

SUSTAINABILITY AT GEA | 2019

Excerpt from the Annual Report



Sustainability at GEA

About non-financial reporting

NFS

Information provided in the context of non-financial reporting that is not marked as part of the non-financial statement is not subject to the substantive audit by the independent auditor.

From fiscal year 2016 onwards, GEA has regularly analyzed a specific range of topics relevant to its approach to sustainability and pertinent to reporting in this field. Based on this analysis, the company has derived a set of topics that are regarded as essential by its internal and external stakeholders. Once again, GEA's sustainability report for the 2019 fiscal year is in line with the international standards set by the Global Reporting Initiative (GRI). The report has been prepared according to the "core option" of the GRI Standards.

In 2019, GEA once again thoroughly reviewed and defined the delineation of the individual topics and the respective reporting boundaries. On the whole, the materiality analysis conducted in the previous year still holds true, with a few priorities being changed and some subject areas being merged for the sake of reporting clarity. Pursuant to section 315b (3) sentence 1 HGB (Handelsgesetzbuch – German Commercial Code), the combined "consolidated non-financial statement" forms part of this sustainability report. The subject-matters addressed in this statement are marked "NFS" (non-financial statement) by a line in the margin. For the purpose of ascertaining the topics to be reported in the non-financial statement and pursuant to s. 315c in conjunction with s. 289c (3) HGB, GEA has also taken into consideration whether a specific topic is required for understanding GEA's business progress, business results as well as the situation of the company (net assets, financial position, result of operations). Moreover, disclosures allowing people to gain an understanding of the impact of the company's activities must be provided in relation to the respective topics. The following topics meet these requirements:

- Greenhouse gas emissions
- Sustainable engineering
- Health and safety at work
- Protection of personal data
- Compliance, in particular anti-corruption

For GEA, respect for human rights is the basis of its business activities and an indispensable part of its self-image. As the issue is not material in the sense of the HGB criteria, compliance with human rights is reported in detail in accordance with the GRI standards. The respective details are outlined in the materiality analysis on [page 116](#) as well as the reporting profile on [page 149 ff.](#)

In accordance with s. 315c (1) in conjunction with s. 289c (1) HGB, GEA's business model is described in the corresponding paragraph of the Group Management Report in the section on "Fundamental Information about the Group" on [pages 36 ff.](#) This also forms part of GEA's non-financial statement.

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

Non-financial reporting comprises all topics GEA regards as material in terms of the GRI Materiality Analysis; sections of the report that fail to carry a specific NFS mark do not form part of the non-financial statement in accordance with s. 315c in conjunction with s. 289c HGB.

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 is included at the end of the Annual Report (see [page 289 ff.](#)). The contribution of GEA to the Sustainable Development Goals (SDG) is shown in a reconciliation to the GRI standards on [page 295 ff.](#), immediately following the GRI Content Index.

Non-financial reporting comprises the following sections:

- Sustainability management at GEA
- Responsibility for quality, health, safety and the environment
- Sustainable engineering
- Social responsibility for employees
- Human rights
- Responsible value creation
- Reporting profile

Materiality analysis 2019

Matters according to the EU CSR Directive	Allocation of relevant fields of action to specific matters	Relevant fields of action	Non-financial statement
Environmental matters			
	● ●	Greenhouse gas emissions	Greenhouse gas emissions
	● ● ●	Responsible supply chain	
	● ●	Sustainable engineering	Sustainable engineering
Employee-related matters			
	● ●	Employment	
	● ●	Health and safety at work	Health and safety at work
	● ●	Socio-economic compliance including protection of personal data	Protection of personal data
Diversity concept*			
	● ●	Diversity and equal opportunities	
Social matters			
	●	Procurement	
Respect for human rights			
	● ● ● ●	Social assessment of suppliers	
Anti-corruption and bribery matters			
	●	Compliance, in particular fight against corruption	Compliance, in particular fight against corruption

● Environmental matters ● Employee-related matters ● Diversity concept ● Social matters ● Respect for human rights ● Anti-corruption and bribery matters

*) Encompasses board and senior management diversity as well as total workforce diversity; for more information on the diversity concept, see Corporate Governance Report including Corporate Governance Statement.

Sustainability management at GEA

By adopting the policy of “Sustainable Value Creation at GEA,” the Executive Board defined the group’s ambitions and targets in terms of sustainability, incorporating them into GEA’s values. This has given rise to a strategic vision that applies worldwide. The respective document is available on the company’s website at gea.com.

Basic principles

GEA’s Code of Conduct (🔗 see page 147) outlines the values, principles and procedures underlying and guiding GEA’s corporate behavior. This Code of Conduct reflects the company’s objective to ensure corporate-wide compliance with standards while creating a work environment that rewards integrity, respect as well as fair and responsible conduct. It applies to all GEA employees and bodies worldwide.

The Code of Corporate Responsibility (🔗 see page 143 f.) encompasses both ethical and legal standards that are binding on all group employees worldwide. As a successful international engineering group with more than 18,000 employees and operations in over 50 different countries, GEA has committed to international fair trade as a key prerequisite to global economic growth. GEA fully recognizes the “Guidance on social responsibility ” (ISO 26000) and aligns all its actions with the basic principles of social responsibility as well as the core topics set forth therein.

The Code of Conduct for Suppliers and Subcontractors (🔗 see page 145 f.) sets forth GEA’s basic principles and requirements that are to be met by all suppliers of goods and services, their 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.

In 2019, responsibility for sustainability within the company’s organizational structure was clearly allocated. Hence, QHSE (Quality, Health, Safety & Environment) now also encompasses the newly created department for “Corporate Responsibility” (new name: CR&QHSE). There is a direct reporting line to the Executive Board of GEA Group Aktiengesellschaft. Sustainability targets are an integral part of the remuneration system of the Executive Board of GEA Group Aktiengesellschaft.

CSR rating

For ensuring maximum transparency in the markets, GEA – inter alia – participates in the annual EcoVadis CSR performance monitoring scheme. EcoVadis represents the technical platform used for the audit program of the TfS initiative (“Together for Sustainability”), which was initiated by six multinational chemical companies back in 2011. It pursues the objective of facilitating the audit process for international companies by collecting documented answers via a standardized questionnaire and having them analyzed and assessed by neutral auditors. According to EcoVadis, the procurement and CSR experts from more than 450 leading multinational corporations worldwide currently rely on the CSR ratings provided by this platform. Every year, GEA participates in the EcoVadis audit to document its progress. In 2019, GEA continued to improve its EcoVadis CSR rating, remaining at “Silver” by scoring 60 points (2018: “Silver” with 59 points).

Responsibility for quality, health, safety and the environment

NFS

Common management approach to quality, health, safety at work and the environment

Health and safety at work, sustainable value creation as well as the recognition of the Guidance on Social Responsibility (ISO 26000) represent the cornerstones of GEA's Code of Corporate Responsibility, which was jointly overhauled by the Executive Board, the Group Works Council as well as the European Works Council in March 2019. Following consultations with the competent employee representative bodies, GEA's Executive Board once again revised the company's "Quality, Health, Safety & Environment (QHSE) Policy" in August 2019, committing to continuing a clear policy in terms of quality, health, safety and the environment. The latter applies throughout the group and comprises the following points:

- Identification, analysis and efficient management of all quality, health, safety and environmental risks and opportunities that occur within the framework of business activities
- Compliance with all legal and industry-specific requirements, applicable rules and regulations as well as national standards
- Integration of quality and HSE into the company's business strategy and day-to-day processes in a dialogue with business partners and further stakeholders
- Active involvement of the workforce in decision-making processes by cooperating and communicating on a basis of mutual trust
- Permanent monitoring and improvement of the QHSE systems, performance and impact by assessing GEA's objectives for implementing adequate, sustainable corrective and preventive measures
- Further development of safe, high-quality and environmentally compatible products and services to safeguard and continuously enhance customer satisfaction and the company's footprint in the market

- Further development of safe, efficient and environmentally compatible technologies, tools and methods
- Creation and continuous further development of a safe and healthy working environment for all employees, business partners and third parties to prevent occupational accidents and diseases
- Definition and active pursuit of measures designed to prevent incidents and appropriately manage emergencies, incidents and their respective fallout
- Advancement and expansion of the GEA Care healthcare management program
- Launch of new schemes designed to prevent occupational diseases
- Prevention of environmental incidents and pollution
- Reduction in CO₂ emissions and waste
- Further development of resource efficient products and services
- Responsible use of natural resources by involving business partners and further stakeholders
- Promotion of sustainable and responsible procurement while avoiding the purchase of conflict minerals from conflict regions

GEA communicates these corporate standards to all individuals acting for or on behalf of the company, actively involving them in the implementation of this policy. The latter is displayed at all sites and made publicly available on the corporate website at gea.com. On a regular basis, the CR&QHSE management delivers reports on all these matters to the Group Works Council as well as the European Works Council, where they coordinate actions with the employee representatives.

Derived from the above QHSE Policy, the company once again defined and set tangible targets in and for fiscal year 2019, with the respective target achievement levels being assessed in comparison with the previous year's results (see [gea.com](#)), including:

- Recertification of GEA's umbrella certificate for four management systems
- Conversion of BS OHSAS 18001 into ISO 45001
- Zero accidents
- Lost Day Frequency Rate ≤ 6.0
- Lost Day Severity Rate ≤ 120
- Proactive Injury Rate (PAIR) ≥ 65
- Continuous reduction in CO₂ emissions by 1.5 percent p.a.

For more information on target achievement levels see page 119 f., [121 f.](#) and [125 f.](#) of the report.

In organizational terms, QR&QHSE is firmly embedded in all areas of the company and comprises three levels of responsibility.

- The central governance function directly reports to GEA's Executive Board. The CR&QHSE governance team devises the global QHSE strategy as well as the corresponding targets and makes available general policies and reports. It defines the management system while establishing and supporting the implementation of and compliance with the statutory and individual requirements set by investors, customers and external stakeholders.
- The excellence level embraces various functions and is divided into production, project implementation and service. The respective teams provide technical assistance to the organization while supporting it by issuing functional policies and delivering training.
- On the third level of responsibility, the Regions and Countries implement policies and programs on a local level. Due to legal or cultural differences between the various sites, it is imperative to have a central QHSE contact in each region to be able to share know-how, give feedback and respond to local requirements in a timely fashion.

Certification of the management systems

As early as 2016, GEA started clustering its sites with integrated management systems under the umbrella of a unified GEA certificate. GEA Group Aktiengesellschaft, headquartered in Düsseldorf, is certified to ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 as well as ISO 50001:2011 and, thus, heads the group of certified sites.

In the year under review, the umbrella certificate was up for renewal, a procedure that is required every three years. In this context, a total of 14 companies were audited, with the umbrella certificate being successfully renewed. In addition, all certifications to BS OHSAS 18001 were switched to the new ISO 45001 standard in line with the set target.

Step by step, additional GEA companies are being integrated into the umbrella certificate, with the company seeking to cover the entire range of production and service sites with the three management systems ISO 9001, ISO 14001 and ISO 45001 by 2025. Integration priority is subject to the expiry dates of the respective certificates awarded. In the year under review, two companies were integrated into the umbrella certificate. The number of certificates is still declining, for instance due to the fact that some sites were merged and not all sites continue to hold all certificates as before. On the other hand, further sites were certified to health and safety as well as environmental management systems.

In 2019, the status quo of certifications within the group was as follows:

Management system	Number of certificates 2019 ✓	Number of certificates 2018 ✓	Number of certificates under umbrella certificate 2019 ✓	Number of certificates under umbrella certificate 2018 ✓	Covered by umbrella certificate 2019 (in %)
DIN EN ISO 9001:2015	89	105	67	86	75
DIN EN ISO 14001:2015	38	30	18	17	47
BS OHSAS 18001:2007	–	25	–	12	–
DIN EN ISO 45001:2018	30	–	14	–	47
DIN EN ISO 50001:2011	16	17	4	5	25

✓ Audited by KPMG

ISO 9001 defines the minimum requirements to be met by the quality management system of an organization allowing the latter to provide products and services that fulfill customer expectations and comply with regulatory requirements. At the same time, the management system is to be subject to a continuous improvement process.

The international environmental management standard **ISO 14001** stipulates the requirements to be met by an environmental management system and forms part of the family of standards applicable to environmental management

ISO 45001 represents a standard published by the International Organization for Standardization (ISO) in March 2018 that outlines requirements to be met by an occupational health and safety management system (OHSMS) as well as guidance on implementation. ISO 45001 takes the place of the Occupational Health and Safety Assessment Series (OHSAS 18001). Previously, **BS OHSAS 18001** used to be the internationally accepted basis for management systems in the field of occupational health and safety.

ISO 50001 governs the establishment of a corporate energy management system for the purpose of increasing energy efficiency in the long run.

Quality and processes

The “Process Description and Procedure Platform”, the PPP for short, centrally incorporates business processes and procedural instructions governing GEA’s functioning. Its objective is to provide an overview of centralized and local processes while making them accessible to all employees. In this context, an automated approval workflow ensures that the created processes are approved pursuant to the respective roles and responsibilities, with an automated reminder function also making sure that the contents are regularly checked for updates. Being available to all GEA employees, the online platform with its documents is fed with

processes and related templates by the competent organizational units throughout the entire group. This is where roles and responsibilities, such as internal approval processes, are clearly defined and converted into automated processes. In 2019, the number of available documents went up, with the number of individuals accessing the platform remaining high at a stable level.

Health and safety at work

A healthy and safe working environment constitutes a recognized human right and also embraces one of the Sustainable Development Goals defined by the United Nations. GEA gives top priority to occupational health and safety. Above and beyond legal requirements, GEA feels obligated to protect its own employees, individuals whose workplaces are controlled by GEA or who work on behalf of GEA as well as the people working for customers and suppliers, if possible and within reason. Within the framework of GEA’s QHSE organization, the excellence level makes sure that contracts concluded with customers and suppliers/sub-contractors are in line with the standards set by GEA and include relevant clauses on occupational health and safety as well as the related procedures, with the governance function establishing the respective standard processes.

