital (reporting, date3rd Party)[4]	257.3	–228.7	116.8	139.6	72.5	**357.5**	–43.4	–	**314.1**
Additions to property, plant and equipment and intangible assets	88.1	40.5	52.9	37.9	8.8	**228.2**	40.9	–1.1	**268.1**
Depreciation and amortization	43.1	33.6	41.8	28.0	14.2	**160.7**	19.7	–0.1	**180.2**
Impairment losses[5]	3.7	2.4	2.9	0.6	3.2	**12.8**	–	–	**12.8**

(EUR million)	Separation & Flow Technologies	Liquid & Powder Technologies	Food & Healthcare Technologies	Farm Technologies	Heating & Refrigeration Technologies	**Total segments**	Others	Consolidation	**GEA**
01/01/2021 - 12/31/2021									
Order backlog[1]	489.4	1,353.0	605.3	214.8	206.7	**2,869.1**	–	–83.7	**2,785.4**
Order intake[1]	1,359.1	1,747.7	1,032.8	702.1	617.0	**5,458.7**	–	–236.2	**5,222.5**
External revenue	1,106.2	1,499.0	907.0	629.2	561.6	**4,702.9**	–	–	**4,702.9**
Intersegment revenue	131.0	47.1	30.1	4.7	22.4	**235.3**	–	–235.3	**–**
Total revenue	1,237.2	1,546.1	937.1	633.9	584.0	**4,938.2**	–	–235.3	**4,702.9**
EBITDA before restructuring expenses	302.5	150.0	100.4	76.1	59.5	**688.6**	–63.0	–0.8	**624.8**
as % of revenue	24.5	9.7	10.7	12.0	10.2	**13.9**	–	–	**13.3**
EBITDA	302.4	147.4	88.1	73.3	37.5	**648.7**	–78.7	–0.8	**569.3**
EBIT before restructuring expenses	259.1	114.0	55.8	48.6	42.4	**519.9**	–75.5	–0.6	**443.7**
as % of revenue	20.9	7.4	6.0	7.7	7.3	**10.5**	–	–	**9.4**
EBIT	258.9	111.4	42.5	44.9	13.8	**471.5**	–91.2	–0.6	**379.7**
as % of revenue	20.9	7.2	4.5	7.1	2.4	**9.5**	–	–	**8.1**
ROCE in % (3rd Party)[2]	31.1	–	14.7	19.8	24.3	**–**	–	–	**27.8**
Profit or loss from discontinued operations	–	–	–	–	–	**–**	5.6	–	**5.6**
Segment assets	2,505.0	1,797.3	1,308.8	614.7	651.4	**6,877.2**	3,382.2	–4,385.0	**5,874.4**
Capital employed (reporting date, 3rd Party)[3]	819.2	–136.5	356.0	248.8	170.5	**1,458.0**	9.9	–	**1,467.9**
Net working capital (reporting, date3rd Party)[4]	243.7	–206.2	44.3	121.7	71.0	**274.5**	–34.3	–	**240.3**
Additions to property, plant and equipment and intangible assets	50.3	33.2	49.9	26.4	17.4	**177.1**	24.3	–0.1	**201.3**
Depreciation and amortization	41.8	34.4	43.0	27.5	16.8	**163.5**	12.5	–0.1	**175.9**
Impairment losses[5]	1.7	1.6	2.6	0.9	6.9	**13.7**	–	–	**13.7**

1) Unaudited supplemental information.
2) ROCE = EBIT before restructuring expenses/capital employed; EBIT before restructuring expenses and capital employed both calculated as the average for the last 4 quarters and before effects relating to goodwill from the acquisition of the former GEA AG by the former Metallgesellschaft AG in 1999; capital employed = non-current assets less interest-bearing non-current assets + working capital + non-interest-bearing assets, liabilities and provisions less assets and liabilties in connection with income taxes; ROCE, as one of the relevant performance indicators, is considered as „ROCE 3rd Party" (excluding interdivisional effects in the capital employed) at the disvisional level. Due to negative capital employed, ROCE is not meaningful for the division LPT.
3) Capital employed is considered as „Capital employed 3rd Party" at the divisional level.
4) Working capital = inventories + trade receivables + contract assets - trade payables - contract liabilities - provisions for anticipated losses (POC); Net working capital is considered as „Net working capital 3rd Party" at the divisional level.
5) Included are impairment losses in connection with the classification as „held for sale"; Further details can be found in Note 7.4.

Consolidation primarily comprises the elimination of investments in subsidiaries, intragroup receivables, liabilities, revenue, and income and expenses. Intersegment revenue is calculated using standard market prices.

The following table shows the reconciliation of EBITDA to EBIT:

Reconciliation of EBITDA to EBIT (EUR million)	2022	2021
EBITDA	**654.0**	**569.3**
Depreciation of property, plant and equipment, investment property, and amortization of intangible assets (see notes 5.1, 5.3)	–180.2	–175.9
Impairment losses and reversals of impairment losses on property, plant and equipment, investment property, goodwill, intangible assets and impairment losses in connection with the classification as „held for sale“ (see notes 5.1, 5.2, 5.3, 7.4)	–10.2	–11.2
Impairment losses and reversals of impairment losses on non-current financial assets	–2.7	–2.6
EBIT	**461.0**	**379.7**

The reconciliation of GEA's EBIT to earnings before income taxes from continuing operations is shown in the following table:

Reconciliation EBIT GEA to profit before tax from continuing operations (EUR million)	2022	2021
EBIT	**461.0**	**379.7**
Interest income	10.5	7.7
Interest expenses	–24.8	–29.3
Profit before tax from continuing operations	**446.7**	**358.1**

A detailed discussion of changes in interest income and interest expenses is included in Sections 7.5 and 7.6 of the Notes to the Consolidated Financial Statements.

The breakdown of revenue elements by division is shown in the following tables:

(EUR million)	Separation & Flow Technologies	Liquid & Powder Technologies	Food & Healthcare Technologies	Farm Technologies	Heating & Refrigeration Technologies	Consolidation	GEA
01/01/2022 - 12/31/2022							
Revenue by revenue element							
From construction contracts	315.5	1,273.9	513.0	–	176.6	–45.7	**2,233.3**
From components business	442.6	81.7	181.8	396.2	146.8	–118.8	**1,130.3**
From service agreements	657.4	360.1	306.5	345.8	200.2	–68.9	**1,801.1**
Total	**1,415.6**	**1,715.6**	**1,001.3**	**742.0**	**523.6**	**–233.5**	**5,164.7**

(EUR million)	Separation & Flow Technologies	Liquid & Powder Technologies	Food & Healthcare Technologies*	Farm Technologies	Heating & Refrigeration Technologies	Consolidation	GEA
01/01/2021 - 12/31/2021							
Revenue by revenue element							
From construction contracts	179.0	1,142.6	481.0	0.0	204.4	–61.0	**1,946.0**
From components business	507.0	77.4	186.1	355.5	135.5	–113.5	**1,147.9**
From service agreements	551.2	326.1	269.9	278.3	244.1	–60.7	**1,609.0**
Total	**1,237.2**	**1,546.1**	**937.1**	**633.9**	**584.0**	**–235.3**	**4,702.9**

*) Prior-year figures have been adjusted.

In the presentation of segment disclosures by geographic region, revenue is allocated by the destination of the goods or place of performance of the services or by customer domicile.

External revenue (EUR million)	2022	2021	Change in %
Asia Pacific	1,236.2	1,091.0	13.3
DACH & Eastern Europe	974.5	980.9	–0.7
thereof Germany	429.0	406.9	5.4
Latin America	319.5	334.8	–4.6
North America	1,106.6	834.6	32.6
North- and Central Europe	730.8	636.3	14.8
Western Europe, Middle East & Africa	797.2	825.1	–3.4
GEA	**5,164.7**	**4,702.9**	**9.8**

In the reporting period, revenue of EUR 983.6 million (previous year: EUR 710.5 million) was attributable to the United States and EUR 520.4 million (previous year: EUR 505.3 million) was attributable to China. There are no relationships with individual customers whose revenue can be considered material in comparison to total group revenue.

In line with its internal control system, GEA's management uses ROCE, EBITDA before restructuring measures and revenue as key performance indicators for management purposes. When calculating EBITDA before restructuring measures, adjustments are made for effects on earnings attributable to restructuring measures whose content, scope and definition are described by the Chairman of the Executive Board, presented to the Chairman of the Supervisory Board and jointly agreed to. Only measures exceeding EUR 2 million shall be taken into account. If, in addition, the relevant transaction requires approval in accordance with the Rules of Procedure of the Executive Board, it must also be approved by the Supervisory Board.

In accordance with the above definition, adjustments for restructuring expenses in fiscal year 2022 totaled EUR 68.1 million (previous year: EUR 64.0 million), with EUR 58.0 million (previous year: EUR 55.5 million) of this amount included in EBITDA. In the year under review, restructuring expenses of EUR 37.6 million were cash-effective (previous year: EUR 40.6 million). In this context, the term restructuring expenses includes expenses that are directly related to the restructuring measures (e.g., severance payments) and therefore also qualify as restructuring expenses under IAS 37. In addition, the restructuring measures defined by the Executive Board also include impairment losses on assets as well as other expenses indirectly caused by the restructuring measures.

The restructuring expenses* incurred in fiscal year 2022 can be allocated to the divisions as follows:

(EUR million)	Separation & Flow Technologies	Liquid & Powder Technologies	Food & Healthcare Technologies	Farm Technologies	Heating & Refrigeration Technologies	Others	GEA
Restructuring according to IAS 37	17.4	–	–0.3	–0.0	–	–0.5	**16.6**
Impairments and reversals of impairments	5.4	0.8	3.3	1.1	4.6	–	**15.1**
Gains and losses from the disposal of selected parts of operations	0.0	–	–0.1	1.2	–0.1	–	**1.1**
Others	5.5	4.2	3.9	5.0	6.0	10.8	**35.3**
Total	**28.3**	**4.9**	**6.8**	**7.3**	**10.4**	**10.3**	**68.1**

*) Restructuring expense: + / restructuring income: -

In fiscal year 2022, restructuring expenses in accordance with IAS 37 of EUR 17.4 million incurred within Separation & Flow Technologies division with regard to the Global Manufacturing Footprint. The EUR 10.3 million under "Others" primarily relates to expenses in connection with the strategic realignment of GEA and the announced and partially executed portfolio streamlining. Furthermore, adjustments were made in all divisions in connection with the adverse economic effects of the Russia-Ukraine war. These include, among others, severance payments, expected additional expenses regarding the fulfilment of existing warranty obligations as well as reductions in sales resulting from the termination of contracts due to sanctions. The total effect amounts to EUR 15.5 million.

9.2 Disclosures by geographic region

Non-current assets (property, plant and equipment, investment property and intangible assets excluding goodwill) are allocated according to their respective locations. The figures quoted relate to the group as a whole.

(EUR millions)	Asia Pacific	DACH & Eastern Europe	thereof Germany	Latin America	North America	North- and Central Europe	Western Europe, Middle East & Africa	**Total**
01/01/2022 - 12/31/2022								
Non-current assets	120.0	536.2	468.2	7.4	78.3	132.7	229.8	**1,104.5**
01/01/2021 - 12/31/2021								
Non-current assets	116.3	481.5	427.8	6.6	62.8	138.5	224.8	**1,030.6**

The carrying amounts of non-current assets in Italy amounted to EUR 212.8 million (previous year: EUR 208.1 million) as of the reporting date, in the Netherlands to EUR 65.0 million (previous year: EUR 68.3 million), in China to EUR 64.0 million (previous year: EUR 64.1 million) and in the United States to EUR 60.1 million (previous year: EUR 44.9 million). These are the countries with the largest stock of non-current assets.

10. Other disclosures

10.1 Cash flow disclosures

Cash flow from investing activities of discontinued operations comprises cash flows in connection with operations sold in previous years.

Other financial liabilities, the inflows and outflows of which appear in the cash flow statement under cash flow from financing activities, changed as follows in fiscal year 2022:

(EUR thousand)	Balance at 1/1/2022	Cash flow from financing activities	Changes in consolidated group	Exchange rate differences	Changes in fair value	Other changes	**Balance at 12/31/2022**
Bonds and debentures issued	249,824	–	–	–	–	–149,889	**99,935**
Finance loans	412	–	–	–60	–	–221	**131**
Liabilities from finance leases	110,166	–	844	–579	–	–3,682	**106,749**
Other non-current financial liabilities*	**360,402**	**–**	**844**	**–639**	**–**	**–153,792**	**206,815**
Bonds and debentures issued	2,143	–50,000	–	–	–	149,893	**102,036**
Finance loans	10,345	–5,393	–	–	–	84	**5,036**
Liabilities from finance leases	55,650	–63,682	606	93	–	65,817	**58,484**
Other current financial liabilities*	**68,138**	**–119,075**	**606**	**93**	**–**	**215,794**	**165,556**
Interest rate swap and forward exchange contracts used for hedging - liabilities	–	–	–	–	–	–	**–**
Total	**428,540**	**–119,075**	**1,450**	**–546**	**–**	**62,002**	**372,371**

*) In the previous year, the line items „Other non-current financial liabilities" and „Other current financial liabilities" were designated as „Non-current financial liabilities" and „Current financial liabilities" respectively.

(EUR thousand)	Balance at 1/1/2021	Cash flow from financing activities	Changes in consolidated group	Exchange rate differences	Changes in fair value	Other changes	**Balance at 12/31/2021**
Bonds and debentures issued	249,738	–	–	–	–	86	**249,824**
Finance loans	150,601	–150,000	–	–	–	–189	**412**
Liabilities from finance leases	100,765	–	–1,356	1,770	–	8,987	**110,166**
Other non-current financial liabilities*	**501,104**	**–150,000**	**–1,356**	**1,770**	**–**	**8,884**	**360,402**
Bonds and debentures issued	2,144	–	–	–	–	–1	**2,143**
Finance loans	18,992	–7,742		–905	–	–	**10,345**
Liabilities from finance leases	56,180	–61,870	–1,425	752	–	62,013	**55,650**
Other current financial liabilities*	**77,316**	**–69,612**	**–1,425**	**–153**	**–**	**62,012**	**68,138**
Interest rate swap and forward exchange contracts used for hedging - liabilities	–	–	–	–	–	–	**–**
Total	**578,420**	**–219,612**	**–2,781**	**1,617**	**–**	**70,896**	**428,540**

*) In the previous year, the line items „Other non-current financial liabilities" and „Other current financial liabilities" were designated as „Non-current financial liabilities" and „Current financial liabilities" respectively.

The table shown does not include other financial liabilities of EUR 104,825 thousand (previous year: EUR 126,020 thousand), as the resulting cash flows are not allocated to cash flow from financing activities.

The other financial liabilities mentioned involve liabilities to affiliated companies of EUR 21,439 thousand (previous year: EUR 33,891 thousand), liabilities to employees of EUR 17,371 thousand (previous year: EUR 19,620 thousand), liabilities from derivatives of EUR 11,847 thousand (previous year: EUR 12,777 thousand), as well as other financial liabilities of EUR 54,168 thousand (previous year: EUR 59,732 thousand).

10.2 Government grants

Government grants related to income amounting to EUR 2,167 thousand were received in fiscal year 2022 (previous year: EUR 7,135 thousand). Grants related to assets of EUR 406 thousand (previous year: EUR 380 thousand) were deducted from the carrying amounts of the assets concerned. In addition, expenses of EUR 52 thousand (previous year: EUR 78 thousand) were incurred for the potential repayment of grants received.

The decline in income-related government grants is mainly attributable to lower government grants in some countries outside of Germany in connection with claiming short-time working benefits and similar allowances as well as the reimbursement of associated social security contributions. In the year under review, grants amounting to EUR 38 thousand (previous year: EUR 5.640 thousand) for short-time working benefits paid to employees, and social security contribution reimbursements of EUR 24 thousand (previous year: EUR 50 thousand) were granted.

10.3 Related party disclosures

10.3.1 Related party transactions

Transactions between GEA Group Aktiengesellschaft and its consolidated subsidiaries were eliminated in the course of consolidation. Revenue and expenses from transactions between continuing and discontinued operations were not eliminated if they will continue to be incurred following the disposal of the discontinued operation.

