Introduction

Ladies and Gentlemen,

In 2018, HeidelbergCement achieved new record figures for sales volumes, revenue, and profit for the financial year. Never in our 145-year history have we sold more cement, concrete, sand, and gravel. Having become one of the world’s largest building materials manufacturers, we know that sustainable economic success is only possible when it goes hand in hand with responsible business management designed to secure the future viability of the company. Sustainability is therefore an integral element of our Group strategy.

We have laid down the key topics and principles of our sustainability strategy in our Sustainability Commitments 2030, which are in turn aligned with the United Nations’ Sustainable Development Goals (SDGs).

To underscore our commitment, we joined the United Nations Global Compact (UN GC) in 2018. We have declared our express commitment to its ten principles in the areas of human rights, labour standards, environmental protection, and corruption prevention and will take these into account and promote them within our corporate strategy as well as in all our business activities.

Climate protection: intensive research on CO2 reduction

Climate protection is at the heart of our efforts to support sustainability. We have made a commitment to accept our share of the worldwide responsibility to limit the global rise in temperature to below 2°C and to promote the transition to a low-carbon economy, while also supporting the social and economic development of the countries in which we operate. We are the first company in the cement sector to have the Science Based Targets initiative (SBTi) verify that our CO2 reduction targets for 2030 conform to the requirements of the Paris Agreement.

Cutting our CO2 emissions and handling natural resources considerately are priorities for all our business lines. Our actions to achieve these objectives include constantly increasing the proportion of alternative raw materials and fuels, continuously optimising our production processes, and investing in innovations at product and technology level. We consider the entire value chain – from the quarry to the recycling of the building materials. By 2030, we will invest 80% of our research and development budget in the development of sustainable products. With our active involvement in various research projects to investigate methods of capturing and recycling CO2, we are leaders in our industry. Our vision is to offer a CO2-neutral concrete by 2050 at the latest.
Responsibility for the environment and society

By taking on a responsibility for the environment and society as well as reducing the negative effects of our activities as much as possible, we are minimising the risks faced by our business. This is achieved by following a holistic approach that is valid for all our business lines and Group areas. Our sustainability strategy focuses on local responsibility – towards our employees and our neighbours as well as the environment – at more than 3,000 locations in around 60 countries worldwide.

Another of our central concerns lies in investigating and supporting biodiversity in quarries and extraction sites – both during operation and in subsequent use. In December 2018, the final round of our fourth international research and education competition, the Quarry Life Award, took place. Teams from 26 countries participated and submitted over 300 project ideas. These extremely wide-ranging projects present HeidelbergCement with new insights into biodiversity in quarries and offer ways to support this even more effectively.

Putting people center stage: occupational safety and human rights

The issue of occupational health and safety is another top priority at HeidelbergCement and stems from our key corporate values.

We work continuously to minimise the risks for our employees, contractors, and third parties. In 2018, we decreased the accident frequency rate across the Group by 12%. We will maintain our focus on prevention and accident avoidance in order to achieve our goal of “zero harm”, which we also reiterated in our Sustainability Commitments 2030.

We are committed to respecting human rights. On this basis, we commenced a Group-wide human rights risk analysis at the end of 2017. In addition to the working conditions of our employees, it also covers responsibility for the people living near our sites and the selection of suppliers and customers.

HeidelbergCement: well positioned for sustainable success

HeidelbergCement is globally well positioned, and we are confident about 2019. Our goal is clear: we want to maintain our profitable growth and create added value for our stakeholders on a sustainable basis – for our shareholders, customers, employees, suppliers, and business partners, for society, and for the benefit of the environment. Therefore, we will continue to integrate economic as well as environmental and social objectives into our business strategy and our management remuneration system. We look forward to your continuing support on this journey.

Yours sincerely,

Dr. Bernd Scheifele
Chairman of the Managing Board
Contents

How to find your way through the report

To make it easier for you to navigate through the report, we have added links to this PDF file. In the grey bar at the top edge of the page, you can jump to the individual chapters from any page. The thin green bar shows you which chapter you are currently in. The icons operate similarly to those on a website:

- Go forward/back
- Table of contents
- Starting page

You can also directly access the chapters from the table of contents. In each chapter, the column at the far left contains a linked overview of the sub-chapters. The following symbol in the text is also useful:

- Link to the specified page or website

Cover image: Aggregates site near Peebles/Ohio, USA.

This is our Communication on Progress in implementing the principles of the United Nations Global Compact and supporting broader UN goals.

We welcome feedback on its contents.
Company Portrait

06 → Organisational structure
07 → Key business figures at a glance
08 → Value chain
09 → Vertical integration

Image: Construction of HeidelbergCement’s new headquarters in Heidelberg, Germany.
HeidelbergCement is divided into five geographical Group areas: Western and Southern Europe, Northern and Eastern Europe-Central Asia, North America, Asia-Pacific, and Africa-Eastern Mediterranean Basin (see organisation chart for breakdown of countries). Our global trading activities, especially the trading of cement, clinker, and solid fuels, are pooled together in the sixth Group area, Group Services.

Within the geographical Group areas, we have divided our activities into four business lines: cement, aggregates, ready-mixed concrete-asphalt, and service-joint ventures-other.
Key business figures at a glance

Total Group revenue
Increase from 2017 to 2018
Figures in € millions

- 15,166
- 17,266
- 18,075

+4.7%

Group share of profit
Increase from 2017 to 2018
Figures in € millions

- 657
- 918
- 1,143

+24.6%

Number of employees
Decrease from 2017 to 2018

- 60,424
- 59,054
- 57,939

-1.9%

Growth in sales volumes in all business lines and price increases contributed to a rise of 4.7% in Group revenue in an operationally challenging environment.

The increase of 24.6% in the Group share of profit was due to higher income from the optimisation of the portfolio as well as lower restructuring, interest, and tax expenses.

The 1.9% decrease in the number of employees results mainly from the realisation of synergies and efficiency improvements in sales and administration, as well as location optimisations.

* Italcementi fully consolidated since 1 July 2016.
** Number of employees at the end of December of each year.
The raw materials needed for producing our building materials – limestone for cement production as well as sand, gravel, and hard rock – are generally extracted from our own quarrying sites.

Our business is based on the production of cement and aggregates, the two essential raw materials for manufacturing concrete.

We supply our products for public-sector and commercial projects as well as to private customers.

The aim of our research activities is to provide customers with innovative products and to minimise energy consumption and CO₂ emissions by improving processes and creating new formulations.

In 2018, HeidelbergCement procured goods and services with a total value of around €12.6 billion, with 39% being spent on energy and raw materials.
HeidelbergCement is one of the world's largest companies for building materials. The core activities of HeidelbergCement encompass the production and distribution of cement, aggregates, concrete, and asphalt. This vertical integration strategy is one of our growth drivers. In future, we plan to further integrate our business activities in urban centers in particular.

We process some of the cement and aggregates into our own concrete and asphalt.

Customers/markets
- Public-sector clients: Cement 50%, Aggregates 50%–60%
- Commercial clients: Cement 20%, Aggregates 20%–25%
- Private customers: Cement 30%, Aggregates 20%–25%
Strategy & Management

11 ➔ Figures, data, facts
12 ➔ Vision & mission
12 ➔ Sustainability Commitments 2030
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Image: The Svinesund Bridge between Norway and Sweden.
Through our Sustainability Commitments 2030, we are supporting the UN Sustainable Development Goals. In doing so, we aim to help address social, economic, and environmental challenges at a global level. They define the principles, main components, and objectives of our sustainability strategy until the year 2030.

Energy efficiency and climate protection → p. 15

30%

is our targeted reduction in CO₂ emissions by 2030 compared with 1990. HeidelbergCement is the first company in the cement sector to have its reduction targets recognised by the Science Based Targets initiative (SBTi).

Stakeholder dialogue → p. 16 f.

Industry association for more sustainability

On 31 January 2018, HeidelbergCement and eight other leading companies in the cement and concrete industry came together to create the Global Cement and Concrete Association (GCCA). The joint aim is to strengthen the sector’s contribution to sustainable construction and drive forward innovation.

Public affairs → p. 17

Dialogue with political decision makers

As leading building materials company in Europe, we want to demonstrate how our industry can help to solve societal challenges. One of our areas of focus will be climate protection.
For us, doing business means a lot more than just achieving outstanding financial results. We also want to act in an environmentally and socially responsible manner. This understanding of our company shapes our sustainability strategy and the Sustainability Commitments 2030.

**Vision and mission**

We want to continue to grow. In the long term, however, we will only be able to achieve our business goals if we generate added value for society as a whole. We conserve natural resources, as they form the basis of our business activities, and we take our social responsibility at the various company locations and towards our employees seriously. We want to continue providing our employees with a secure income and good qualifications. In our production activities, we focus particularly on ensuring the health and safety of our employees. We want our customers to benefit from the high quality of our products and a close partnership. We maintain respectful relations with our suppliers and expect them to comply with our sustainability standards.

Our business activities are characterised by commercial prudence, the rule of law, and integrity. We promote value creation at our locations and help to increase prosperity and the quality of life in emerging economies in particular. By boosting growth, we achieve appropriate dividends and increasing enterprise value for our shareholders. Growth and good returns are also the basis for our investments in cutting-edge technologies to help protect the climate and the environment.

HeidelbergCement operates at more than 3,000 locations worldwide. Local responsibility is therefore at the heart of our sustainability strategy.

**Sustainability Commitments 2030**

The HeidelbergCement Sustainability Commitments 2030 describe our most important activities in terms of promoting sustainability. They are valid throughout the Group and define the principles, main components, and objectives of our sustainability strategy until the year 2030.

The principles outlined in the Sustainability Commitments 2030 are as follows:

- Driving economic strength and innovation
- Achieving excellence in occupational health and safety
- Reducing our ecological footprint
- Enabling the circular economy
- Being a good neighbour
- Ensuring compliance and creating transparency
Environmentally and socially responsible conduct is a crucial part of our business strategy. This is also reflected in the individual goals of the members of the Managing Board of HeidelbergCement.

Dr. Albert Scheuer
Member of the Managing Board

Through our Sustainability Commitments 2030, we are supporting the UN Sustainable Development Goals. In doing so, we aim to help address social, economic, and environmental challenges at a global level.


Responsibility & organisation

Effective management systems operated by our various business lines help to ensure a continual process of improvement in accordance with our sustainability strategy. Within the framework of these systems, we have defined areas of responsibility and created structures that support the effective implementation and monitoring of the measures we employ to achieve our sustainability targets. These targets focus on occupational health and safety, environmental protection, and compliance.

Occupational health and safety is one of our company’s core values, and it is an area for which all management levels at HeidelbergCement are accountable. Our occupational safety organisation falls within the remit of the Chairman of the Managing Board, to whom the Director Group Human Resources, who is responsible for Group Health & Safety, reports directly. H&S advisors support the Managing Board members responsible for the different Group areas in addition to the country managers, who coordinate the measures on a national basis, and the line managers at regional and local management level. Individual occupational health and safety measures are defined either by Group Health & Safety or the local units, depending on their nature and impact. Occupational safety measures are part of the personal goal agreement for the Managing Board and the top operations managers in the various countries. Last but not least, each individual employee, contractor, and visitor is responsible for following the occupational safety regulations.

Environmental protection is an integral element of HeidelbergCement’s business strategy, which is defined by the Managing Board in consultation with the Supervisory Board. The member of the Managing Board who is responsible for the topic of sustainability heads the Group Environmental Sustainability Committee. This committee also includes the directors of the Group departments Global Environmental Sustainability and Group Communication & IR, as well as the directors of the Heidelberg Technology Center (HTC), the Competence Center Materials (CCM), and the Competence Center Readymix (CCR). The committee’s task is to accelerate the progress of operating activities with regard to sustainability and to position HeidelbergCement as a sustainable company. The Supervisory Board also addresses different topics connected with sustainability and environmental protection on a regular basis.

More on environmental management: p. 35

The Global Environmental Sustainability department supports future-oriented activities in the area of environmental sustainability at Group level in a number of ways. These include defining guidelines and goals, identifying and disseminating tried-and-tested measures for achieving these goals, internal and external benchmarking, coordinating action plans to implement research projects, and representing the company in international organisations.
The compliance organisation is under the authority of the Chairman of the Managing Board, to whom the Director Group Compliance reports directly. Each country has its own compliance officer with a direct reporting line to the country manager. However, responsibility for ensuring that employees’ conduct is compliant with the law and regulations lies with all managers and, of course, the employees themselves.

**Challenges & strategy**

While we minimise the risks for our business and seize new opportunities, we simultaneously develop solutions for environmental and social challenges. This work focuses on the following topic areas:

- **Occupational safety**: HeidelbergCement is a manufacturing company. Occupational health and safety is therefore our highest priority. We use targeted measures to improve our technical and organisational safety standards and to raise awareness of safe working practices. This is aimed not only at our own employees but also at the employees of external companies and third parties.