GEA regards accidents and health hazards affecting the workforce as well as the respective absenteeism, damage to the company’s image and potential penalties or indemnity payments arising therefrom as unacceptable. Thus, the company pursues a clear zero-accident strategy. Its risk management concept applies to all GEA sites worldwide and includes the regular systematic identification and assessment of risks performed on the basis of established procedures; for instance, each GEA company is obliged to conduct a risk assessment. The respective health and safety experts in the companies advise the management teams on the status of occupational health and safety, improvement measures, the occupational health and safety organization, accident statistics as well as the required personal protection equipment. Moreover, risks are also managed by means of certifying the sites to ISO 45001 (see overview

and number of certifications, [page 119 f.](#)), setting clear QHSE Policy targets and continuously enhancing regional QHSE organizations. At GEA sites, occupational health services are available to both employees as well as any external staff working there; the confidentiality of medical data is guaranteed. Reviews take place via internal HSE audits, risk assessments as well as psychological risk assessments performed within the framework of the company's health management scheme. Amongst other things, the QHSE targets set for 2019 include the reduction in accidents and the group-wide expansion of the health management scheme until 2025 (see [gea.com](#)).

While expanding its global QHSE organization, GEA further specified responsibilities in the year under review. In doing so, the company refined the relevant key performance indicators and enhanced data quality. Since last year, workplace accidents and lost time can also be differentiated in terms of the place where the accident occurred: at a GEA production site, when performing service activities or projects while being with a customer or in the office. For the first time, the year under review saw a consolidation of all figures by site and no longer by company.

In order to be able to more specifically address the causes of accidents, the company also started capturing information on the respective body parts affected. This new analysis provides more detailed information and supports the global HSE team in further reducing the number of accidents.

For instance, employee training on occupational health and safety in Germany mainly takes place within the framework of the statutory annual UVV training courses. UVV stands for the accident prevention rules and regulations ("Unfallverhütungsvorschriften") issued by the German workers' compensation boards ("Berufsgenossenschaften") that set forth the processes established for safely operating and handling technical equipment and supplies. These accident prevention rules and regulations represent the obligations governing health and safety in the workplace that are binding on all enterprises and insured individuals.

Translated into 14 different languages, the "GEA Safety Core Rules" apply worldwide and serve as minimum standards as far as occupational health and safety are concerned. They are available in the GEA Learning Center in the form of online training courses and videos. Moreover, there are briefings and checklists for specific hazardous activities or tools, for instance the use of forklift trucks. Country-specific training courses in line with the respective rules and regulations are within the remit of the local managing directors or site managers.

Compared with the previous year, the number of accidents saw a significant decline (-4.5 percent). With approximately the same number of hours worked, GEA's 2019 Lost Day Frequency Rate went down to 5.68 (previous year: 5.97) accidents per million hours worked. In the year under review, a total of 232 accidents (previous year: 243) were reported, with 264 sites – i.e., 76 percent of the 346 GEA sites included in the survey – remaining accident-free (previous year: 60 percent). 2019 was another year without fatal workplace accidents. Nonetheless, the Lost Day Severity Rate in the wake of accidents went up to 127.44 days lost per million hours worked (previous year: 117.58). This implies that, overall, accidents entailed longer periods of absence. However, this does not apply to production: This area experienced a continuation of the favorable trend, with the Lost Day Severity Rate witnessing a gratifying decrease of nearly 24 percent. As outlined above, the company's 2019 objectives for health and safety at work (Lost Day Frequency Rate < 6.0, Lost Day Severity Rate < 120) were only partly accomplished. For this reason, Service has planned to take tangible measures for reducing accident severity in 2020.

The company will continue to consistently implement its precautionary approach in the field of occupational health and safety: For the purpose of detecting potential risks and hazards early on and for preventing accidents, GEA has recorded and analyzed near misses worldwide since 2017. Just like real accidents, GEA also subjects near misses to an analysis that entails a targeted follow-up process with defined responsibilities and a specific set of actions. This approach pays off and is conducive to accomplishing the zero-accident target.

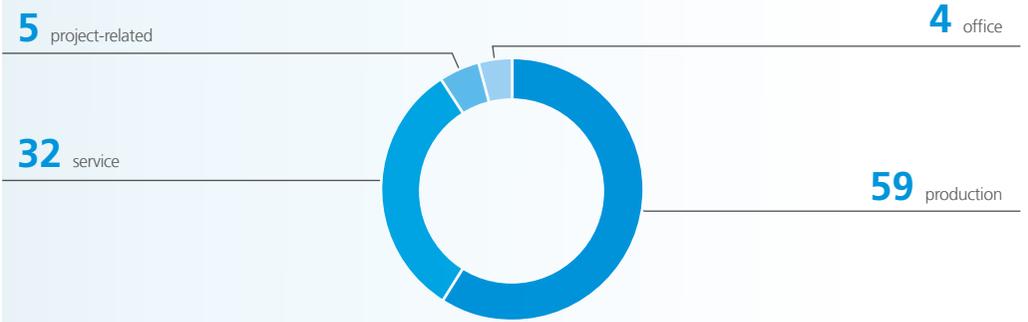
Key performance indicators for occupational safety	2019 ✓	2018 ✓	2017 ✓
Number of workplace accidents	232	243	242
Number of days lost	5,202	4,786	6,716
Lost Day Frequency Rate ¹	5.68	5.97	6.18
Lost Day Severity Rate ²	127.44	117.58	172.18
Near misses (Proactive Injury Rate, PAIR) ³	128.71	145.76	97.06
Total Injury Rate, TIR ³	33.46	37.88	45.18
Accident-free sites, as a percentage of all sites	76	60	53

✓ Audited by KPMG

- 1) Accident frequency: Lost time injuries per million hours worked; since 2018, GEA has counted periods of absence of up to 182 days pursuant to the European Statistics for Accidents at Work (ESAW); before, the relevant number of days was 365
- 2) Accident severity: Days lost after accidents per million hours worked; since 2018, GEA has counted periods of absence of up to 182 days pursuant to ESAW; before, the relevant number of days was 365
- 3) per million hours worked

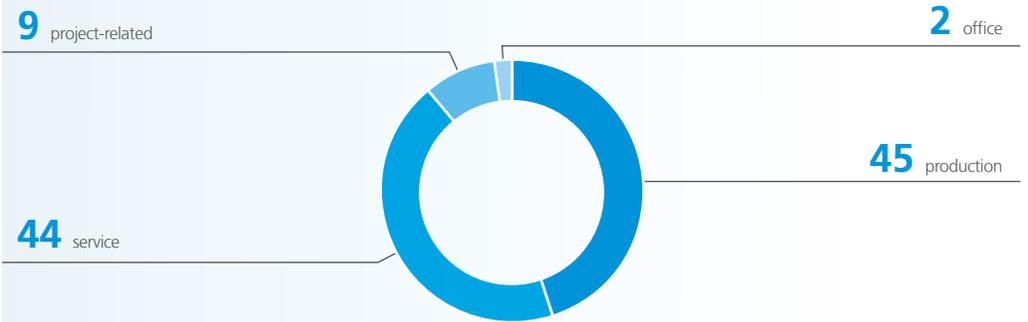
Workplace accidents by place of performance

(in %)



Days lost by place of performance

(in %)



Internal HSE legal compliance audits

Compliance with local statutory rules and regulations applicable to health, safety and the environment is regularly reviewed by means of audits that are conducted by an external service provider commissioned by the Executive Board. The reports are uniform and compiled on the basis of a set of 25 criteria, with all observations and recommendations being entered into a software that is available throughout the group. Proceeding this way brings to light necessary areas for improvement, and those responsible on a local level have the possibility of directly documenting their corrective actions in the system. The respective organization undertakes to implement these corrective measures in the long run, with the entire process being tracked and validated by the responsible QHSE officers of the country and excellence functions. The improvement process is not completed until the QHSE governance function has given its final approval.

Health management

GEA intends to further expand its GEA Care health management scheme. For instance, as part of a group-wide program, GEA plans to offer stress management and mindfulness training to employees exposed to particular levels of stress and strain.

Currently, a dedicated system covering all sites worldwide checks which measures are mandatory under (national) law and which are desirable from a local perspective. On-site offerings under local responsibility will be incorporated into the final design of the company's health management scheme, since local independence and, in particular, successfully established offerings are to be encouraged and promoted.

Finally, GEA Care is to be fully developed by 2025 on the basis of local and global offerings that may be accessed via the intranet for the purpose of making online offers directly available to every employee, on the one hand, while providing more transparency regarding local offerings on the other hand. This allows the various sites to mutually benefit from the experience gained by others.

Managing serious incidents, learning process

Serious incidents such as fatal and severe accidents, fires and explosions as well as environmental and security incidents are reported to the competent employees within the organization by means of the "Serious Events Reporting System." The latter also captures accidents sustained by individuals not employed with the company, but whose work and/or workplace is nonetheless controlled by GEA. This allows GEA to respond as quickly as possible to such events, minimize their impact and promptly initiate probes into the respective incidents. Afterwards, a dedicated lessons-learned process is started; its findings are also used proactively to prevent risks, identify measures for improvement and communicate them to the organization. This reporting system also includes incidents connected to GEA products and plants. Such incidents are recorded and investigated, regardless of whether the incident was caused by one of GEA's products or plants (for 'Sustainable engineering', [see page 129 ff.](#)). For this purpose, a group-wide reporting platform ensuring that the defined reporting channels are observed is in place.

Security management

GEA also fulfils its duty of care to its employees by providing a comprehensive security management. The "Major Incident Management Manual," for instance, outlines the procedures to be taken in the event of risky incidents that may have a potential impact on GEA's security, operations or reputation or affect the security, safety, health and life of its employees or other stakeholders.

GEA's Security Management provides a comprehensive and reliable service to employees who set off on worldwide business trips on behalf of GEA, even prior to their respective departure. This includes detailed risk assessments as well as travel and security information for every region around the globe. Since 2019, GEA has been a member of the ASW West association (Allianz für Sicherheit in der Wirtschaft West e.V. – German Association for Security in Industry and Commerce West reg. soc.), which offers a cross-sectoral platform for exchanging information

on security challenges; in the same year, the company also joined the Global Player Initiative of the Federal Criminal Police Office (Bundeskriminalamt – BKA), which not only provides a direct single point of contact at the BKA, but also promotes the exchange of information between major German companies up to actual cooperation in case of a crisis.

Early on, preventive measures may be discussed and planned while preparing for a business trip. Particularly vulnerable groups (service and sales staff, employees assigned to major projects and construction sites in high risk third countries) are offered specific training.

Providing regular updates on the intranet, GEA's Security Management ensures that all employees receive information on and are granted access to all services on offer.

Should an employee nonetheless get caught up in an emergency while he or she is away on business, they can contact the 24/7 "GEA Security and Support Hotline." In the event of health-related issues, the company's "Medical Support Service Hotline" provides assistance and ensures appropriate medical care or even repatriation, if required. Via a voluntary security app on their mobile device, GEA employees may also obtain medical and security-related information about a group site at any time or directly contact the 24-hour hotline at GEA's Security Center. If employees have booked their business trip via the "GEA Travel Center," they can be tracked anywhere in the world by means of the so-called "travel tracker" on the proviso that they have given their prior consent. In the event of crises like natural disasters or political unrest, GEA's Security Management may, thus, quickly intervene and get in touch with the travelers in question. This way, GEA covered 13,749 travelers (counted individually per quarter) on 66,469 business trips in 2019. The company's Security Management stepped in on 44 occasions, while the provision of information and advice on security relevant matters was sufficient in 20 other cases.

In addition, 2019 saw the expansion and improvement of the company's internal crisis management scheme; a full-day series of lectures involving GEA top executives, senior officers from the Federal Criminal Police Office as well as consultants (amongst them a former kidnaper

victim) took place in autumn 2019 as a training measure for the crisis management team that is provided in the Major Incident Management Manual. An exercise for this "Incident Management Team" is scheduled for the year 2020.

Environmental management

GEA's products and services support the customers in making their business processes more efficient and environmentally compatible. Apart from that, GEA also makes sure to mitigate adverse environmental impacts when it comes to its own business activities (see "Common management approach to quality, health, safety and the environment," [page 118 f.](#)). Specific targets and programs are individually defined by the respective sites in line with GEA's overarching QHSE Policy and global QHSE targets. For this purpose, GEA has also defined five simple environmental core rules ("core rules") that are explained in a practical manner and accompanied by implementation guidelines:

- Avoid unnecessary energy consumption
- Avoid unnecessary water consumption
- Keep waste generation to a minimum
- Avoid or reduce emissions
- Adequately and promptly respond to adverse environmental effects.

For information on sustainable engineering, [see page 129 ff.](#); for risks and opportunities from climate change, [see page 130](#); for details on product life cycle considerations, [see page 134](#), and for water and waste, [see page 126 ff.](#)

Greenhouse gas emissions

As in the previous years, GEA also took part in the survey conducted within the framework of the Carbon Disclosure Project (CDP) in 2019, achieving its best-ever result. The CDP is an independent, not-for-profit organization that currently represents more than 500 institutional investors. Each year, it gathers information on the specific greenhouse gas emissions of the

major listed corporations and their strategies to combat climate change. The results are then made available to current and potential investors. Within the framework of this survey, GEA regularly provides information on the organizational setup, global targets, policies and programs, the risks and opportunities relating to climate change, as well as the action it has taken in the field of climate protection; this information is also fully accessible to GEA's customers. In the year under review, GEA significantly enhanced the result of its CDP survey and was awarded an A- (Leadership band) score up from B- (Management Level) in the previous year. With the new overall grade of A-, GEA ranks among the top enterprises at a sectoral and regional level. The "Leadership" scoring band is reserved for companies that stand out due to various factors like the completeness and transparency of their reporting.

Since 2017, GEA has disclosed the relevant data for the respective year under review that is audited by KPMG in accordance with ISAE 3000. Moreover, starting in 2018, GEA switched the way it presents CO₂ equivalents across all three scopes to a regional level as required by the CDP. The data series comprises the years 2017 to 2019. In 2019, GEA measured the CO₂ emissions released by its 78 largest sites that comprise production, service and administration.