Transactions with unconsolidated subsidiaries and joint ventures mainly relate to regular deliveries of goods and services. Income and expenses from transactions between the group as a whole and these companies are composed of the following items:

(EUR thousand)	Revenue	Other income	Other expenses
01/01/2022 - 12/31/2022			
Unconsolidated subsidiaries	29,585	1,080	2
Joint ventures	22,642	–	–
Total	**52,227**	**1,080**	**2**
01/01/2021 - 12/31/2021			
Unconsolidated subsidiaries	28,007	1,076	801
Joint ventures	16,661	–	–
Total	**44,668**	**1,076**	**801**

Related party transactions resulted in the following outstanding items in the group as a whole as of December 31, 2022:

(EUR thousand)	Trade receivables	Trade payables	Other receivables	Other liabilities
12/31/2022				
Unconsolidated subsidiaries	11,141	2,307	7,679	21,020
Joint ventures	2,114	882	1	–
Total	**13,255**	**3,189**	**7,680**	**21,020**
thereof current	13,245	3,189	5,404	21,020
12/31/2021				
Unconsolidated subsidiaries	6,285	898	9,416	21,010
Joint ventures	1,403	1,365	1	–
Total	**7,688**	**2,263**	**9,417**	**21,010**
thereof current	7,688	2,263	9,408	21,010

In the reporting year, impairment losses on other receivables from unconsolidated subsidiaries of EUR 3,054 thousand (previous year: EUR 145 thousand) were recognized. Furthermore, expenses resulting from the impairment of the shares on an unconsolidated Malaysian subsidiary and an unconsolidated Algerian subsidiary were recognized in the amount of EUR 614 thousand (previous year: EUR 0 thousand). Due to the Russia-Ukraine war, the shares on two unconsolidated Ukrainian subsidiaries were impaired by EUR 2,058 thousand (previous year: EUR 0 thousand) and classified as restructuring expenses.

As of the current reporting date and the previous year, no trade payables to unconsolidated subsidiaries were secured.

10.3.2 Remuneration of the Executive Board and the Supervisory Board

The total remuneration of the Executive Board and Supervisory Board of GEA Group Aktiengesellschaft in fiscal year 2022 in accordance with IFRS amounted to EUR 11,475 thousand (previous year: EUR 13,954 thousand). This amount comprised the following elements:

(EUR thousand)	2022	2021
Short-term employee benefits	7,816	6,844
Post-employment benefits	900	900
Share-based payments	2,759	6,210
Total	**11,475**	**13,954**

The share-based payments comprise the expense incurred in the fiscal year from share-based payment.

During the year under review, the expenses incurred for the Supervisory Board amounted to EUR 1,309 thousand (previous year: EUR 1,326 thousand).

The total compensation granted to active members of the Executive Board in the fiscal year in accordance with section 314 of the HGB amounted to EUR 9,185 thousand (previous year: EUR 7,750 thousand). Included herein are fixed annual salaries, fringe benefits as well as short-term and long-term share-based payments. Long-term share-based payments are included in the amount of the fair value at the grant date of EUR 2,678 thousand, attributable to 61,256 shares (previous year: EUR 2,232 thousand, attributable to 104,706 shares) of the tranche of the performance share plan granted in the respective fiscal year.

In fiscal year 2022, former Executive Board members and their surviving dependents received remuneration in the form of pension payments from the GEA group amounting to EUR 5,339 thousand (previous year: EUR 5,018 thousand). Pension provisions in accordance with IFRS were recognized for former Executive Board members and their surviving dependents in the amount of EUR 67,827 thousand (previous year: EUR 89,212 thousand). In the current fiscal year, no member of the Executive Board left the company.

Other information on the remuneration of the Executive Board and the Supervisory Board can be found in the remuneration report.

There were no other material transactions by members of the Executive Board or Supervisory Board or their related parties in either the reporting or the comparative period.

11. Events after the End of the Reporting Period

GEA Group Aktiengesellschaft completed the share buyback program of EUR 300,534 thousand on December 30, 2022. The total volume of shares purchased on the stock exchange between August 16, 2021, and December 30, 2022, amounts to 8,161,096 shares. This includes 34,236 shares that were not transferred to GEA as the beneficial owner until January 3, 2023. The total volume of shares from the two tranches of the buyback program represents 4.52 percent of the share capital of GEA Group Aktiengesellschaft. Over the total term of the buyback program, the shares were acquired at an average purchase price of EUR 36.83.

On February 8, 2023, an agreement for the final purchase price was reached with Clauger SAS, the purchaser of the refrigeration contracting and service operations in Spain and Italy (GEA Refrigeration Ibérica S.A., Alcobendas, Spain; GEA Refrigeration Italy S.p.A., Castel Maggiore, Italy). In this context, GEA reimbursed the purchaser EUR 296 thousand, increasing the deconsolidation loss to EUR 8,634 thousand.

On September 19, 2022, GEA entered into an agreement for the disposal of assets and liabilities belonging to the Transport Cooling business in South Africa and the transfer of employees. The transaction by way of an asset deal was closed on January 31, 2023, resulting in the deconsolidation of the corresponding disposal group. Based on the preliminary purchase price, the gain on disposal amounts to approximately EUR 700 thousand. The final purchase price is still being negotiated.

12. Supplemental Disclosures in Accordance with section 315e of the HGB

12.1 Declaration on the Corporate Governance Code

The Executive Board and the Supervisory Board issued an updated Declaration of Conformity in accordance with section 161 of the Aktiengesetz (AktG – German Stock Corporation Act) on December 8, 2022, and made it permanently available to shareholders on the company's website.

12.2 Number of employees

The average number of employees during the year was as follows:

Average number of employees during the year*	2022	2021
DACH & Eastern Europe	7,021	6,840
North & Central Europe	3,144	3,093
Asia Pacific	3,035	2,983
Western Europe, Middle East & Africa	2,694	3,100
North America	1,659	1,604
Latin America	613	561
Continuing operations	**18,166**	**18,181**
DACH & Eastern Europe	1	1
Discontinued operations	**1**	**1**
Total	**18,167**	**18,182**

*) Full-time equivalents (FTEs) excluding vocational trainees and inactive employment contracts

12.3 Audit and consulting fees

The fees charged worldwide by the auditor of the consolidated financial statements, KPMG AG Wirtschaftsprüfungsgesellschaft and its network companies, for fiscal year 2022 are broken down as follows:

(EUR thousand)	2022	2021
Audit	4,472	4,489
of which KPMG AG Wirtschaftsprüfungsgesellschaft	1,911	1,860
Other audit related services	612	340
of which KPMG AG Wirtschaftsprüfungsgesellschaft	462	292
Tax consulting services	11	88
of which KPMG AG Wirtschaftsprüfungsgesellschaft	–	25
Other services	325	123
of which KPMG AG Wirtschaftsprüfungsgesellschaft	325	123
Total	**5,420**	**5,040**
of which KPMG AG Wirtschaftsprüfungsgesellschaft	**2,699**	**2,300**

KPMG AG Wirtschaftsprüfungsgesellschaft's audit fee mainly covers the auditing mandate for GEA Group Aktiengesellschaft's consolidated financial statements and annual financial statements and the review of the half-year financial report in accordance with section 115 of the German Securities Trading Act (WpHG).

Other assurance services relate to audits required by law or by contract such as EMIR audits pursuant to section 20 WpHG, the audit of the non-financial statement, the compliance management system as well as the risk management system, the audit of the declaration of completeness according to section 11 of the German Packaging Act (VerpackG) and the audit of the SABANA funding project.

The other services relate to the project-related audit in connection with the implementation of SAP S/4 Hana at GEA, the operational analysis (readiness check) of the internal control system in consideration of IDW PS 982 and the analysis of a tool solution for the calculation and documentation of the IAS 29 compliant hyperinflation calculation.

12.4 Investments

The following list shows all subsidiaries, associates, and joint ventures. With the exception of other equity investments within the meaning of section 313(2) No. 4 of the HGB, this excludes investments in companies that GEA neither controls nor over which it can exercise significant influence.

	Head Office	Shares %
Consolidated subsidiaries		
Argentina		
GEA Farm Technologies Argentina S.R.L.	Buenos Aires	100.00
GEA Process Engineering S.A.	Buenos Aires	100.00
GEA Westfalia Separator Argentina S.A.	Buenos Aires	100.00
Australia		
GEA Australia Pty. Ltd.	Melbourne	100.00
GEA Farm Technologies Australia Pty. Ltd.	Melbourne	100.00
GEA Nu-Con Pty. Ltd.	Kirrawee	100.00
GEA Process Engineering Pty. Ltd.	Blackburn	100.00
GEA Westfalia Separator Australia Pty. Ltd.	Melbourne	100.00
Austria		
GEA Austria GmbH	Plainfeld	100.00
GEA CEE GmbH	Vienna	100.00
Belgium		
GEA Farm Technologies Belgium N.V.	Kontich	100.00
GEA Process Engineering N.V.	Halle	100.00
GEA Westfalia Separator Belgium N.V.	Kontich	100.00
Brazil		
GEA Equipamentos e Soluções Ltda.	Jaguariúna	100.00

	Head Office	Shares %
Canada		
GEA Farm Technologies Canada Inc.	Drummondville	100.00
GEA Canada Inc.	Saint John	100.00
GEA Refrigeration Canada Inc.	Richmond	100.00
Chile		
GEA Food Solutions Chile Comercializadora Ltda.	Santiago de Chile	100.00
GEA Westfalia Separator Chile S.A.	Santiago de Chile	100.00
China		
Gbs Grain Machinery Manufacturing (Beijing) Co., Ltd.	Beijing	100.00
GEA (Shanghai) Farm Technologies Co., Ltd.	Shanghai	100.00
GEA (Tianjin) Farm Technology Co.,Ltd.	Tianjin	100.00
GEA Food Solutions (Beijing) Co., Ltd.	Beijing	100.00
GEA Food Solutions Asia Co., Ltd.	Hong Kong	100.00
GEA Hong Kong Trading Ltd.	Hong Kong	100.00
GEA Lyophil (Beijing) Ltd.	Beijing	100.00
GEA Mechanical Equipment (Tianjin) Co., Ltd.	Wuqing	100.00
GEA Process & Equipment Technologies (Suzhou) Co., Ltd.	Suzhou	100.00
GEA Process Engineering China Limited	Shanghai	100.00
GEA Process Engineering Trading (Shanghai) Ltd.	Shanghai	100.00
GEA Refrigeration Hong Kong Ltd.	Hong Kong	100.00
GEA Westfalia Separator (China) Ltd.	Hong Kong	100.00
GEA Westfalia Separator (Tianjin) Co., Ltd.	Tianjin	100.00
Shijiazhuang GEA Farm Technologies Co., Ltd.	Shijiazhuang	100.00

	Head Office	Shares %
Colombia		
GEA Andina S.A.S.	Bogotá	100.00
Czech Republic		
GEA Czech Republic s.r.o.	Prag	100.00
Denmark		
GEA Farm Technologies Mullerup A/S	Ullerslev	100.00
GEA Food Solutions Denmark A/S	Slagelse	100.00
GEA Food Solutions International A/S	Slagelse	100.00
GEA Food Solutions Nordic A/S	Slagelse	100.00
GEA Process Engineering A/S	Soeborg	100.00
GEA Refrigeration Components (Nordic) A/S	Skanderborg	100.00
GEA Scan-Vibro A/S	Svendborg	100.00
GEA Westfalia Separator DK A/S	Skanderborg	100.00
Finland		
GEA Finland Oy	Helsinki	100.00
France		
GEA Farm Technologies France SAS	Château-Thierry	100.00
GEA Food Solutions France SAS	Beaucouzé	100.00
GEA Group Holding France SAS	Montigny le Bretonneux	100.00
GEA Process Engineering SAS	Saint-Quentin en Yvelines Cedex	100.00
GEA Westfalia Separator France SAS	Château-Thierry	100.00
Germany		
Brückenbau Plauen GmbH	Frankfurt/Main	100.00
GEA AWP GmbH *	Prenzlau	100.00
GEA Bischoff GmbH *	Essen	100.00
GEA Brewery Systems GmbH *	Kitzingen	100.00
GEA Diessel GmbH *	Hildesheim	100.00
GEA Erste Kapitalbeteiligungen GmbH & Co. KG *	Düsseldorf	100.00
GEA Farm Technologies GmbH *	Bönen	100.00
GEA Food Solutions Germany GmbH *	Biedenkopf-Wallau	100.00
GEA Germany GmbH *	Oelde	100.00
GEA Group Holding GmbH *	Düsseldorf	100.00

	Head Office	Shares %
GEA Group Services GmbH *	Düsseldorf	100.00
GEA Lyophil GmbH *	Hürth	100.00
GEA Mechanical Equipment GmbH *	Oelde	100.00
GEA Messo GmbH *	Duisburg	100.00
GEA Real Estate GmbH *	Lennestadt	100.00
GEA Refrigeration Germany GmbH *	Berlin	100.00
GEA Refrigeration Technologies GmbH *	Berlin	100.00
GEA TDS GmbH *	Sarstedt	100.00
GEA Tuchenhagen GmbH *	Büchen	100.00
GEA Westfalia Separator Group GmbH *	Oelde	100.00
GEA Wiegand GmbH *	Ettlingen	100.00
LL Plant Engineering AG *	Lennestadt	100.00
mg Altersversorgung GmbH *	Düsseldorf	100.00
mg capital gmbh *	Düsseldorf	100.00
Paul Pollrich GmbH *	Düsseldorf	100.00
Ruhr-Zink GmbH	Lennestadt	100.00
Great Britain		
Dixie-Union (UK) Ltd.	Milton Keynes	100.00
GEA Eurotek Ltd.	London	100.00
GEA Farm Technologies (UK) Ltd.	Warminster	100.00
GEA Food Solutions UK & Ireland Ltd.	Milton Keynes	100.00
GEA Grenco Ltd.	London	100.00
GEA Group Holdings (UK) Ltd.	Eastleigh	100.00
GEA Mechanical Equipment UK Ltd.	Milton Keynes	100.00
GEA Pharma Systems Ltd.	Eastleigh	100.00
GEA Process Engineering Ltd.	Warrington	100.00
GEA Refrigeration Components (UK) Ltd.	London	100.00
GEA Refrigeration UK Ltd.	London	100.00
Wolfking Ltd.	Milton Keynes	100.00
Iceland		
GEA Iceland ehf.	Kòpavogur	100.00

	Head Office	Shares %
India		
GEA Process Engineering (India) Pvt. Ltd.	Vadodara	100.00
GEA Westfalia Separator India Pvt. Ltd.	Vadodara	100.00
Indonesia		
GEA Westfalia Separator Indonesia, PT	Jakarta	100.00
PT. GEA Refrigeration Indonesia	Jakarta	100.00
Ireland		
GEA Ireland Ltd.	Naas	100.00
GEA Process Technologies Ireland Ltd.	Naas	100.00
GEA Refrigeration Ireland Ltd.	Cavan	100.00
GEA Westfalia Separator Ireland Ltd.	Ballincollig	100.00
Italy		
CMT Costruzioni Meccaniche e Tecnologia S.p.A	Peveragno	100.00
GEA COMAS S.p.A.	Torrebelvicino	100.00
GEA Food Solutions Italy S.r.l.	Osio Sopra	100.00
GEA Imaforni S.p.A	Colognola ai Colli	100.00
GEA Mechanical Equipment Italia S.p.A.	Parma	100.00
GEA Process Engineering S.p.A.	Osio Sopra	100.00
GEA Procomac S.p.A.	Sala Baganza	100.00
Golfetto Sangati S.r.l.	Galliera Veneta	100.00
Pavan S.p.A.	Galliera Veneta	100.00
Pelacci S.R.L. i.L.	Sala Baganza	67.00
Veneta Alimenti Innovativi S.r.l.	Pieve D'Alpago	100.00
Japan		
GEA Japan Ltd.	Tokyo	100.00
Lithuania		
GEA Baltics UAB	Vilnius	100.00
Malaysia		
GEA Westfalia Separator (Malaysia) Sdn. Bhd.	Shah Alam	100.00