- **Securing the supply of raw materials and conserving resources**: Our business operations are dependent on having long-term access to mineral-based raw materials in the vicinity of our plants. Such resources are finite, and their local exploitation often leads to conflicts of interest. We therefore view securing sustainable supplies of raw materials and conserving resources as key strategic tasks. Our strategy of conserving resources in cement production includes the use of alternative raw materials and fuels. In line with the European Commission’s circular economy targets, HeidelbergCement is involved in research projects investigating the reuse of recycled building materials, for instance in fresh concrete.

  ➤ **Additional information**: Energy and climate protection p. 36 ff. Building materials recycling p. 31

- **Nature conservation and species protection**: The quarrying of raw materials requires us to temporarily encroach upon the water supply, soil, and flora and fauna. At the same time, our extensive land use creates refuges for endangered animal and plant species. We operate our quarrying sites in accordance with international, national, and local environmental legislation. By 2030, we aim to manage all our extraction sites on the basis of an after-use plan agreed together with local authorities according to the needs of the community. We strive to integrate recommendations for the promotion of biodiversity into every new after-use plan.

The quarries as well as the sand and aggregates pits from which we extract our raw materials are valuable habitats for many animal and plant species.
Energy efficiency and climate protection: The production of cement requires a lot of energy. From both an economic and an environmental standpoint, it is therefore imperative that we further increase our energy efficiency. Cement production by its nature also leads to a high level of CO2 emissions. We have made a commitment to accept our share of the worldwide responsibility to limit the global rise in temperature to below 2°C. Our goal is to reduce our specific CO2 emissions by 30% by 2030, compared with the 1990 level, and to realise our vision of CO2-neutral concrete by 2050 at the latest. We plan to achieve this by increasing the proportion of alternative CO2-neutral raw materials and fuels, developing innovative cement types with a lower carbon footprint, and – in the long term – capturing and utilising CO2 emissions. Our goal and the associated measures are consistent with the road map defined by the International Energy Agency (IEA) to help the industry implement the Paris Agreement. They were recognised by the Science Based Targets initiative (SBTi) in spring 2019, making HeidelbergCement the first cement company and one of currently around 200 businesses worldwide whose targets have been approved by the SBTi.

Additional information: Energy and climate protection p. 36 ff.

Stakeholder engagement

In view of the strong local focus of our business operations, we can only be successful in the long term if we maintain good cooperative relationships with the various stakeholders in society. We seek to establish and maintain a dialogue based on trust with all such relevant groups – at a local, national, and international level. The resulting exchange of ideas and opinions helps us identify critical issues at an early stage and gain greater acceptance for our activities. Each country organisation is responsible for establishing and maintaining its own relationships with national and local stakeholders. The stakeholder dialogue at international level is managed by the Group departments for communication and sustainability.

Relations with local stakeholders

Most of our plants and quarries are situated near local communities. It is therefore a matter of course for us to maintain regular contact with the respective community, government agencies, and local organisations, and to inform them about our activities and planned projects at the plant. Plant or facility management is generally responsible for such stakeholder relationships. Along with personal discussions, we also make use of the entire range of modern information and dialogue media, including newsletters and guidelines as well as different public participation concepts.
We aim to reconcile the interests of the company with those of the local community. The concerns of our local stakeholders vary from location to location. In general, they range from simple visit enquiries and appeals for us to support projects and sports, cultural, and educational institutions all the way through to information requests. Stakeholders also raise reservations regarding imminent modernisation and expansion measures as well as complaints about noise and dust pollution from our plants and quarries. We respond promptly to complaints and provide transparent information wherever possible and practical in order to address uncertainties and misgivings.

**Stakeholder dialogue at a national and international level**

HeidelbergCement is a member of various associations that represent their members’ interests vis-à-vis governments, businesses, and the public. These memberships promote an exchange with other companies and organisations and a common determination to achieve greater sustainability. The topics addressed focus on challenges specific to individual countries and industrial policy, particularly with regard to the secure supply of raw materials, environmental protection, energy conservation, occupational health and safety, and social and labour issues.

As a Group headquartered in Germany, we are a member of econsense – Forum for Sustainable Development of German Business. This network of global German companies views itself as a partner and an expert forum for dialogue with governments, the scientific community, media, and society. The aim of econsense is to promote sustainable development in business and to assume social responsibility collectively.

[www.econsense.de/about-us/](http://www.econsense.de/about-us/)

In order to further strengthen innovation and sustainability at a global level, HeidelbergCement and eight other international building materials companies came together at the end of January 2018 to create the Global Cement and Concrete Association (GCCA) – the first worldwide association for cement and concrete. One of the association’s most important tasks is to show how the challenges of construction – in relation to climate protection, for example – can be tackled in the future with the help of concrete.

[https://gccassociation.org/](https://gccassociation.org/)

HeidelbergCement and its subsidiaries also work with national Green Building Councils in different countries. The goal here is to jointly develop certification systems for sustainable construction and to make the design, construction, and operation of buildings more sustainable. From 2019, we will also be actively involved in the umbrella organisation, the World Green Building Council.

[https://www.worldgbc.org/](https://www.worldgbc.org/)

[www.heidelbercgement.com/responsibility](http://www.heidelbercgement.com/responsibility)
Dialogue with political decision makers
We participate in the European Cement Association (CEMBUREAU), which speaks for European cement manufacturers in discussions and negotiations with the European Union (EU) and other institutions. As a member of the European Aggregates Association (UEPG), we also present our positions on aggregates to political decision makers. Our interests concerning concrete are represented by the European Ready-Mixed Concrete Organisation (ERMCO) and the European Concrete Platform (ECP).

In early 2019, we created two Public Affairs Manager positions, based in Berlin and Brussels, to further strengthen our dialogue with policymakers. In this way, we intend to supplement our indirect representation through associations with direct contact partners from within the company. As leading building materials company in Europe, we also want to demonstrate personally how our industry can contribute to solving societal challenges. One of our areas of focus will be climate protection, particularly our vision to offer CO2-neutral concrete by 2050.

Our lobbying activities represent the positions that Heidelberg-Cement takes in public.

Dialogue with analysts and investors who focus on sustainability issues
Sustainability considerations are becoming increasingly important in investment decisions as our shareholders and a growing number of financial analysts and rating agencies want to know how Heidelberg-Cement integrates the issue of sustainability into its Group strategy. They also want to know how successful the company has been in this regard. We provide data relating to these considerations to rating agencies including CDP, ISS-oekom, and RobecoSAM, and also attend bilateral meetings where required. In the past year, the central concerns discussed were measures and strategies to promote climate protection, the occupational safety of our employees and contractual partners, and respect for human rights.

Materiality analysis
We regularly use a materiality analysis to examine how relevant individual sustainability topics are for different stakeholder groups and for the company itself. The analysis thus helps us identify and evaluate issues and trends that are important for our business success today or could prove to be important in future.

At the end of 2017, in order to determine the topics that are relevant to HeidelbergCement, we compared the sustainability topics identified in the past with the lists of topics used by the Global Reporting Initiative (GRI) as well as those referred to in other frameworks and industry requirements, and examined their relevance to the business. This resulted in 17 action areas that we structured, consolidated, and allocated to the relevant GRI topic areas. The next step was to draw up an analysis from a stakeholder perspective and determine the social, economic, and environmental impact of our business activity. This process resulted in a materiality matrix, which is still valid and has therefore also been used, unchanged, for this report.
GRI 102-44, 102-47

Materiality matrix

Impact of HeidelbergCement

Relevance for stakeholders

low    medium    high

Species protection & sustainable land use
Social commitment
Corporate governance

Pollutant emissions
Compliance
Occupational health & safety
Climate & energy

Attractiveness as an employer
Circular economy
Human rights

Water management
International workforce
Supply chain management
Dialogue & transparency

Sustainable products
Economic stability

Environmental

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Dialogue & transparency

Sustainable products
Economic stability

Environmental
Business & Compliance

- Figures, data, facts
- Legal compliance
- Business performance
- Compliance management
- Risk & opportunity management

Image: Construction of the Herrschaftsbuck Tunnel near Rheinfelden in Germany.
Focus on human rights.

In 2018, a third of our national organisations carried out a human rights evaluation. By 2020, we aim to produce a risk assessment for all countries in which we are substantially active. Our suppliers must also subscribe to fundamental human rights.

We have pledged to incorporate the principles of the UN Global Compact in the areas of human rights, labour standards, environmental protection, and corruption prevention as integral elements of our strategy, corporate culture, and day-to-day business.

Around 90% of our procurement volume is invested in the areas immediately surrounding our plants or within the respective country. Each of our plants collaborates closely with local suppliers and service providers.

14,900 employees registered for our Compliance e-learning programmes in 2018. The range of courses available includes topics such as discrimination and harassment in the workplace, competition law, and the prevention of corruption.
HeidelbergCement is committed to responsible corporate governance. We aim to achieve our business objectives in accordance with applicable laws and international standards and by means of socially and environmentally responsible methods. Only in this way will our success be sustainable.

**Legal compliance**

In all the countries in which we operate, we comply with and respect the applicable laws and regulations. They form the legal basis for our business activity. As a globally active company, we are also bound by international values and standards. We are therefore committed to adhering to the core labour standards of the International Labour Organization (ILO), the OECD Guidelines for Multinational Enterprises, and the United Nations’ Universal Declaration of Human Rights. We also expect our employees and business partners worldwide to observe these central guidelines and recommendations. Our Leadership Principles therefore include a commitment to these standards. Suppliers are obligated to comply with our Supplier Code of Conduct.

When we joined the United Nations Global Compact in October 2018, we pledged to incorporate its principles in the areas of human rights, labour standards, environmental protection, and corruption prevention as integral elements of our strategy, corporate culture, and day-to-day business. In this context, we will increase our involvement in charitable projects in order to play our part in achieving the development goals of the United Nations, particularly the sustainability goals. We will report to the public annually on our progress on the implementation of projects and the achievement of objectives, in accordance with the rules of the Global Compact.

We expect our employees, business partners, and suppliers to make a clear commitment to the protection of human rights, in particular the prohibition of child and forced labour. This is how we want to be perceived as a long-term, ethical company at all our locations.

Andreas Schnurr
Director Group Compliance

Our management and monitoring structures comply with the company’s Articles of Association, the Rules of Procedure of the Managing Board and Supervisory Board, the regulations under the German Stock Company Act, and the German Corporate Governance Code.

**Business performance**

In 2018, Group revenue increased to €18.1 billion, corresponding to a rise of 4.7%. After adjustment for exchange rate effects and changes to the scope of consolidation, the increase amounted to 8.0%. Personnel costs rose in comparison with the previous year by 1.4% to €3,032 million. The financial result improved by €52 million to €-367 million. The tax expense reduced to €464 million, largely due to a special effect in the previous year, arising from the revaluation of the deferred tax item resulting from the US tax reform. The Group share of profit for the financial year amounted to €1,143 million.
Compliance management

We have implemented a compliance programme across the Group, based on our Code of Business Conduct, to ensure conduct that is compliant both with the law and with regulations. The Code of Business Conduct requires all employees to adhere to our basic principles of responsible corporate governance, regardless of whether such principles have been written into law or not. The compliance programme is reviewed on an ongoing basis for any necessary adjustments with respect to current legal and social developments, and it is improved and updated accordingly.

A central element of this programme is the self-commitment made by the company management not to tolerate violations of applicable laws and to impose sanctions where appropriate. It also includes internal guidelines and measures that express the legal provisions in concrete terms. In addition to regular communication of these guidelines, our management issues compliance letters to raise awareness of compliance with laws and regulations. We also
Comparable measures will, in the future, also be undertaken in connection with the protection of human rights. Besides introducing a Group position on human rights, we commenced work on a human rights risk analysis and began to compile performance indicators relating to human rights for the first time in 2017. By the end of 2018, about a third of our country organisations had carried out a human rights evaluation. This involves identifying potential risks and existing measures as well as determining additional measures to be implemented. Our aim is to produce a risk assessment for all countries in which we are substantially active and to repeat this analysis regularly at an interval of approximately three years. Our suppliers must also subscribe to fundamental human rights. A supplier management system is currently being introduced across the Group to improve compliance monitoring. The topic of human rights will play an even greater role in compliance training in future.

Additional information on the measures taken to establish legally compliant and responsible conduct within the HeidelbergCement Group can be found in our Annual Report 2018 (pages 64 ff. and 82 ff.).

Compliance reporting system
Our compliance reporting system, which also includes criteria for infringements of human rights and ILO core labour standards, offers employees and external parties the opportunity to report suspected violations of laws or guidelines. The system encompasses a variety of channels through which compliance violations can be addressed, ranging from reports sent directly to specifically authorised contact partners to information submitted via our whistle-blower hotline. All such reports are handled anonymously if desired. Our Compliance Incident Reporting & Case Management Guideline contains instructions and principles on how to report compliance-related incidents, investigate submitted complaints, and protect those reporting the incidents.
We examine every report we receive and take appropriate disciplinary action in cases of proven misconduct. These measures can range from reprimands to dismissal. We also initiate civil action and press criminal charges, if necessary. In addition to taking corrective action, we implement preventive measures to help prevent similar incidents arising in the future.