As of 2019, the year under review, GEA started reporting the market-based CO₂ equivalents (under Scope 2) for countries in which energy supply companies can provide reliable information on the respective fuel mix using the latter as a basis for reference. In the year under review, the market-based calculation was performed for Germany and New Zealand.

Across the globe, the key figures for energy consumption are collected via a standardized system and reported as follows:

- Scope 1 – Direct Greenhouse Gas Emissions: GEA includes fuel emissions from fuel oils, various gases, diesel and gasoline.
- Scope 2 – Indirect Greenhouse Gas Emissions: GEA reports emissions from electricity, heat, steam and cooling (site-related in accordance with IEA conversion factors and/or market-based).

- Scope 3 – Other Indirect Greenhouse Gas Emissions: Currently, this category merely includes reporting on business travel.
- Intensity – Ratio of greenhouse gas emissions/GEA's sales

Further information on the method used for calculating CO₂ emissions in 2019 is outlined on the company's website at gea.com under "Explanatory notes to environmental reporting." The figures presented are – unless market-based – in line with the conversion factors stated in the GHG Protocol/IEA (11/2019) – IEA 2019.

Direct Greenhouse Gas Emissions (Scope 1), in tons of CO ₂ equivalents	2019 ✓	2018* ✓	2017 ✓
Asia Pacific (excluding China)	548	562	529
China	492	472	373
DACH & Eastern Europe	19,166	18,737	23,772
Latin America	7	5	9
North America	6,397	8,150	7,199
Northern and Central Europe	1,611	1,402	1,356
Western Europe, Middle East & Africa	8,490	7,799	8,595
GEA total	36,711	37,127	41,833

✓ Audited by KPMG

*) Due to changes in allocation and computation, the reference base of reporting sites was adjusted in 2018.

Indirect Energy-Related Greenhouse Gas Emissions (Scope 2), in tons of CO ₂ equivalents	2019 ✓		2018 ¹ ✓	2017 ✓
	site-related	market-based ²		
Asia Pacific (excluding China)	1,569	1,466	1,463	1,340
China	5,702	5,702	4,779	4,614
DACH & Eastern Europe	17,925	13,701	18,661	19,628
Latin America	101	101	97	109
North America	5,946	5,946	6,107	5,513
Northern and Central Europe	2,659	2,659	2,459	3,472
Western Europe, Middle East & Africa	2,865	2,865	1,995	2,248
GEA total	36,768	32,441	35,561	36,925

✓ Audited by KPMG

1) Due to changes in allocation and computation, the reference base of reporting sites was adjusted in 2018.

2) market-based, 22 sites in Germany and New Zealand

Indirect Greenhouse Gas Emissions (Scope 3), in tons of CO ₂ equivalents	2019 ✓	2018 ¹ ✓	2017 ✓
GEA total	18,412	21,021	15,958

Total – Greenhouse Gas Emissions (Scope 1,2,3), in tons of CO ₂ equivalents	2019 ✓	2018 ¹ ✓	2017 ✓
	site-related	market-based ²	
GEA total	91,890	87,564	93,709
Ratio of tons CO ₂ equivalent to GEA's revenue	18.83	17.94	19.40

✓ Audited by KPMG

1) Due to changes in allocation and computation, the reference base of reporting sites was adjusted in 2018.

2) market-based, 22 sites in Germany and New Zealand

Compared with 2018, GEA's business operations emitted less greenhouse gas emissions (Scope 1) while generating slightly higher revenues than in the previous year. GEA's energy efficiency optimization initiatives conducted at the sites had a positive impact and brought about a reduction in emissions of CO₂ equivalents under Scope 1. Overall, in 2019, GEA was able to lower its greenhouse gas emissions both in absolute terms and in relation to sales. This way, in the year under review, GEA achieved the set target of reducing CO₂ emissions by 1.5 percent (on a comparable basis, i.e. prior to changes due to market-based calculations) that had been agreed with the Executive Board: Based on the IEA conversion factors, the (equivalent) decline amounted to –2.95 percent, while a market-based calculation resulted in a –8.04 percent decrease.

In 2019, GEA was once again seeking to expand its climate reporting and is currently conducting several internal projects in this area. For instance, this includes an analysis of how greenhouse gas emissions can be captured, controlled and reported along the entire value chain (upstream/downstream); however, such emissions are frequently not or not completely under GEA's direct control, for example where the transport of goods or the procurement of stainless steel are concerned.

Energy audits

Since 2015, companies that do not fall under the EU Commission's definition of small and medium-sized enterprises have to carry out an energy audit every four years. They are obliged to do so under the German Energy Services Act (Energiedienstleistungsgesetz – EDL-G). The latter transposes into law the European requirements of the Energy Efficiency Directive (Directive 2012/27/EU of the European Parliament and of the Council of October 25, 2012). These energy audits were due in 2019, the year under review, and successfully completed. The captured energy savings potential of the various sites was systematically recorded; the respective potential is checked for feasibility, with subsequent implementation being tracked.

In Germany, GEA was subject to the obligation to carry out such energy audits in all of its companies, but it was no longer necessary to audit each and every German site, as the "multi-site procedure" defined in the energy audit information leaflet of the Federal Office of Economics and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle – BAFA) was applied. The respective energy audits were performed and assessed by approved energy auditors, with the final documentation as well as the so-called "corporate verification form" ("Nachweisführung für Unternehmen") being electronically transmitted to BAFA.

All audited GEA sites within the European Union comply with the respective national laws in line with Directive 2012/27/EU.

Water and waste

GEA is using resources sparingly and considerately. Environmental management comprises environmental protection at a corporate level as well as energy management, ensuring that the company is making continuous efforts to reduce consumption levels and environmental impacts at its sites. By capturing and visualizing the relevant key performance indicators, which are made available to the responsible site managers via dashboards on a daily basis, GEA has succeeded in significantly raising awareness and understanding of environmental

matters at the sites. This data pool is also used as a basis for defining local environmental programs and campaigns. In addition, GEA's Environmental Core Rules serve as guidelines for pro-environmental and resource conservation behaviors of employees worldwide.

In 2019, GEA captured the water consumption of its 77 largest sites, which included production, service and administration. In this context, GEA showed a slightly lower demand of 284,700 cubic meters of water in 2019. At the moment, there are still no uniform international minimum standards for the quality of wastewater discharge that go beyond regulatory requirements for controlling the quality of such discharges. The respective evaluations have shown that sanitary effluents and irrigation water residues account for the bulk of the wastewater.

Water	2019	2018*
Water demand (in thousand cubic meters)	284.7	294.5
Municipal and mains water (in thousand cubic meters)	257.0	265.4
Water from wells and groundwater (in thousand cubic meters)	27.7	29.1
Water consumption		
thereof industrial and process water (in thousand cubic meters)	97.8	103.8
Wastewater (in thousand cubic meters)	251.8	272.4
Share of process water in total water consumption (in %)	34.3	35.4
Share of wastewater in total water consumption (in %)	88.4	92.5
Sites reporting water consumption	77	76

* Due to changes in allocation and computation, the reference base of reporting sites was adjusted in 2018.

Management of water risks

The Global Risks Report 2019 released by the World Economic Forum identified the water supply crisis as the fourth-biggest risk to society in the next decade as far as its potential impact is concerned. A water crisis is defined as a significant decrease in the available quality and quantity of fresh water leading to adverse impacts on human health and/or economic activity. Examples include droughts and limited access to safe drinking water, which, in turn, may result in economic competition for water in terms of quantity or quality, disputes between users, irreversible groundwater extractions and negative effects on the environment. Currently, more than one billion people live in water-stressed regions, while by 2025, up to 3.5 billion people could suffer from water shortages. In many regions, enterprises can no longer rely on a stable supply of high-quality water for expanding their business.

As part of the recurring survey of environmental risks and opportunities, the year under review saw the focus being placed on water scarcity issues. For the purpose of ascertaining the impact of water shortage on its production, GEA has devised a process for identifying regions vulnerable to water scarcity risks. In the year under review, a mapping of GEA sites located in water-stressed regions was carried out. The respective classification is based on the "Aqueduct Water Risk Atlas," a tool using current data to create a global water risk map that is provided by the World Resources Institute, a non-profit organization. There are five water risk classes: low, medium low, medium high, high and extremely high. In 2019, the year under review, GEA focused on sites in regions exposed to extremely high, high or medium high water risks. This is where detailed queries – including the requirement to state specific reasons for the answers provided – were performed. Among other things, the company collected information on whether water risks were known and relevant to operations, which legal requirements needed to be met and which water conservation and saving measures were being taken.

It was established that five out of 76 production sites are located in areas subject to an extremely high water risk, with another nine locations being exposed to a high risk level and two more falling in the medium high category. Overall, these 16 sites accounted for 21.97 percent of GEA's total water consumption in 2018, with the 14 sites in the categories "high" and "extremely high" representing 19.48 percent of the company's overall consumption. All sites meet the relevant local laws and legal requirements, and none of them experienced any scarcity of water in 2018 or 2019.

Five production facilities operated by GEA in India and China are exposed to extremely high levels of water stress. Approximately 8.2 percent of GEA's total water consumption is attributable to these locations. In India, the production sites in Vadodara and Bangalore have initiated water conservation projects aimed at reusing water/reducing water consumption. This also includes the installation of wastewater treatment plants for reclaiming used water at both sites. Compared with the previous year, Vadodara, one of GEA's biggest manufacturing sites, achieved a 30 percent reduction in water consumption in 2018, and a more than 50-percent reduction in comparison with the reference year 2012. Currently, the sites are considering additional water saving measures to accomplish further reductions. In China, the Shijiazhuang production site has initiated a water savings plan to reuse test water for gardening and floor cleaning purposes.

Waste

Metals, which are recycled, accounted for 57 percent of the overall amount of 13,586 tons of waste generated in 2019. Hazardous aqueous substances made up 6.2 percent (846 tons) of total waste. The increase was due to the relocation of the flow components production to Suzhou. At 143 tons, the level of plastic waste remained low. The individual components are shown below:

Waste in tons	2019	2018*
Aqueous rinsing liquids containing hazardous substances	846	193
Machining emulsions and solutions not containing halogens	42	433
Packaging material: paper, cardboard	634	568
Packaging material: plastic	143	120
Packaging material: wood	2,184	1,863
Paper and cardboard	188	286
Domestic waste	1,413	1,285
Metals – recycling	7,758	9,721
Total	13,586	14,470
Sites reporting waste generation	70	62

*) Due to changes in allocation and computation, the reference base of reporting sites was adjusted in 2018

GEA primarily processes metals, which is why it places its main focus on recycling metal waste; GEA's recycling rate is at 57 percent. More efficient production led to an overall reduction in the amount of metal waste.

Moreover, GEA closely cooperates with suppliers and customers in order to develop environmentally-friendly packaging and ensure proper disposal and equipment recycling at the end of a plant's lifecycle. This also includes the production of bioplastics from waste: The majority of today's plastics are produced from fossil fuels like oil and coal. Owing to scientific progress in recent years, plastics can now be made from sustainable sources, namely plant-based raw materials like sugar cane, potato starch, cellulose (wood), corn, soy, used cooking oils as well as food and agricultural waste. GEA's specialists have a detailed knowledge of the key production stages, including the use of bio-based intermediates such as succinic acid that offer alternative routes for producing bioplastics. Another example is the production of lactic acid from plant-based feedstocks. Lactic acid is a basic material for the production of polylactic acid (PLA), a biodegradable, sustainable alternative to PET and one of the most frequently produced bioplastics worldwide. GEA's engineers are able to devise and develop bespoke systems for upstream and downstream process steps in the production of intermediates and biopolymers.

Natural risks at GEA sites

As part of its activities in the field of security management, GEA also checks the risks to its sites that are posed by natural hazards. Together with the insurer, GEA classifies its own sites according to hazards caused by wind speed, flooding and earthquakes. In the process, its 84 largest sites are analyzed based on their total insurance value.

By the end of 2019, the insurer had issued eight recommendations on natural hazards that were implemented by the respective GEA entities. This way, GEA ensures that employees and assets are well prepared for natural hazard events. The implementation of the recommendations is monitored within the framework of on-site inspections conducted by the insurer. In general, the insurer advises all sites on the development of emergency response plans whenever the risk assessment calls for such a step. Risk assessments and tools are available at site level.

Environmental responsibility in the supply chain

Responsibility for the environment is of key importance, not only with regard to GEA's products and services, but along the entire supply chain. The trust required for retaining long-term business relationships is only ensured by adhering to fundamental environmental protection standards along the entire supply and value chain, which is why compliance in this field is given highest priority. As an engineering group with a high level of materials expertise, GEA globally purchases raw materials, goods and services solely from qualified suppliers to ensure the long-term success of its customers by providing innovative product and service solutions.

The registration process for suppliers requires that the latter commit to the company's dedicated "Code of Conduct for Suppliers and Subcontractors." This set of rules specifies the commitment to engage in environmentally compatible business practices and renounce the use of conflict materials. For more information on the Code of Conduct and the handling of infringements, also [see page 145 f.](#)

Key suppliers are visited on an annual basis and also subjected to regular environmental assessments. In the year under review, the company conducted 426 supplier screenings (previous year: 492). GEA performs these evaluations by visiting subcontractors, conducting audits or requesting the voluntary disclosure of information; these activities have been undertaken by the country organizations and, until recently, the two Business Areas (as of 2020: Divisions) alike.

Sustainable engineering

"engineering for a better world": This statement embodies the core value proposition of the GEA Group. Apart from responsibly shaping its own value creation processes, the company fosters sustainable business practices and contributes to the protection of the natural environment by offering its customers efficient products and process solutions. As a rule, the technologies and processes they employ are energy- and water-intensive, which is why energy and water savings as well as reductions in emissions or waste increasingly impact customers' investment decisions. For this reason, GEA's ambition is to come up with more solutions that drive the more efficient use of resources.

Lower consumption of resources, less floor space, extensive energy recovery potential, ease of operation – these are the criteria currently applied by customers when making their purchasing decisions. In turn, the latter have a direct and favorable impact on climate-relevant emissions and the protection of natural resources. More often than not, the economic and ecological criteria governing investment decisions made in GEA's customer industries are virtually identical since lower emissions based on enhanced efficiency also result in lower costs. Among others, GEA's business success depends on products and solutions that are more efficient than previous generations and, thus, reduce environmental impacts.