	Head Office	Shares %
Mexico		
Convenience Food Systems S.A. de C.V.	Mexico City	100.00
GEA Power Cooling de Mexico S. de R.L. de C.V.	Mexico City	100.00
GEA Process Engineering S.A. de C.V.	Mexico City	100.00
GEA Westfalia Separator Mexicana S.A. de C.V.	Cuernavaca	100.00
Netherlands		
BOS Homogenisers B.V.	Hilversum	100.00
GEA Dutch Holding B.V.	s-Hertogenbosch	100.00
GEA Farm Technologies Nederland B.V.	Deventer	100.00
GEA Food Solutions B.V.	Bakel	100.00
GEA Food Solutions Bakel B.V.	Bakel	100.00
GEA Food Solutions International B.V.	Bakel	100.00
GEA Food Solutions Weert B.V.	Weert	100.00
GEA Niro PT B.V.	s-Hertogenbosch	100.00
GEA Process Engineering Nederland B.V.	Deventer	100.00
GEA Refrigeration Netherlands N.V.	s-Hertogenbosch	100.00
GEA Westfalia Separator Nederland B.V.	Cuijk	100.00
GEA Westfalia Separator Nederland Service B.V.	Cuijk	100.00
KET Marine International B.V.	Zevenbergen	100.00
Tullp B.V.	Raamsdonksveer	100.00
New Zealand		
Farmers Industries Ltd.	Tauranga	100.00
GEA Avapac Ltd.	Hamilton	100.00
GEA Farm Technologies New Zealand Ltd.	Hamilton	100.00
GEA Milfos International Ltd.	Hamilton	100.00
GEA New Zealand Ltd.	Auckland	100.00
Norway		
GEA Norway AS	Oslo	100.00
Panama		
GEA Central America S.A.	Panama	100.00
Peru		
GEA Peruana SAC	Lima	100.00

	Head Office	Shares %
Philippines		
GEA Pilipinas Inc.	Muntinlupa City	100.00
GEA Process Engineering (Philippines) Inc.	Muntinlupa City	100.00
GEA Westfalia Separator Phils. Inc.	Muntinlupa City	100.00
Poland		
GEA Farm Technologies Sp. z o.o.	Bydgoszcz	100.00
GEA Food Solutions Poland Sp. z o.o.	Warsaw	100.00
GEA Process Engineering Sp. z o.o.	Warsaw	100.00
GEA Refrigeration Poland Sp. z o.o.	Gdynia	100.00
GEA Tuchenhagen Polska sp. z o.o.	Koszalin	100.00
GEA Westfalia Separator Polska Sp. z o.o.	Warsaw	100.00
Rumania		
GEA Refrigeration Romania S.R.L.	Cluj-Napoca	100.00
Russian Federation		
OOO GEA Farm Technologies Rus	Moscow	100.00
OOO GEA Refrigeration RUS	Moscow	100.00
Singapore		
GEA Process Engineering Pte. Ltd.	Singapore	100.00
GEA Westfalia Separator (S.E.A.) PTE. LTD.	Singapore	100.00
Slovenia		
GEA Vipoll, Oprema za industrijo tekočin d.o.o.	Križevci pri Ljutomeru	100.00
South Africa		
GEA Africa (Pty) Ltd.	Midrand	100.00
South Korea		
GEA Korea Ltd.	Seoul	100.00
Spain		
GEA Farm Technologies Ibérica S.L.	Alcobendas	100.00
GEA Process Engineering S.A.	Alcobendas	100.00
GEA Westfalia Separator Ibérica, S.A.	Alcobendas	100.00
Sweden		
GEA Sweden AB	Mölndal	100.00

	Head Office	Shares %
Switzerland		
GEA Aseptomag AG	Kirchberg	100.00
GEA Aseptomag Holding AG	Kirchberg	100.00
GEA Food Solutions Switzerland AG	Kirchberg	100.00
GEA Suisse AG	Kirchberg	100.00
Taiwan		
GEA Process Engineering Taiwan Ltd.	Taipeh	100.00
Thailand		
GEA (Thailand) Co., Ltd.	Bangkok	99.9994
Turkey		
GEA PROSES MÜHENDİSLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ	Izmir	100.00
GEA Westfalia Separator Sanayi ve Ticaret Ltd. Sti.	Izmir	100.00
Tasfiye Halinde GEA Farm Technologies Tarim Ekip.Mak. Kim.Tek.Dan.San.Tic.Ltd.Sti.	Izmir	100.00
United Arab Emirates		
GEA Middle East FZE	Dubai	100.00
PPME Middle East FZE i.L.	Dubai	100.00
USA		
GEA Farm Technologies, Inc.	Bolingbrook	100.00
GEA Food Solutions North America, Inc.	Frisco	100.00
GEA Mechanical Equipment US, Inc.	Northvale	100.00
GEA North America, Inc.	Wilmington	100.00
GEA Systems North America LLC	Columbia	100.00
Niro Sterner, Inc.	Columbia	100.00
Pavan U.S.A., Inc.	Emigsville	100.00
Vietnam		
GEA Vietnam Co., Ltd.	Ho-Chi-Minh-City	100.00

	Head Office	Shares %
Non-consolidated subsidiaries		
Algeria		
Global Engineering Alliance service Algérie GEA EURL	El Mohammedia	100.00
Angola		
GEA Angola Sales & Services, Lda.	Talatona	100.00
Australia		
Dairy Technology Services Pty. Ltd.	Kyabram	100.00
Bulgaria		
GEA EEC Bulgaria EOOD	Sofia	100.00
Chile		
GEA Farm Technologies Chile SpA	Osorno	100.00
GEA Process Engineering Chile S.A.	Santiago de Chile	100.00
Tecno-Leche S.A.	Osorno	100.00
China		
Beijing Tetra Laval Food Machinery Co., Ltd. i.L.	Beijing	90.00
BOS Homogenisers Asia Co.,Ltd.	Shanghai	100.00
Croatia		
GEA Farm Technologies Croatia d.o.o.	Zagreb	100.00
Czech Republic		
GEA Westfalia Separator CZ s.r.o.	Prague	100.00
France		
GEA Tuchenhagen France SARL	Strasbourg	100.00
Germany		
„SEMENOWSKY VAL“ Immobilien- Verwaltungs-GmbH i.L.	Düsseldorf	100.00
GEA Beteiligungsgesellschaft I mbH	Düsseldorf	100.00
GEA Beteiligungsgesellschaft III mbH	Düsseldorf	100.00
GEA Segment Management Holding GmbH	Düsseldorf	100.00
GEA MGL GmbH	Düsseldorf	100.00
Sachtleben Bergbau Verwaltungsgesellschaft mit beschränkter Haftung	Lennestadt	100.00
Twiste Copper GmbH	Lennestadt	100.00
VDM-Hilfe GmbH i.L.	Düsseldorf	100.00

	Head Office	Shares %
Great Britain		
Breconcherry Ltd.	Bromyard	100.00
GEA Barr-Rosin Ltd.	Warrington	100.00
Milfos UK Ltd.	Halesowen	100.00
Greece		
GEA Westfalia Separator Hellas A.E. i.L.	Athens	100.00
Hungary		
GEA Process Engineering CEE Kft.	Budaörs	100.00
India		
LL Plant Engineering (India) Pvt. Ltd.	Mumbai Maharashtra	100.00
Ireland		
GEA Farm Technologies (Ireland) Ltd.	Ballincollig	100.00
Italy		
Bellucci Orlando E C. S.r.l.	Modena	100.00
Niederlande		
Melktechniek West B.V.	Alphen aan den Rijn	100.00
New Zealand		
GEA Process Engineering Ltd.	Hamilton	100.00
Nigeria		
GEA West Africa Ltd.	Lagos	100.00
Rumania		
GEA Farm Technologies România S.R.L.	Alba Iulia	100.00
GEA Westfalia Separator Romania S.R.L.	Cluj-Napoca	100.00
Russian Federation		
Wilarus OOO	Kolomna	100.00
Saudi-Arabien		
GEA Arabia Ltd.	Riyadh	100.00
Serbia		
GEA EEC Serbia d.o.o. Beograd (Zemun)	Belgrade	100.00
Singapore		
KET Marine Asia Pte. Ltd.	Singapore	100.00

	Head Office	Shares %
Slovakia		
GEA Farm Technologies Slovakia spol. s.r.o.	Piestany	100.00
Thailand		
CFS Asia Ltd. i.L.	Bangkok	99.9998
Ukraine		
DE GEA Westfalia Separator Ukraine	Kiev	100.00
GEA Food Solutions Ukraine LLC i.L.	Kiev	100.00
GEA Grasso TOV	Kiev	100.00
TOV GEA Ukraine	Bila Zerkva	100.00
Uruguay		
Balterin S.A.	Montevideo	100.00
Crismil S.A.	Montevideo	100.00
Accociated Companies		
Argentina		
IMAI S.A.	Buenos Aires	20.00
Germany		
Merton Wohnprojekt GmbH	Frankfurt/Main	50.00
Japan		
GEA ORION Farm Technologies Co., Ltd.	Nagano	49.00
United Arab Emirates		
GRADE Grasso Adearest Ltd.	Dubai	50.00
GRADE Refrigeration LLC	Sharjah	49.00

	Head Office	Shares %
Joint Ventures		
Other equity investments under section 313(2) no. 4 of the HGB		
Brazil		
EPSA Empresa Paulista de Servicos Ambientais S.A.	Sao Paulo	47.50
Germany		
Bauverein Oelde GmbH	Oelde	35.50

*) In accordance with section 264 (3) and 264b of the HGB the consolidated subsidiaries are exempted from the duty to comply with the supplementary accounting, auditing and publication requirements applicable to corporations and certain partnerships

Düsseldorf, March 1, 2023

The Executive Board

Stefan Klebert

Johannes Giloth

Marcus A. Ketter

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04

Independent Auditor's Report

To GEA Group Aktiengesellschaft, Düsseldorf

Report on the Audit of the Consolidated Financial Statements and of the Combined Group Management Report

Opinions

We have audited the consolidated financial statements of **GEA Group Aktiengesellschaft, Düsseldorf** and its subsidiaries (the Group), which comprise the consolidated balance sheet as of December 31, 2022, the consolidated income statement, the consolidated statement of 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 notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the combined group management report of GEA Group Aktiengesellschaft for the financial year from January 1 to December 31, 2022.

In accordance with German legal requirements, we have not audited the content of those components of the combined group management report specified in the "Other Information" section of our auditor's 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 IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as of December 31, 2022, and of its financial performance for the financial year from January 1 to December 31, 2022, and
- the accompanying combined group management report as a whole provides an appropriate view of the Group's position. In all material respects, this combined group 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 opinion on the combined group management report does not cover the content of those components of the combined group management report specified in the "Other Information" section of the auditor's report.

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 group management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the combined group 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 [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Group 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)(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 evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the combined group 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 opinion thereon, we do not provide a separate opinion on these matters.

<u>Testing the goodwill of the Food & Healthcare Technologies division (FHT)
as well as that of the Farm Technologies division (FT) for impairment</u>

Please refer to note 2 in the notes to the consolidated financial statements for information on the accounting policies applied and the assumptions used. Disclosures on the value of goodwill can be found under note 5.2.

THE FINANCIAL STATEMENT RISK

Goodwill totaled EUR 1,475.6 million as of December 31, 2022, of which EUR 203.0 million was attributable to the FHT segment and EUR 110.6 million to the FT segment. Overall, at 24.9% of total assets, goodwill represents a significant amount of the assets.

Goodwill is tested for impairment annually on segment level (on division level at GEA). Should there be any intra-year indications of impairment, goodwill is then also tested ad hoc for impairment during the year. For this purpose, the carrying amount is compared to the recoverable amount of the segments. If the carrying amount exceeds the recoverable amount, this indicates a requirement for impairment. The recoverable amount is the higher of fair value less costs to sell and value in use of the segments. Due to the low difference – considered possible as of the date of risk assessment – between the carrying amount and recoverable amount for the FHT and FT segments, the following reporting is restricted to the goodwill impairment of specifically these segments. The effective date for the impairment test is October 31, 2022.

As a result of the impairment test performed, the Company did not identify any impairment.

Impairment testing of goodwill is complex and based on a range of assumptions that require judgment. These include the expected business and earnings performance, taking into account the activities in Russia of the FHT and FT divisions for the next three years, the assumed long-term growth rates and the discount rate used.

There is the risk for the consolidated financial statements that an existing need to recognize impairment losses is not identified. There is also the risk that the related disclosures in the notes are not appropriate or incomplete.

OUR AUDIT APPROACH

We obtained a detailed understanding of the business planning process. GEA has implemented controls to ensure business planning's appropriateness. We assessed the design, establishment and effectiveness of selected controls. With the involvement of our valuation experts, we assessed the appropriateness of the Company's key assumptions and calculation methods for testing the goodwill of the FHT and FT divisions for impairment. To this end, we discussed and validated the expected business and earnings development, taking into account the activities in Russia, as well as the assumed long-term growth rates with those responsible for planning. We also reconciled this information with other internally available forecasts and the budget prepared by the Executive Board and approved by the Supervisory Board. In addition, we assessed the consistency of assumptions with external market assessments.

We also confirmed the accuracy of the Company's previous forecasts by comparing the budgets of previous financial years with actual results and by analyzing deviations. We compared the assumptions and data underlying the cost of capital, in particular the risk-free rate, the market risk premium, country risk premium and the beta factor, with our own estimates and publicly available data.

To assess the methodically and mathematically correct implementation of the valuation method, we verified the Company's valuation using our own calculations and analyzed deviations. Furthermore, we verified that between the effective date for impairment testing and the reporting date there were no indications of a need to recognize impairment losses.

Finally, we assessed whether the disclosures in the notes regarding the impairment of goodwill were complete and appropriate.

OUR OBSERVATIONS

The calculation method used for impairment testing of goodwill is appropriate and in line with the accounting policies to be applied. The Company's assumptions and data used for measurement are appropriate.

The corresponding disclosures in the notes are complete and appropriate.

Recognition of revenue from construction contracts

Please refer to the explanatory notes under note 2 for the accounting policies applied. Disclosures on revenue from construction contracts and construction contracts with credit and debit balances vis-à-vis customers can be found under note 7.1 in the notes to the consolidated financial statements.

THE FINANCIAL STATEMENT RISK

In financial year 2022, revenue in the amount of EUR 2,233.3 million was generated from construction contracts. As of December 31, 2022, the gross amount due from customers for contract work (contract assets) was EUR 373.2 million and the gross amount due to customers for contract work (contract liabilities) was EUR 844.5 million.

Contract revenue and results of construction contracts, which are to be recognized over time according to IFRS 15.35, are recognized in accordance with the percentage of completion method pursuant to IFRS 15.B18 by reference to the stage of completion. The stage of completion is determined as the proportion that contract costs incurred for work performed to date bear to the estimated total contract costs (cost to cost method). When it is probable that total contract costs will exceed total contract revenue, this loss is to be recognized as a provision for onerous contracts according to the rules set forth under IAS 37.

Determining the revenue from construction contracts that can be recognized is complex and requires estimates, especially with regard to the total contract cost to be estimated for establishing the stage of completion. The risk for the consolidated financial statements of GEA Group Aktiengesellschaft is that the revenue and realized results of construction contracts are inaccurately allocated to financial years or that onerous construction contracts are not recognized in time.

OUR AUDIT APPROACH

We assessed the procedure for estimating contract costs, the method for determining stage of completion as well as the design and establishment of controls to ensure proper planning of the entire contract costs.

We performed the following audit procedures for construction contracts specifically selected on the basis of risk (list not exhaustive):

- interviewing GEA staff involved in the project, including on estimates of the overall contract costs, risks involved and status of the projects
- reconciling the actual cost allocated to the contracts with internal cost schedules and external documents
- critical review of assumptions used for estimates of total contract costs, also by analyzing project progress to date and any deviations from the budget
- assessment of the computational accuracy of the stage of completion determined as well as any losses anticipated and also the proper accounting treatment of construction contracts and possible provisions for onerous contracts under IAS 37

OUR OBSERVATIONS

GEA's accounting treatment of construction contracts and the corresponding provisions for onerous contracts is appropriate. The assumptions underlying the accounting for construction orders are appropriate overall.

Other Information

Management and/or the Supervisory Board are/is responsible for the other information. The other information comprises the following components of the combined group management report, whose content was not audited:

- the Group's non-financial statement included in the combined group management report, and
- the combined corporate governance statement for the Company and Group included in the combined group management report, and.
- further information extraneous to the combined group management report and marked as unaudited.