In 2018, Group Compliance registered 89 confirmed or pending compliance cases at Group level, which corresponds to a rise of 2% compared with 2017. In our opinion, this slight rise in recorded cases is primarily the result of an increased willingness to report due to improved compliance awareness. Of the allegations, 44% related to the working environment, 13% were property offences, and 12% concerned corrupt behaviour and conflicts of interest. The remaining incidents were distributed among several other categories. The few reports relating to human rights were predominantly cases of alleged discrimination.

Risk & opportunity management

HeidelbergCement’s risk policy is based on the business strategy, which focuses on safeguarding the Group’s existence and sustainably increasing its enterprise value. Entrepreneurial activity is always forward looking and therefore subject to certain risks. Identifying risks, understanding them, as well as assessing and reducing them systematically are the responsibility of the Managing Board and a key task for all managers.

HeidelbergCement is subject to various risks that are not fundamentally avoided, but instead accepted, provided they are consistent with the legal and ethical principles of entrepreneurial activity and are well balanced by the opportunities they present. Opportunity management and risk management at HeidelbergCement are closely linked by Group-wide planning and monitoring systems. Opportunities are recorded in the annual operational plan and followed up as part of monthly financial reporting. Operational management in each country and the central Group departments are directly responsible for identifying and observing opportunities at an early stage.

HeidelbergCement has installed transparent regulations to govern competences and responsibilities for risk management that are based on the Group’s structure. A code of conduct, guidelines, and principles apply across the Group for the implementation of systematic and effective risk management. The standardised internal control and risk management system is based on financial resources, operational planning, and the risk management strategy established by the Managing Board.

Risks that may have a significant impact on our assets, financial, and earnings position are divided into four categories based on the risk catalogue established in the company: financial risks, strategic risks, operational risks, as well as legal and compliance risks. These also include sustainability and non-financial risks.

Comprehensive information on our risk and opportunity management can be found in our Annual Report 2018 (pages 74–85).
Product & Innovation

- Figures, data, facts
- Focus on customers
- Research & technology

Image: The Italian Pavilion at Expo 2015 in Milan, Italy.
Innovative and sustainable products that contribute to climate protection.

Our R&D activities aim to generate added value for customers and the company through innovative products. We also minimise energy usage and our CO₂ emissions by means of process improvements and new formulations.

€145.7 million were spent on research and technology in 2018. This corresponds to 0.8% of Group revenue.

1,156 employees were employed in research and technology in 2018. The rise in the number of employees in this area reflects the high importance of customer-related development and technical service as well as technology and innovation.

Alternative raw materials are one of the most important ways of reducing CO₂ emissions in cement manufacturing. By using these materials, we actively contribute to improving waste management and recycling.
Our customers place the highest requirements on our products and services. Our research and development (R&D) activities are oriented towards these requirements as we strive to innovate. Improved processes and new cement and concrete formulations help minimise energy consumption and CO₂ emissions. As a result, they also reduce the effects on the environment as well as costs.

**Focus on customers**

Our close proximity to the market enables us to provide our customers with extensive advice and develop our products in close consultation with them. The departments and employees responsible are directly incorporated into the organisation of the respective national subsidiaries and develop cements, aggregates, and concretes that are optimally adapted to local needs. This development work is often carried out in direct cooperation with our customers. However, our work does not end with the product, but also includes providing our customers with expert advice on product usage. Customers who wish to file complaints can get in touch with their local contact partners, whereby all complaints – whether of a technical, logistical, or commercial nature – are forwarded directly to the appropriate department. In order to continually deliver more value to our customers and provide them with the high-quality solutions they expect, we need to look beyond mere product innovation. By truly understanding our customers and their needs, we are able to optimise not only products but also interactions and services. We believe that creating greater customer value brings major benefits, such as differentiation, loyalty, advocacy, and sustainable growth.

Since 2015, HeidelbergCement has used the Net Promoter System (NPS)© as an experience optimisation programme to deliver superior value to our customers worldwide. In 2018, full customer journey mapping was introduced to deepen our customer insights. In the past four years, over 1,700 optimisations based on customer feedback have been made to improve our value offering. We treat all the customer data we collect confidentially and in line with GDPR regulations, and we do not pass on any information to third parties.

**Research & technology**

The purpose of HeidelbergCement’s R&D activities is to generate added value for customers and the company through innovative products and to minimise energy usage, CO₂ emissions, and the associated costs by means of process improvements and new formulations.

**Our research and development activities**

The innovation activities of HeidelbergCement focus on five main areas:

- **Products and applications:** Our R&D activities are geared strongly towards the market and our customers. The main priority is the development and improvement of binders and concretes with optimised properties and innovative functionalities. Thanks to automation and digitalisation, we can also offer our customers expert, tailor-made technical solutions.

- **Cement production:** Continuous improvement and the sharing of best practices are priorities in the cement business line. The Continuous Improvement Program (CIP) has now been almost fully implemented worldwide. The integration of the former Italcementi plants was also successfully completed in 2018.
Focus on customers

Research & technology

- Development of cements and concretes with improved carbon footprints: A key focus for us is to further develop composite cements with less clinker. Reducing the proportion of clinker is the most important lever when it comes to minimising energy consumption and CO₂ emissions as well as preserving natural raw materials. In addition, we are developing entirely new kinds of binders that dispense with the use of conventional clinker as far as possible. We are also working on processes to bind CO₂ into our products by means of carbonation, which allows us to use building materials for CO₂ storage.

Organisation and fields of activity

Our global competence centers Heidelberg Technology Center (HTC), Competence Center Materials (CCM), Competence Center Readymix (CCR), and teams from the two centers for R&D and product innovation – Global R&D (GRD) and Global Product Innovation (GPI) – pool the knowledge in our Group and make it available to all operating units. International experts work in all of our competence centers, offering wide-ranging expertise in the areas of cement, concrete, and aggregates.

The Group-wide activities in the area of research and technology are divided into the following tasks:

- Aggregates: In the aggregates business line, the well-established programme for continuous improvement (CI) exceeded the annual target of €40 million per year by the end of 2018. The programme, which commenced in 2011 and involves all aggregates locations, promotes further improvements in the extraction of raw materials, production processes, productivity, energy consumption, and costs.

- Optimisations across all business lines: Vertical integration, especially in urban centers, is a strong focus for us. Significant financial improvements in the long term can be achieved through the coordinated optimisation of product portfolio, production processes, and logistics across the aggregates, ready-mixed concrete, and cement business lines. By utilising our entire raw material portfolio in one market region, we can optimise the material mix in our ready-mixed concrete plants so that our raw material deposits are used as efficiently as possible.

- Central R&D and innovation: We have concentrated our Group-wide R&D and innovation activities in the cement, ready-mixed concrete, and aggregates business lines in our two research centers in Leimen, Germany, (GRD) and Bergamo, Italy, (GPI). While the R&D team in Leimen focuses on the reduction of CO₂ emissions, CO₂ use in building materials, resource efficiency, and a decrease in production costs, GPI in Bergamo concentrates on developing sustainable and industry-leading concrete solutions for modern urban and infrastructure construction as well as generating new market opportunities. Individual projects are defined and implemented by the two teams in close coordination with the operating companies. This close collaboration from...
the very start of the project facilitates the efficient implementation of the development results and a quick market launch. The activities of the Global Environmental Sustainability (GES) department in technologies regarding CO₂ capture are also taken into account in the field of Central R&D and innovation.

- **Technology and innovation:** Technical centers support our national companies in each Group area. In the cement business line, this is the HTC, with three area organisations located in Germany, supporting Europe, the Mediterranean Basin, Africa, and Central Asia; one location in North America; and one in Asia with offices in China, India, and Indonesia. They assist our cement plants with all technical issues – from securing raw materials and operational optimisations to process control and quality assurance. Similarly, the CCM supports the aggregates and asphalt business areas Group-wide with programmes for continuous improvement (CI), digitalisation, and performance management. The CCR acts as a comparable organisation for the ready-mixed concrete business line.

- **Customer-related development and technical service:** Our close proximity to the market facilitates intensive customer-oriented development and technical service. The relevant departments and employees, which are integrated directly into the organisation of the respective national companies, develop and optimise the cements, aggregates, and concretes that are tailored to the local needs, often in close cooperation with the customers.

**Expenditure and number of employees**

Total expenditure for research and technology amounted to €145.7 million in the reporting year (previous year: 141.0), corresponding to 0.8% of Group revenue. Personnel costs accounted for around three-quarters of the total expenses. The following table shows a breakdown of expenses for the last three years, divided into each of the three fields of activities mentioned above.

<table>
<thead>
<tr>
<th>Expenditure on research and technology</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central R&amp;D and innovation(1)(2)</td>
<td>13.6</td>
<td>21.9</td>
<td>18.3</td>
</tr>
<tr>
<td>Technology and innovation</td>
<td>55.6</td>
<td>61.7</td>
<td>64.0</td>
</tr>
<tr>
<td>Customer-related development and technical service</td>
<td>47.4</td>
<td>57.4</td>
<td>63.4</td>
</tr>
<tr>
<td>Total</td>
<td>116.6</td>
<td>141.0</td>
<td>145.7</td>
</tr>
</tbody>
</table>

1) Including capitalised expenses.
2) Since 2017, the Global Environmental Sustainability (GES) department has been included in these figures.

In the 2018 financial year, a total of 1,156 people (previous year: 1,136) were employed in research and technology. The personnel breakdown and development over the last three years is shown in the following table. The high importance of customer-related development and technical service as well as technology and innovation is reflected not only in the costs but also in the number of employees.

<table>
<thead>
<tr>
<th>Employees in research and technology</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central R&amp;D and innovation (1)</td>
<td>97</td>
<td>127</td>
<td>109</td>
</tr>
<tr>
<td>Technology and innovation</td>
<td>358</td>
<td>348</td>
<td>357</td>
</tr>
<tr>
<td>Customer-related development and technical service</td>
<td>608</td>
<td>661</td>
<td>690</td>
</tr>
<tr>
<td>Total</td>
<td>1,063</td>
<td>1,136</td>
<td>1,156</td>
</tr>
</tbody>
</table>

1) Since 2017, the Global Environmental Sustainability (GES) department has been included in these figures.
Alternative raw materials for improving the carbon footprint

One of the most important ways of reducing CO₂ emissions in cement manufacturing is through the use of alternative raw materials that are produced as waste in other industries. A very large share of these alternative raw materials comes from the metalworking industry. Moreover, coal-fired power plants supply ash as well as synthetic gypsum. By using these materials, we actively contribute to improving the circular economy. The systematic assessment of the suitability of all raw materials used ensures the best and most consistent product characteristics.

HeidelbergCement generally uses alternative raw materials in two areas: in the combustion process for the production of clinker, which is the most important intermediate product in the manufacture of cement, and as additives in cement grinding to reduce its content of CO₂-intensive clinker.

To produce clinker, we make use of used foundry sand, for example, or lime sludge from drinking water purification systems in order to reduce the consumption of finite natural resources. When we develop new types of cement with a reduced clinker proportion, we also use additives such as blast furnace slag from steel production operations as well as fly ash, a by-product in coal-fired power plants. Moreover, in Africa, for example, we use ground rock from local quarries as an additional component in cement production, thereby replacing imported clinker with local raw materials. In the Netherlands, Germany, and France, we are investigating whether the fines from concrete recycling can be used as a cement ingredient in order to fully close the loop in concrete recycling.

At Group level, the proportion of alternative raw materials in cement production was 11.3% during the reporting period; the clinker proportion in cement was 74.7%.

Development of alternative clinker

With TernoCem®, an innovative belite calcium sulfoaluminate tennesite cement, we have established the basis for an alternative clinker technology. Based on an altered chemical composition and low burning temperatures, CO₂ output is 30% lower in comparison with conventional clinker, and energy consumption is reduced by around 15%. The basic technology is protected by various patents.
In 2015, we started a multi-year research programme to develop the technology to market maturity. Our aim is to create the conditions for future product standardisation and market launch. This programme has been supported by the ECO-BINDER project, which was co-funded by the EU and completed according to schedule at the end of 2018.

www.ecobinder-project.eu/en/

Innovative product development makes a valuable contribution to climate protection. Our research includes the production of new building materials through the recarbonation of recycled concrete – an important step towards realising our vision of a CO₂-neutral concrete.

Dr. Wolfgang Dienemann
Director Global R&D

Sustainable construction with concrete
As a founding member of the Concrete Sustainability Council, we contributed significantly to the development of a new certification system for sustainably produced concrete, which was introduced at the beginning of 2017 and developed further in 2018. In the reporting year, sixteen concrete plants and all cement plants in Germany, one concrete plant in Spain, as well as one concrete and one cement plant in Turkey were certified. With the certification of concrete, taking into account social, economic, and ecological aspects along the value chain, we expect to see greater acceptance of the product and the entire industry. We have also strengthened our engagement in Green Building Councils, the European Construction Technology Platform, and other associations in order to support and accelerate developments in the area of sustainable construction and market transformation. From 2019, we will also be actively involved in the umbrella organisation, the World Green Building Council.