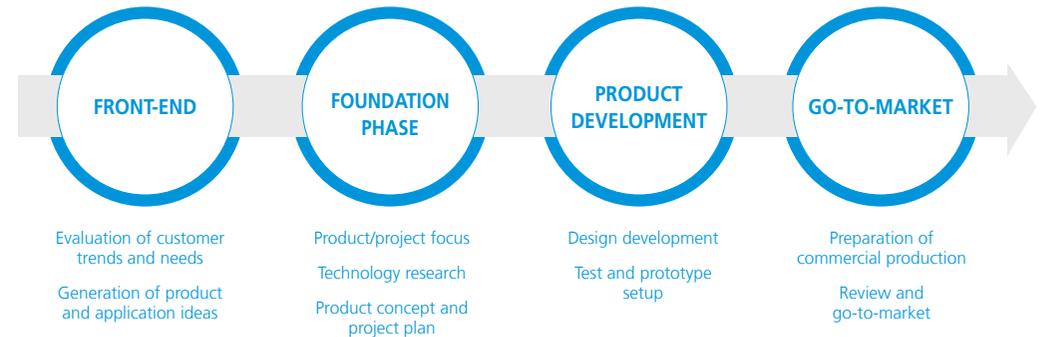
A capital goods manufacturer may only set itself apart from its peers and provide enhanced customer benefit by gaining technological leadership, which, in turn, requires innovation. In this respect, there is a connection between GEA's innovative strength and the positive effect of its products, solutions and services when it comes to mitigating climate change.

Climate change and the finite nature of resources offer considerable opportunities for the sale of efficient process engineering components and plants. Due to the large variety of components and processes and, notably, the need to collect comprehensive operating data outside the company's own sphere of influence, global verification of the entire product and service portfolio is not yet possible. For 2020, GEA is planning a project designed to enable the company to verify its contribution to emissions reductions through sustainable engineering/sustainable products in the future. The effects on the customer side can only be estimated when the areas of innovation, product design and development, quality and safety, life cycle and services, which may be directly influenced by GEA, are jointly considered together with the ways GEA's technologies are put to use.

Management approach to sustainable engineering

The impact of potential gross risks in the field of product quality and performance would be severe (for more information, see "Opportunities and Risks Report" [page 152 ff.](#)). Quality and safety issues may lead to accidents and production losses on the customer side, followed by negative consequences in terms of health protection, reputation and earnings. GEA is tackling such risks on all levels as they bear on the very foundation of its business. The innovation process is followed by a uniform and detailed product development process that applies across the entire group. It incorporates fixed design criteria such as resource efficiency or the consideration of health and safety aspects throughout the entire lifecycle of a product. Moreover, this product development process also takes into account regional or industry-specific guidelines and standards, required approvals as well as test certificates. Prior to market launch, the design and construction of prototypes are closely validated. Within the

framework of the innovation process, the product development process is supplemented by a so-called front end at the very start. The overall process is as follows:



For instance, ideators are already quizzed about sustainability aspects at the very beginning: Emissions, water consumption or the use of chemicals or filter media must be documented.

Quality management, environmental management, occupational health and safety as well as energy management are checked via certifications, with their efficacy and performance being guaranteed in the process. GEA set up an internal “Product Safety Committee” for ensuring the safety of its products. GEA’s service division makes sure that products and process equipment are available throughout their entire lifecycles; at the customer’s request, the company is also able to prolong service life by modernizing (parts of) the respective equipment. At regular intervals, the suitability and success of the management concepts are measured on the basis of key performance indicators such as quality costs, complaints, customer satisfaction or the number of certified sites.

Product quality and safety as well as sustainable product design in the supply chain are ensured under the “Code of Conduct for Suppliers and Subcontractors” (see page 129 and 145 f.).

Quality, innovation and service in customer satisfaction surveys

In terms of customer satisfaction, GEA scores highest as far as the quality and performance of its equipment as well as technology innovations are concerned. This was one of the key findings of the second global customer satisfaction survey initiated by GEA in late 2016. In total, around 3,500 GEA customers from 41 countries participated in the survey. For the first time, the poll also included non-GEA customers in selected countries and customer industries. Ever since, the results of both surveys have served as the basis for improvement processes.

In 2017, the company carried out a follow-up survey by conducting just under 600 online interviews in 11 countries in which customers had been less satisfied with GEA’s service and complaints management. Overall, the findings already revealed a slight improvement; apart from that, GEA was able to gain some useful insights with a view to potential further measures.

Following up on the 2017 poll, another global customer satisfaction survey with an emphasis on service was carried out in 2019, the year under review. The survey was event driven, i.e. following a business contact with GEA. The questions focused on the areas of customer service and spare parts. Overall, customer satisfaction with service and spare parts improved from previously average scores to levels equivalent to a high degree of satisfaction. In terms of on-site customer service, there is still room for improvement against the backdrop of average scores, but this potential can be clearly identified and addressed by means of appropriate measures.

GEA’s innovation process

GEA offers a wide range of components, systems and process equipment while never tiring of improving them in terms of resource efficiency, flexibility, quality and costs. GEA has defined around 200 core technologies that offer tremendous potential for optimization, also when combined with other technologies.

The front end of innovation management, i.e. the systematic generation of ideas as well as a feasibility check, includes tools for problem solving and advancing the number and quality of submitted ideas, the systematic analysis of market- and technology-driven trends and customer needs, as well as an ideas platform.

Throughout the year 2018, GEA continued to roll out its innovation management program which includes the innovation process, the state-of-the-art “InnoVate” IT system for generating ideas and allowing them to mature, as well as defined roles and responsibilities for steering the further development of innovative ideas.

As part of the new organizational structure, GEA will have a “Global Technology” division from the 2020 fiscal year onwards; this unit will be dedicated to further strengthening the company’s strategic focus on technology. Global Technology will be headed by the new Chief Technology Officer (CTO), who will directly report to the Executive Board. The division is to ensure that GEA’s technology portfolio will continue to meet market trends and customer requirements in the future. Global Technology will be divided into four priority areas: Innovation, engineering excellence, digitalization and intellectual property rights.

Idea campaigns

The year under review witnessed the further development of the concept of campaign-based ideas as the front end of sustainable product development. Expected content and objectives are outlined on the basis of an assessment of the strategic needs of a business unit (or a number of business units). Information on why the campaign was launched in the first place, the specification of the precise needs and the related skills and competencies within the community as well as the underlying question “How can we help?” are to guide the addressees in their focus on contributing to the ideas campaign by submitting their own ideas and comments or even going as far as to state their preferences.

The campaigns may be divided into five different categories addressing either “innovation” or “efficiency:”

	Efficiency	Innovation
Creative		•
Problem solving		• •
Discovery	•	• •
Testing		
Feedback		• •

• Campaigns conducted in 2019 • Campaigns conducted in 2018
Source: GEA Innovation Management

The respective campaign targets define the nature of the campaign; in turn, this helps identify the group of addressees and the kind of input anticipated:

- Creative: Making new offers or tapping new markets; creating long-term visions; responding to emerging trends
- Problem solving: Resolving technical challenges; improving quality standards; risk mitigation; cost savings
- Discovery: Spotting and assessing trends; identifying skills for the purpose of developing something specific; identifying best practice; root cause analysis
- Testing: Optimizing the offer prior to market launch; assessing new areas including sales and marketing; reviewing quality standards
- Feedback: Customer input; feedback from service staff; voice of sales; feedback on new skills

A total of seven idea campaigns were conducted in 2019. Major overarching subject areas were identified on the basis of customer experiences and addressed the following topics:

- Optimization of customer business: Reducing equipment and plant downtimes during cleaning, tool change, maintenance and repair work
- Sustainability: Reducing or avoiding the use of energy, water and chemicals for cleaning and sterilization purposes; reducing waste (e.g., packaging); recycling opportunities
- Product safety: Possibility of applying sensors for product quality purposes; identifying new technologies for chemical-free cleaning.

The campaigns conducted in 2019 produced ten ideas for Gate 1 (front-end phase).

NFS • Key figures from the innovation process

For gauging the success of the resources allocated to the field of innovation across the entire company, GEA relies on key performance indicators during all stages of the innovation process. At the end of 2019, there were 324 (2018: 400) active ideas or projects in the “front-end” and “foundation” phase, with 159 (2017: 230) future product innovations undergoing the “development” and “go-to-market” phase. In 2019, 165 new ideas were submitted via the InnoVate Portal, 78 of which resulted from the theme-related ideation campaigns. While 73 ideas and projects were shelved or stopped, GEA was able to launch 50 concrete projects. Most of them have left the innovation process as new, marketable products. This goes to show that ideas undergo a much stricter selection process during GEA’s front-end phase. What is new is that ideas, which are not immediately taken up, are stored as “inactive” and no longer counted. This way, GEA seeks to make sure that highly promising ideas are pursued and evolved more swiftly and purposefully. The key performance indicators are regularly reported to the heads of development and the management bodies.

For detailed information on GEA’s research and development activities, refer to the section on “Research and Development” (🔗 see page 44 ff.).

Agile product development

To allow for a goal-oriented and swifter transition from product idea to product development, the company established a number of specific methods and put them into practice. GEA does not define agile product development exclusively as an approach designed to accelerate product development, but puts much more emphasis on integrating customer feedback into the concept and pre-development stage as early as possible in order to assess applicability and identify the right specifications of the product-to-be. Opting for this course of action, GEA meets two major challenges: Customer acceptance as well as possible obstacles in the sales process that need to be tackled, especially when it comes to complex applications that require broader explanations.

In 2019, six training courses and workshops for teaching and implementing agile methods in product development were delivered to nearly 100 participants. These courses convey the fundamentals of agile methodologies and show how to integrate them into daily routines.

In the year under review, a number of open innovation activities were carried out:

- **ZentriTec:** As part of the “garage33” business accelerator program in Paderborn, Germany, the internal ZentriTec start-up team developed a total of four solutions. In cooperation with students from the University of Paderborn, GEA employees developed new sensor solutions for specific separator applications in the shipbuilding sector. Within a short period of six months, including development and testing under real-life conditions, two separators were prepared for market launch. A key element for the success of this project was customer involvement.
- **GEA Advance:** Based on a software solution developed by the Swiss start-up company MachIQ, GEA Equipment Service has devised a cloud-based, open service platform for digital services. The provider-independent portal offers modern services like remote maintenance, data analysis and e-commerce. MachIQ was the most successful start-up under the MassChallenge Switzerland business accelerator program in 2016.
- **MassChallenge Switzerland:** One of the founding sponsors since 2016, GEA takes an active role in the start-up community, placing particular focus on nutrition, health and life science topics. The program offers equity-free access to the start-up network. In 2019, GEA identified 28 out of a total of 89 start-ups active in areas offering potentially suitable technology for GEA or the prospect of market viability. By the end of the year, two new cooperation agreements with these start-ups had been concluded.

Digitalization is part and parcel of GEA’s innovation process and actively steered by the company’s Innovation Management team. Digital tools change the nature of ideation and concept qualification while accelerating product development. This enables GEA to gain a level of agility that helps speed up the evolution of functional products. In addition, these

tools lead to disruptive business ideas that have the potential to transfer GEA's application knowledge to a previously untapped market segment while generating a new type of demand.

Digitalization may pave the way to innovation and simultaneously outline a solution. For meeting today's digital challenges, GEA connects with strong partners, including suppliers and customers as well as market players and the scientific community. This so-called cooperative competition aims at creating added value benefiting all parties involved.

Products subject to specific regulatory requirements

GEA's portfolio embraces two relevant product groups and/or substances required for product operation that are subject to specific regulations: chemical products for farming and coolants for refrigeration systems. Undiluted chemicals for farm technology applications, such as dipping agents for milking hygiene, are processed at 11 GEA facilities worldwide. In terms of coolants for GEA refrigeration systems, ammonia has become widely accepted as the natural and carbon-neutral cooling agent of choice.

All GEA products meet the respective statutory requirements of the markets, come with the necessary certifications and/or comply with the technical guidelines and any further demands made by customers.

Product life cycle

GEA documents each stage of the product life cycle in order to capture and take into account both positive and negative effects on natural resources with regard to the development and planning, purchase and transport, production, shipping, operation and disposal of products (and, where applicable, process solutions). In the course of a product's life cycle, any and all information on this product is collected. In this context, the focus is not only placed on technical aspects, but the company also takes into consideration economic and ecological aspects. GEA thus pursues the goal of making potential environmental effects transparent and traceable at every stage of a product's life cycle. This life cycle perspective has already

been recorded in detail at many international sites, including Drummondville/Canada (liquid manure technology), Parma/Italy (homogenizers), Plainfeld/Austria (hygiene and dipping agents), Oelde (separators), Büchen (valves), Bönen (milking technology) in Germany, as well as additional sites located in Great Britain.

Information security and protection of intellectual property

Information security refers to the confidentiality, availability and integrity of information stored and processed by the organization – irrespective of whether this is done via technical or non-technical systems. Information security includes the protection against risks and/or threats, loss avoidance as well as risk minimization. GEA relies on organizational and technical means to ensure that both its own data and information entrusted to it are protected against unauthorized access. Apart from the complete set of tools provided by the specialist departments for information technology and IT security, the company also avails itself of all appropriate legal instruments for the purpose of corporate governance and when concluding agreements. In addition, the protection of trade secrets is also specified in a GEA guideline on information security ("Information Security Policy").

Against the backdrop of digitalization, the transmission of production and process data from the customer to GEA becomes increasingly important, for instance for the purpose of performing predictive maintenance and repairs or carrying out remote maintenance. As a rule, the protection of data and transmission channels is contractually stipulated and ensured in close cooperation between the customer and GEA. In the year under review, GEA did not receive any duly substantiated complaints regarding a breach of customer privacy and the loss of customer data.