The other information also includes the remaining parts of the annual report. The other information does not include the consolidated financial statements, the combined group management report information audited for content and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the combined group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the combined group management report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

In accordance with our engagement letter, we conducted a separate assurance engagement of the Group's non-financial statement. Please refer to our assurance report dated March 1, 2023, for information on the nature, scope and findings of this assurance engagement.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Combined Group Management Report

Management is responsible for the preparation of consolidated financial statements that comply, in all material respects, with IFRSs 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, management is 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, management is 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, management is responsible for the preparation of the combined group 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, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a combined group 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 group 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 group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined Group 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 group 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 opinions on the consolidated financial statements and on the combined group 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) 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 group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the combined group 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 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 (systems) relevant to the audit of the combined group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's 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 group management report or, if such disclosures are inadequate, to modify our respective 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 IFRSs as adopted by the EU and 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 opinions on the consolidated financial statements and on the combined group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the combined group 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 management in the combined group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management 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 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 also 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 of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Combined Group Management Report Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB

We have performed assurance work in accordance with Section 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the combined group management report (hereinafter the "ESEF documents") contained in the electronic file „02b_40073140_GEA_AG_KAuKLB_ESEF-2022-12-31.zip" (SHA256-Hashvalue: 9a5adde895ab3a14bfda4f68dc5e1e5e475b1a7360fdd8aa444c6a06c03ba2d0) made available and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the combined group management report into the ESEF format and therefore relates neither to the information contained in these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the combined group management report contained in the electronic file made available, identified above and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying combined group 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 the Combined Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

We conducted our assurance work on the rendering of the consolidated financial statements and the combined group management report contained in the file made available and identified above in accordance with Section 317 (3a) HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB (IDW AsS 410 (06.2022)). Our responsibility in accordance therewith is further described below. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The Company's management is responsible for the preparation of the ESEF documents including the electronic rendering of the consolidated financial statements and the combined group management report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the Company's management is responsible for such internal control 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 of Section 328 (1) HGB for the electronic reporting format.

The Supervisory Board is responsible for overseeing the process of preparing the ESEF documents as part of the financial reporting process.

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 skepticism throughout the assurance work. 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 assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance 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 made available containing the ESEF documents meets the requirements of the Commission Delegated Regulation (EU) 2019/815, as amended as of the reporting date, on the technical specification for this electronic file.
- Evaluate whether the ESEF documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and the audited combined group 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 Commission Delegated Regulation (EU) 2019/815, as amended as of the reporting date, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor at the Annual General Meeting on April 28, 2022. We were engaged by the Supervisory Board on June 23, 2022. We have been the group auditor of **GEA Group Aktiengesellschaft**, without interruption since financial year 2011.

We declare that the 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 group management report as well as the examined ESEF documents. The consolidated financial statements and combined group management report converted to the ESEF format – including the versions to be entered in the company register – are merely electronic renderings of the audited consolidated financial statements and the audited combined group management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the examined ESEF documents made available in electronic form.

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Michael Jessen.

Düsseldorf, March 1, 2023

KPMG AG
Wirtschaftsprüfungsgesellschaft
[German original signed by:]

gez. Dr. Zeimes	gez. Jessen
Wirtschaftsprüfer	Wirtschaftsprüfer

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Independent assurance practitioner's report

To the Supervisory Board of GEA Group Aktiengesellschaft, Düsseldorf

We have performed a limited assurance engagement on the combined non-financial group statement of GEA Group Aktiengesellschaft, Düsseldorf (hereinafter "GEA" or the "parent company") for the period from January 1, to December 31, 2022 (hereinafter the "consolidated non-financial statement") included in section "non-financial group statement" of the combined group management report.

Responsibilities of Management

Management of the parent company is responsible for the preparation of the non-financial statement in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB "Handelsgesetzbuch": German Commercial Code] and Article 8 of REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18. June 2020 on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (hereinafter the "EU Taxonomy Regulation") and the Delegated Acts adopted thereunder, as well as for making their own interpretation of the wording and terms contained in the EU Taxonomy Regulation and the delegated acts adopted thereunder as set out in section Disclosures on the European Union Taxonomy Regulation of the consolidated non-financial statement.

This responsibility includes the selection and application of appropriate non-financial reporting methods and making assumptions and estimates about individual non-financial disclosures of the group that are reasonable in the circumstances. Furthermore, management is responsible for such internal control as they consider necessary to enable the preparation of a consolidated non-financial statement that is free from material misstatement, whether due to fraud or error.

The EU Taxonomy Regulation and the Delegated Acts issued thereunder contain wording and terms that are still subject to considerable interpretation uncertainties and for which clarifications have not yet been published in every case. Therefore, management has disclosed their interpretation of the EU Taxonomy Regulation and the Delegated Acts adopted thereunder in section Disclosures on the European Union Taxonomy Regulation of the consolidated non-financial statement. They are responsible for the defensibility of this interpretation. Due to the immanent risk that indeterminate legal terms may be interpreted differently, the legal conformity of the interpretation is subject to uncertainties.

Independence and Quality Assurance of the Assurance Practitioner's firm

We have complied with the independence and quality assurance requirements set out in the national legal provisions and professional pronouncements, in particular the Professional Code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).

Responsibility of the Assurance Practitioner

Our responsibility is to express a conclusion with limited assurance on the non-financial statement based on our assurance engagement.

We conducted our assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information" issued by the IAASB. This standard requires that we plan and perform the assurance engagement to obtain limited assurance about whether any matters have come to our attention that cause us to believe that the company's non-financial statement, are not prepared, in all material respects, in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by management disclosed in section Disclosures on the European Union Taxonomy Regulation of the consolidated non-financial statement.

In a limited assurance engagement, the procedures performed are less extensive than in a reasonable assurance engagement, and accordingly, a substantially lower level of assurance is obtained. The selection of the assurance procedures is subject to the professional judgment of the assurance practitioner.

In the course of our assurance engagement we have, among other things, performed the following assurance procedures and other activities:

- Inquiries of group-level personnel who are responsible for the materiality analysis in order to understand the processes for determining material topics and respective reporting boundaries for GEA
- A risk analysis, including media research, to identify relevant information on GEA's sustainability performance in the reporting period
- Evaluation of the process for the identification of taxonomy-eligible and taxonomy-aligned economic activities and the corresponding disclosures in the report
- Evaluation of the design and the implementation of systems and processes for the collection, processing and monitoring of disclosures on environmental, employee and social matters, respect for human rights, combating corruption and bribery and indicators required by the EU Taxonomy Regulation, including consolidation of data
- Inquiries of group-level personnel who are responsible for determining disclosures on concepts, due diligence processes, results and risks, performing internal control functions and consolidating disclosures
- Inspection of selected internal and external documents
- Analytical procedures for the evaluation of data and of the trends of quantitative disclosures as reported at group level by all sites
- Understanding of estimated data and assumptions made in this context
- Evaluation of local data collection, validation and reporting processes as well as the reliability of reported data based on a sample of the sites in Drummondville (Canada) and Vadodara (India)
- Assessment of the overall presentation of the disclosures.

In determining the disclosures in accordance with Article 8 of the EU Taxonomy Regulation, management is required to interpret undefined legal terms. Due to the immanent risk that undefined legal terms may be interpreted differently, the legal conformity of their interpretation and, accordingly, our assurance engagement thereon are subject to uncertainties.

Assurance Opinion

Based on the assurance procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the consolidated non-financial statement of GEA Group Aktiengesellschaft, Düsseldorf, for the period from January 1, 2022 to December 31, 2022 has not been prepared, in all material respects, in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by management as disclosed in section Disclosures on the European Union Taxonomy Regulation of the combined non-financial statement.

Restriction of Use

This assurance report is solely addressed to of the Supervisory Board of GEA Group Aktiengesellschaft, Düsseldorf.

Our assignment for the Supervisory Board of GEA Group Aktiengesellschaft, Düsseldorf, and professional liability is governed by the General Engagement Terms for Wirtschaftsprüfer (German Public Auditors) and Wirtschaftsprüfungsgesellschaften (German Public Audit Firms) (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (https://www.kpmg.de/bescheinigungen/lib/aab_english.pdf). By reading and using the information contained in this assurance report, each recipient confirms having taken note of provisions of the General Engagement Terms (including the limitation of our liability for negligence to EUR 4 million as stipulated in No. 9) and accepts the validity of the attached General Engagement Terms with respect to us.

Düsseldorf, March 1, 2023

KPMG AG
Wirtschaftsprüfungsgesellschaft
[German original signed by:]

Stauder
Wirtschaftsprüfer

Gädeke
Wirtschaftsprüferin

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REMUNERATION REPORT

This Remuneration Report summarizes the principles governing remuneration of the members of the Executive Board and the Supervisory Board. It provides an overview of the system of Executive Board remuneration and explains the objectives of the remuneration system – which has been in force since the beginning of 2021 and has applied to all Executive Board members since the beginning of 2022.

The Remuneration Report also provides individualized and specific information on remuneration awarded and due to current and former members of the GEA Group Aktiengesellschaft Executive Board and Supervisory Board in fiscal year 2022, as well as benefits commitments. Disclosures related to the remuneration of board members comply with the requirements of the German Stock Corporation Act and the applicable German and international accounting standards.

General information on the remuneration of the members of the Executive Board

Acting on the recommendation of the Presiding and Sustainability Committee, the Supervisory Board determines the total remuneration of the individual Executive Board members and resolves the remuneration system applicable to the Executive Board. The Supervisory Board reviews the appropriateness of the remuneration at regular intervals. Criteria for determining the appropriateness of the remuneration include the responsibilities of the individual Executive Board members, their respective personal performance, the business situation, the success and the future prospects of the company, the result of the vote of the last Annual General Meeting on the remuneration report as well as the level of the remuneration compared with peer companies and the remuneration structure in place in other areas of the company.

Effective January 1, 2021, the Supervisory Board adopted the remuneration system that was approved by a majority of 89.54 percent at the Annual General Meeting on April 30, 2021 in accordance with section 120a (1), sentence 1 of the Aktiengesetz (AktG – the German Stock Corporation Act). The remuneration system for Executive Board members was revised to comply with the requirements of the new section 87a of the AktG and the recommendations of the German Corporate Governance Code as amended on December 16, 2019 (GCGC). An important consequence of the revision was the adoption of a new long-term incentive plan for Executive Board members. In addition, the basic remuneration, as well as the target remuneration for the Short Term Incentive (STI) and the Long Term Incentive (LTI) were increased by 20 percent. The contributions to the company pension plan remained unchanged. The new remuneration system will apply uniformly for current Executive Board members starting January 1, 2022. Details can be found in this section and are available on the gea.com website under “Investors – Corporate Governance – Remuneration”*.

*) Unaudited information

Principles of the remuneration system

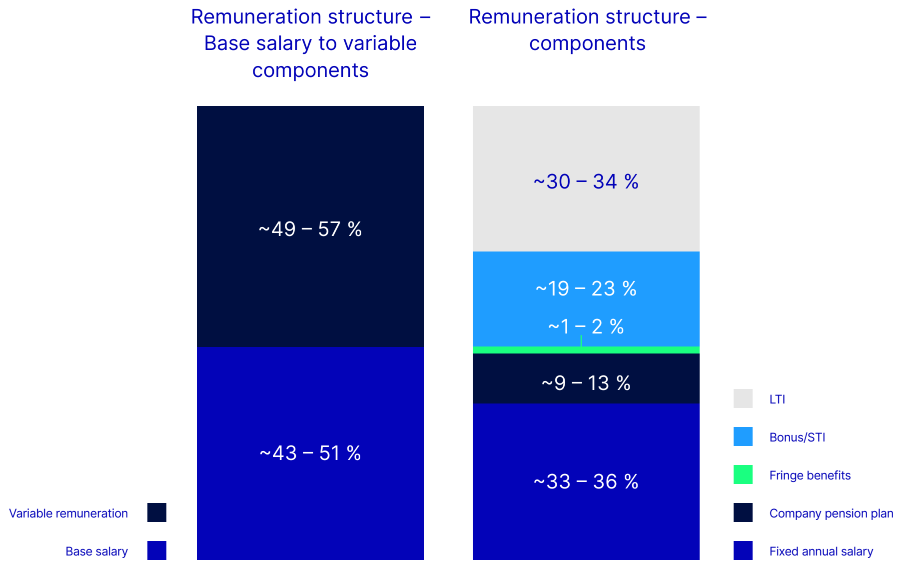
The remuneration system is characterized by the following basic principles:

- **Strategic relevance**: Performance-based remuneration components ensure support for the key objectives of the business strategy, in particular continuous, sustainable and profitable growth.
- **Pay for Performance**: The pay for performance concept is incorporated by linking remuneration to the achievement of predefined and ambitious performance criteria. In addition, malus and clawback provisions are also implemented.
- **Sustainability and the long term orientation**: The promotion of sustainable and long-term development is achieved through sustainability-related and long-term oriented performance criteria with significant weighting. In addition, the sustainability aspect is emphasized through the comparative analysis with DAX 50 ESG companies.
- **Long-term shareholder interests**: Sustainable value growth is taken into account through the four-year term and the long-term incentive's strong share orientation, as well as share ownership guidelines.
- **Consideration of remuneration and employment conditions of the employees**: When determining the remuneration of the Executive Board, its appropriateness in comparison with senior management and the workforce as a whole is also examined. In addition, employees satisfaction as an expression of compensation and employment conditions of the employees influences the amount of the variable remuneration of the Executive Board.
- **Reasonable linkage between the remuneration of the executives and employees**: In the case of variable remuneration, care is taken to achieve a consistent steering and incentive effect between Executive Board, senior management and employees.
- **Regulatory conformity**: The remuneration system for the Executive Board complies with the regulations of the German Stock Corporation Act and takes into account the recommendations of the GCGC. in the version applicable at the time.

Target total remuneration under the remuneration system

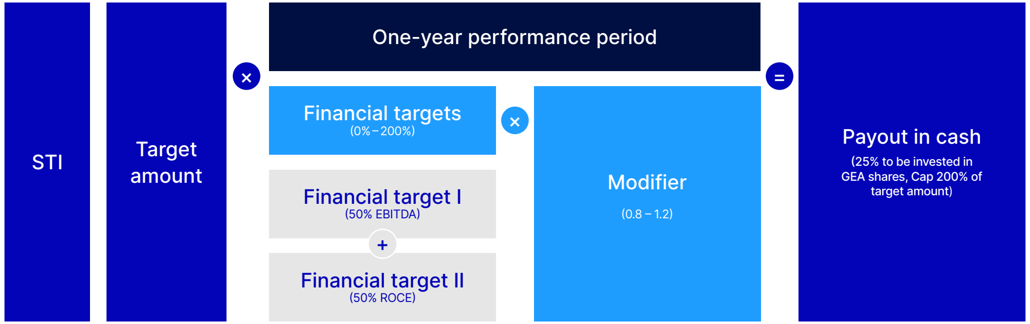
The target total remuneration of the Executive Board members is composed of non-performance-related and performance-related components as follows:

Relative proportion of the components in the total target remuneration



The non-performance-related components comprise a fixed annual salary, fringe benefits and a company pension plan.

The performance-related components comprise the bonus or short-term incentive (STI) and long-term incentive (LTI). The STI is structured as a target bonus system, which is paid out based on the financial performance criteria EBITDA (earnings before interest, taxes, depreciation and amortization) and ROCE (return on capital employed), each adjusted for restructuring measures, effects from acquisitions and a criteria-based modifier, which takes into account the collective and individual performance of the Executive Board and its members, respectively. It is composed as follows:



The LTI – the second performance-related component – is structured as a Performance Share Plan, which is paid out based on the relative total shareholder return (relative TSR), strategic targets (generally ESG targets) and the company's share price performance. It is composed as follows:

General information on the remuneration of the members of the Supervisory Board

In principle, the remuneration of the Supervisory Board members consists solely of fixed remuneration. It does not include a performance-related component.

Pursuant to section 15 (1) of the Articles of Association, each member of the Supervisory Board receives fixed annual remuneration of EUR 50 thousand payable after the end of each fiscal year, in addition to the reimbursement of their expenses. The Chairman of the Supervisory Board receives two-and-a-half times and his deputy one-and-a-half times this amount. In accordance with section 15 (2) of the Articles of Association, members of the Presiding and Sustainability Committee and the Audit Committee each receive an additional EUR 35 thousand. In accordance with section 15 (2), the members of the Innovation and Product Sustainability Committee each receive an additional EUR 25 thousand. The chair of the committee receives twice the respective amount. No separate remuneration is paid to members of the Mediation Committee or the Nomination Committee. Members who join or leave the Supervisory Board and/or its committees during the year only receive a pro rata amount for the duration of their membership. After the end of the fiscal year – pursuant to section 15 (3) of the Articles of Association – the Supervisory Board members also receive an attendance fee of EUR 1 thousand for each meeting of the Supervisory Board, the Presiding and Sustainability Committee, the Audit Committee or the Innovation and Product Sustainability Committee they attend. In fiscal year 2022, the Supervisory Board held eight meetings, the Presiding and Sustainability Committee met five times, the Audit Committee convened on four occasions while the Innovation and Product Sustainability Committee met twice.