Besides reducing our carbon footprint through the use of alternative raw materials and clinker technologies, our research laboratories are also working on products intended to improve the energy efficiency of buildings and to support the energy transition. Concrete is generally characterised by good thermal insulation properties and can, where used correctly, contribute towards significant energy savings in a building over the material’s service life. Thanks to innovative formulations, concrete can also be used to store or conduct heat. Our research center in Leimen, which was built in 2016, uses concrete-core activation to provide energy-efficient air conditioning for offices and laboratories. HeidelbergCement’s new headquarters, due to be occupied from the beginning of 2020, are being constructed in accordance with the platinum standard of the German Sustainable Building Council (DGNB), and the energy demand of the building will be exceptionally low. One example of a product designed to support the energy transition is Powercrete®, a special concrete with outstandingly high thermal conductivity, which allows high-voltage cables to be laid underground.

An important factor in measuring the sustainability performance of cement and concrete lies in considering the entire life cycle of these building materials, including how they are recycled. HeidelbergCement is committed to the circular economy, as demonstrated, for example, by our participation in the Dutch concrete recycling company Rewinn B.V., Amsterdam, which we established together with our local partner Theo Pouw BV, Utrecht, Netherlands. The company continued to develop positively in the reporting year, and we are able to produce up to 250,000 tonnes of aggregates from recycled concrete annually. These are already used in numerous applications, such as the production of fresh concrete.
In Australia, Hanson Australia took over the Alex Fraser Group, one of the largest companies for building material recycling on the east coast of Australia. Alex Fraser recycles more than 3 million tonnes of demolition concrete and several hundred thousand tonnes of asphalt every year. The majority of this recycled material is currently still used in road construction. However, there are specific plans to increase the use of demolition concrete in the production of fresh concrete in the future.

Collecting data about sustainable products
In order to meet the ever-increasing demand for transparent data relating to HeidelbergCement’s sustainable product portfolio, we further developed the Product Evaluation Tool (PET) in 2018, which had been newly created in the previous year and has been introduced since 1 January 2018 in seven Group countries.

PET assesses the sustainability performance of our cement and concrete products over their entire life cycles. The tool is based on a questionnaire that compares either a product that has been improved for a specific application or a new product with the reference product used as standard for this application on the basis of calculations and qualified assessments. The period for determining the reference product is 2017/2018. The reference product thus serves as a benchmark for measuring and assessing the change made by the newer, more innovative product. In this way, the new product is recognised as being a more efficient substitute for the reference product within the same area of application.

During the PET evaluation process, data is collected on the product’s various life-cycle phases, particularly information relating to the environment, social aspects, and cost-effectiveness. The assessment takes into account production as well as construction and usage phases and recycling/end-of-life considerations.

The asphalt mix Green Roads PolyPave from our Australian subsidiary Alex Fraser Group contains recycled plastic and offers numerous environmental benefits.

The sustainability assessments carried out using PET and information about the revenue generated through sustainable products are collated in the Sustainable Product Database. Above all, this resource helps us to respond to enquiries by investors, analysts, and rating agencies, who use these parameters as key criteria to describe company performance. The sustainability data recorded with PET is collected every three years, while the key figures relevant for determining revenue are updated annually.
Production & Supply Chain

34 ➔ Figures, data, facts
35 ➔ Environmental management
36 ➔ Energy & climate protection
39 ➔ Alternative fuels
40 ➔ Land use & biodiversity
42 ➔ Local environmental impact
44 ➔ Management of supplier relations

Image: Mining aggregates in Bridgeport/Texas, USA.
We manufacture our products in a responsible manner.

All of our facilities around the world have strict rules for ensuring sustainable, environmentally compatible production processes. Our suppliers also have to commit themselves to a Code of Conduct, and we monitor their compliance with this code.

CO₂-neutral concrete

by 2050 at the latest: to realise this vision, we are investigating a number of measures. It is HeidelbergCement's view that concrete has the potential to become the most sustainable building material.

Our Climate Policy

underscores HeidelbergCement's commitment to climate protection and its compliance with international climate targets. It was adopted in 2018 in addition to the Sustainability Commitments 2030.

317 project proposals

were submitted in 2018 as part of our Quarry Life Award biodiversity competition. 110 projects were selected and implemented worldwide in our company's quarries and extraction sites.
HeidelbergCement’s sustainability strategy focuses on environmental responsibility, climate protection, and ensuring the permanent availability of resources. As a result, we are committed to ensuring sustainable production processes at all of our production sites worldwide. We also want to sharpen our suppliers’ awareness of our standards. That is why a Code of Conduct forms the basis of all of our partnerships, and our contractors have to commit themselves to upholding this code.

Environmental management

Environmental protection is an integral element of HeidelbergCement’s business strategy, which is defined by the Managing Board in consultation with the Supervisory Board. One member of the Managing Board is responsible for the topic of environmental sustainability and heads the Group Environmental Sustainability Committee. The task of this committee is to accelerate the progress of operating activities with regard to environmental sustainability and to promote HeidelbergCement’s image as a sustainable company. The Global Environmental Sustainability department also plays an important role in driving progress towards environmental sustainability at Group level.

As HeidelbergCement has a decentralised structure, the country organisations take responsibility for all areas of our operating activities, including compliance with all legal provisions and regulatory conditions. This also covers the correct recording and transmission of all necessary production, operating, consumption, and emissions data. HeidelbergCement has to provide in the various countries by law or by regulations, or because of voluntary commitments. Every plant manager is essentially responsible for the environmental management system and the environmental performance of their plant.

To reduce emissions of air pollutants, we are continuously investing in the modernisation of our plants – including in Yerraguntla, India, in 2018.

The internal monitoring of all relevant operating data is carried out by our competence centers: HTC for the cement business line, CCM for the aggregates business line, and CCR for concrete. Any irregularities identified during the check are followed up immediately. Where necessary, this also includes supporting the relevant production plant in resolving any technical issues.

In the reporting year, no violations of environmental protection laws from continuing operations that would have led to significant fines or non-financial penalties were reported from continuing operations.

In an effort to place environmental protection on a firmer footing at our production sites and achieve continual improvements in this area, we plan to introduce certified environmental management systems at all of our cement plants worldwide by 2030. We will focus here on the ISO 14001 international standard, but also use locally recognised national environmental management systems. At the end of 2018, 96% of our integrated cement plants were operating with a certified environmental management system.
Energy & climate protection

Due to the high temperatures needed to burn limestone, the production of cement consumes a lot of energy and thus causes combustion-related CO₂ emissions. In the calcination process, the raw material is heated to over 800°C, which leads to further, process-related CO₂ emissions.

This is why climate protection is a fundamental part of our environmental policy, as is also reflected in our Sustainability Commitments 2030, published in October 2017. In this document, HeidelbergCement has set itself the objective of reducing its ecological footprint. As a company, we are committed to fulfilling our share of the global responsibility to keep the worldwide temperature rise below 2°C, as set out in the Paris Agreement. In practical terms, this means that HeidelbergCement’s target is to reduce its specific CO₂ emissions per tonne of cement by 30% compared with the 1990 level by 2030. A reduction of approximately 20% was achieved in 2018. To attain this target, we will, for instance, increase the proportion of alternative fuels in the fuel mix to 30%. In 2018, this figure was around 22%. At the same time, we plan to further intensify the use of alternative raw materials and further reduce the proportion of clinker in our cement – that is to say, the clinker ratio.

Our reduction targets and the measures defined to achieve them are in accordance with the road map set out by the International Energy Agency (IEA) for our industry in order to successfully limit the global temperature rise to 2°C, as agreed at the COP21 Climate Change Conference in Paris. We have since had this conformity confirmed by the Science Based Targets initiative (SBTi), which makes HeidelbergCement the first company in the cement sector, and one of currently around 200 businesses worldwide, whose reduction targets have been approved by the SBTi.

HeidelbergCement is also working to realise its vision of producing a CO₂-neutral concrete by 2050 at the latest. To achieve this, we are investigating a number of measures, including the option of capturing and utilising CO₂ emissions in the product life cycle over the long term. It is HeidelbergCement’s view that this technology could make concrete the most sustainable building material.

Adoption of a Climate Policy

In 2018, HeidelbergCement adopted a Climate Policy, in addition to the Sustainability Commitments 2030, in order to underscore its commitment to climate protection and compliance with international climate targets. The policy contains the following objectives:

1) A 30% reduction in our CO₂ emissions by 2030, compared with 1990 levels
2) Further investment in economically viable, innovative technologies to reduce process-related CO₂ emissions, such as carbon capture and utilisation
3) Increased use of alternative fuels, especially biomass
4) Continuous improvements to energy efficiency as well as investment in the generation of renewable electricity, wherever economically and environmentally feasible
5) Use of 80% of the research and development budget for the development of sustainable products, such as concretes with an improved carbon footprint, the promotion of concrete recarbonation and recycling, as well as the use of secondary cementitious materials
6) Support of the development of construction solutions to improve the energy efficiency of buildings and infrastructure

21.7% was the alternative fuel rate in 2018.
At the HeidelbergCement plant in Lixhe, Belgium, the LEILAC consortium is working on capturing CO2 in its purest form, thereby reducing the ecological footprint of cement production.

Participation in the European Union’s emissions trading system
HeidelbergCement currently has 54 facilities in 16 countries that participate in the EU Emissions Trading Scheme (EU ETS). The debate regarding the reform of the EU ETS for Phase IV (2021–2030) continued in 2018, with the details and the timetable in particular still to be determined.

Emissions trading systems outside Europe
Emissions trading systems are also being set up in regions outside the EU. A national emissions trading system in China – a follow-on to the pilot projects run in some provinces – is expected to commence in 2020. As at the end of 2018, no decision had yet been made regarding the timing of the cement industry’s inclusion in the scheme. In North America, the Western Climate Initiative combines the Canadian and Californian emissions trading programmes. In the United States, California has had an emissions trading system since 2013. In Canada, we are currently subject to a CO2 tax and operate as part of an emissions trading system at provincial level. A carbon price floor can be expected at national level, which will merge Canada’s individual emissions trading systems over the next few years.

Innovations for climate protection
HeidelbergCement takes a leading role when it comes to climate protection research projects and invests in particular in studies into innovative techniques for the capture and utilisation of CO2. In doing so, we are fulfilling our obligation to the Low Carbon Technology Partnerships initiative (LCTPi), which we joined in 2015 with 17 other cement companies.

Current research projects investigating carbon capture
The EU-funded LEILAC (Low Emissions Intensity Lime And Cement) project, in which HeidelbergCement is one of the main strategic partners, started in January 2016. This project aims to demonstrate the technical and economic feasibility of a process technology designed to capture CO2 in its purest form when it is released during the heating of the raw material. The construction plans for the calciner were completed in 2017, and work began at our cement plant in Lixhe, Belgium, in 2018 to procure the individual plant components and construct the 60-metre-high demonstration calciner. The construction work was completed in the first half of 2019, and actual process trials have begun. The knowledge gathered over the past few years was disseminated at the international Innovation in Industrial Carbon Capture Conference, which took place at the beginning of February 2018 in Liège, near our Lixhe cement plant.

To further develop the oxyfuel technology, HeidelbergCement participates in the CEMCAP project, which aims to drive technologies for the capture of CO2 in the cement industry and is co-funded by the Horizon 2020 EU development programme. In the oxyfuel process, the rotary kiln is supplied with pure oxygen instead of ambient air, which facilitates the capture of CO2. As this technology has not yet been tested on a large scale in the cement industry but...
is expected to help us make a crucial breakthrough in decreasing the cost of carbon capture, HeidelbergCement has already been involved in a number of preliminary investigation programmes in the past. In 2015, we also joined another research project, which was sponsored by the German Federal Ministry of Education and Research as well as the EU and managed by the University of Stuttgart. In this project, all major aspects of the practical and technical feasibility of the oxyfuel process in cement clinker production were investigated in detail. The project was completed at the end of 2018, and the results will soon be available online. The next step is to use these findings to build a complete demonstration plant.

www.sintef.no/projectweb/cemcap

Current research projects investigating carbon sequestration and utilisation

Recarbonation of cement dust in concrete recycling processes
In 2017, HeidelbergCement launched the CO2MIN project in collaboration with RWTH Aachen University and the Institute for Advanced Sustainability Studies (IASS) in Potsdam, Germany. This project aims to investigate the potential of natural minerals for absorbing CO2 and the possibility of using them to produce marketable building materials. Besides natural minerals like olivine and basalt, industrial waste products such as slag or fines made from recycled concrete are also being tested. The three-year research and development programme received €3 million in funding from the German Federal Ministry of Education and Research.

By recarbonating the cement dust generated in concrete recycling, we can return CO2 to the cement and concrete materials cycle. This process requires access to sufficient quantities of demolition concrete and cost-effective management of the material streams of recycled material and CO2. The concept’s technical feasibility has already been examined, and pilot projects are being planned.

Use of CO2 for algae cultivation
Our research and development projects in Sweden, Turkey, and France have yielded very encouraging results and make an important contribution to our strategy of turning CO2 into a useable resource. In this context, we developed a large-scale demonstration project in 2018 to produce algae for fish food at our Safi cement plant in Morocco, investing more than €1.2 million in the construction of a one-hectare algae farm. Preliminary trials for the selection of suitable algae species were conducted successfully in 2018, which means that we can begin the actual breeding trials from mid-2019.
Alternative fuels replace natural resources

The Alternative Fuel Master Plan project was launched in mid-2018. It aims to increase the proportion of alternative fuels across the Group, helping us to meet our commitment to reduce CO2 emissions by 2030. The project is being led by a working group comprising experts from various Group areas and departments.