Intellectual property essentially comprises knowhow, ideas, inventions, developments, sketches, plans, results as well as data. Such confidential information, the company's know-how, patents as well as other intellectual property rights constitute the backbone of GEA's technology leadership when it comes to systems and processes. As a consequence, the

company rigorously protects and defends the patent and trademark rights as well as the copyrights held by it. GEA know-how is only disclosed following the conclusion of written confidentiality and/or non-disclosure agreements. GEA provides patent-related information in the section on "Research and development," [see page 50](#).

GEA Service

Apart from production efficiency, the commercial success of customers primarily hinges on the availability of technologies. State-of-the-art production facilities and plants are highly automated, and even minimal downtime may have a major impact on a customer's productivity.

At an annual growth rate of approximately five percent and following the successful rollout of several new service products and initiatives, GEA's global service business fared very well during the previous year. GEA seeks recognition as the world's leading industrial supplier of life cycle service concepts. GEA's job is to establish, preserve and enhance customers' plant performance over the entire life cycle of their respective plants or facilities. By pursuing this life cycle approach, GEA accompanies customers as a value-added partner throughout the entire life cycle of a plant: From dimensioning, commissioning, spare parts supply with fast response times, service level agreements, repair after failure up to preventive and predictive maintenance. In this context, digital services such as real-time condition monitoring also feature more and more prominently.

To better meet customer expectations, the company's strategic initiatives and actions undertaken in the year under review focused on bringing about improvements in performance: To this end, GEA defined a set of key processes for the Service department with clear responsibilities and standardized key figures to allow for better handling of global and local services. The customer relationship management system is gradually being expanded by adding a post customer contact survey function for measuring the level of customer satisfaction. Moreover, a new training module for service managers makes sure that local service activities are performed in line with uniform and globally valid standards.

In addition, GEA has improved the performance and response times of its central technical support functions, enhanced the level of efficiency when it comes to planning and executing field service activities and invested in the global repair shop network. This goes hand in hand with the enhancement of the multi-tiered spare parts logistics system, which enables GEA to further speed up spare parts delivery worldwide in line with demand.

Apart from that, GEA continues to expand the number of digital solutions in the service area. The evaluation of continuously measured process parameters allows for an even steadier and more consistent operation and control of plants and processes. One example of these activities is a cloud-based platform for digital services. The supplier-independent portal offers customers state-of-the-art service solutions like remote maintenance, data analysis and overarching e-commerce while enabling the company to seamlessly integrate all interactions with suppliers into a common platform. GEA developed the digital cooperation channel for its service business together with MachIQ, a start-up company that won the 2016 MassChallenge Switzerland, a program sponsored by GEA.

Accounting for more than 30 percent of GEA's sales revenues in the year under review, the service business met the set target.

Social responsibility for employees

The group's success reflects the result of the performance of more than 18,000 employees. Each and every one of them is instrumental in accomplishing the company's overall result. GEA's employees form the backbone of the future value enhancement of the company.

Detailed headcount figures are provided in the company's "Report on Economic Position" ([see page 66](#)).

Employment

Against the backdrop of demographic change and rising competition for talent, GEA needs to regularly and successfully recruit skilled and qualified people to complement its diverse workforce. Retaining them is another essential task of human resources management. Both are prerequisites for satisfied employees and the future viability of the company. For this reason, the year under review sees GEA's first report on new hires and employee turnover.

In 2019, GEA hired a total of 1,409 new staff versus 2,072 new entries in 2018. As of December 31, 2019, the total number of new hires as a percentage of the average number of employees in the previous year had fallen from 11.5 percent to 7.7 percent. This marked decline was mainly due to a restructuring program that was launched in May 2019 and reinforced back in September. By the end of 2020, the restructuring plans should reduce the workforce by a total of around 800, which includes GEA employees and temporary workers.

Compared with 1,618 employees leaving the group in 2018, the year under review saw 1,539 departures. Year on year, the turnover rate declined from 9.0 percent in the previous year to 8.4 percent as of December 31, 2019.

Total number and rate of new hires by region, age group and gender 12/31/2019	Aged < 30			Aged 30 – 50			Aged > 50			GEA total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
DACH & Eastern Europe												
Total number of new hires	73	26	98	184	44	229	40	4	44	297	74	371
Rate of new hires (%)	12.6	15.8	13.3	6.5	6.0	6.4	1.7	0.8	1.5	5.1	5.3	5.2
Western Europe, Middle East & Africa												
Total number of new hires	44	14	58	108	40	148	18	1	19	170	55	225
Rate of new hires (%)	25.5	47.3	28.7	7.4	12.2	8.3	2.8	1.3	2.6	7.5	11.9	8.3
Northern and Central Europe												
Total number of new hires	43	20	63	172	28	200	61	7	68	276	55	331
Rate of new hires (%)	29.3	41.5	32.3	14.1	9.2	13.1	5.2	3.8	5.0	10.9	10.4	10.8
Asia Pacific												
Total number of new hires	54	9	63	156	36	192	11	2	14	221	48	269
Rate of new hires (%)	21.7	21.5	21.7	8.0	9.0	8.2	3.4	4.6	3.5	8.7	9.7	8.9
North America												
Total number of new hires	44	6	50	50	23	73	23	6	29	117	35	152
Rate of new hires (%)	33.1	19.5	30.6	7.4	18.3	9.1	3.3	5.6	3.6	7.8	13.4	8.7
Latin America												
Total number of new hires	4	4	7	39	10	49	4	1	5	46	15	61
Rate of new hires (%)	15.2	15.2	15.2	12.4	11.3	12.2	4.3	13.5	5.2	11.0	12.2	11.2
Total												
Total number of new hires	262	78	340	709	182	891	158	21	179	1,128	281	1,409
Rate of new hires (%)	20.0	22.8	20.6	8.6	9.2	8.7	2.7	2.1	2.6	7.5	8.6	7.7

The rates of new entries refer to the total number of employees in the respective group

Total number and rate of departures by region, age group and gender 12/31/2019	Aged < 30			Aged 30 – 50			Aged > 50			GEA Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
DACH & Eastern Europe												
Total number of departures	23	6	29	114	35	149	107	26	133	244	67	311
Departure rate (%)	4.0	3.4	3.9	4.0	4.8	4.2	4.4	5.4	4.6	4.2	4.8	4.3
Western Europa, Middle East & Africa												
Total number of departures	25	2	28	100	26	127	50	6	55	175	34	209
Departure rate (%)	14.6	7.5	13.6	6.9	8.0	7.1	7.8	5.2	7.4	7.8	7.4	7.7
Northern and Central Europe												
Total number of departures	30	7	37	140	34	173	111	20	130	280	61	341
Departure rate (%)	20.6	14.6	19.1	11.5	11.0	11.4	9.4	11.5	9.6	11.0	11.5	11.1
Asia Pacific												
Total number of departures	45	9	54	194	37	230	35	5	40	273	51	324
Departure rate (%)	18.0	21.1	18.5	9.9	9.0	9.8	10.2	11.2	10.3	10.8	10.3	10.7
North America												
Total number of departures	36	10	46	124	27	151	92	14	106	252	51	303
Departure rate (%)	26.8	33.0	27.9	18.4	21.5	18.9	13.4	13.7	13.4	16.8	19.7	17.2
Latin America												
Total number of departures	8	2	10	27	7	34	7	0	7	42	9	51
Departure rate (%)	33.8	8.5	21.1	8.4	8.3	8.4	8.5	0.0	7.6	9.9	7.7	9.4
Total												
Total number of departures	169	36	205	702	167	869	396	70	465	1,267	272	1,539
Departure rate (%)	13.0	10.7	12.5	8.3	8.3	8.3	7.5	7.5	7.5	8.4	8.3	8.4

Departure rates refer to the total number of employees in the respective group

Employee engagement survey

In 2018, GEA had implemented a new approach for ascertaining employee satisfaction via a pilot project that among other initiatives, included two employee engagement surveys. A representative group of approximately 30 percent of GEA's total workforce was asked to comment on their satisfaction with line managers, personal development opportunities, their trust in senior corporate management, the working environment as well as structural issues within the group. Between the first and the second survey, the company took measures to improve areas identified as requiring action. The second survey in November already showed a slight improvement in satisfaction compared with the results obtained in June 2018. Both surveys resulted in global measures that were agreed with a special focus on enhancing IT support, communication GEA's strategy and the allocation of responsibilities.

In 2019, the year under review, the main emphasis was placed on introducing and implementing these improvement measures. Another employee engagement survey was carried out in November 2019 and involved all GEA employees worldwide. The survey focused on ascertaining the general level of satisfaction amongst employees, establishing to what degree GEA was regarded as an attractive employer and on requesting an evaluation of the measures initiated in the year under review. Likewise, GEA developed a concept designed to enable the company to continuously respond to employee feedback and ensure active workforce participation in the development of the enterprise in the years to come. As a consequence, GEA employees shall be asked for their feedback on an annual basis while the company continues its endeavors to enhance working conditions and GEA's attractiveness as an employer.

Labor/management relations and co-determination

Labor/management relations at GEA are characterized by many years of respectful dialogue and mutual interaction between the company and employee representatives as well as parity co-determination on the company's Supervisory Board. The latter embraces equal numbers of

shareholder and employee representatives. Since the employee representatives serving on the Supervisory Board are elected by the entire German workforce, the interests of all German employees – blue collar workers, white collar workers, and executives alike – are represented in the form of co-determination at company level. Apart from numerous local works councils 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 matters and issues are regulated by means of works agreements.

GEA's European Works Council (EWC) has the statutory right to be informed and consulted by the management. It engages in a regular dialogue with the Executive Board and Human Resources. The activities of the European Works Council focus on transboundary effects of decisions and developments on employees in the EU member states, the countries of the European Economic Area as well as Switzerland. In 2018, the EWC and GEA's Executive Board jointly continued developing and adjusting the basic principles of EWC work in a new EWC Agreement with the assistance of IndustriALL Global Union, the global union federation.

Disclosure 102-41

Worldwide, around 49 percent (previous year ca. 48 percent) of the workforce are covered by collective agreements. This disclosure is based on data taken from the global "Workday" human resource management system.

Talent management and leadership development

To meet the company's current and future demand for executives, GEA identifies high performers and potentials within the framework of a global, cross-functional and connected talent process. This process aims at systematically developing talents and retaining them while ensuring that they are optimally positioned within the company.

In 2019, GEA once again conducted a number of different talent programs for promoting young talents and executives. The target group of the “First Professional Program” includes young talents with leadership potential, while “Professionals on Stage” is a scheme designed for executives looking back on several years of experience. Furthermore, GEA is a member of the Global Business Consortium of the London Business School together with five other renowned international enterprises. The program is open to top managers and seeks to enhance their strategic skills. All in all, more than 90 high potentials from different nationalities, functions and business units attended the various programs in 2019. Moreover, GEA offers training for executives. These courses include: “Leading Others,” “Leading Leaders,” “Engaging Employees” and “Leading Virtual Teams” that with a on strengthening leadership skills. In addition, all young talents and executives may avail themselves of the “GEA Leadership Toolbox,” a constantly growing collection of best practice and tried and tested management and leadership tools. These learning opportunities are rounded off by a wide range of e-learning courses.

Moreover, the year 2019 saw the implementation of a 360-degree feedback tool. The latter allows both executives and project managers to seek individual feedback from various groups of individuals (line manager, employees, co-workers, customers). After receiving their respective anonymized assessments, executives may avail themselves of the support provided by trained HR staff and analyze their feedback to derive suitable development measures for themselves.

Learning and development

GEA's Learning Center has been the central learning and development provider for all employees worldwide since 2015, offering management, sales and project management training as well as GEA product and user training courses. In addition to the comprehensive range of e-learning courses on technical, business and product-related topics, the portfolio was supplemented in 2019, notably by further e-learning opportunities in the field of

digitalization. All measures aim at supporting employees in their individual and occupational development. In the year under review, an overall number of 4,957 employees, i.e. 27 percent of GEA's entire workforce, made use of the learning and training opportunities offered by the company. 1,627 employees attended classroom-based training courses, 1,169 participated in integrated training initiatives while 3,872 attended trainer-hosted webinars. A total of 3,364 e-learning seminars were delivered. The average period per employee invested in attending face-to-face training modules was 3.3 days of learning.

Vocational training in Germany

	GEA 12/31/2019	GEA 12/31/2018
Apprentices	368	358
Apprentice/employee ratio (in %)	5.9	5.8

In the year under review, GEA trained 368 young people at 14 German sites in 11 commercial and industrial/technical occupations, which fall into different specialty areas depending on the product portfolio of GEA's specific sites. In this context, the company's site in Oelde serves as the center of technical training, coordinating the respective training schedule for all of Germany. Moreover, a total of 14 combined vocational training and degree programs were realized in cooperation with polytechnics and universities. These combined degree programs cover a period of six semesters and lead to bachelor degrees in various fields of expertise. For students participating in combined degree programs, GEA has given the practical periods more of an international focus by offering projects in GEA companies located abroad.

Work-life balance

GEA explicitly endorses a good work-life balance and supports its employees through a variety of different measures. For instance, some sites have experienced go-to persons for expectant mothers and fathers or also offer flexible working arrangements. In 2019, the year under review, 3.4 percent of the German workforce availed themselves of the opportunity to take

parental leave (previous year: 3.2 percent), with 67.8 percent of them being fathers while mothers accounted for 32.2 percent. The average duration of parental leave in 2019 was 20.4 months for women and 2.6 months for men. Likewise, GEA cooperates with an international external service provider to assist employees in their search for suitable facilities that provide childcare and/or look after dependents in need of care. In addition, this offering includes free social counseling.

Employee mobility

To meet market requirements and safeguard the sustained, long-term competitiveness of the company, it is increasingly imperative that the know-how and expertise of GEA's employees are available on a global level. For this reason, GEA established a central competence center for international employee mobility as early as 2014. This does not only ensure professionalism when it comes to the legally correct implementation of global contractual standards, but also enhances the level of efficiency in terms of the operational realization of international work assignments. The activities undertaken by the competence center allow for the equal treatment of all internationally mobile employees.