Remuneration for the Supervisory Board members was approved by a majority of 99.77 percent of the shareholders at the Annual General Meeting on April 30, 2021.

A modification of the Supervisory Board remuneration system in place since 2011 is planned to be proposed to the next Annual General Meeting. Further details of the planned modification will be released when the Annual General Meeting is convened.

Overview of the past fiscal year

Personnel

There has been no change in composition of the Executive Board compared with the previous year. In March 2022, the Supervisory Board extended the contract of Chief Operating Officer (COO) Johannes Giloth by five years until January 19, 2028.

In fiscal year 2022, there were four personnel changes on the company's Supervisory Board, which comprises twelve members. Jörg Kampmeyer's position as shareholder representative on the Supervisory Board was confirmed until the 2025 Annual General Meeting by his election at the Annual General Meeting of April 28, 2022. Jörg Kampmeyer had been a court-appointed member of the Supervisory Board since January 1, 2022, after Dr. Molly P. Zhang stepped down from her position effective December 31, 2021. In addition, Dr. Jens Riedl was elected to the Supervisory Board as a shareholder representative for the first time by the Annual General Meeting of April 28, 2022, after Colin Hall stepped down from the Supervisory Board with effect from the close of the 2022 Annual General Meeting. At the request of the Executive Board, the Düsseldorf Local Court appointed Nancy Böhning as an employee representative member of the Supervisory Board with effect from May 13, 2022. She replaces Prof. Dr. Cara Röhner, who stepped down from her position at the close of the 2022 Annual General Meeting. After Klaus Helmrich left his position as Chairman of the Supervisory Board as of the end of the day on May 15, 2022, Prof. Dieter Kemp was appointed as a member of the Supervisory Board effective May 16, 2022 by an order of the court dated May 13, 2022. At the extraordinary Supervisory Board meeting on April 21, 2022, Prof. Kempf had already been appointed as the new Chairman of the Supervisory Board, subject to his appointment by the court.

Key figures for the 2022 fiscal year

For more information, please refer to the Report on Economic Position of the Consolidated Financial Statements.

Consideration of the Annual General Meeting resolution regarding last year's remuneration report in accordance with section 162 (1) sentence 2 no. 6 of the AktG

On April 28, 2022, the Annual General Meeting approved last year's remuneration report by a majority of 92.24 percent. Consequently, there was no reason to call into question the remuneration system that was approved by a majority of 89.54 percent at the Annual General Meeting on April 30, 2021 in accordance with section 120a (1), sentence 1 AktG, its implementation or the manner in which it is reported.

Remuneration of the members of the Executive Board

Remuneration awarded or due in 2022 and 2021

In the past fiscal year, the total remuneration paid to the current Executive Board members of GEA Group Aktiengesellschaft amounted to EUR 9,382,822. This comprised both an amount of EUR 2,976,000 for fixed annual salaries and an amount of EUR 6,311,924 for variable remuneration. As in previous fiscal years, the company did not grant any loans to members of the Executive Board in fiscal year 2022. The option to reclaim variable remuneration components was not exercised in the reporting period.

In fiscal year 2021, the total remuneration of the Executive Board members amounted to EUR 9,927,446. This comprised both an amount of EUR 2,480,000 for fixed annual salaries and an amount of EUR 7,385,589 for variable remuneration.

For purposes of section 162(1) sentence 2 no. 1 of the AktG, remuneration is deemed to have been awarded in the fiscal year in which the work (one or more years) on which the remuneration concerned is based was performed in full (vesting-oriented view). Remuneration is due when an unfulfilled legal obligation to pay such remuneration exists. In accordance with section 162 of the AktG, remuneration components are stated as of the earlier of the date on which the remuneration is awarded or due. Amounts attributable to the LTI and the bonus or STI are thus reported in the fiscal year in which the service period ends. The service period of the 2022 tranche of the LTI ended in the past fiscal year, which was therefore fully vested in fiscal year 2022. The LTI and the long-term share price component (2012 remuneration system) are paid out in March of the fiscal year after the end of the three-year or four-year performance period, following a resolution of the Supervisory Board establishing the target achievement. Differences between the expected payout amount at the time of full vesting and the actual payout amount after the end of the performance period are disclosed in the year of payment. Thus, in fiscal year 2026, the corresponding difference for the 2022 tranche will be included in the compensation to be disclosed.

<u>Target total remuneration and actual remuneration</u>

The following tables show – in each case for the reporting period and the prior year, each in individualized form and each broken down into fixed, non-performance-related and variable, performance-related components – the amount of the target total remuneration of the current Executive Board members and the actual remuneration of the current and former Executive Board members. A detailed description of the remuneration system applicable and applied to all current Executive Board members in fiscal year 2022 can be found at the homepage gea.com under "Investors – Corporate governance – Remuneration"*.

*) Unaudited information

Target total remuneration of the current Executive Board members:

(in EUR)			Base salary			Variable components		Target total remuneration[2]
	Date joined/ appointed until	Current position	Fixed annual salary	Fringe benefits[1]	Company pension plan	Bonus/STI	LTI	
Executive Board members								
Stefan Klebert	Nov. 15, 2018/ Dec. 31, 2026	CEO	1,440,000	32,758	400,000	864,000	1,296,000	**4,032,758**
Previous year			1,200,000	11,557	400,000	720,000	1,080,000	**3,411,557**
Marcus A. Ketter	May 20, 2019/ May 19, 2027	CFO	816,000	28,742	300,000	490,000	734,000	**2,368,742**
Previous year			680,000	19,460	300,000	408,000	612,000	**2,019,460**
Johannes Giloth	Jan. 20, 2020/ Jan. 19, 2028	COO	720,000	33,398	200,000	432,000	648,000	**2,033,398**
Previous year			600,000	30,840	200,000	360,000	540,000	**1,730,840**
Total			**2,976,000**	**94,898**	**900,000**	**1,786,000**	**2,678,000**	**8,434,898**
Previous year			**2,480,000**	**61,857**	**900,000**	**1,488,000**	**2,232,000**	**7,161,857**

1) The fringe benefits mainly comprise the value of the use of a company car, accident insurance premiums, and – in individual cases – the reimbursement of costs incurred for travel and accommodation.
2) The target total remuneration was increased by approx. 17 percent with the 2021 remuneration system, which was approved by the Annual General Meeting on April 30, 2021 in accordance with section 120 a (1) sentence 1 AktG with a majority of 89.54 percent.

Base salary and variable components of the remuneration awarded or due for current Executive Board members:

(in EUR)			Base salary			Variable components			Total
	Date joined/ appointed until	Current position	Fixed annual salary	Fringe benefits[1]	Pro-rata fixed remuneration components	Bonus/STI	LTI[2]	Pro-rata variable fixed remuneration components	
Current Executive Board members									
Stefan Klebert	Nov. 15, 2018/ Dec. 31, 2026	CEO	1,440,000	32,758	32%	1,662,250	1,406,810[3]	68%	**4,541,818**
Previous year			1,200,000	11,557	25%	1,440,000	2,133,664	75%	**4,785,221**
Marcus A. Ketter	May 20, 2019/ May 19, 2027	CFO	816,000	28,742	33%	942.711	787,375[3]	67%	**2,574,828**
Previous year			680,000	19,460	26%	816,000	1,209,093	74%	**2,724,553**
Johannes Giloth	Jan. 20, 2020/ Jan. 19, 2028	COO	720,000	33,398	33%	831,125	681,653	67%	**2,266,176**
Previous year			600,000	30,840	26%	720,000	1,066,832	74%	**2,417,672**
Total			**2,976,000**	**94,898**	**33%**	**3,436,086**	**2,875,838**	**67%**	**9,382,822**
Previous year			**2,480,000**	**61,857**	**26%**	**2,976,000**	**4,409,589**	**74%**	**9,927,446**

1) The fringe benefits mainly comprise the value of the use of a company car, accident insurance premiums, and – in individual cases – the reimbursement of costs incurred for travel and accommodation.
2) The service period for the 2022 tranche of the LTI ended on December 31, 2022; the service period for the 2021 tranche ended on December 31, 2021.
3) In addition to the compensation awarded in fiscal year 2022, the delta between the expected payout amount at the time of full vesting and the actual payout amount after the end of the performance period of the 2019 LTI tranche is included.

Base salary and variable components of the remuneration awarded or due for former Executive Board members:

(in EUR)			Base salary			Variable components			Total
	Entry/departure	Last position	Fixed remuneration[1]	Fringe benefits[2]	Pro-rata fixed remuneration components	LTI[3]	Long-term share price component[4]	Pro-rata variable remuneration components	
Former Executive Board members									
Steffen Bersch	Jan. 1, 2016/ Feb. 29, 2020	Ordinary Executive Board member	–	–	–	21,752	–	100%	**21,752**
Previous year			–	–	–	–	–	–	**–**
Martine Snels	Oct. 1, 2017/ Dec. 31, 2019	Ordinary Executive Board member	–	–	–	–	-636	–	**-636**
Previous year			–	3,327	100%	–	–	–	**3,327**
Niels Erik Olsen	Jan. 1, 2016/ Mar. 13, 2019	Ordinary Executive Board member	–	–	–	–	–	–	**-**
Previous year			–	2,223	100%	–	–	–	**2,223**
Dr. Helmut Schmale	Apr. 22, 2009/ May 17, 2019	Ordinary Executive Board member	224,684	–	100%	–	–	–	**224,684**
Previous year			200,001	–	100%	–	–	–	**200,001**
Other previous members and surviving dependents[5]			5,113,891	–	100%	–	–	–	**5,113,891**
Previous year			4,817,852	–	100%	–	–	–	**4,817,852**
Total			**5,338,575**	**–**	**100%**	**21,752**	**-636**	**–**	**5,359,691**
Previous year			**5,017,853**	**5,550**	**100%**	**–**	**–**	**–**	**5,023,403**

1) The fixed remuneration includes pension payments and – in the event of early departure from the Executive Board – severance payments, as well as, with regard to the previous year's figures, fixed salaries. No severance payments were paid in fiscal years 2022 and 2021.
2) The fringe benefits were granted for the periods in which for Martine Snels and Niels Erik Olsen were still in active employment.
3) The compensation from the LTI components is attributable to the delta between the expected payout amount at the time of full vesting and the actual payout amount after the end of the performance period of the 2019 tranche of the LTI for Steffen Bersch.
4) The compensation from the LTI components is attributable to the delta between the expected payout amount at the time of full vesting and the actual payout amount after the end of the performance period of the 2019 tranche of the long-term share price component for Martine Snels. The negative delta results from a target achievement of 99.7%.
5) Individualized disclosure of the remuneration of former Executive Board members and their surviving dependents is omitted for members of the Executive Board who left the company more than ten years ago.

The total remuneration of the current and former Executive Board members for fiscal year 2022 is in line with the remuneration system applicable in the reporting period and the 2012 remuneration system applicable to individual former Executive Board members. The target total remuneration of the current Executive Board members set for the reporting period corresponds in each case to the values and ratios of fixed to variable remuneration components stipulated in the remuneration system. As shown in the following section and in the section "Disclosures relating to share-based remuneration for the period 2018 to 2022," the actual target achievement or the target achievement expected on the basis of the ratios as of December 31, 2022 of the individual variable remuneration components was determined on the basis of the key performance indicators and the target achievement curves defined in accordance with the remuneration system.

Target achievement and modifier multiplier applicable to the 2022 STI

In fiscal year 2022, EBITDA before restructuring measures adjusted for effects from acquisitions totaled EUR 712,3 million, which corresponds to a 153.8 percent target achievement level (previous year: 171 percent). ROCE in fiscal year 2022, also adjusted for restructuring measures and effects from acquisitions, amounted to 31.8 percent (previous year: 27.6 percent), equivalent to target achievement of 196 percent (previous year: 200 percent). This results in a target achievement level of 174.9 percent for the 2022 STI (previous year: 185.5 percent).

For the purpose of the 2022 STI, the Supervisory Board has set a modifier multiplier of 1.1 for Stefan Klebert (previous year: 1.17), 1.1 (previous year: 1.17) for Marcus A. Ketter and 1.1 for Johannes Giloth (previous year: 1.17), resulting in an overall target achievement of 192.4 percent (previous year: 200 percent). In each case, these multipliers correspond to the average of the individual evaluations of the modifier criteria set by the Supervisory Board beforehand for the members of the Executive Board. The modifier applicable to the 2022 STI was based on the following targets and assessment criteria:

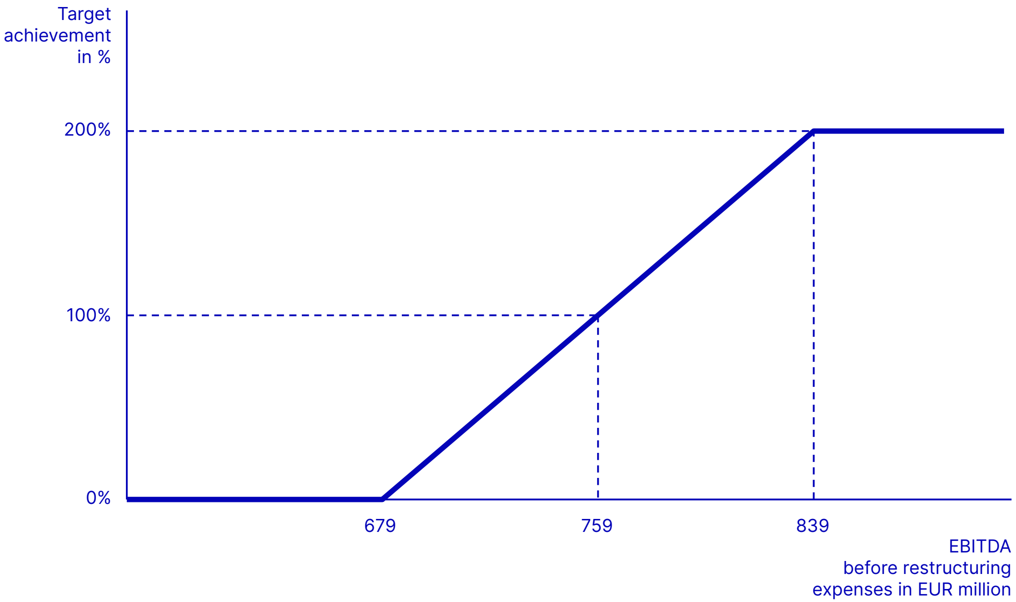
Modifier target and assessment criteria applicable to the 2022 STI (range 0.8-1.2)	
Collective performance of the Executive Board	**Koszalin production site – production starts at the "Factory of the Future"** Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board.
	Availability of the uniform „GlobalSAP" ERP system" Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board
Stakeholder and sustainability aspects	**Employee satisfaction** Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board
	Customer satisfaction Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board

Calibration of financial performance targets and modifier criteria in relation to the 2023 STI

For the purpose of the 2023 bonus or STI, the Supervisory Board has calibrated the following financial performance targets:

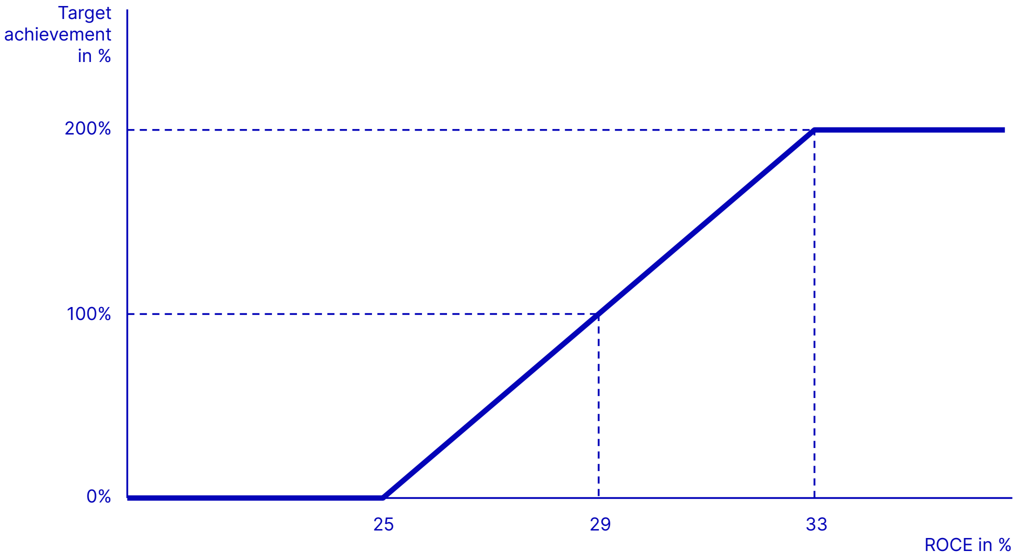
For the key performance indicator EBITDA before restructuring measures, 100 percent of the target is achieved if EBITDA before restructuring measures amounts to EUR 759 million. The target achievement corridor ranges from EUR 679 million, which would correspond to a target achievement of 0 percent, to EUR 839 million, which would correspond to a target achievement of 200 percent. Linear interpolation is performed between these values.