In 2018, we significantly increased the proportion of alternative fuels used in several countries. This is predominantly waste that would be uneconomical to recycle or cannot be recycled in full. In this scenario, co-processing in clinker kilns is regarded as a worthwhile option, as it not only uses the waste’s calorific value much more efficiently compared with waste incineration plants but also embeds its mineral components into the clinker. The waste is co-processed without any residue while complying with the same strict emission standards as waste incineration plants.

During the reporting year, we made various investments in the use of alternative fuels. At our cement plant in Górzdze, Poland, for example, we commissioned a drying system for alternative fuels, allowing us to increase the use of biomass in particular. Other areas of focus in terms of optimisation and environmental protection are the projects within the Germany Cement Master Plan for modernisation and efficiency improvements as well as environmental protection in our German cement plants. These activities include the two newly constructed clinker production lines in Burglengenfeld and Schelklingen, Germany, which are set to have alternative fuel rates of 90%.

In 2018, the proportion of alternative fuels in the fuel mix was 21.7%. By 2030, we intend to increase this figure to 30%.

Long-term storage of CO2

Following the conclusion of a comprehensive feasibility study in 2016, the carbon capture project at the Brevik cement plant in Norway entered its next phase with the start of the concept study in April 2017. The Norwegian government’s CCS (Carbon Capture and Storage) project was undertaken in three different sectors of industry, among others at our Brevik cement plant. At the beginning of 2018, the Norwegian government shortlisted Brevik for an industrial-scale CO2-capture trial. This qualifies the plant to carry out a detailed preliminary planning and implementation study. A final decision on the implementation of this large-scale trial costing several million euros is expected during 2019. According to the planned schedule, the CO2 emissions captured as part of this project will be transported to an underground storage site below the North Sea from 2023.

www.norcem.no/en/carbon_capture
More information on our research projects: p. 26 f. of the AR 2018

Alternative fuels

Many waste materials and by-products from other industries serve as valuable raw materials for HeidelbergCement. We use these resources as alternatives to finite natural raw materials and fossil fuels in the production of cement. In this way, we are helping to conserve resources and solve the problems associated with waste disposal faced by municipalities and industrial companies near our plants. At the same time, these efforts are reducing our CO2 emissions, because the biomass that accounts for around 38.7% of the alternative fuel mix is classified as climate neutral.
With their unique opportunities for animals and plants, HeidelbergCement’s quarrying sites contribute to the preservation of biological diversity – whether as a refuge for rare species during extraction operations or by creating new habitats once extraction is complete.

Dr. Carolyn Jewell
Senior Manager Biodiversity and Natural Resources
Global Environmental Sustainability
Protecting biodiversity and habitats

We believe in helping to conserve habitats and biodiversity features throughout the life cycle of our quarrying sites. Even during the extraction phase at an operational site, we can create optimal conditions for threatened species that are associated with early stages of ecological succession. Through the reclamation process, we are also able to create new habitats, such as wetlands and species-rich grasslands, and integrate biodiversity features into any intended subsequent use. In Europe in particular, our quarries are now important refuges and stepping-stone habitats for specially protected species such as the sand martin, the yellow-bellied toad, the eagle owl, and the Eurasian otter, which are accordingly also the focus of numerous biodiversity projects.

In 2018, we introduced our new internal Biodiversity Handbook in the various Group countries. The region-specific editions of the handbook contain practical advice on creating and managing a variety of habitats as well as guidelines for promoting native species. Special chapters on the world’s different climate and vegetation zones make the handbook even more valuable for the location managers in the regions.

We published internal guidelines in 2018 to ensure that our business activities also comply with new European legislation on invasive alien species. These guidelines aim to facilitate the identification of problematic invasive subspecies and to explain how they can be controlled and, where practical, eliminated. In 2018, to support biodiversity management at our locations, we also designed a mobile app, which should be available in 2019.

Cooperation with nature conservation organisations

We work with many local nature conservation organisations worldwide. Our partnership with the largest international nature conservation organisation, BirdLife International, which we began in 2012, was extended for a further three years in 2018, for the third time in succession. The interaction with BirdLife International and our cooperation with its national partner organisations help us to minimise our impact on the environment and promote biodiversity at our quarrying sites and in their surroundings. Besides the projects connected with the Quarry Life Award, almost 30 local projects were undertaken at locations in Europe and in African countries between the beginning of the partnership and the end of 2018. An interactive map on the BirdLife website provides information about a selection of our joint projects:

- [www.birdlife.org/europe-and-central-asia/project/project-map](http://www.birdlife.org/europe-and-central-asia/project/project-map)
- [www.birdlife.org](http://www.birdlife.org)

Rewilded banksia woodlands at a former extraction site of our subsidiary Hanson Australia in western Australia.
HeidelbergCement’s research and education competition, the Quarry Life Award, is targeted at scientists, university students, and non-governmental organisations as well as our neighbours in the communities where our facilities are located. All of these groups are invited to develop and – provided they qualify to participate in the competition – implement biodiversity-related projects focused on our company’s quarries worldwide. In this way, we want to promote the evaluation of the quarries’ biological value and support the development of new methods that benefit scientists and government authorities as well as our company.

The fourth edition of the Quarry Life Award was successfully held in 2018. Owing to the positive results of previous editions of the competition, there were two streams this time round: research and community. In this way, we hoped to ensure a fairer competition for all participants, irrespective of their scientific background. A total of 317 project proposals were submitted in 25 countries, of which more than 110 were selected to take part in the competition. Alongside the winners of the national competitions, three international winners were chosen in each of the two categories, research and community. The main prize, worth €30,000, was awarded to a project in Czechia. This project scientifically verified the importance of active and reclaimed quarries as vital habitats for threatened insect species.

HeidelbergCement’s research and education competition, the Quarry Life Award, is targeted at scientists, university students, and non-governmental organisations as well as our neighbours in the communities where our facilities are located. All of these groups are invited to develop and – provided they qualify to participate in the competition – implement biodiversity-related projects focused on our company’s quarries worldwide. In this way, we want to promote the evaluation of the quarries’ biological value and support the development of new methods that benefit scientists and government authorities as well as our company.

Local environmental impact

Air pollutants and noise

In addition to addressing the issues of dust and noise, HeidelbergCement faces a particular challenge in terms of the air pollutant emissions from the cement business line. While dust and noise are emitted from different points in the production process, nitrogen oxides, sulphur oxides, and other air pollutants are mainly emitted from kiln lines. There are national legal limits that must be observed by all production locations. As part of its Sustainability Commitments 2030, HeidelbergCement has also pledged to reduce air pollutants. By 2030, we aim to reduce the SO\textsubscript{X} and NO\textsubscript{X} emissions generated in our cement production by 40% – and dust emissions by 80% – in comparison with 2008 levels. This is in addition to our objective to continuously reduce all other air pollutant emissions, bringing them down below the average of the industry.

We monitor emissions of air pollutants on an ongoing basis. By using new filter technologies and innovative production processes, we reduce pollutants and thus mitigate the impact of our activities on the environment and neighbouring communities. For example, we made several investments in 2018 to reduce dust emissions: we replaced the electrostatic precipitators with fabric filters at our cement plants in Ennigerloh, Germany, and Ketton, United Kingdom; on kiln line 2 in Pukrang, Thailand; and on kiln line 4 at the Citeureup location in Indonesia. A number of smaller filter systems were also modernised.
In order to reduce NO\textsubscript{X} emissions, we installed selective non-catalytic reduction (SNCR) systems in the kilns at our Indian plants in Narsingarh and Yerraguntla. Further optimisations were made to existing SNCR systems. We also implemented primary measures to reduce NO\textsubscript{X} – for example in Helwan, Egypt, and Aït Baha, Morocco.

To reduce SO\textsubscript{X} emissions, an old flue gas desulphurisation system at the Ribblesdale cement plant in the United Kingdom was replaced by a modern scrubber.

In recent years, we have introduced a water reporting system at all of our company’s cement plants. The specific water consumption amounted to roughly 270 litres per tonne of cement in 2018. In 2015, we also started to introduce key figures on water reporting in our aggregates and ready-mixed concrete business lines. As there are more than two thousand locations, implementation is not expected to be completed until 2030.

In 2014, a global water-risk study supplied us with fundamental information for the creation of a Group-wide guideline concerning sustainable water management in the cement, aggregates, and ready-mixed concrete business lines. This showed that, taking into account the Italcementi locations taken over in 2016, 14.3\% of our plants are located in regions that are officially defined as suffering from water scarcity, that is to say, regions where less than 1,000 m\textsuperscript{3} of water is available per person each year. Back in 2015, in response to...
to the water-risk study, we began developing individual water management plans for those plants in regions suffering from water scarcity. The plans include concepts and measures to ensure careful use of scarce water resources and enable local stakeholders to become involved so that the water utilisation concepts support the common good and thus minimise local water risks. Implementation of these plans will begin at those locations where water scarcity is an especially urgent problem. Our objective is to have water management plans in place by 2030 for all plants in regions affected by water scarcity. Alongside this process, we are developing a global strategic water reduction plan, which aims to coordinate the work at Group level and reduce water consumption locally, wherever economically and technically possible.

In 2018, we once again reported on the key figures for water from 2017 and on our strategy and governance on this topic to the CDP (formerly the Carbon Disclosure Project). Thanks to our long-term success and our transparent reporting, we repeated the success of the previous year and achieved an “A-” classification in the “climate change” and “water” categories of the CDP company ranking for 2018. This distinction confirms HeidelbergCement’s leading role within the industry.

Waste materials
Our primary focus in terms of waste management concerns the kiln dust that is a by-product of clinker production. This dust has to be removed from the kiln systems at several facilities in order to prevent disruptions to proper kiln operations. We generally use the kiln dust as an alternative raw material in cement production, thereby improving our ecological efficiency. In some exceptional cases, the composition of the dust prevents us from being able to recycle it in full. A second possibility for us is to use the kiln dust as a raw material for the production of special concrete. If no other option is available, it can be deposited in underground landfill sites in a controlled process. The local operating permit at each plant specifies the allowable amount and permissible use of process-related waste products.

Management of supplier relations
In the reporting year, HeidelbergCement procured goods and services with a total value of €12,615 million. This corresponds to 69.8% of total revenue. These costs are distributed among the various categories as follows:

<table>
<thead>
<tr>
<th>Expenditure by category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect expenditures (e.g. IT, insurance, consulting)</td>
<td>22.2%</td>
</tr>
<tr>
<td>Energy</td>
<td>21.9%</td>
</tr>
<tr>
<td>Logistics and other services</td>
<td>18.6%</td>
</tr>
<tr>
<td>Raw materials</td>
<td>16.6%</td>
</tr>
<tr>
<td>Investments</td>
<td>10.7%</td>
</tr>
<tr>
<td>Consumables</td>
<td>10.0%</td>
</tr>
</tbody>
</table>
HeidelbergCement strives to ensure compliance with sustainability standards in the supply chain. Group-wide purchasing guidelines therefore provide clear instructions regarding our supplier relations and purchasing activities. The most important tool used for this purpose is our Supplier Code of Conduct, which we consistently communicate to our global and local suppliers, who are obligated to act in line with the principles defined in the Code. The Code incorporates the key elements of the SA 8000 International Social Accountability Standard, the ISO 14001 international environmental standard, and the principles of the International Labour Organization (ILO). If a supplier fails to abide by the Code and does not correct a weakness or deficiency that has been identified, this can result in the termination of the contractual relationship.

Launched in 2017, our Supplier Sustainability Initiative was also further developed and rolled out to other locations in 2018. In cooperation with our sustainability partner BROWZ/Avetta, additional countries and suppliers were reviewed according to defined sustainability criteria. Particular focus was placed on reviewing critical and global suppliers and on the rollout in North America. The process actively monitors our suppliers’ compliance with the principles outlined in the Supplier Code of Conduct. This goes well beyond the previous self-commitment by suppliers to the Supplier Code of Conduct. The rollout of our central online platform for supplier management was also largely completed in 2018. This platform simplifies the systematic recording and consolidation of supplier data as well as its assessment in accordance with the sustainability aspects addressed in our Supplier Code of Conduct.

Measures for 2019

In 2019, we will continue to expand the use of the Group-wide online platform for supplier management. We will keep consistently seizing opportunities for digitalisation in order to guarantee transparency and sustainability in the supply chain.

The global Supplier Sustainability Initiative will also be implemented in additional countries, with the aim of introducing a comprehensive global standard. However, where appropriate, we will also take into account specific local requirements relating to supplier sustainability. The 2019 rollout will focus on global suppliers who are new and/or have not yet been reviewed and on Northern and Western Europe.

Sustainability in the supply chain is our daily responsibility.