Company pension schemes

GEA grants its employees pension benefits under defined contribution or defined benefit pension schemes. Employees have the possibility of actively shaping their pension plans together with GEA. Supporting company pension schemes allows GEA to respond to demographic change and retain qualified staff in the long run. GEA strives to continuously optimize existing administrative processes as well as global pension-related service structures to enhance both the transparency and the economic efficiency of such pension schemes. In doing so, the company never fails to ensure that the pension schemes fully comply with any and all legal and regulatory requirements.

GEA Aid Commission

GEA supports employees in need in many different ways. In a works agreement concluded with the Group Works Council, GEA has pledged to grant swift and unbureaucratic financial assistance to individuals in distress, for instance in the event of accidents or sudden, severe illness. Under such circumstances, affected employees, including their families, may turn to the GEA Aid Commission for help.

Diversity and equal opportunities

GEA operates in a challenging international market environment with a large number of players who influence the company in many different ways – ranging from customers, competitors and employees to the government and society in general. GEA meets the numerous challenges associated with this extremely diverse cultural environment by adhering to the principle of diversity. GEA considers diversity to be a strategic success factor. In this context, diversity is defined as the composition of the workforce in terms of origin, gender, age and qualification. Overall, GEA employs people from around 80 different nations. The age structure of GEA's workforce is as follows: 9.0 percent of the employees are younger than 30, 57.0 are aged between 30 and 50 while 34.0 percent exceed the age of 50.

In order to promote diversity on as many levels as possible and to create an attractive working environment by doing so, GEA also takes into account aspects of modern work flexibilization while fostering mobility within the group.

To institutionalize and manage diversity within the company, the latter relies on its “Diversity Management Policy” as well as a corresponding guideline for executives: This policy describes the overriding goal and the steady state of diversity management at GEA. It provides managers with an instrument for implementing diversity management at all group levels. The policy defines diversity on the basis of four personal criteria – origin, gender, age and qualification – as well as two organizational criteria, namely mobility and flexible working. The latter refers to both working time and a person’s place of work. GEA has implemented a mix of measures designed to promote diversity. For instance, staffing processes place emphasis on including diversity criteria as a standard practice. One of the aims is to attract more women to GEA despite the sector-specific challenges.

Members of governing bodies and employees by gender (in %)	12/31/2019	
	thereof men	thereof women
Supervisory Board	58.3	41.7
Executive Board	75.0	25.0
Managers*	89.6	10.4
Total workforce	83.4	16.6

*) Number of employees in leadership positions, excluding inactive work relationships; at GEA, the first three management levels below Executive Board level are defined as managers

For a number of years, the principles of diversity and equal opportunities have been taken into account with a particular emphasis on human resources. Moreover, when nominating candidates for talent programs, executives are encouraged to consider a proportion of female candidates that exceeds the average total percentage of women employed with GEA. This ensures a balanced representation of both genders as far as leadership development is concerned.

Additional information on GEA’s diversity concept is provided in the Corporate Governance Report including Corporate Governance Statement on [page 82 f.](#)

Protection of personal data

For an innovative and global enterprise like GEA, information and its use are of significant importance for accomplishing the set corporate targets. GEA protects the privacy of every individual whose personal data are processed by the company. This includes employees, customers, suppliers, other contracting partners as well as job applicants and applies to all GEA companies and specialist departments handling personal data. Privacy breaches may entail considerable penalties and even result in fines and imprisonment in some countries. Thus, the EU General Data Protection Regulation (GDPR), which came into effect on May 25, 2018, provides that non-compliance may be punished by imposing fines of up to four percent of group revenue. Moreover, breaches may entail the exclusion from public contracts. Ultimately, privacy breaches may also damage GEA’s reputation in the long run. Therefore, GEA insists on the implementation of data protection rules and regulations and reserves the right to take action against anybody failing to comply with data protection laws. For instance, this includes disciplinary measures, but also the enforcement of damages.

The company’s recast Data Protection Policy launched in 2019 specifies guidelines and recommendations for action addressed to all employees with a view to avoiding privacy incidents or privacy breaches. It 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. 2019 also saw the introduction of the corresponding data protection management system. The latter covers all organizational aspects, i.e. the roles, tasks and responsibilities as regards the processing of personal data, regardless of the type of individuals affected (including employees, customers, suppliers, shareholders etc.) or the technical means for processing such data. It also includes additional channels for reporting risks and violations; GEA already complies with the short response times that are legally required.

Compliance with data protection regulations and applicable data protection laws is verified on a regular basis. These checks are performed by the company's respective data protection officers and further corporate divisions vested with audit rights or by commissioned external auditors. Third party providers are vetted on the basis of self-declarations, audits as well as certificates.

Non-compliance with laws and regulations in the social and economic area

If employees violate compliance rules, such non-compliance is punished depending on the degree of fault as well as the severity of the case. The sanctions imposed range from a reprimand to a warning letter and may ultimately lead to 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 Global Corporate Center Legal & Compliance.

In the 2019 fiscal year, no substantial fines for non-compliance with laws and regulations in the social and economic field were imposed on GEA.

Social engagement

Since 2019, GEA has been a member of the World Economic Forum (WEF). The WEF was established as a charitable foundation back in 1971, officially holding the status of an international organization since 2015. It is free from any political or national interests. GEA is involved in the "Advanced Manufacturing and Production" initiative of the WEF.

As a global player, GEA participates in a multitude of regional and local projects and initiatives while interacting with more than 200 trade and industry associations by discussing technical and market-related topics. For instance, GEA is a member of the "Verband Deutscher

Maschinen- und Anlagenbau" (VDMA – German Engineering Association) and also actively involved in the association's "Corporate Responsibility" working group that was established in 2017. A list of GEA's key memberships in organizations is available at gea.com. As a rule, membership matters are handled autonomously by the individual sites as they see fit.

In addition, GEA is engaged in a large number of partnerships involving German schools and universities. Cooperation between educational institutions and companies support students in their transition to the world of work and offer career guidance and counseling to ensure that, going forward, there are sufficient young talents willing to take up jobs in the fields of engineering and natural sciences, in particular. Information on some of these initiatives is provided on GEA's website at gea.com.

Human rights

As early as 2007, the Executive Board and the European Works Council of GEA Group Aktiengesellschaft as well as the European and the International Metalworkers' Federations developed and adopted the basic principles of social responsibility that apply to all group employees worldwide. In fiscal year 2019, this code was revamped and significantly expanded, whereupon it was signed by the Executive Board of GEA Group Aktiengesellschaft, the Group Works Council as well as the European Works Council on March 15, 2019. In its "Code of Corporate Responsibility," GEA fully recognizes the "Guidance on Social Responsibility" (ISO 26000). GEA has uncompromisingly committed to respecting human rights, engaging in fair operating and business practices, in particular anti-corruption, and to acting in an environmentally-friendly and sustainable way. Furthermore, GEA is committed to fair world trade, supports the principles of the UN Global Compact while referring to the ILO core labor standards as well as the OECD Guidelines for Multinational Enterprises.

GEA respects universal human rights and supports their observance within the scope of its regional influence and vis-à-vis its business partners. GEA opposes any kind of forced labor and bans child labor. As far as child labor is concerned, the company regularly monitors the “Workday” human resource management system checking it for employees under 18 years of age. At the end of the year, 55 employees were younger than 18 years, as a rule apprentices in Germany. No GEA employee is under 16. In addition, the Code of Corporate Responsibility acknowledges the right to a fair living wage/remuneration. Moreover, GEA opposes any form of violence.

The new Code of Corporate Responsibility is binding on all employees worldwide without exemption. It obliges managers and employees at all levels to comply with, accept and promote the agreed objectives. In collaboration and consultation with the Executive Board, the senior management teams of the respective regional companies are responsible for their implementation. A copy of the Code of Corporate Responsibility is handed out to all employees across the group and/or made available in electronic form. All employees have the right to address and complain about issues and problems as well as non-compliance in connection with the agreed principles without fear of disadvantages or sanctions. Employees, including third parties, may use the whistleblower system (see section below) or – at their discretion – reporting channels via the signatories – i.e. the Executive Board, the Group Works Council and the European Works Council.

Online training on business ethics as well as responsible and non-discriminatory behavior is available to all employees worldwide via GEA’s Learning Center ([see page 140](#)).

Integrity system (whistleblower system)

A professional integrity system is an effective tool for ensuring and monitoring adherence to the Code of Corporate Responsibility as well as the compliance rules. Since 2014, GEA has offered its employees – including third parties – the certified Business Keeper Monitoring System (BKMS), a secure portal that may be used for reporting such violations.

The integrity system does not constitute a general platform for voicing complaints. It embraces selected reporting categories that imply particular risks to the company, its employees and all other stakeholders. These categories include corruption, fraud and breach of trust, money-laundering, as well as violations of antitrust and competition law, export control regulations, data protection and accounting regulations. Breaches of the Code of Social Responsibility come under a distinct reporting category that also includes reports on potential human rights violations.

GEA’s integrity system is available worldwide 24/7 in nine different languages and may be accessed from any PC connected to the Internet. The information technology used by the external provider ensures whistleblower protection and confidentiality. Subject to their respective remits, only a very limited number of GEA employees from Compliance, Internal Audit and Human Resources have access to the reports submitted. For protecting both whistleblowers and accused individuals, all incoming reports are treated confidentially. Should the whistleblower prefer to submit his/her report anonymously, he or she may do so provided that this is permitted in their respective country.

The system ensures that all steps involved in processing and resolving the reported cases are properly documented. If an incident is reported under the Integrity System, this report is assigned to the competent department (e.g., HR), whereupon the respective facts of the case are investigated in order to arrive at a conclusion. Should it be impossible to ultimately clarify the circumstances without obtaining additional information that might compromise the whistleblower’s anonymity, the whistleblower is contacted by one of the above departments

asking whether a further probe into the matter is requested. The competent departments get to the bottom of concrete individual incidents and consider whether enhanced communication or staff management, a change of processes or the use of software may help avoid such cases in the future.

In the year under review, a total of two reports falling under the specific remit of Human Resources were filed under the BKMS. They involve three employees. The topics that were addressed include leadership behavior, style of communication, behavior among staff.

Human rights in the supply chain – social assessment of suppliers

GEA expressly requires its business partners to generally apply the values and rules set out in the Code of Corporate Responsibility. For ensuring compliance with these values and the rules of corporate social responsibility along the entire value chain, GEA has adopted its own Code of Conduct for Suppliers and Subcontractors. GEA practices a zero-tolerance policy with regard to unethical behavior in business, in particular when it comes to bribery, corruption, money laundering or child and forced labor. The supplier registration process requires that suppliers undertake to abide by GEA's dedicated Code of Conduct for Suppliers and Subcontractors, which was released and implemented in 2018. GEA's Code of Conduct defines the basic principles and requirements applicable to all suppliers of goods and services, their subcontractors as well as the group entities of suppliers and subcontractors as regards their responsibility towards society, the environment and the individuals involved in the production of goods and the rendering of services. These obligations embrace the recognition of the ISO 26000 Guidance on Social Responsibility, compliance with international standards, respect for human rights – including the prohibition of child and forced labor as well as discrimination – fair wages and working hours, freedom of association as well as health and safety at work.

Furthermore, the Code of Conduct lays down the obligations to engage in environmentally sound management, dispense with the use of conflict minerals, honor the principles of fair competition, respect data privacy, protect intellectual property while also enshrining compliance with foreign trade acts as well as the ban on corruption, bribery and money-laundering. When GEA becomes aware of or suspects violations of the Code of Conduct, with GEA notifying the respective supplier accordingly, GEA expects said supplier to investigate and resolve such non-compliance issues as quickly as possible and within an agreed timeframe. Should the supplier be unwilling to fix such problems, GEA reserves the right to take legal action as deemed appropriate by the company, including measures aimed at terminating the business relationship for good or any action designed to promote, follow up on and enforce corrective measures.

Key suppliers are visited on an annual basis and also regularly checked for adverse social impacts. In the year under review, the company conducted 426 supplier screenings (previous year: 492). GEA performs these evaluations by visiting sub-suppliers, conducting audits or requesting the voluntary disclosure of information; these activities have been undertaken by the country organizations and, until recently, the Business Areas – going forward: Divisions – alike.

All purchases (direct and indirect expenses) are covered by the Code of Conduct. The latter must be accepted by the supplier in order to complete the purchase when the following threshold amounts set forth in the Third Party Policy are exceeded: EUR 2,500 for individual orders, EUR 10,000 for longer-term contracts. GEA approves a supplier when the Code of Conduct for Suppliers and Subcontractors is an integral part of a supplier agreement (on a local, regional or global level), for instance as an annex, or of a purchase offer – as an attached document and/or a as a link – and the supplier accepts the order by submitting an order confirmation. It is the permanent responsibility of the Global Procurement Council to inform all GEA companies as well as all purchasing managers in all regions and divisions about their responsibility for implementing the Code of Conduct for Suppliers and Subcontractors within the framework of the defined process. Any acceptance of the Code of Conduct by a supplier

or subcontractor must be documented. Should a supplier refuse to commit to the Code of Conduct, the respective supplier must promptly submit a written statement in which they detail and specify the basic principles/commitments they adhere to. This statement needs to be accepted by GEA's local legal/compliance officer. Should the latter refuse to do so, the process will be further escalated on the basis of an established procedure. Compliance with the Code of Conduct for Suppliers and Subcontractors is verified and checked as part of the supplier audits that are performed at regular intervals.

Suppliers in countries carrying risks for human rights

Although GEA is usually seeking to ensure full compliance with the Code of Conduct for Suppliers and Subcontractors, the human rights situation in some countries calls for specific attention. Based on a multi-index approach, GEA currently rates 21 countries as critical. For this purpose, the company combines the assessments of four well-known indices:

- "Freedom in the World," issued by Freedom House, an American non-governmental organization
- "Index of Economic Freedom," published by the Heritage Foundation and The Wall Street Journal
- "Press Freedom Index," published by Reporters Without Borders
- "Democracy Index," released by the Economist Intelligence Unit (EIU), a private company based in Great Britain

In its assessment, GEA has also taken into account the OECD membership of the countries with the lowest score in at least one of the four indices. In terms of value, GEA sources approximately five percent of its total purchasing volume from human rights priority countries. Suppliers and subcontractors accounting for 97 percent of this critical volume have accepted the Code of Conduct. GEA puts a lot of effort into ensuring that all critical countries are covered by the Code. This is to be followed by regular audits with a special focus on compliance with human rights in these countries.