Target achievement curve EBITDA before restructuring expenses



A target achievement of 100 percent should be given for the key performance indicator ROCE in fiscal year 2023 if ROCE is 29 percent. Here, the target achievement corridor ranges from 25 percent (where target achievement would correspond to 0 percent) to 33 percent (where target achievement would correspond to 200 percent). Linear interpolation is performed between these values.

Target achievement curve ROCE



The Supervisory Board defined the following modifier targets and assessment criteria for the STI 2023, which apply equally to all Executive Board members, based on the strategic targets:

Modifier targets and assessment criteria applicable to the 2023 STI (range: 0.8–1.2)
Innovation: Milestones in the creation of a comprehensive innovation measurement system Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board
GEA Digital: Successful market launch and scaling of digital services Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board
Employee turnover/retention: Creating transparency and developing measures Limited discretionary assessment by the Supervisory Board, taking into account certain parameters defined in advance by the Supervisory Board

Disclosures relating to share-based remuneration for the period 2018 to 2022

During the fiscal years 2020 to 2021, the Executive Board was granted share-based remuneration under the current remuneration system in the form of an annual tranche of the Performance Share Plan. The performance period of each of these tranches encompasses three fiscal years. Starting from fiscal year 2022, the Executive Board is awarded share-based remuneration in the form of annual tranches of the Performance Share Plan with a four-year performance period. The tranche awarded in fiscal year 2022 is measured over a four-year period from 2022 to 2025 and will be paid out in fiscal year 2026. At the end of the four-year performance period, the payout is calculated as the arithmetic mean of the annual target achievements of the four fiscal years multiplied by the number of performance shares awarded and the dividend adjusted arithmetic mean of the share price, limited to a maximum of 200 percent. Target achievement for the 2022 tranche is 171 percent. This equates to 12,671 performance shares for Stefan Klebert, 7,176 performance shares for Marcus A. Ketter and 6,336 performance shares for Johannes Giloth.

For the 2020 tranche, whose performance period ended on December 31, 2022, and which will be paid out in the current fiscal year 2023, the final target achievement is 200 percent for EPS growth and 195 percent for the relative TSR. The target achievement corridor for EPS growth ranges from a Compound Annual Growth Rate (CAGR) of 6.0 percent during the performance period, which would correspond to target achievement of 0 percent, to a CAGR of 16.0 percent for the period 2020 to 2022, which would correspond to target achievement of 200 percent. Linear interpolation is performed between these values, so 11.0 percent equates to target achievement of 100 percent.

Like the 2020 tranche to be paid out in the current 2023 fiscal year, the tranches of the Performance Share Plan in the form specified in the remuneration system applicable for 2022 support the company's long-term, sustainable development thanks to the three-year, forward-looking assessment basis, the clear alignment with the capital market and focus on the long-term performance of GEA's shares.

Details of the existing entitlements of the current members of the Executive Board under this remuneration component are shown in the table below.

	Performance shares issued at the start of the vesting period (in number of shares)	Fair value as of the grant date (in EUR)	Fair value as of December 31, 2022 (in EUR)	Fair value as of December 31, 2021 (in EUR)
Stefan Klebert				
2020 tranche	43,028	1,080,000	2,160,000	2,160,000
2021 tranche	50,664	1,080,000	2,105,748	2,133,664
2022 tranche	29,630	1,296,000	1,363,306	–
Marcus A. Ketter				
2020 tranche	24,383	612,000	1,224,000	1,224,023
2021 tranche	28,710	612,000	1,193,315	1,209,093
2022 tranche	16,781	734,000	772,111	–
Johannes Giloth				
2020 tranche	21,514[1]	511,890[2]	1,023,781[3]	1,023,781[4]
2021 tranche	25,332	540,000	1,052,874	1,066,832
2022 tranche	14,815	648,000	681,653	–
Total Tranche 2020	**88,925**	**2,203,890**	**4,407,781**	**4,407,804**
Total Tranche 2021	**104,706**	**2,323,000**	**4,351,937**	**4,409,588**
Total Tranche 2022	**61,226**	**2,678,000**	**2,817,070**	**–**

1) Reflects a payout reduced pro rata temporis in March 2023 due to appointment having occurred on January 20, 2020.
2) Due to Johannes Giloth joining on January 20, 2020 and the resulting reduction in the payment of the 2020 tranche under the Performance Share Plan, the fair value at grant date was reduced accordingly to EUR 23.79 per performance share.
3) Based on a reduced fair value of EUR 47.59 per performance share (rounded) as of December 31, 2022.
4) Based on a reduced fair value of EUR 47.59 per performance share (rounded) as of December 31, 2021.

As a former member of the Executive Board, Steffen Bersch is entitled to payments from this remuneration component under the 2020 tranche.

	Performance shares issued at the start of the vesting period (in number of shares)	Fair value as of the grant date (in EUR)	Fair value as of December 31, 2022 (in EUR)	Fair value as of December 31, 2021 (in EUR)
Steffen Bersch				
2020 tranche	21,514[1]	87,288[2]	174,575[3]	174,575[4]

1) Payout reduced pro rata temporis in March 2023 due to departure on February 29, 2020.
2) Due to the departure of Steffen Bersch on February 29, 2020 and the resulting reduction in the payment of the 2020 tranche under the Performance Share Plan, the fair value at grant date was reduced accordingly to EUR 4.06 per performance share.
3) Based on a reduced fair value of EUR 8.11 per performance share (rounded) as of December 31, 2022.
4) Based on a reduced fair value of EUR 8.11 per performance share (rounded) as of December 31, 2021.

In fiscal year 2022, total expenditure for share-based remuneration under all remuneration systems (i.e., the total of the fair value of share-based remuneration granted in the fiscal year as of the balance sheet date and the change in fair value in relation to entitlements under share-based remuneration in the fiscal year 2022) that was recognized in the consolidated IFRS financial statements amounted to EUR 1,335 thousand for Stefan Klebert (previous year: EUR 3,125 thousand); EUR 756 thousand for Marcus A. Ketter (previous year: EUR 1.701 thousand); EUR 668 thousand for Johannes Giloth (previous year: EUR 1.384 thousand), and EUR 0 thousand for Steffen Bersch (previous year: EUR 215 thousand). Further information on the LTI and the long-term share price component is outlined in Note 6.3.3 of the Consolidated Financial Statements.

Grants, specifications and calibrations of strategic goals under the 2023 tranche

Based on a contractually agreed allotment and the arithmetic mean of the closing prices of GEA shares over the last three months prior to the start of the performance period on January 1, 2023 of EUR 37.35, the Executive Board members were granted the following number of performance shares under the fifth tranche of the LTI granted for the current fiscal year (2023 tranche):

Participants Tranche 2023	**Contractual target value (in EUR)**	Number of performance shares granted
Stefan Klebert	1,296,000	34,699
Marcus A. Ketter	734,000	19,652
Johannes Giloth	648,000	17,350
Total	**2,678,000**	**71,701**

The Supervisory Board has set and calibrated the following strategic targets, with a weighting of 40 percent within the LTI, for the 2023 tranche of the LTI:

Strategic targets and calibration of LTI 2023

Reduction of Scope 1 and 2 greenhouse gas emissions*
This target concerns the achievement of defined targets for reducing Scope 1 and 2 greenhouse gas emissions
- Target attainment is assessed based on the linear annual reduction target for Scope 1 and 2 – amounting to a total reduction of 60 percent by 2030 (from base year 2019)
- To calibrate the annual target for the LTI 2023 – 2026, the baseline for determining the annual reduction in greenhouse gas emissions was redefined in 2021
- Target achievement of 100 percent is achieved if the linear annual reduction target is met
- In the event of mergers or acquisitions, the assessment model is adjusted in line with the requirements of the Science Based Targets Initiative (SBTi)
- Organic growth is also cancelled out for the purpose of assessing target attainment

Organic revenue growth
This target concerns the achievement of a defined level of organic annual revenue growth (adjusted for M&A and currency effects) over the performance period
- Target achievement of 100 percent is achieved if organic revenue growth amounts to 4 percent per year

) A more detailed discussion can be found in the Sustainability Report at gea.com.

The strategic goals that are decisive for the calibration of the LTI 2023 are, first, the reduction of greenhouse gas emissions and, second, organic sales growth. The strategic goals thus support GEA's own target established as part of its climate strategy to reduce its own greenhouse gas emissions along its entire value chain to net zero by 2040. In addition to its net zero target for 2040, GEA has also presented interim targets in line with STBi for all emission areas. These interim targets for Scope 1 and 2 form the basis for assessing target achievement. GEA's climate strategy is the first building block of a comprehensive ESG strategy, which is the basis of GEA's new corporate strategy "Mission 26". These goals also include achieving average organic revenue growth of 4.0 to 6.0 percent per year until 2026. As a result, two ambitious goals that will have a lasting impact on GEA's future and the environment are part of both the Executive Board's LTI and the Performance Share Plan.

To calibrate the relative TSR performance criterion (GEA's TSR performance is set in relation to the DAX 50 ESG companies), the principles specified in the remuneration system are applied (see the homepage gea.com under "Investors – Corporate Governance – Remuneration"*).

*) Unaudited information

Share ownership guidelines

Under the remuneration system, the members of the Executive Board are obliged to acquire GEA shares and hold them until the end of their period of service. The amount of this shareholding obligation is 150 percent of the annual gross fixed salary for Stefan Klebert and 100 percent of the annual gross fixed salary for Marcus A. Ketter and Johannes Giloth. Until the shareholding obligation has been met in full, Executive Board members are required to invest 25 percent of the variable net payment from the STI and LTI in GEA shares or to contribute otherwise acquired GEA shares to the program.

At present, members of the Executive Board hold the following number of GEA shares:

	Share ownership guidelines (SOG) target			Shares held	
	% of fixed salary	Target value in EUR up to 12/31/2021	Target value in EUR from 01/01/2022	Number	Value in EUR as of 12/31/2022
Stefan Klebert	150	1,800,000	2,160,000	100.000[1]	3,792,000
Marcus A. Ketter	100	680,000	816,000	8,129	308,252
Johannes Giloth	100	600,000	720,000	18,759[2]	711,341

1) Thereof, 59,999 shares were contributed under the SOG.
2) Thereof, 4.759 shares were contributed under the SOG.

On payment of the STI 2022 and the LTI tranche 2020 at the end of March 2023, shares will again be purchased under the SOG for Marcus A. Ketter and Johannes Giloth.

Compliance with the maximum remuneration pursuant to section 87a (1) sentence 2 no. 1 of the AktG

Under the remuneration system, maximum remuneration of EUR 6.2 million is planned for the Chairman of the Executive Board and EUR 3.7 million for ordinary members of the Executive Board. In the event of the appointment of a new member of the Executive Board, a one-time increase in the maximum remuneration by a maximum of 35 percent, applicable exclusively to the fiscal year of such appointment, is possible, provided the Supervisory Board resolves upon commencement of the term to offset the loss of benefits from the new Executive Board member's former employer. This option was not exercised in fiscal year 2022. Details can be found in the new remuneration system on the homepage gea.com under "Investors – Corporate Governance – Remuneration"*.

In the reporting period, the remuneration to be included for the purpose of assessing compliance with the maximum remuneration (consisting of the fixed annual salary, fringe benefits, STI and contributions to the company pension plan) was EUR 3,535,008 for Stefan Klebert, EUR 2,087,453 for Marcus A. Ketter, and EUR 1,784,523 for Johannes Giloth. Compliance with maximum remuneration limits for fiscal year 2022 may only be conclusively assessed after the end of the performance period of the 2022 LTI tranche on December 31, 2025. However, due to the limitation on the maximum payout amounts of the LTI to 200 percent of the target values, it may be assumed that maximum remuneration limits for the 2022 fiscal year will be complied with.

Malus and clawback

If an Executive Board member is proven to have willfully acted in gross violation of one of their significant duties of care under section 93 of the Aktiengesetz (AktG – German Stock Corporation Act), a material policy contained in significant internal guidelines issued by the company or other material obligations under their service contract, the Supervisory Board may, at its reasonably exercised discretion (Section 315 of the Bürgerliches Gesetzbuch (BGB – German Civil Code)), reduce the variable remuneration awarded in the fiscal year that the gross violation took place partially or fully to zero (malus). Furthermore, in such cases, any variable remuneration already paid out may be reclaimed, with the Executive Board member's repayment obligation being restricted to the net amount paid out (clawback).

*) Unaudited information

Comparative presentation of the changes in Executive Board remuneration, company earnings and employee remuneration

The following overview presents the annual change in total individual remuneration for members of the Executive Board, GEA Group's earnings performance, and the average remuneration of employees on a full-time equivalent basis.

The remuneration of individual Executive Board members included in the table corresponds to the total remuneration awarded and due in the fiscal year as presented above. The performance is determined on the basis of the EBITDA before restructuring expenses, ROCE and revenue of GEA Group, and additionally on the basis of GEA Group Aktiengesellschaft's net income for the fiscal year. EBITDA before restructuring expenses, ROCE and revenue are key performance indicators for the Group. EBITDA before restructuring expenses and ROCE already comprise the basis of financial targets of the Executive Board's one-year variable remuneration. Annual organic sales growth was defined as one of three performance criteria for the tranche of the LTI granted for the current fiscal year 2023. The presentation of average employee remuneration on a full-time equivalent basis is based on the group of employees of GEA Group Aktiengesellschaft together with GEA Group Services GmbH (number of employees in 2020-2022 approx. 400-550), which form a joint operation, and the employees of GEA Group companies in Germany (number of employees in 2020-2022 approx. 6.000-6.700).

Year-on-year change in %	2022[1]	2021[1]
Current Executive Board members		
Stefan Klebert	-5.1	17.22
Marcus A. Ketter	-5.5	17.12
Johannes Giloth	-6.3	23.4[2]
Former Executive Board members		
Steffen Bersch	-	–100.0[3]
Martine Snels	-119.1	-63.9
Niels Erik Olsen	-100.0	-91.5
Jürg Oleas	-	-100.0
Dr. Helmut Schmale	12.3	-
Other former members and surviving dependents[4]	6.1	0.8
Earnings indicators		
EBITDA before restructuring measures GEA Group	14.0	17.3
ROCE GEA Group	391 bp	1,079 bp
Revenue GEA Group	9.8	1.5
Net income for the fiscal year GEA Group AG	-10.6	70.7
Employee remuneration		
Employees of GEA Group Aktiengesellschaft and GEA Group Services GmbH	-0.2	13.6[5]
Employees of GEA Group in Germany	0.8	5.4[5]

1) Over the next years, the period under consideration in the comparative analysis will be successively extended to cover five comparative periods in accordance with section 26 j of the German Act Implementing the Second Shareholder Rights Directive (ARUG II).
2) The change compared to previous year is due to the higher expected payout amount (based on the fair value as of December 31 of the relevant fiscal year) of the LTI tranche vested in the fiscal year.
3) The change compared to previous year is due to Steffen Bersch's departure from the Executive Board as of February 29, 2020.
4) Individualized disclosure for former Executive Board members and their surviving dependents is omitted for members of the Executive Board who left the company more than ten years ago.
5) Prior year's figure adjusted.

In fiscal year 2022, the ratio of the CEO's remuneration to the average remuneration of all GEA Group employees in Germany was 66.6 (previous year: 70.8). In fiscal year 2022, the ratio of the CEO's remuneration to the average remuneration of all employees of GEA Group Aktiengesellschaft and GEA Group Services GmbH was 32.6 (previous year: 34.3). To determine this figure, the average remuneration awarded and due to all employees of GEA Group Aktiengesellschaft and GEA Group Service GmbH as well as GEA Group in Germany in the fiscal year is calculated as a proportion of the remuneration awarded and due to the CEO for the respective fiscal year (See abstract "Remuneration awarded or due in 2022 and 2021").