Dr. Ines Ploss
Director Group Purchasing
Employees & Employment

47 ➔ Figures, data, facts
48 ➔ Principles
48 ➔ Employment & co-determination
49 ➔ Remuneration policy & working time regulation
50 ➔ Occupational health & safety
53 ➔ Human resources development
55 ➔ Diversity management

Picture: Employee at our subsidiary Lehigh Hanson in Camden/New Jersey, USA.
Good work needs a positive environment.

Attractive working conditions are a key factor in our success. As a manufacturing company, we place high priority on occupational safety and on the protection of our employees’ health.

61% of all training hours at HeidelbergCement relate to occupational safety topics. This corresponds to an average of about 17 hours per employee across the Group.

1,350 employees around the world took part in our Cement Academy training sessions in 2018. The course programme comprises all aspects of plant operation, optimisation, and maintenance.

Employees from 47 countries work at the Group headquarters in Heidelberg, Germany, and in the HTC and CCM technical centers. We benefit considerably from their experience and knowledge of our local markets.
Almost 58,000 women and men work for HeidelbergCement worldwide. Their achievements make us one of the leading companies in our sector. That’s why it is crucial to provide them with attractive working conditions. As a manufacturing company, we also place high priority on occupational safety and on the protection of our employees’ health.

**Principles**

For us, a good personnel policy means having due and proper regard for our employees with their range of talents and wealth of experience. And it therefore means creating the right conditions to allow them to do their job with efficiency and dedication. This includes fair remuneration and tailor-made qualification opportunities in addition to a non-discriminatory working environment and flexible conditions that allow them to reconcile professional and family demands. Another area of particular importance to us as a manufacturing company is occupational safety and the protection of our employees’ health. We are proud of the international nature of our workforce, which is made up of local managers and employees from 47 countries at our headquarters and in our technical centers in Heidelberg and Leimen. Our employees form the foundation of the worldwide success of HeidelbergCement.

Our Leadership Principles prescribe binding rules for personnel management. They concern, for example, respectful behaviour towards co-workers, employee development, and a commitment to our company’s strong feedback culture. The main leadership principles are embedded in standard human resources processes and described in detail in HeidelbergCement’s Human Resources Guidelines.

We believe that law-abiding and ethical behaviour is a key requirement of good leadership and of each and every employee. This is why the Managing Board has approved a Code of Business Conduct that is binding across the Group and specifies our values as well as the ethical and legal standards upheld at our company. In particular, this includes non-discriminatory employment conditions and an open and fair dialogue with employee representatives.

HeidelbergCement also subscribes to the core labour standards of the International Labour Organization (ILO), the OECD Guidelines for Multinational Enterprises, and the United Nations’ Universal Declaration of Human Rights. Moreover, we have enshrined this commitment in our Leadership Principles. We expect our employees and our business partners worldwide to comply with these central guidelines and recommendations.

**Employment & co-determination**

**Development of the number of employees worldwide**

At the end of 2018, the number of employees at HeidelbergCement came to 57,939 (previous year: 59,054). The decrease of 1,115 employees essentially results from two opposing developments. On the one hand, around 2,900 jobs were cut across the Group due to portfolio optimisations, the realisation of synergies, efficiency increases in sales and administration, as well as location optimisations. On the other hand, almost 1,800 new employees joined the Group. This was primarily a consequence of the company acquisitions in Italy and Australia in the first quarter of 2018. Furthermore, employee numbers grew in some countries in the Western and Southern Europe and Northern and Eastern Europe-Central Asia Group areas, and in particular in Australia, owing to the solid market development.
In the event of a reorganisation or job cuts, we work in close consultation with employee representatives to achieve a socially responsible solution. For example, we initially examine the possibility of transferring employees within the Group. If this is not feasible, we try to cushion the individual impact through retraining, early-retirement schemes, outplacement, and severance payments.

**Remuneration policy & working time regulation**

Our remuneration systems are based on performance and results in accordance with the market standards for internationally operating companies in our sector. Alongside fixed salaries governed by a collective agreement or an individual work contract, our employees also receive variable remuneration elements based on their individual performance and on corporate success.

We consciously aim to achieve a high variable element as part of the total remuneration of our managers in order to directly reflect the connection between personal performance and corporate success.

The employees in our foreign subsidiaries benefit from attractive remuneration systems that correspond to the respective local market conditions. Collective regulations apply to more than half of the Group’s employees.

**Personnel costs and social benefits**

Expenditure on wages and salaries, social security costs, costs of retirement benefits, and other personnel costs rose by 1.4% in comparison with the previous year to €3,032 million (previous year: 2,990). This corresponds to a share in revenue of 16.8% (previous year: 17.3%).

Our goal is to attract highly qualified employees worldwide who contribute to our business success with their social and professional skills.

Dialogue with employee representatives

Employee co-determination has a long tradition at HeidelbergCement, and it has demonstrated its worth at our locations in Germany. Members of the employee committees at the individual locations form the General Council of Employees for Heidelberg-Cement AG as well as the Group Council of Employees. Moreover, employees are equally represented on the Supervisory Board.

Group management and employee representatives also engage in a continuous, constructive dialogue in the European Council of Employees. This council supplements the information and consultation processes that take place at a local level in the individual European countries.

In addition, there are trade unions and similar organisations in nearly all of the countries in which HeidelbergCement operates. As required by our Code of Business Conduct, we also engage in a fair and open dialogue with representatives of these organisations.

GRI 102-41
Responsibility and organisation

At HeidelbergCement, all management levels are accountable for occupational health and safety. Our occupational safety organisation falls within the remit of the Chairman of the Managing Board, to whom the Director Group Human Resources, who is responsible for Group Health & Safety, reports directly. The Managing Board members who oversee the different Group areas are in turn supported by H&S advisors who report directly to them.

Individual occupational health and safety measures designed to tackle any weak points are defined either by Group Health & Safety or the local units, depending on the nature and impact. Occupational safety measures are part of the personal goal agreements for the Managing Board and the top operations managers in the various countries, who divide them between relevant target groups at location level. Last but not least, each individual employee, contractor, and visitor is responsible for following the occupational safety regulations.

We want our employees to return home at the end of the working day as healthy as they were when they began the day. Occupational safety is therefore the focus of the training we offer – whether in conventional classroom training, at the start of the shift, or via e-learning.

Dr. Klaus Hormann
Manager Health & Safety

Occupational health & safety

Occupational health and safety has top priority at HeidelbergCement and is an integral part of our key corporate values. Our declared aim is to achieve “zero harm”. With effective preventative measures, we intend to minimise the risk of accidents and injuries as well as the risk of occupational illness. Our principles for protecting the workforce are specified in our Group policy on occupational health and safety.


The amount of the contribution to the pension scheme at HeidelbergCement corresponds to accepted market standards. In Germany, we have created a matching model of contributions from the employer and the employees within the framework of the pension scheme. In countries without statutory retirement or health insurance, we support our employees at least in line with local practices.

Working time regulation

In our working time regulations, we conform to the legal requirements in effect at our locations. We promote adherence to these regulations by means of our compliance system, which enables employees to individually report possible violations (passive monitoring). To promote flexible working time options, we offer models such as flexitime, working time accounts, part-time work, and leaves of absence to our employees in many countries. Older employees have the option of switching to partial retirement. The part-time ratio at HeidelbergCement AG is 11.6% (previous year: 11.1%); for the Group as a whole, it is unchanged at 2.5%.

We want our employees to return home at the end of the working day as healthy as they were when they began the day. Occupational safety is therefore the focus of the training we offer – whether in conventional classroom training, at the start of the shift, or via e-learning.

Dr. Klaus Hormann
Manager Health & Safety

In all countries, occupational health and safety is subject to legal requirements that have to be fulfilled. Furthermore, as a member of the Global Cement and Concrete Association (GCCA), HeidelbergCement is bound by its guidelines. These have been integrated into our internal standards.

As part of our Group policy on occupational health and safety, we have defined a set of “cardinal rules” that are mandatory for all employees and contractors. They relate in particular to those activities that have been identified as main risk areas for accidents. They are therefore also addressed in specific Group standards and must be translated into local regulations. Through intensive training measures, we aim to ensure that everyone affected remains aware of these risk areas in order to decrease the number of accidents – especially those resulting in fatalities.

Occupational safety as a management task
In 2018, we once again used Group-wide training initiatives to underline the importance of the exemplary role of line managers in occupational health and safety. Participation in these training sessions was compulsory for managers from all levels. Overall, more than 1,100 managers from senior management levels and around 5,650 master craftsmen and foremen at our locations have taken part in training sessions specifically designed for the relevant group of participants.

We train our employees in a wide range of occupational safety topics that are both legally mandated and defined internally. We make use of conventional training held in classrooms, training centers, or on site, in addition to e-learning courses, which are only ever used to supplement face-to-face training. Occupational safety topics account for around 61% of all training hours at HeidelbergCement, corresponding to an average of about 17 hours per employee across the Group.

Occupational health and safety management systems, such as those in accordance with the internationally accepted OHSAS 18001 standard, have already been implemented in 90% of our locations. These systems require a structured approach from the local line managers with planning, clear and safe work procedures, responsibilities, and controls to ensure an ongoing improvement process and thus prevent accidents. For many years, we have been improving occupational health and safety at a technical and organisational level, which is also reflected in a reduction in accident frequency rates.

Targets and commitments
We believe that injuries, occupational illnesses, and work-related health impairments are avoidable. That’s why we continuously strive to minimise the risks for our employees, contractors, and third parties and to achieve our goal of “zero harm”, which we reiterated in our Sustainability Commitments 2030.
Occupational health and safety is one of the core values of our company and therefore a fundamental element of our work processes. Our priority is to ensure that employees return home healthy at the end of the working day. In 2018, we decreased the accident frequency rate across the Group by 12%. However, the improvement in comparison with the previous year is not as significant as expected, and we must therefore continue to focus on suitable preventative measures.

It was with great regret that in 2018 we had to announce the death of two of our own employees, who died as a result of accidents at work. Furthermore, the lives of eight employees from external companies were claimed, one of whom died in a road accident. All of these fatalities are very painful. We analyse each accident and share this information across the Group in order to prevent similar accidents at other locations. In addition, each fatal accident is presented to and discussed by the Managing Board.

In 2018, one accident black spot was traffic accidents occurring during the transportation of our products. Most of these accidents involve external forwarding companies working on our behalf. We regret that there were also accidents during the reporting year in which third parties suffered fatalities. In one case, a vehicle travelling at night in Africa collided with a truck that had parked up because of a fault. As an emergency measure, we have begun to equip hundreds of vehicles used regularly by our African subsidiaries with large reflectors at the front and rear, ensuring that they are visible at a distance. Working groups comprising experts from different areas have formulated additional preventive measures for safe transportation, which we will also implement swiftly.

Occupational illnesses
The general illness rate at HeidelbergCement has been low for many years, amounting to around 2% of all hours worked. Most of the cases of occupational illness acknowledged in recent years have involved noise-induced hearing impairment. In addition, some employees suffered from back problems and other musculoskeletal disorders.

To prevent job-related illnesses, we check our work sites for exposure to factors hazardous to health and regularly send our employees for medical examinations. In countries with less-developed statutory healthcare systems, our subsidiaries offer comprehensive health check-ups for all employees and in some instances for their families. In regions where HIV/AIDS, Ebola, or malaria frequently occur, the local units have set up programmes to advise the employees and inform them of the risks. These services are mostly offered through our own medical stations or the medical staff of in-house clinics.

### Accident trends for the HeidelbergCement Group

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident frequency rate (^1)</td>
<td>2.5</td>
<td>1.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Accident severity indicator (^2)</td>
<td>108</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td>Fatality rate (^3)</td>
<td>0.7</td>
<td>0.4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

1) Number of accidents involving Group employees with at least one lost working day per 1,000,000 hours worked.
2) Number of working days lost due to accidents involving Group employees per 1,000,000 hours worked.
3) Number of fatalities of Group employees per 10,000 Group employees.
Qualified and motivated employees are an important prerequisite for the success of HeidelbergCement. Identifying our employees’ talents, developing them, and – in competition with other companies – retaining those employees within the Group are therefore at the core of the Group-wide personnel policy. We use the HeidelbergCement competence model to do so. This model defines the essential professional and personal capabilities and skills that are critical for the success of our business. It thus enables the respective superiors to perform systematic, Group-wide assessments of performance and potential in accordance with standardised regulations and serves as a basis for the strategic development of managers and successor planning. Superiors and employees discuss development opportunities and prospects within the framework of structured appraisal interviews. The dialogue is primarily targeted at upper and middle management, those in specialist roles, and future executives. It helps us to attain three goals:

- To internally fill key positions with top-class candidates worldwide
- To develop top talent at HeidelbergCement in a targeted way
- To retain employees in the Group for the long term by means of personalised development planning

Ongoing training
Forward-looking HR management means consistently investing in training, that is to say, employing and training qualified talent. The proportion of apprentices in Germany is 4% (previous year: 5%). The retention rate of these apprentices stands at 85% (previous year: 82%).
The targeted training of our control room employees worldwide was our Cement Academy’s training focus in 2018.