National Business and Human Rights Action Plan

To further improve its record when it comes to meeting the requirements under the National Business and Human Rights Action Plan (NAP Business and Human Rights), and for the purpose of optimizing its concepts and due diligence processes, GEA set up a special human rights project that was conducted with the support of external consultants in the year under review. The respective results will be implemented in the 2020 fiscal year.

SMETA audits

In addition to the five SMETA audits already conducted, GEA will perform further audits, the first of which already took place at the German site in Oelde in the year under review. SMETA, the Sedex Members' Ethical Trade Audit, outlines an audit procedure based on best practice in the field of corporate social responsibility. It takes into account the respect for human rights, health and safety, environmental sustainability as well as business integrity. At the same time, SMETA defines a uniform reporting format to ensure that the information provided is meaningful and allows comparability. Each audit report is entered into the Sedex (Supplier Ethical Data Exchange) database. According to Sedex, the international platform has more than 60,000 members from 180 countries and 35 industries and seeks to support enterprises in the fields of supplier management and risk mitigation.

Responsible value creation

All stakeholder groups expect GEA to show economic strength. The latter guarantees safe jobs, efficient and innovative products, reasonable shareholder value and safe investments, value creation even outside the company as well as social engagement.

In turn, this is inextricably linked with correct behavior. In the quest for sustainable value creation, corporate governance constitutes an essential element of corporate management that bears on every aspect of the group's day-to-day operations and activities.

Under the heading of "Human rights" (🔗 [see page 145 f.](#)), GEA provides information on human rights and other social issues related to the supply chain, while environmental aspects in the supply chain are covered in the section on "Environmental responsibility" (🔗 [see page 129](#)).

Compliance management

Compliance represents a group-wide principle set up to ensure adherence to the rule of law as well as internal corporate policies. All GEA employees are obliged to make sure that no compliance violations are committed in their respective areas of responsibility. A detailed outline of GEA's Compliance Management System can be found in the Corporate Governance Report (🔗 [see page 76 ff.](#)) and at gea.com.

To avoid the serious consequences of potential compliance violations, GEA manages these risks by means of a compliance management system designed for analysis, information and awareness raising, control, process definition as well as monitoring purposes, revised in the year under review. The new system was audited in accordance with audit standard IDW PS 980 as of December 31, 2018, with the audit being certified on January 29, 2019. In addition, there is a certified reporting system ("Business Keeper Monitoring System," BKMS). The management approach is verified via internal and external audits conducted by Group Internal Audit and/or external auditors.

New Code of Conduct

In July 2018, GEA's Executive Board adopted the new "Code of Conduct" as well as Compliance Policies based thereon – including the Integrity Policy, the Third-Party Policy as well as the Competition Policy. The Code of Conduct supersedes the former "Business Conduct Policy." The corresponding provisions entered into force throughout the group on January 1, 2019. The above policies govern the fight against corruption and money-laundering, conflicts of interest as well as antitrust and competition law at GEA. They are available to all employees worldwide in 18 different languages. Further details are outlined in the Corporate Governance Report, (🔗 [see page 77](#)).

Reporting system and alternative reporting channels

GEA's BKMS reporting system represents a tool designed to ensure compliance with the Code of Conduct. It is available to employees and third parties in nine different languages and provides the possibility of filing IT-based reports of potential violations of laws and provisions governing the prevention of corruption and competition restrictions. Such reports may remain anonymous in countries where this is permitted by law. Only two dedicated employees of the "Compliance and Principle Legal Matters" department as well as one member of the Internal Audit team may access reports on corruption and competition restrictions. GEA's Integrity System also allows for reports on potential human rights violations (category: violation of the principles of social responsibility under the Code of Corporate Responsibility) being filed (🔗 [see page 144 f.](#)).

Employees and third parties may also report alleged violations by choosing other channels. For instance, GEA receives reports that are submitted via e-mail or letters addressed to the Executive Board, members of the compliance organization or the Head of Internal Audit. It is common practice and stipulated in a policy that the recipient promptly passes such reports on to dedicated members of the compliance organization.

Preventive processes

Processes designed to prevent compliance violations figure prominently in GEA's compliance management scheme. For this reason, individuals in close contact with the customer, such as sales agents, have to undergo a strict risk vetting process for the purpose of corruption prevention prior to entering into a contract with GEA. Each sales agent contract requires prior verification and approval by the legal department. Numerous other matters, such as contracts carrying antitrust risks, invitations and gifts, conflicts of interest as well as sponsoring and donations are subject to strict internal approval and reporting requirements.

Training and consulting

GEA has identified more than 4,000 employees that are exposed to particular compliance risks. As far as anti-corruption and antitrust law are concerned, this group includes all executives, all employees entrusted with sales or purchasing tasks as well as other employees vested with decision-making powers and in direct contact with customers or suppliers. These employees are to receive face-to-face training in the fields of anti-corruption and antitrust law at least once every two years.

Once again, the year under review saw the continuation of compliance training courses:

- Compliance training courses comprise extensive group training covering topics like the fight against corruption and money-laundering, antitrust law as well as conflicts of interest; in the years 2018/2019, the company initiated a worldwide training program on the above topics for approximately 4,000 employees, and by the end of the year, more than 2,800 of them had already undergone this specific training.
- In addition, 2019 saw the delivery of further compliance e-learning courses with a focus on anti-corruption, antitrust law, money-laundering as well as data protection. All employees from the target groups at risk were invited to attend. The group included 6,699 invited participants in the field of anti-corruption, 6,207 for antitrust law, 6,010 as regards money-laundering and 14,773 employees dealing with matters of data privacy.

Local Compliance Managers are appointed for all legal entities whose units operate and manage their own business, i.e. generate sales and/or have employees. At regular intervals, they receive intensive fraud prevention, anti-corruption, money-laundering and antitrust training. They serve as points of contact in relation to local compliance issues and assist the compliance department in its endeavors.

Audits

Within the framework of its standard and special audits, Group Internal Audit also checks compliance aspects. In the year under review, the team performed 25 audits at GEA sites worldwide. Group 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 audits in the fields of anti-corruption and export control. In the year under review, Internal Audit performed additional audits focusing on Executive Board travel expenses as well as audits looking into the risk management systems of both Business Areas as well as that of the Global Corporate Center.

Reporting profile

Once again, GEA's sustainability report for the 2019 fiscal year follows the international standards of the Global Reporting Initiative (GRI). The report was prepared in accordance with the "core option" of the GRI Standards.

NFS

- On behalf of GEA's Supervisory Board, KPMG AG Wirtschaftsprüfungsgesellschaft reviewed GEA's combined non-financial consolidated statement for fiscal year 2019 and performed a limited assurance engagement in relation to the statutory disclosures required pursuant to sections 315b, 315c in conjunction with section 289b to 289e HGB (Handelsgesetzbuch – German Commercial Code). This review was in line with the applicable "International Standard on Assurance Engagements" (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information," see Disclosure 102-56.

Disclosure 102-45

Unless indicated otherwise, the disclosures basically comprise the worldwide activities of the overall group, i.e. GEA Group Aktiengesellschaft including all companies over which GEA can exercise controlling or material influence. A list of the subsidiaries, associated companies and joint ventures meeting this definition can be found in the list of shareholdings included in section 12.4 of the Consolidated Notes.

Disclosure 102-48

No restatements were made; however, the essential topics were revised and re-defined, see Disclosure 102-49.

Disclosure 102-46

Following the comprehensive materiality analysis and risk assessment conducted in 2018, GEA's Corporate Responsibility as well as the Communication, Marketing & Branding departments held a full-day workshop with external consultants in the year under review for the purpose of scrutinizing GEA's economic, ecological and social impact on the topics defined for the year 2019. The main objective was to once again thoroughly discuss and redefine the scopes as well as the reporting boundaries of the individual topics. As a result, it can be stated that the materiality analysis has remained valid in its entirety; nonetheless, a few key areas were refocused while other topics were merged for the sake of clarity. Finally, the result was discussed with GEA's entire Executive Board and adopted.

To identify the topics to be reported in the non-financial statement, GEA also checked an additional prerequisite in line with section 315c in conjunction with section 289c (3) HGB, i.e. whether a specific topic is required for understanding GEA's business progress, business results as well as the situation of the company (net assets, financial position, result of operations). Potential risks arising in connection with these topics were identified, allocated and assessed.

Disclosure 102-42

Internal experts represented the most important source when it came to defining and engaging external stakeholders.

Disclosure 102-40

As a listed company with a shareholder structure characterized by the presence of institutional investors – without a dominant major shareholder – GEA defined the classic stakeholder group, i.e. the “shareholders,” as “investors.” Apart from (potential) investors, this group also includes shareholders, analysts, investment firms as well as rating agencies. All in all, GEA identified the following stakeholders, re-classified in the previous year:

- Investors
- Employees
- Customers
- Industry/peer group (including suppliers)
- NGOs/civil society
- Sustainability experts (scientific community, consultancies)
- Authorities/political sphere

Disclosure 102-43

For the purpose of corroborating the materiality analysis, the company once again analyzed various sources, including the results of the staff engagement and customer satisfaction surveys conducted in 2019. In addition, the capital market’s response (notably ratings and ESG analysts) to the company’s sustainability reporting was one more time subjected to a thorough analysis together with the CR&QHSE experts in 2019. Taking into consideration their requirements, the company decided to continue and even expand its reporting on water consumption and waste, although, overall, these topics are not regarded as material. Every year, GEA participates in the Climate Change Information Request of the Carbon Disclosure Project (CDP). The respective documentation was also taken into account. Moreover, the sustainability reports drawn up by key customers and competitors were also given due regard within the framework of a comparative analysis.

Disclosure 102-47

The company’s reporting in 2019 addresses the following material topics:

- Procurement
- Compliance, in particular anti-corruption
- Greenhouse gas emissions
- Supplier environmental assessment – responsible supply chain
- Employment
- Health and safety at work
- Diversity and equal opportunities
- Human rights (social assessment of suppliers)
- Socio-economic compliance including data privacy
- Sustainable engineering

Disclosure 102-49

The following topics have changed and/or were re-defined:

Topic in 2018	Topic in 2019	Reason(s) for change
Responsible supply chain	Supplier environmental assessment	Allocation to environmental matters.
Labor relations; working conditions, including learning and development	Employment	Employment is essential for competitiveness. In terms of its significance and impact on the organization, it is a superordinate of the (already reported) topics of co-determination as well as learning and development, while also including them as partial aspects.
Social assessment of suppliers; human rights screening	Human rights (social assessment of suppliers)	The 2019 materiality analysis has clearly revealed that human rights risks are relevant, in particular as regards the supply chain; for this reason, reporting on the supply chain has been more detailed. Reporting on human rights management within the organization remains unchanged and/or is expanded in line with the NAP Business and Human Rights.
Data protection	Socio-economic compliance, including protection of personal data	Editorial clarification of existing correlations.
Product quality and safety; sustainable product design and innovation; product lifecycle/circular economy; customer information and support; information security; protection of intellectual property	Sustainable engineering	The topics identified in 2018 remain valid, but are summarized for the purpose of enhanced reporting clarity. For GEA it is crucial to optimize the impact of its products and solutions (outside the organization) under economic, environmental and social aspects while taking into account the respective risks and opportunities. This section includes topics like security as well as the protection of information and intellectual property. This is what GEA understands by "sustainable engineering."
Value creation	Not applicable	Included in the Report on Economic Position.

Disclosure 102-44

This overview shows which individual aspects stakeholders give particular high priority:

Assessment of the materiality of individual aspects by stakeholders	Investors	Customers	Industry/peer group	NGOs/civil society	Sustainability experts (scientific community, consulting)	Authorities/political sphere	Employees
Procurement			•	•		•	
Compliance, in particular anti-corruption	•	•	•	•	•	•	•
Greenhouse gas emissions	•	•	•	•	•	•	•
Supplier environmental assessment	•	•	•	•	•	•	•
Employment	•			•			•
Health and safety at work	•	•	•	•		•	•
Diversity and equal opportunities	•			•		•	•
Human rights (social assessment of suppliers)	•	•	•	•	•	•	•
Socio-economic compliance including protection of personal data	•				•	•	•
Sustainable engineering	•	•	•		•	•	•

Limited Assurance Report of the Independent Auditor regarding the Combined Non-financial Statement

To the Supervisory Board of GEA Group Aktiengesellschaft, Düsseldorf

We have performed an independent limited assurance engagement on the combined non-financial statement of GEA Group Aktiengesellschaft, Düsseldorf (further "GEA") and the group as well as the by reference qualified parts "Fundamental Information about the Group" (further: "Report") according to Sections 315b and 315c in conjunction with 289b to 289e German Commercial Code (HGB) for the business year from January 1 to December 31, 2019.

Management's Responsibility

The legal representatives of GEA are responsible for the preparation of the Report in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB.

This responsibility of the legal representatives includes the selection and application of appropriate methods to prepare the Report and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. Furthermore, this responsibility includes designing, implementing and maintaining systems and processes relevant for the preparation of the Report in a way that is free of – intended or unintended – material misstatements.

Independence and quality assurance on the part of the auditing firm

We are independent from the entity in accordance with the requirements of independence and quality assurance set out in legal provisions and professional pronouncements and have fulfilled our additional professional obligations in accordance with these requirements.

Our audit firm applies the national statutory provisions and professional pronouncements for quality assurance, 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).

Practitioner's Responsibility

Our responsibility is to express a conclusion on the Report based on our work performed within our limited assurance engagement.

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information" published by IAASB. This Standard requires that we plan and perform the assurance engagement to obtain limited assurance whether any matters have come to our attention that cause us to believe that the Report of the entity for the business year January 1 to December 31, 2019 has not been prepared, in all material respects, in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB. We do not, however, provide a separate conclusion for each disclosure. In a limited assurance engagement the evidence gathering procedures are more limited than in a reasonable assurance engagement

and therefore significantly less assurance is obtained than in a reasonable assurance engagement. The choice of audit procedures is subject to the auditor's own judgement.