Benefits in the event of regular departure from the Executive Board

As a standard form of company pension plan, the remuneration system provides for a contribution-oriented defined benefit. The pension commitment vests immediately and includes pension, surviving dependents' as well as incapacity benefits. As part of their retirement benefits, the accrued capital is available to the Executive Board members from age 62 onwards. Should a member of the Executive Board pass away before reaching the age of 62, his/her surviving dependents, i.e., his/her surviving spouse or partner or the surviving children are entitled to survivors benefits. The amount of disability and surviving dependents' benefits is equivalent to the accrued pension capital. If a member of the Executive Board dies after the occurrence of a pension event, his/her surviving dependents are entitled to receive the residual capital.

For meeting its pension commitments, the company sets up a pension account for each Executive Board member and deposits the contractually agreed pension contributions into this account on a monthly basis. Monthly pension contributions are granted for each month during the term of the Executive Board service agreement. The monthly pension contributions amount to EUR 33,333 (gross) for Stefan Klebert, EUR 25,000 (gross) for Marcus A. Ketter and EUR 16,666 (gross) for Johannes Giloth. In addition, the members of the Executive Board have the option of participating in a deferred remuneration scheme up to a maximum amount of EUR 100,000 per year.

Upon retirement, the available pension capital that determines the level of pension benefits results from the pension contributions paid into the pension account until the time pension benefits are paid out, including the performance of the pension account during the investment period. The company guarantees a nominal return of premium, i.e., comprising, at a minimum, the aggregate amount of the company-funded pension contributions, and the deferred contributions are available at the time the pension capital falls due. The latter may be paid out as a lump sum or in up to 20 annual installments, with outstanding installments continuing to earn 1 percent interest per year.

Pension commitments under this program were made to Stefan Klebert, Marcus A. Ketter and Johannes Giloth. There were no changes to such pension commitments during the reporting period.

Pension scheme contributions and provisions for pension obligations

The company has set aside pension provisions to cover the future entitlements of the Executive Board members. The service cost for pension provisions for active Executive Board members recognized at the end of the 2022 fiscal year in accordance with IFRS are listed individually in the table below.

(in EUR)	Pension obligation* as of 12/31/2022	Service cost in fiscal year 2022
Stefan Klebert	1,508,566	400,000
Marcus A. Ketter	1,032,245	300,000
Johannes Giloth	576,957	200,000
Total	**3,117,768**	**900,000**

*) Pension obligation before plan assets.

Benefits in the event of premature departure from the Executive Board

The following rules apply to Stefan Klebert, Marcus A. Ketter and Johannes Giloth. Compared with the previous year, there was only one change in the reporting period in the compensation components considered in the calculation of the severance payment in the event of revocation of the appointment of a member of the Management Board or resignation from office for good cause.

The system stipulates that, if the appointment of an Executive Board member is revoked for good cause with legal effect in accordance with section 84 (3) of the AktG, or if an Executive Board member validly resigns from office pursuant to section 84 (3) of the AktG, the Executive Board member's service agreement will – as a rule – end on expiry of the statutory notice period pursuant to section 622 (1) and (2) of the Bürgerliches Gesetzbuch (BGB – German Civil Code). However, if the appointment is revoked due to an individual's inability to properly manage the company as defined in section 84 (3) of the AktG, the notice period runs until the end of the eight-month period.

In both of the aforementioned cases involving the early termination of his/her appointment, an Executive Board member will first of all receive the variable remuneration he or she has earned up until the date of his or her departure. The performance-related remuneration components are calculated and paid out in accordance with the plan terms and conditions for STI and LTI. In the case of the LTI, the amount paid out for the tranche for the fiscal year in which the employment relationship ends is reduced pro rata temporis if the employee leaves the company during the year. In the case of tranches issued from fiscal year 2022 onwards, for fiscal years prior to termination of employment, target achievement for performance criteria related to LTI is calculated and fixed on the basis of actual results achieved, whereas for fiscal years after termination of employment, target achievement for performance criteria related to LTI is set at 100 percent. The value of performance shares issued under an LTI tranche will continue to be determined at the end of the four-year performance period. There is no provision for early payout before the end of the performance period. Moreover, the departing Executive Board member receives a severance payment in the amount of the total remuneration agreed for the remaining term of the service agreement to compensate for his/her early departure from the company, but no more than two years' remuneration (severance payment cap). For computing severance pay entitlements, the remuneration system provides for a target achievement level of 100 percent applicable to any unvested remuneration for the current and future fiscal years, as the case may be. With effect from January 1, 2022, the calculation of the severance payment will also include 100 percent of the annual pension contribution to the company pension scheme and compensation for the loss of private use of the company car will be taken into account.

If the service agreement is terminated in the course of a fiscal year by the company under its right of extraordinary termination for good cause under section 626 (1) of the BGB or based on the valid revocation of appointment on grounds that would have given the company good cause for extraordinary termination under section 626 (1) of the BGB, the right to STI lapses for such fiscal year along with claims to LTI for the respective performance period in which the appointment ends without right to remuneration therefore. Similarly, entitlement to payment of severance pay lapses in such cases as well.

All outstanding tranches of the LTI will be paid out in the event of termination of employment due to the permanent incapacity to work of the Executive Board member or in the event of their death. The payout amount corresponds to the cumulative allocation of all outstanding tranches, with the allocation reduced on a pro rata basis temporis for the fiscal year in which the employment relationship ends. In such cases, payment is made no later than two months after termination of the employment relationship. If an Executive Board member leaves the company due to incapacity to work, he/she is entitled to receive disability benefits. If the Executive Board member dies during the term of the service agreement, his/her spouse or civil partner within the meaning of section 1 of the Lebenspartnerschaftsgesetz (LPartG – the Act on Registered Life Partnerships), or alternatively their dependent children as joint and several creditors, are entitled to the undiminished payment of the fixed remuneration for the month of death and the following three months, but no longer than until the end of the regular term of the service agreement.

The service agreement concluded with the Executive Board members do not provide for termination or any other rights in the event of a change of control, nor any benefits associated therewith.

Remuneration of the members of the Supervisory Board

Remuneration awarded or due in 2022 and 2021

In the fiscal year under review, the expenses incurred for the Supervisory Board amounted to EUR 1,309 thousand (previous year: EUR 1,326 thousand).

The following table shows the individual breakdown of the remuneration and its respective components awarded to members of the Supervisory Board and/or the Presiding and Sustainability Committee, the Audit Committee and the Innovation and Product Sustainability Committee in 2022 compared with the previous year:

(in EUR)	Remuneration Supervisory Board	Remuneration Presiding and Sustainability Committee	Remuneration Audit Committee	Remuneration Innovation and Product Sustainability Committee	Pro-rata fixed remuneration components	Attendance fee	Share of attendance fee	**Total**
Bastaki	–	–	–	–	–	–	–	**–**
Previous year	16,438	11,507	–	–	87%	4,000	13%	**31,945**
Böhning*	31,918	–	–	–	89%	4,000	11%	**35,918**
Previous year	–	–	–	–	–	–	–	**–**
Claas*	50,000	–	35,000	–	89%	11,000	11%	**96,000**
Previous year	33,562	–	23,493	–	88%	8,000	12%	**65,055**
Falk*	50,000	35,000	–	25,000	88%	15,000	12%	**125,000**
Previous year	33,562	23,493	–	16,781	88%	10,000	12%	**83,836**
Prof. Dr. Fleischer	50,000	–	–	50,000	91%	10,000	9%	**110,000**
Previous year	33,562	–	–	16,781	88%	7,000	12%	**57,342**
Gröbel*	75,000	35,000	–	–	89%	13,000	11%	**123,000**
Previous year	66,781	35,000	–	–	89%	12,000	11%	**113,781**
Hall	16,164	11,315	–	–	85%	5,000	15%	**32,479**
Previous year	50,000	35,000	–	–	88%	12,000	12%	**97,000**
Helmrich	46,233	25,890	12,945	–	92%	7,000	8%	**92,069**
Previous year	83,904	46,986	23,493	–	94%	10,000	6%	**164,384**
Hubert*	–	–	–	–	–	–	–	**–**
Previous year	16,438	11,507	–	8,219	90%	4,000	10%	**40,164**
Kämpfert	50,000	–	–	–	86%	8,000	14%	**58,000**
Previous year	50,000	–	11,507	–	86%	8,000	12%	**69,507**
Kampmeyer	50,000	–	–	25,000	88%	10,000	12%	**85,000**
Previous year	–	–	–	–	–	–	–	**–**
Prof. Kempf	78,767	44,110	22,055	–	94%	9,000	6%	**153,932**
Previous year	–	–	–	–	–		–	**–**

(in EUR)	Remuneration Supervisory Board	Remuneration Presiding and Sustainability Committee	Remuneration Audit Committee	Remuneration Innovation and Product Sustainability Committee	Pro-rata fixed remuneration components	Attendance fee	Share of attendance fee	**Total**
Kerkemeier*	–	–	–	–	–	–	–	**–**
Previous year	16,438	–	–	–	89%	2,000	11%	**18,438**
Prof. Dr. Köhler	50,000	–	70,000	–	91%	12,000	9%	**132,000**
Previous year	50,000	–	70,000	–	92%	11,000	8%	**131,000**
Krönchen*	50,000	–	35,000	25,000	89%	14,000	11%	**124,000**
Previous year	50,000	–	35,000	25,000	91%	11,000	9%	**121,000**
Lei	50,000	–	–	–	86%	8,000	14%	**58,000**
Previous year	33,562	–	–	–	87%	5,000	13%	**38,562**
Löw*	–	–	–	–	–	–	–	**–**
Previous year	24,658	11,507	–	–	90%	4,000	10%	**40,164**
Dr. Perlet	–	–	–	–	–	–	–	**–**
Previous year	41,096	23,014	11,507	–	94%	5,000	6%	**80,616**
Dr. Riedl	33,836	23,685	–	–	89%	7,000	11%	**64,521**
Previous year	–	–	–	–	–	–	–	**–**
Prof. Dr. Röhner*	16,164	–	–	–	84%	3,000	16%	**19,164**
Previous year	33,562	–	–	–	87%	5,000	13%	**38,562**
Spence	–	–	–	–	–	–	–	**–**
Previous year	16,438	–	–	8,219	92%	2,000	8%	**26,658**
Dr. Zhang	–	–	–	–	–	–	–	**–**
Previous year	50,000	–	–	50,000	93%	8,000	7%	**108,000**
Total	**698,082**	**175,000**	**175,000**	**125,000**	**90%**	**136,000**	**10%**	**1,309,082**
Previous year	**700,000**	**198,014**	**175,000**	**125,000**	**90%**	**128,000**	**10%**	**1,326,014**

*) The company and the external employee representatives remit their respective remuneration to the Hans Böckler Foundation in accordance with applicable guidelines.

The table below compares the annual change in the remuneration of the individual Supervisory Board members active in the year under review against performance and average employee remuneration. The performance is determined on the basis of EBITDA before restructuring expenses, ROCE, and revenue of GEA Group, and additionally on the basis of GEA Group AG's net income for the fiscal year. The presentation of average employee remuneration on a full-time equivalent basis is based on the group of employees of GEA Group Aktiengesellschaft together with GEA Group Services GmbH (number of employees in 2020-2022 approx. 400-500), which form a joint operation, and the employees of GEA Group in Germany (number of employees in 2020-2022 approx. 6.000-6.700).

Year-on-year change in %	2022[1]	2021[1]
Supervisory Board		
Prof Dr. Bauer		–
Bastaki	-100.0	-67.1
Böhning	–	–
Claas	47.6[2]	–
Eberlein	-	-100.0
Falk	49.1[2]	–
Prof. Dr. Fleischer	91.8[2]	–
Gröbel	8.1	17.3
Hall	-66.5	1.0
Helmrich	-44.0[2]	–
Hubert	-100.0	-66.8
Kämpfert	-16.6	-31.2
Kampmeyer	–	–
Prof. Kempf	–	–
Kerkemeier	-100.0	-68.2
Prof. Dr. Köhler	0.8	325.0
Krönchen	2.5	-4.7
Lei	50.4[2]	–
Löw	-100.0	-67.1
Dr. Perlet	-100.0	-67.9
Dr. Riedl	–	–
Prof. Dr. Röhner	-50.3[2]	–
Spence	-100.0	-68.6
Dr. Zhang	-100.0	-1.8
Earnings indicators		
EBITDA before restructuring measures GEA Group	14.0	17.3
ROCE GEA Group	391 bp	1,079 bp
Revenue GEA Group	9.8	1.5
Net income for the fiscal year GEA Group AG	-10.6	70.7
Employee remuneration		
Employees of GEA Group AG and GEA Group Services GmbH	-0.2	13.6[3]
Employees of GEA Group in Germany	0.8	5.4[3]

1) Over the next years, the period under consideration in the comparative analysis will be successively extended to cover five comparative periods in accordance with section 26 j of the German Act Implementing the Second Shareholder Rights Directive (ARUG II).
2) Joining the Supervisory Board and the Presiding, Audit and Innovation Committees in fiscal year 2021.
3) Prior year's figures adjusted.

Düsseldorf, March 1, 2023

Chairman of the Supervisory Board

Prof. Dieter Kempf

The Executive Board

Stefan Klebert

Johannes Giloth

Marcus A. Ketter

Independent Auditor's Report

To GEA Group AG, Düsseldorf,

Report on the audit of the remuneration report

We have audited the attached remuneration report of **GEA Group AG, Düsseldorf**, for the financial year from January 1 to December 31, 2022, including the related disclosures, prepared to meet the requirements of Section 162 AktG [Aktiengesetz: German Stock Corporation Act].

Responsibilities of Management and the Supervisory Board

The management and the Supervisory Board of GEA Group AG are responsible for the preparation of the remuneration report, including the related disclosures, in accordance with the requirements of Section 162 AktG. The management and the Supervisory Board are also responsible for such internal controls as they determine are necessary to enable the preparation of a remuneration report, including the related disclosures, that is free from material misstatement, whether due to fraud or error (i.e., accounting manipulation and misstatement of assets).

Auditor's responsibilities

Our responsibility is to express an opinion on this remuneration report, including the related disclosures, based on our audit. We conducted our audit in accordance with the German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report, including the related disclosures, is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts, including the related disclosures, in the remuneration report. The procedures selected depend on the auditor's professional judgement. This includes an assessment of the risks of material misstatement, whether due to fraud or error, in the remuneration report, including the related disclosures. In assessing these risks, the auditor considers the internal control system relevant for the preparation of the remuneration report, including the related disclosures. The objective is to plan and perform audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management and the Supervisory Board, as well as evaluating the overall presentation of the remuneration report, including the related disclosures.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, on the basis of the knowledge obtained in the audit, the remuneration report for the financial year from January 1 to December 31, 2022, including the related disclosures, complies in all material respects with the financial reporting requirements of Section 162 AktG.
Our opinion on the remuneration report does not cover the cross-references marked as unaudited that are not required by law and the information to which the cross-references relate.

Other matter – formal examination of the remuneration report

The substantive audit of the remuneration report described in this independent auditor's report includes the formal examination of the remuneration report required by Section 162 (3) AktG, including issuing an assurance report on this examination. As we have issued an unqualified opinion on the substantive audit of the remuneration report, this opinion includes the conclusion that the disclosures pursuant to Section 162 (1) and (2) AktG have been made, in all material respects, in the remuneration report.

Limitation of liability

The terms governing this engagement, which we fulfilled by rendering the aforesaid services to GEA Group AG, are set out in the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms] as amended on 1 January 2017. By taking note of and using the information as contained in this auditor's report, each recipient confirms to have taken note of the terms and conditions laid down therein (including the limitation of liability of EUR 4 million for negligence under Clause 9 of the General Engagement Terms) and acknowledges their validity in relation to us.

Düsseldorf, March 1, 2023

KPMG AG
Wirtschaftsprüfungsgesellschaft
[German original signed by:]

Dr. Zeimes	Jessen
Wirtschaftsprüfer	Wirtschaftsprüfer

The English language text above is a translation provided for information purposes only. The original German text shall prevail in the event of any discrepancies between the English translation and the German original. We do not accept any liability for the use of, or reliance on, the English translation or for any errors or misunderstandings that may arise from the translation

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 management report of the group, which has been combined with the management report of the company, 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.