Technical skills are essential in ensuring the functionally sound operational management of process technology and maintenance in our plants. For a few years already, we have offered multilingual e-learning courses about cement production, specifically developed by the German Cement Works Association (VDZ).

As in the previous year, a focus of our training programmes throughout the Group was on occupational safety, which made up around 61% (previous year: 50%) of the total training measures. Other priorities were specialist training, which accounted for 23% (previous year: 28%), and the training of our managers, which represented 4% (previous year: 5%).

Our extensive training programmes in virtually every work area are characterised by practical and business-oriented learning and enable our employees to develop their skills.

The Cement Academy at our Heidelberg Technology Center (HTC) offers seminars and training sessions around the world for the engineers and technicians at our cement plants. The course programme comprises all aspects of plant operation, optimisation, and maintenance. In the reporting year, we significantly intensified the targeted training given to our control room employees via an interactive process simulator (virtual cement plant).

A total of 1,350 participants from 40 countries, including 590 participants from the former Italcementi plants, attended 142 training sessions, each lasting up to a week. To supplement our classroom courses, we offer the Cement Manufacturing Curriculum as a multilingual e-learning programme. Overall, more than 3,000 employees have registered for this programme. In the reporting year, the range was extended to include a new e-learning programme focusing on mechanical maintenance – in particular, by connecting internal company knowledge with manufacturer specifications.

The Aggregates Academy also continued its employee training offer in the aggregates business line. Over 180 training sessions on the topic of aggregates were held in 18 countries. These were mostly carried out locally in the form of practical exercises at production sites for the plant management teams. To ensure continuous improvements in our production processes, there was additional training in 2018 across all levels of hierarchy, covering new content in the areas of maintenance, fleet management, technical sales, asphalt, and use of digitalisation measures. The training materials and courses from both academies are generally available in the respective language of the country. The training programme is supported by local managers who have been instructed in adult education techniques (train-the-trainer concept).
In the reporting year, we consistently pursued our efforts to advance future executives. We offer highly motivated and qualified university graduates international trainee programmes focusing on the following areas: technology, sales, finance, HR, purchasing, and IT. In addition, interdisciplinary trainee programmes have been available since 2017. Around the world, we have also further expanded our programmes for the advancement of future executives and continued to intensify our recruitment of university graduates and graduates with first professional experience. In 2018, we hired 327 (previous year: 254) university graduates overall. Currently, 474 (previous year: 719) employees are taking part in programmes that prepare them for more advanced tasks. The lower figure, compared with the previous year, results primarily from the structural adjustment to personnel in Egypt in the context of the integration of Italcementi and from the change in training priorities.

Through a special programme, we prepare highly qualified engineers in the cement business for senior engineering positions. The participants undergo individually tailored training programmes that allow them to gain the necessary knowledge, skills, and experience to prepare them for the next stage of their career. Spending time at cement plants that are operated in exemplary fashion in different countries is a key element of the programme’s success.

**Diversity management**

**Generation management**

Like many companies in western industrial countries, we too are faced with the consequences of demographic change. Around 12% (previous year: 12%) of our employees are under the age of 30. The majority of the employees are aged between 30 and 49, making up around 54% (previous year: 52%) of the Group’s total workforce, and 34% (previous year: 36%) of our employees are over 50 years of age.
We are responding to the effects of demographic change with numerous measures adapted to regional requirements. In Germany, for example, we have continued to develop our health management activities and have incorporated them in the FIT for LIFE initiative. This includes a prevention programme for the early diagnosis of illnesses and risk factors, but primarily focuses on the initiative of individuals to adopt a healthy lifestyle. The focal points in 2018 included examinations for skin cancer prevention and flu vaccinations.

In the future, our health management activities will continue to focus on preventing typical age-related health risks and supporting health-conscious behaviour. We are therefore specifically promoting company sports activities for all age groups.

### Diversity as a success factor

When putting together teams of employees, it is our Group-wide personnel policy to prioritise diversity. We understand diversity as a management concept that brings together different cultures, personalities, talents, and levels of experience in a way that reflects the international and multiform character of our markets, our customer structure, and our business environment. We achieve this goal with the following measures:

- Local country management and therefore an international management team
- An international workforce at the Group headquarters
- A complementary composition of management and other teams (internationality, expertise, experience, age, gender, etc.)
- Women in management positions reflecting the proportion of women in the total workforce in Germany

Our goal is to attract and advance highly qualified and committed employees around the world who can bring various social and professional skills to our company and thus contribute to our business success.

The international composition of our management team enables us to benefit from a broad range of experience and different cultural backgrounds, thereby allowing us to respond more flexibly both to global challenges and to local market needs. The proportion of local managers at the upper management level amounts to around 79%.

At our Group headquarters, we consciously aim to ensure that the workforce is composed of employees from the countries in which we operate. We benefit considerably from their local knowledge, and this also facilitates cooperation with the local personnel. We have 639 employees at the Group headquarters and at our technical centers, the Competence Center Materials and Heidelberg Technology Center in Heidelberg and Leimen, with 421 of these employees coming from Germany and 218 from 46 other countries.

In early 2013, we signed the Diversity Charter as an affirmation of all our activities in this area to date and as a public statement of our respect for diversity. To mark German Diversity Day in 2018, we held a Diversity Week at our Group headquarters in Heidelberg, featuring a wide range of lectures, panel discussions, and workshops.

https://www.charta-der-vielfalt.de/en/
A good work-life balance is becoming increasingly important and is now an integral component of our company. HeidelbergCement supports its employees with numerous ways of combining demanding professional goals with their own private lives.

Anna Toborek
Director Group Corporate Finance

Women in leadership positions
For us, diversity also means that we reflect the ratio of women to men in our workforce as a whole when hiring to fill management positions. Within the Group, women made up 13% of the total workforce and held 10% of the upper management positions in 2018. According to the legislation on the promotion of women in leadership positions, companies in Germany have to define targets for the proportion of women in the two leadership levels below the Managing Board. Managers who report directly to the Managing Board form the first level at HeidelbergCement, and any of their employees with leadership responsibility form the second level below the Managing Board.

In 2018, the proportion of women in leadership positions in Germany at the first level below the Managing Board was 12% (previous year: 11%), and 13% (previous year: 11%) at the second level. The aim is to increase the proportion of women in Germany in both leadership levels below the Managing Board to 15% by the end of June 2022.

We have worked consistently on the promotion of women in the last few years and achieved significant success. The proportion of women in programmes for the advancement of future executives across Germany is 26% (previous year: 36%) and therefore significantly higher than the proportion of women in the total workforce. The lower figure, compared with the previous year, is the result of a short-term cohort effect. We have made good progress in the appointment of women to leadership positions in staff functions.

The global NOW – Network of Women at HeidelbergCement is an initiative that brings together female employees worldwide. NOW is implemented on a country-by-country basis through personal exchange of information and experiences, as well as special, one-off events.

It aims, among other things, to support the network’s members in developing their career potential and to increase awareness throughout the company of the changing demands on working and living environments.

Improving the work-life balance
As we compete for the best employees, we are adapting to changing lifestyles around the world. In terms of what we offer to encourage a good work-life balance, we focus on models such as flexitime, part-time, and leave of absence. Because of the small size of our locations, cooperation with external networks has proven itself, for example with respect to children’s day care and holiday programmes or caring for family members. Employees benefit from having easy access to a professional and flexible network at reasonable costs. As part of our FIT for FAMILY initiative, we have entered into cooperation with day-care centers for the location in Heidelberg, Germany. These arrangements mean we have our own quota of places to offer our employees.
Society & Corporate Responsibility

59  ➔ Figures, data, facts
60  ➔ Social responsibility
61  ➔ Social engagement at our locations
62  ➔ Local conflicts of interest

Image: Children creating a pool for yellow-bellied toads at the Nußloch quarry in Germany.
Creating local value.

We have production sites almost everywhere around the globe. Through our entrepreneurial activities, we create added value for the communities in which we operate. We are also involved in community projects at our sites.

“Being a good neighbour”

is one of the six goals in our Sustainability Commitments 2030. We involve the communities near our production sites in our business activities, for example through various dialogue formats, as well as through local community engagement plans.

Transparency and efficiency

are at the heart of our social engagement. This is why, among other things, we have developed a simplified tool for measuring the impact and quality of CSR projects.

£7,000

have been raised by prospective managers at our subsidiary Hanson UK in the United Kingdom. As part of their training, they have four months to develop projects in the local community.
As a global Group with a strong regional presence, we act according to the principle “think global – act local”. Our business operations also create added value for the communities at our locations across the world. Beyond our business activities, we are also committed to protecting the environment and promoting social progress.

Social responsibility

Good cooperative relationships with the communities in the areas where we are active are indispensable for our business operations and one of the keys to our business success. In these areas, we establish business contacts, capitalise on local know-how, and maintain a dialogue with our neighbours. By making this voluntary commitment to society, we strengthen the exchange of ideas and achieve long-term socio-economical added value for local communities.

We have made an explicit commitment to social responsibility in the Leadership Principles adopted by our Managing Board. Social responsibility and maintaining good relationships with our stakeholders are therefore management tasks. Together with the site managers, all country managers are responsible for these tasks in their respective countries. This also includes understanding local needs as well as selecting, implementing, and monitoring community projects. Given the decentralised nature of these responsibilities, it is not possible at present to make a statement as to the financial scope of this Group-wide social engagement.

We involve local communities in our activities, for example through various dialogue formats, as well as through local community engagement plans. This also includes long-term partnerships with local non-governmental organisations. Moreover, we keep the communities at our locations informed by means of newsletters, open days, and so on. The Group Handbook for Community Relationship Management is a useful source of design and implementation strategies for dialogue formats, partnerships, and charitable involvement for countries and locations.

In addition, the Group-wide Corporate Citizenship Policy defines the general criteria and objectives related to our social engagement. This engagement is focused on three areas in which we have specific expertise and can achieve the best results for society:

- Building, architecture, and infrastructure: We provide practical help in the construction of buildings and infrastructure by making products, financial means, and expertise available.
- Environment, climate, and biodiversity: We support initiatives that promote environmental protection and strengthen the diversity of nature at our locations.
- Education, training, and culture: In this area, we are guided by the specific needs of our locations.

We have also defined evaluation criteria in order to ensure that our activities are both transparent and effective. We support projects, initiatives, and organisations that are active at our locations or to which we have a direct link. We attach great importance to ensuring that the guidelines and principles of these organisations align with our own corporate philosophy.
In 2018, the Group took further steps to strengthen the processes and improve the management structure of our social engagement in the various countries. The aim is to make our CSR activities more systematic and more transparent as well as more efficient and targeted. For example, we developed a simplified tool for measuring the impact of CSR projects and evaluating their quality. Building on the existing Anti-corruption Policy, we published an internal information brochure containing recommendations specifically on the topic of corruption and CSR. We also worked with Group Internal Audit to develop an audit programme for our social engagement.

The exact wording of our Corporate Citizenship Policy can be found here:


As part of the Sustainability Commitments 2030, we defined the following concrete performance indicators that will allow us to measure the quality of our relationships with the communities at our locations:

- Percentage of locations holding at least one community dialogue per year
- Total value of annual donations (monetary/material donations)
- Number and type of development programmes supported by HeidelbergCement
- Hours of voluntary charitable work per year

We are currently developing a management and reporting system for this area so that in the future we will be able to record relevant measures, progress, and performance indicators more effectively.

"Being a good neighbour" is one of the goals listed in our Sustainability Commitments 2030. We aim to increase the focus of our social engagement in this topic in the future. Transparency and efficiency will be our priorities here.

Tobias Hartmann
CSR Manager

Social engagement at our locations

To meet our responsibilities on the ground and strengthen local communities, we took a number of measures and promoted various initiatives during 2018. In the United Kingdom, for example, we are also incorporating our social commitment into the training of our future managers. As part of their training, they have four months to develop their own project in the local community and procure the necessary resources. In 2018, they collected financing and materials with a value of over £7,000. The company also benefits from the young employees’ newly acquired skills.

In Germany, we have been pursuing the project “Kooperation Industrie-Schule” (KIS) for some years in Heidelberg, where our headquarters are located, and in several locations of our plants. This cooperation between industry and schools includes activities, ranging from plant visits and special lectures at many schools to holiday programmes and supervised work with KiTec boxes, which help children to discover the world of technology. Both sides benefit from this cooperation: For the children, it facilitates the access to technology, and our employees benefit from the experience gained from dealing and talking with the pupils.
Local conflicts of interest

In recent years, allegations have been made that the business operations of a quarry belonging to our Israeli subsidiary, which is located in the area of the West Bank occupied and administered by Israel (Area C), are not in conformance with international standards. A lawsuit filed by an Israeli human rights organisation concerning the general cessation of aggregates mining by foreign companies in this territory was, however, dismissed by the Supreme Court of Israel at last instance in a legally binding ruling on 26 December 2011. The quarrying of aggregates was thus deemed as being in compliance with international law, since it offers advantages to the Palestinian population and makes hardly any impact on local resources.

The Palestinian people benefit economically from our quarrying activities, as these create valuable jobs in an area otherwise plagued by high unemployment. Palestinians from the occupied territories account for more than 60% of the workforce in our quarry in the West Bank, and the wages we pay them are many times higher than the local average.