Within the scope of our engagement, we performed amongst others the following assurance procedures:

- Inquiries of personnel on corporate level, who are responsible for the materiality analysis, in order to gain an understanding of the processes for determining material sustainability topics and respective reporting boundaries of GEA
- A risk analysis, including a media search, to identify relevant information on GEA sustainability performance in the reporting period
- Evaluation of the design and implementation of the systems and processes for determining, processing and monitoring disclosures relating to environmental, employee and social matters, respect for human rights, and combating corruption and bribery, including the consolidation of the data
- Inquiries of personnel on corporate level who are responsible for determining disclosures on concepts, due diligence processes, results and risks, for conducting internal controls and consolidation of the disclosures
- Reviewing the suitability of internally developed Reporting Criteria
- Evaluation of selected internal and external documentation
- Analytical evaluation of data and trends of quantitative information which are reported by all sites for consolidation on corporate level
- 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 Shanghai and Tianjin (both China)
- Assessment of the overall presentation of the disclosures

Conclusion

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the Report of for GEA the business year from January 1 to December 31, 2019 is not prepared, in all material respects, in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB.

Restriction of Use/Clause on General Engagement Terms

This report is issued for purposes of the Supervisory Board of GEA Group Aktiengesellschaft, Düsseldorf only. We assume no responsibility with regard to any third parties.

Our assignment for the Supervisory Board of GEA Group Aktiengesellschaft, Düsseldorf and professional liability is governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (Appendix 2). By reading and using the information contained in this report, each recipient confirms notice 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 General Engagement Terms with respect to us.

Munich, March 12, 2020

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Hell ppa. Dietrich

GRI Content Index

GEA's sustainability report for fiscal year 2019 follows the international standards set by the Global Reporting Initiative (GRI). This report has been prepared in accordance with the GRI Standards: Core option. At the request of GEA's Supervisory Board, KPMG AG Wirtschaftsprüfungsgesellschaft reviewed GEA's combined non-financial consolidated statement for fiscal year 2019 and performed a limited assurance engagement in relation to the statutory information required pursuant to ss. 315b, 315c in conjunction with 289b to 289e HGB

(Handelsgesetzbuch – German Commercial Code). This review was in line with the applicable "International Standard on Assurance Engagements" (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information," see disclosure 102-56.

GRI Standard	Disclosure	Page	Omission/comment
GRI 101: Foundation 2016			

General Disclosures

Organizational profile

GRI 102: General Disclosures 2016	102-1	Name of the organization	36
	102-2	Activities, brands, products, and services	13–23, 37 f.
	102-3	Location of headquarters	298
	102-4	Location of operations	51, 265 ff.
	102-5	Ownership and legal form	32 f.
	102-6	Markets served	7, 51, 56
	102-7	Scale of the organization	51, 66
	102-8	Information on employees and other workers	51
	102-9	Supply chain	42 ff., 129 f., 145 f.
	102-10	Significant changes to the organization and its supply chain	36 ff., 42 ff.
	102-11	Precautionary Principle or approach	152 ff.
	102-12	External initiatives	117, 124 f., 133, 143
	102-13	Membership of associations	143

GRI Standard	Disclosure	Page	Omission/comment
Strategy			
GRI 102: General Disclosures 2016	102-14 Statement from senior decision-maker	25 f.	
Ethics and integrity			
GRI 102: General Disclosures 2016	102-16 Values, principles, standards, and norms of behavior	76 ff., 117, 118, 143 ff.147 f.	
Governance			
GRI 102: General Disclosures 2016	102-18 Governance structure	11 f., 31, 36 ff., 277 ff.	
Stakeholder engagement			
GRI 102: General Disclosures 2016	102-40 List of stakeholder groups	150	
	102-41 Collective bargaining agreements	139	
	102-42 Identifying and selecting stakeholders	149	
	102-43 Approach to stakeholder engagement	150	
	102-44 Key topics and concerns raised	150	
Reporting practice			
GRI 102: General Disclosures 2016	102-45 Entities included in the consolidated financial statements	149	
	102-46 Defining report content and topic Boundaries	149	
	102-47 List of material topics	150	
	102-48 Restatements of information	149	
	102-49 Changes in reporting	151	
	102-50 Reporting period	36	
	102-51 Date of most recent report		Annual report 2018 (January 1–December 31, 2018)
	102-52 Reporting cycle	36	
	102-53 Contact point for questions regarding the report	298	
	102-54 Claims of reporting in accordance with the GRI Standards	149	
	102-55 GRI content index	289 ff.	
	102-56 External assurance	273 ff., 281 f.	

GRI Standard	Disclosure	Page	Omission/comment
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Topic-specific Standards: Economic

Procurement Practices

GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	42 ff.	
	103-2	The management approach and its components		
	103-3	Evaluation of the management approach		
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	43	

Anti-corruption

GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	147 f.	
	103-2	The management approach and its components		
	103-3	Evaluation of the management approach		
GRI 205: Anti-corruption 2016 ✓	205-1	Operations assessed for risks related to corruption	148	
	205-2	Communication and training about anti-corruption policies and procedures	148	Available data include information on the number of individuals participating in e-learning courses by topics (no further differentiation by employee category or region), the number of individuals participating in training courses as well as preventive measures in relation to business partners (without quantity). The members of the governing body (Supervisory Board) are regularly informed about compliance topics including anti-corruption measures

Topic-specific Standards: Environmental

Emissions

GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	124 ff.	
	103-2	The management approach and its components		
	103-3	Evaluation of the management approach		
GRI 305: Emissions 2016 ✓	305-1	Direct (Scope 1) GHG emissions	125 f.	Included in the reporting are production sites, workshops and service locations, as well as GEA Group Aktiengesellschaft as Global Corporate Center.
	305-2	Energy indirect (Scope 2) GHG emissions	125 f.	A market-based calculation was additionally performed for Germany and New Zealand.
	305-3	Other indirect (Scope 3) GHG emissions	125 f.	Currently, this performance indicator merely subsumes reporting on business travel. In this context, GEA differentiates between air travel (global recording by GEA's travel agency), car rentals (rentals in Europe and in the US) as well as travel with Deutsche Bahn (bookings in Germany).
	305-4	GHG emissions intensity	126	

GRI Standard	Disclosure	Page	Omission/comment
Supplier Environmental Assessment			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	129	
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	129	All supplier audits are reported. No differentiation between new and existing suppliers.
Water and Effluents			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	126 ff.	Overall, water and wastewater are not material topics; GEA nevertheless reports some general key figures and provides information on the management of water risks.
GRI 303: Water and Effluents 2018	303-1 Interaction with water as a shared resource 303-2 Management of water discharge-related impacts 303-3 Water withdrawal 303-5 Water consumption	126 ff. 127 f. 127 127	
Effluents and Waste			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	128 f.	Overall, waste is not a material topic; GEA nevertheless reports some general key figures and provides information on the use of waste products for alternative production methods.
GRI 306: Effluents and Waste 2016	306-2 Waste by type and disposal method	128	
Topic-specific Standards: Social			
Employment			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	136 ff.	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	137 f.	

GRI Standard	Disclosure	Page	Omission/comment	
Occupational Health and Safety				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	118 f.	
	103-2	The management approach and its components		
	103-3	Evaluation of the management approach		
GRI 403: Occupational Health and Safety 2018 ✓	403-1	Occupational health and safety management system	119 ff.	
	403-2	Hazard identification, risk assessment, and incident investigation	120	
	403-3	Occupational health services	120 f.	
	403-4	Worker participation, consultation, and communication on occupational health and safety	118	
	403-5	Worker training on occupational health and safety	121	
	403-6	Promotion of worker health	123	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	120 f., 123	
	403-9	Work-related injuries	122	Types of injuries not reported.
	Diversity and Equal Opportunity			
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	141 f.	
	103-2	The management approach and its components		
	103-3	Evaluation of the management approach		
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	142	Age groups for the members of the governing bodies are not reported.
Supplier Social Assessment				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	145 f.	
	103-2	The management approach and its components		
	103-3	Evaluation of the management approach		
GRI 414: Supplier Social Assessment 2016	414-2	Negative social impacts in the supply chain and actions taken	145 f.	Material topic in the area of human rights

GRI Standard	Disclosure	Page	Omission/comment
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Sustainable engineering (not covered by an existing GRI Standard)

For GEA it is crucial to optimize the impact of products and solutions (outside the organization) under economic, ecological and social aspects, taking into account both opportunities and risks. This is what GEA understands by “sustainable engineering.” For the time being, this material topic is substantiated by existing appropriate GRI information (see below: customer health and safety, customer privacy); 2020 is expected to see the launch of an internal project to determine whether it is possible to identify more suitable indicators for providing evidence of sustainable engineering/sustainable products. Parallel projects aimed at expanding climate reporting to customers and the supply chain are under way.

Customer Health and Safety

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	118 f., 120, 123, 130 f.	
GRI 416: Customer Health and Safety 2016 ✓	GEA specific disclosure: Number of certificates in accordance with ISO 9001, 14001, 50001 as well as 45001	119 f.	The number of certifications serves as an indicator of quality and sustainability.

Customer Privacy

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	134 f.	
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	134	

Socioeconomic Compliance

GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary 103-2 The management approach and its components 103-3 Evaluation of the management approach	142 f., 143 ff., 147 f.	
GRI 419: Socioeconomic Compliance 2016 ✓	419-1 Non-compliance with laws and regulations in the social and economic area	143	Includes data protection breaches.

✓ audited by KPMG according to ISAE 3000

Contribution to the Sustainable Development Goals



The Sustainable Development Goals (SDG) were adopted by the General Assembly of the United Nations in 2015. The goals cover economic, environmental and social issues. The deadline for implementing the goals is 2030. Although the signatories, i.e. all nation states, are the primary addressees, the cooperation of other actors, including companies, is crucial for putting the goals into practice. GEA's contribution is illustrated by the following links to the GRI standards underlying GEA's sustainability reporting. Further information on the SDGs can be found at www.sustainabledevelopment.un.org. The links are based on the GRI publication "SDG Compass – Linking the SDGs and GRI."



Ensure healthy lives and promote well-being for all at all ages

Topic	GRI Standard
Spills	Waste by type and disposal method, GRI 306-2
Water quality	Water and Effluents, GRI 303
Occupational health and safety	Occupational Health and Safety, GRI 403



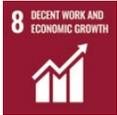
Achieve gender equality and empower all women and girls

Topic	GRI Standard
Gender equality	New employee hires and employee turnover, GRI 401-1; Diversity of governance bodies and employees, GRI 405-1
Women in leadership	Diversity of governance bodies and employees, GRI 405-1
Workplace violence and harassment	Negative social impacts in the supply chain and actions taken, GRI 414-2 (see section Human Rights)



Ensure availability and sustainable management of water and sanitation for all

Topic	GRI Standard
Sustainable water withdrawals	Water and Effluents, GRI 303
Waste	Waste by type and disposal method, GRI 306-2
Water efficiency	Water and Effluents, GRI 303
Water quality	Water and Effluents, GRI 303
Water recycling and reuse	Water and Effluents, GRI 303
Water-related ecosystems and biodiversity	Water and Effluents, GRI 303; Waste by type and disposal method, GRI 306-2



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Topic	GRI Standard
Diversity and equal opportunity	Diversity and Equal Opportunity, GRI 405-1
Employment	Information on employees and other workers, GRI 102-8; New employee hires and employee turnover, GRI 401-1
Freedom of association and collective bargaining	Collective bargaining agreements, GRI 102-41 (see section Labor/management relations and co-determination)
Labor practices in the supply chain	Negative social impacts in the supply chain and actions taken, GRI 414-2
Occupational health and safety	Occupational Health and Safety, GRI 403
Water efficiency	Water and Effluents, GRI 303
Youth employment	New employee hires and employee turnover, GRI 401-1



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Topic	GRI Standard
Research and development	Sustainable engineering: innovation



Ensure sustainable consumption and production patterns

Topic	GRI Standard
Air quality	Emissions, GRI 305
Energy efficiency	Sustainable engineering: certifications, innovation
Environmental investments	Emissions, GRI 305; Effluents and Waste, GRI 306
Procurement practices	Proportion of spending on local suppliers, GRI 204-1
Transport	Emissions, GRI 305
Waste	Waste by type and disposal method, GRI 306-2
Water efficiency	Water and Effluents, GRI 303



Take urgent action to combat climate change and its impacts

Topic	GRI Standard
Environmental investments	Emissions, GRI 305; Effluents and Waste, GRI 306; Management Approach, GRI 103, to sustainable engineering: innovation
GHG emissions	Emissions, GRI 305



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Topic	GRI Standard
Environmental investments	Emissions, GRI 305; Effluents and Waste, GRI 306
Ocean acidification	Emissions, GRI 305



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Topic	GRI Standard
Environmental investments	Emissions, GRI 305; Effluents and Waste, GRI 306
Forest degradation	Emissions, GRI 305



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Topic	GRI Standard
Anti-corruption	Operations assessed for risks related to corruption, GRI 205-1; Communication and training about anti-corruption policies and procedures, GRI 205-2
Compliance with laws and regulations	Non-compliance with laws and regulations in the social and economic area, GRI 419-1; Substantiated complaints concerning breaches of customer privacy and losses of customer data, GRI 418-1
Ethical and lawful behavior	Values, principles, standards, and norms of behavior, GRI 102-16
Grievance mechanisms	Management Approach, GRI 103, to Human Rights and to Compliance
Protection of privacy	Substantiated complaints concerning breaches of customer privacy and losses of customer data, GRI 418-1
Workplace violence and harassment	Negative social impacts in the supply chain and actions taken, GRI 414-2



We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA is one of the largest suppliers for food processing technology and of related industries. The global group specializes in machinery, plants, as well as process technology and components. GEA provides sustainable solutions for sophisticated production processes in diverse end-user markets and offers a comprehensive service portfolio.

The company is listed on the German MDAX (G1A, WKN 660 200), the STOXX® Europe 600 Index as well as the DAX 50 ESG Index and selected MSCI Global Sustainability Indexes. With an "A-" rating, GEA is among the leading group in the climate benchmark Carbon Disclosure Project.

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