Düsseldorf, March 1, 2023

Stefan Klebert   Johannes Giloth   Marcus A. Ketter

Corporate Bodies and their Mandates

Executive Board

Stefan Klebert, Düsseldorf/Germany, CEO – Chairman of the Executive Board

b) • GEA Farm Technologies GmbH, Bönen/Germany, Chairman of the Supervisory Board*
• GEA Westfalia Separator Group GmbH, Oelde/Germany, Chairman of the Supervisory Board*
• Hoberg & Driesch GmbH, Düsseldorf/Germany, Member of the Shareholders' Committee (until July 31, 2022)
• Hoberg & Driesch GmbH & Co. KG Röhrengroßhandel/Hoberg/Germany and Driesch Beteiligungs GmbH, Düsseldorf/Germany, Member of the Advisory Boards (until July 31, 2022)
• Chiron Group SE, Tuttlingen/Germany, Member of the Board of Directors (until July 31, 2022)

d) • Chairman of the INNIO Advisory Committee of Alpine (Luxembourg) S.à.r.l. Luxembourg (since 2022)

Johannes Giloth, Neubiberg/ Germany, Member of the Executive Board and COO

Marcus A. Ketter, Düsseldorf, CFO – Finanzvorstand

b) • Hoberg & Driesch GmbH, Düsseldorf/Germany, Member of the Shareholders' Committee (since September 15, 2022)
• Hoberg & Driesch GmbH & Co. KG Röhrengroßhandel/Hoberg/Germany and Driesch Beteiligungs GmbH, Düsseldorf/Germany, Member of the Advisory Boards (since September 15, 2022)
• Chiron Group SE, Tuttlingen/Germany, Member of the Board of Directors (since September 15, 2022)

Supervisory Board

Klaus Helmrich, Nuremberg/Germany, former member of the Executive Board of Siemens AG and CEO Siemens Digital Industries (until March 31, 2021),
Chairman of the Supervisory Board of GEA Group Aktiengesellschaft (from April 30 2021 until May 15, 2022)

a) • ZF Friedrichshafen AG, Friedrichshafen/Germany, Member of the Supervisory Board (since January 1, 2022)

b) • Festo Management SE, Esslingen a. Neckar/Germany, Member of the Supervisory Board

Prof. Dieter Kempf, Nuremberg/Germany,
Vice President of the Federation of German Industries (BDI) reg. soc.,
Chairman of the Supervisory Board of GEA Group Aktiengesellschaft (since May 16, 2022)

b) • Amfileon AG, Munich, Chairman of the Supervisory Board

Rainer Gröbel, Sulzbach/Ts./Germany, Deputy Chairman of the Supervisory Board,
Managing Director of the ACADEMY of LABOUR gGmbH as well as of the UNIVERSITY of LABOUR gGmbH, Frankfurt/Main, Germany

b) • Schunk GmbH, Heuchelheim, Germany, Deputy Chairman of the Supervisory Board (until April 2022)

Nancy Böhning, Berlin/Germany (since May 13, 2022),
Head of Department of Berlin Office of IG Metall – FB Fundamental Issues and Social Policy- Politics and Associations

Claudia Claas, Oelde/Germany,
Deputy Chairwoman of the Group Works Council of GEA Group Aktiengesellschaft

a) Membership of statutory German supervisory boards in listed companies
b) Membership of statutory German supervisory boards in not listed companies
c) Membership of comparable German or foreign supervisory bodies of listed business entities
d) Membership of comparable German or foreign supervisory bodies of not listed business entities

*) Internal mandate at a GEA group company

Roger Falk, Prichsenstadt/Germany,
Chairman of the Group Works Council of GEA Group Aktiengesellschaft

Prof. Dr.-Ing. Jürgen Fleischer, Karlsruhe/Germany,
Chairman of the Committee for Innovation and Product Sustainability of GEA Group Aktiengesellschaft (since January 1, 2022),
Director of the institute and full professor of Machines, Equipment and Process Automation
At Karlsruhe Institute of Technology (KIT) wbk Institute for Production Technology

b) • EOS Holding AG, Krailling/Germany, Member of the Supervisory Board
d) • ARKU Mechanical Engineering Ltd., Baden-Baden/Germany, Member of the Advisory Board
• Profilator GmbH & Co. KG, Wuppertal/Germany, Member of the Advisory Board
• Lapp Holding AG, Stuttgart/Germany, Member of the Technology Advisory Board

Colin Hall, Sioux Falls/USA (until April 28, 2022),
Senior Advisor or Groupe Bruxelles Lambert, Belgium

c) • Imerys S.A., France, Member of the Board of Directors (until May 10, 2022)
• LafargeHolcim, Switzerland, Member of the Board of Directors (until May 4, 2022)
• Avanti Acquisition Corp., Cayman Islands, Member of the Board of Directors (until December 31,2022)
d) • Ergon Capital Partners S.A., Belgium, Member of the Board of Directors (until July 25, 2022)
• Ergon Capital Partners II S.A., Belgium, Member of the Board of Directors (until July 25, 2022)
• Marnix French ParentCo (Webhelp group), Member of the Supervisory Board
• Globality Inc., California/USA, Member of the Board of Directors

With regard to recommendation C.4 GCGC, the Supervisory Board is of the opinion that the mandate activities at the above-mentioned non-listed portfolio companies of Groupe Bruxelles Lambert do not constitute functions comparable to a supervisory board mandate at a listed company. In this respect, the recommendation C.4 DCGC is still complied with.

All mandates held by Colin Hall are mandates in portfolio holdings of Group Bruxelles Lambert.

Jörg Kampmeyer, Würzburg/Germany (since January 1, 2022),
Managing Partner of Gebr. Knauf KG

Michael Kämpfert, Düsseldorf/Germany (since April 30, 2021),
Vice President Business HR of GEA Group Aktiengesellschaft

Prof. Dr. Annette G. Köhler, Düsseldorf/Germany,
Chairwoman of the Audit Committee of GEA Group Aktiengesellschaft,
University Professor and Holder of the Chair of Accounting, Auditing and Controlling at the University of Duisburg-Essen

a) • DMG Mori AG, Bielefeld/Germany, member of the Supervisory Board and Chairwoman of the Finance and Audit Committee
b) • HVB UniCredit Bank AG, Munich/Germany, Member of the Supervisory Board, the Audit Committee, the Nomination Committee and the Remuneration Control Committee
• Gerresheimer AG, Düsseldorf/Germany, Member of the Supervisory Board and Chairwoman of Audit Committee (since June 8, 2022)
c) • DKSH Holding AG, Zurich/Switzerland, Member of the Board of Directors and Chairwoman of the Audit Committee
d) • ABB E-Mobility Holding AG, Baden (Switzerland), Member of the Board of Directors and Chair of the Audit and Sustainability Committee and Member of the Governance, Nomination and Compensation Committee (since February 23, 2022)

Brigitte Krönchen, Oelde/Germany,
Deputy Chairwoman of the Group Works Council of GEA Group Aktiengesellschaft

b) • GEA Farm Technologies GmbH, Bönen/Germany, Deputy Chairwoman of the Supervisory Board*

a) Membership of statutory German supervisory boards in listed companies
b) Membership of statutory German supervisory boards in not listed companies
c) Membership of comparable German or foreign supervisory bodies of listed business entities
d) Membership of comparable German or foreign supervisory bodies of not listed business entities

*) Internal mandate at a GEA group company

Dr. Jens Riedl, Munich/Germany (since April 28, 2022),
Investment Partner, Group Bruxelles Lambert, Belgium

b)
- Canyon Bicycles GmbH, Koblenz/Germany, Board Observer (since January 26, 2022)
- emarketing AG, Munich/Germany, Member of the Supervisory Board
- SecureSystem GmbH, Munich/Germany, Member of the Advisory Board

d)
- Sofia Master Co. S.a.r.l. (Sanoptis), Luxembourg, Member of the Supervisory Board (since July 1, 2022)

Prof. Dr. Cara Röhner, Frankfurt am Main/Germany (until April 28, 2022),
Trade Union Secretary, Executive Board Administration of IG Metall, Frankfurt am Main, Germany

Holly Lei, Shanghai/China,
Executive, Global SVB, President of Covestro China

d)
- SCIP International Chemical Expertise Advisory Committee, Shanghai/China, Vice Chairwoman
- AICM (Association of International Chemical Manufactory, Beijing/China, Member of the Advisory Board
- Shanghai Chapter of the European Union Chamber of Commerce in China/Shanghai, Vice Chairwoman (since September 2, 2022)

a) Membership of statutory German supervisory boards in listed companies
b) Membership of statutory German supervisory boards in not listed companies
c) Membership of comparable German or foreign supervisory bodies of listed business entities
d) Membership of comparable German or foreign supervisory bodies of not listed business entities

*) Internal mandate at a GEA group company

Supervisory Board Committees of GEA Group Aktiengesellschaft (As of December 31, 2022)

Mediation Committee in accordance with section 27(3) of the Mitbestimmungsgesetz (MitbestG – German Co-determination Act)
Klaus Helmrich, Chairman (until May 15, 2022)
Prof. Dieter Kempf, Chairman (since May 16, 2022)
Claudia Claas
Prof. Dr.-Ing. Jürgen Fleischer
Rainer Gröbel

Presiding and Sustainability Committee (formerly Presiding Committee)
Klaus Helmrich, Chairman (until May 15, 2022)
Prof. Dieter Kempf, Chairman (since May 16, 2022)
Roger Falk
Rainer Gröbel
Colin Hall (until April 28, 2022)
Dr. Jens Riedl (since April 28, 2022)

Audit Committee
Prof. Dr. Annette G. Köhler, Chairwoman,
(Financial expert within the meaning of section 107(4) sentence 3 in conjunction with section 100(5) of the Aktiengesetz (AktG – German Stock Corporation Act), field “Accounting”)
Claudia Claas
Klaus Helmrich (until May 15, 2022)
Prof. Dieter Kempf (since May 16, 2022),
(Financial expert within the meaning of section 107(4) sentence 3 in conjunction with section 100(5) of the Aktiengesetz (AktG – German Stock Corporation Act), field “Audit of the financial statements”)
Brigitte Krönchen

Committee for Innovation and Product Sustainability (formerly Innovation Committee)
Prof. Dr.-Ing. Jürgen Fleischer, Chairman (since January 1, 2022)
Roger Falk
Jörg Kampmeyer (since January 1, 2022)
Brigitte Krönchen

Nomination Committee
Klaus Helmrich, Chairman (until May 15, 2022)
Prof. Dieter Kempf (since May 16, 2022)
Colin Hall (until April 28, 2022)
Prof. Dr. Annette G. Köhler (since January 1, 2022)
Dr. Jens Riedl (since April 28, 2022)

Key Figures by Quarter

	Q1 2022	Q1 2021	Q2 2022	Q2 2021	Q3 2022	Q3 2021	Q4 2022	Q4 2021	2022	2021	2020
Order intake (EUR million)											
Separation & Flow Technologies	408.6	341.4	419.6	355.9	367.6	345.4	341.2	316.4	**1,537.0**	**1,359.1**	**1,211.6**
Liquid & Powder Technologies	525.6	387.7	402.2	389.3	458.7	510.2	478.5	460.5	**1,865.1**	**1,747.7**	**1,665.3**
Food & Healthcare Technologies	273.2	244.0	282.3	264.1	254.3	245.5	284.3	279.1	**1,094.1**	**1,032.8**	**854.2**
Farm Technologies	232.6	198.4	213.4	184.5	193.1	158.3	186.1	160.9	**825.2**	**702.1**	**677.0**
Heating & Refrigeration Technologies	162.2	168.8	149.9	161.6	141.7	156.7	127.3	130.0	**581.1**	**617.0**	**625.3**
GEA*	**1,543.6**	**1,282.4**	**1,403.3**	**1,293.7**	**1,371.7**	**1,349.9**	**1,360.4**	**1,296.5**	**5,678.9**	**5,222.5**	**4,703.0**
Revenue (EUR million)											
Separation & Flow Technologies	326.8	278.6	345.4	311.7	376.2	322.1	367.3	324.9	**1,415.6**	**1,237.2**	**1,192.1**
Liquid & Powder Technologies	380.6	344.6	430.9	381.8	444.6	394.3	459.5	425.3	**1,715.6**	**1,546.1**	**1,665.7**
Food & Healthcare Technologies	213.5	222.9	242.5	233.6	262.3	224.0	283.1	256.5	**1,001.3**	**937.1**	**895.1**
Farm Technologies	147.5	131.0	187.3	147.3	190.7	175.1	216.6	180.5	**742.0**	**633.9**	**624.8**
Heating & Refrigeration Technologies	120.3	145.0	125.5	144.5	137.1	141.3	140.7	153.1	**523.6**	**584.0**	**662.8**
GEA*	**1,126.4**	**1,065.4**	**1,271.0**	**1,155.6**	**1,353.6**	**1,199.3**	**1,413.7**	**1,282.6**	**5,164.7**	**4,702.9**	**4,635.1**
EBITDA (EUR million)											
Separation & Flow Technologies	81.0	61.5	67.8	75.3	92.4	83.3	94.2	82.2	**335.4**	**302.4**	**241.1**
Liquid & Powder Technologies	25.8	22.7	39.2	36.0	48.1	43.6	47.7	45.1	**160.7**	**147.4**	**124.1**
Food & Healthcare Technologies	20.1	21.1	20.4	20.8	28.3	25.0	34.5	21.2	**103.4**	**88.1**	**74.3**
Farm Technologies	9.1	13.7	20.2	15.8	25.5	24.2	24.6	19.6	**79.4**	**73.3**	**61.7**
Heating & Refrigeration Technologies	12.6	0.8	13.2	15.4	12.2	16.6	11.8	4.7	**49.8**	**37.5**	**60.0**
GEA*	**131.9**	**105.5**	**146.0**	**149.6**	**188.1**	**164.4**	**188.0**	**149.7**	**654.0**	**569.3**	**478.3**
EBITDA before restructuring expenses (EUR million)											
Separation & Flow Technologies	81.2	61.8	87.2	74.1	94.9	83.6	97.0	83.0	**360.2**	**302.5**	**255.3**
Liquid & Powder Technologies	27.9	23.4	39.2	36.1	48.9	43.7	49.7	46.8	**165.6**	**150.0**	**120.2**
Food & Healthcare Technologies	20.4	21.5	19.6	21.4	29.2	25.8	38.1	31.8	**107.3**	**100.4**	**79.0**
Farm Technologies	10.0	13.4	21.2	16.1	25.9	24.6	29.0	22.0	**86.1**	**76.1**	**66.9**
Heating & Refrigeration Technologies	12.8	11.9	13.3	15.5	15.8	17.0	15.2	15.1	**57.1**	**59.5**	**58.8**
GEA*	**138.2**	**121.2**	**167.4**	**153.7**	**198.7**	**169.9**	**207.6**	**180.1**	**712.0**	**624.8**	**532.5**
EBITDA margin before restructuring expenses (%)											
Separation & Flow Technologies	24.9	22.2	25.2	23.8	25.2	26.0	26.4	25.6	**25.4**	**24.5**	**21.4**
Liquid & Powder Technologies	7.3	6.8	9.1	9.5	11.0	11.1	10.8	11.0	**9.7**	**9.7**	**7.2**
Food & Healthcare Technologies	9.6	9.6	8.1	9.2	11.1	11.5	13.5	12.4	**10.7**	**10.7**	**8.8**
Farm Technologies	6.8	10.3	11.3	10.9	13.6	14.1	13.4	12.2	**11.6**	**12.0**	**10.7**
Heating & Refrigeration Technologies	10.7	8.2	10.6	10.7	11.5	12.0	10.8	9.9	**10.9**	**10.2**	**8.9**
GEA*	**12.3**	**11.4**	**13.2**	**13.3**	**14.7**	**14.2**	**14.7**	**14.0**	**13.8**	**13.3**	**11.5**

*) Differences in the figures for the Group as a whole result from figures not shown for Other/consolidation.

FINANCIAL CALENDAR

April 27, 2023
Annual Shareholders' Meeting for 2022

May 5, 2023
Quarterly Statement for the period to March 31, 2023

August 10, 2023
Half-yearly Financial Report for the period to June 30, 2023

November 8, 2023
Quarterly Statement for the period to September 30, 2023

GEA Stock: Key data

WKN	660 200
ISIN	DE0006602006
Reuters code	G1AG.DE
Bloomberg code	G1A.GR
Xetra	G1A.DE

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Note regarding the rounding of figures
Due to the commercial rounding of figures and percentages, small deviations may occur.

Note to the statement
This statement is the English translation of the original German version. In case of deviations between these two, the German version prevails.

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