We have carefully examined this issue with our local management team. Our subsidiary also takes care to ensure that Israeli and Palestinian employees are treated and paid equally. Here, we place high priority on close cooperation in intercultural teams that promote an exchange between our Israeli and Palestinian employees and thus an understanding between these two groups in a conflict-ridden region. Moreover, our quarrying activities have virtually no impact on the region’s abundant reserves of raw materials, which will last for several centuries.

We respond in a transparent manner to all enquiries from non-governmental organisations and interest groups. Furthermore, we are holding a dialogue with individual investors on the development of this issue and offering face-to-face talks with local leaders and employees as well as tours of the facility.

We received all required mining concessions, without exception, before we commenced our quarrying activities. As part of our action plan to optimise our portfolio, which we launched in November 2018, we decided to sell the quarry in the West Bank. The sale process began at the start of 2019.

Commitment to disadvantaged young people

In 2018, we supported local communities near our sites with numerous measures and projects. Our subsidiary Hanson UK in the United Kingdom is integrating social engagement into the training of our future managers: participants in Hanson UK’s management development programme have been working for several months with local initiatives and are implementing projects that they have developed themselves and financed by raising funds. In 2018, this included the construction of an outdoor kitchen for the Jamie’s Farm charitable project. Jamie’s Farm is committed to providing experience-based educational opportunities for disadvantaged young people.
Targets

64 ➔ Strategy & Management
64 ➔ Business & Compliance
65 ➔ Product & Innovation
65 ➔ Production & Supply Chain
66 ➔ Employees & Employment
67 ➔ Society & Corporate Responsibility

Image: Employees at our subsidiary Betongindustri in Sweden.
## Strategy & Management

<table>
<thead>
<tr>
<th>Target</th>
<th>Measures</th>
<th>Achieved in 2018</th>
<th>Deadline</th>
<th>Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment to sustainable cement production at industry and association level.</td>
<td>Continuation of the reporting on the implementation of the GCCA guidelines for cement production. The KPIs collected by the GCCA correspond to those of its predecessor organisation CSI (Cement Sustainability Initiative), on which the auditing in previous years was based.</td>
<td>In 2018, the environmental and occupational safety indicators were once again subjected to an external audit in line with GCCA stipulations.</td>
<td>Ongoing</td>
<td></td>
<td>77</td>
</tr>
</tbody>
</table>

## Business & Compliance

<table>
<thead>
<tr>
<th>Target</th>
<th>Measures</th>
<th>Achieved in 2018</th>
<th>Deadline</th>
<th>Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further development of the Group compliance programme and of Group compliance activities with regard to current developments.</td>
<td>Following the introduction of a Group human rights position in 2017: rollout of concrete measures, including implementation of a human rights risk analysis. Target: risk assessment for all countries in which HC is active. Between 2018 and 2020, one third of the country organizations are scheduled to be audited each year.</td>
<td>In 2018, human rights risk analyses were carried out in one-third of the country organisations.</td>
<td>Ongoing</td>
<td></td>
<td>21–24</td>
</tr>
</tbody>
</table>
| Continuous improvement of customer satisfaction.                        | Introduction of the Net Promoter System (NPS) at HeidelbergCement in 2015 – for the ongoing analysis of customer satisfaction and needs, in order to continuously improve the customer experience and our business results. | Net Promoter System introduced in 35 countries.  
  NPS score for HeidelbergCement Group:  
  2016: 48%  
  2017: 47%  
  2018: 45%  
  The programmes proved very successful in 2018 and yielded results that exceeded expectations.                                                                                           | Ongoing  |        | 27   |
| Continuous improvement of efficiency and margins in all business lines. | Continuation of global Continuous Improvement Programmes for cost and process optimization in the aggregates (Aggregates CI), cement (CIP), and concrete (CCR) business lines. | The programmes proved very successful in 2018 and yielded results that exceeded expectations.                                                                                                               | Ongoing  |        | 7, AR 2018: 24–27 |
| Efficient use of resources in order to earn a premium on our cost of capital. | Disciplined investment and cash flow management. Continuation of programmes to increase efficiency.                                                                                                      | ROIC of 6.9% compared with the weighted average cost of capital (WACC) of 6.3%.                                                                                                                               | Ongoing  |        | 21–22, AR 2018: 44 |

- Target achieved
- Target partly achieved
- Target not achieved
- New target
## Product & Innovation

<table>
<thead>
<tr>
<th>Target</th>
<th>Measures</th>
<th>Achieved in 2018</th>
<th>Deadline</th>
<th>Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of sustainable products in the Heidelberg-Cement portfolio.</td>
<td>Development of a product evaluation tool (PET) and introduction in a selection of representative countries.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extension of the application of the PET Tool to a selection of countries with revenue amounting to at least 25% of Group revenue.</td>
<td>Reporting will begin in 2019.</td>
<td>2023</td>
<td></td>
<td>32</td>
</tr>
<tr>
<td>Innovation in the areas of alternative clinker technology, building materials recycling, and special concretes.</td>
<td>Expansion of capacity in the area of research and technology. This includes participation in and coordination of a research project in Germany to develop practice-oriented concepts for the use of recycled aggregates in concrete production.</td>
<td>Consistent continuation of research and cooperation in the area of low-CO₂ clinker technology, building materials recycling, and special concretes.</td>
<td>Ongoing</td>
<td></td>
<td>27–32</td>
</tr>
</tbody>
</table>

## Production & Supply Chain

<table>
<thead>
<tr>
<th>Environment management</th>
<th>Measures</th>
<th>Achieved in 2018</th>
<th>Deadline</th>
<th>Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>All integrated cement plants are to operate with a certified environmental management system.</td>
<td>Implementation of an action plan for the Group-wide control and monitoring of the ongoing introduction of certified environmental management systems.</td>
<td>96% of all integrated cement plants worldwide operate with an environmental management system. The figure was 89.3% in 2017.</td>
<td>2020</td>
<td></td>
<td>35, 70</td>
</tr>
<tr>
<td>CO₂ emissions and alternative raw materials and fuels</td>
<td>Investment for research in the following areas: energy-efficient production processes, CO₂ capture and use, composite cements with reduced clinker content, and new clinker technologies. Increased use of alternative fuels and biomass. Investment for research into technologies for CO₂ capture and CO₂ recycling.</td>
<td>As at 2018: – Reduction of approx. 20% to 599.2 kg CO₂ per tonne of cement</td>
<td>2030</td>
<td></td>
<td>27–31, 36–39, 71</td>
</tr>
<tr>
<td>Lowering clinker content of cement to 70%.</td>
<td>Development of new composite cements. Use of alternative raw materials.</td>
<td>As at 2018: – Clinker proportion: 74.7% (previous year: 75.3%).</td>
<td>2020</td>
<td></td>
<td>30, 72</td>
</tr>
<tr>
<td>Increasing the share of alternative fuels used to 30%.</td>
<td>Focus on three waste flows: sorted fractions of household and domestic waste with high calorific values, sewage sludge, and hazardous waste.</td>
<td>As at 2018: – Proportion of alternative fuels: 21.7% (previous year: 20.8%).</td>
<td>2030</td>
<td></td>
<td>36–39, 72</td>
</tr>
</tbody>
</table>

- Target achieved
- Target partly achieved
- Target not achieved
- New target
## Production & Supply Chain

### Local environmental effects

**Target**
- Monitoring of water consumption in all business lines. Implementation of measures to reduce consumption where economically and technically feasible.

**Measures**
- Monitoring of water consumption and introduction of key figures on water reporting initially in the cement business line and subsequently in the concrete and aggregates business lines. Implementation of water management plans at all sites located in water scarcity areas.

**Achieved in 2018**
- Monitoring of water consumption in the cement business line. Specific water consumption in 2018: 269.9 L/t cement (previous year: 306.5 L/t cement).
- Development of initial individual water management plans for cement plants.

**Deadline**
2030

**Status**
- Target achieved

**Page**
43/44, 73

### Measuring emissions of heavy metals, volatile organic compounds (VOC), and dioxins/furans at all locations.

**Measures**
- Continuous emission measurements.

**Achieved in 2018**
As at 2018:
- 112 kilns report on mercury emissions (previous year: 107)
- 125 kilns report on dioxins/furans (previous year: 111)

**Deadline**
2030

**Status**
- Target partly achieved

**Page**
72

### Lowering emissions per tonne of clinker (reference year: 2008):

- Dust: by 80%
- Nitrogen oxides: by 40%
- Sulphur oxides: by 40%

**Measures**
- Continuous optimization and modernization of processes (best available technology, or BAT) in the cement plants.

**Achieved in 2018**
As at 2018:
- Dust: -75%
- Nitrogen oxides: -20%
- Sulphur oxides: -31%

**Deadline**
2030

**Status**
- Target not achieved

**Page**
42-44, 72

### Subsequent use and biodiversity management

**Measures**
- Continuous expansion of restoration plans.

**Achieved in 2018**
As at 2018:
- In the cement business line: 88% (previous year: 80%)
- In the aggregates business line: 76% (previous year: n/a)

**Deadline**
2030

**Status**
- Target partly achieved

**Page**
40, 73

### Implementation of biodiversity management plans at 100% of quarries in areas with a high biological value (in Europe, Africa, and Asia).

**Measures**
- Development of training documentation and manuals; provision of corresponding training on site. Continuous expansion of biodiversity management plans.

**Achieved in 2018**
As at 2018:
- In the cement business line: 47% (previous year: 43%)
- In the aggregates business line: 41% (previous year: 38%)

**Deadline**
2030

**Status**
- Target not achieved

**Page**
40/41, 73

## Employees & Employment

### Reduction of accident frequency and the accident severity indicator to zero for Group employees.

**Measures**
- Group-wide training initiative on the importance of management responsibility in occupational health and safety. Introduction of safety conversations as an additional Group-wide management instrument. Analysis of the causes of accidents for the entire Group and implementation of appropriate preventative measures.

**Achieved in 2018**
As at 2018:
- Accident frequency rate: 1.7 (previous year: 1.9)
- Accident severity indicator: 70 (previous year: 90)

**Deadline**
Ongoing

**Status**
- Target not achieved

**Page**
50-52, 76

### Reduction of the number of fatalities to zero for Group employees.

**Measures**
- Group-wide training initiative on the importance of management responsibility in occupational health and safety. Introduction of safety conversations as an additional Group-wide management instrument. Analysis of the causes of accidents for the entire Group and implementation of appropriate preventative measures.

**Achieved in 2018**
As at 2018:
- Fatality rate: 0.4 (previous year: 0.4)

**Deadline**
Ongoing

**Status**
- Target not achieved

**Page**
50-52, 76

- Target achieved
- Target partly achieved
- Target not achieved
- New target
**Employees & Employment**

<table>
<thead>
<tr>
<th>Target</th>
<th>Measures</th>
<th>Achieved in 2018</th>
<th>Deadline</th>
<th>Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of the WASH Pledge of the World Business Council for Sustainable Development (WBCSD).</td>
<td>Performing a self-assessment to monitor the success of the implementation, and publication of the results. Aspects monitored include compliance with local regulations and laws, the supply of drinking water to the workplace, and access to sanitation and hygiene at the workplace.</td>
<td>Signing of the WBCSD’s WASH Pledge. Performing a self-assessment regarding fulfilment of the requirements in 20 countries in Africa, Europe, Asia, and Australia. Evaluation of the results: requirements in the areas of access to water and sanitary facilities around 90% fulfilled; requirements in the area of hygiene around 80% fulfilled.</td>
<td>2021</td>
<td></td>
<td>53</td>
</tr>
<tr>
<td>Share of women in management positions (first level) in Germany: 15%.</td>
<td>Targeted support of women by means of appropriate management programmes and programmes for the advancement of future executives.</td>
<td>As at 2018: Share of women in management positions in Germany: 12% at first management level, 13% at second management level Share of women in programmes for the advancement of future executives in Germany: 26%</td>
<td>2022</td>
<td></td>
<td>57, 75</td>
</tr>
<tr>
<td>Share of women in management positions (second level) in Germany: 15%.</td>
<td></td>
<td>As at 2018: 29% of all positions are filled internally (worldwide) 47% of all positions within Group functions at the headquarters are filled internally</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable talent management.</td>
<td>Key positions are filled internally with top-class candidates worldwide.</td>
<td>As at 2018: 29% of all positions are filled internally (worldwide) 47% of all positions within Group functions at the headquarters are filled internally</td>
<td>Ongoing</td>
<td></td>
<td>53–55</td>
</tr>
<tr>
<td>Promoting diversity in the workforce.</td>
<td>Promoting an international composition of the workforce at Group headquarters, bringing together different cultures, talents, and experiences, and reflecting the company’s presence on international markets.</td>
<td>As at 2018: 218 international employees from 46 countries at Group headquarters (of a total of 639 employees)</td>
<td>Ongoing</td>
<td></td>
<td>55 f.</td>
</tr>
</tbody>
</table>

**Society & Corporate Responsibility**

<table>
<thead>
<tr>
<th>Target</th>
<th>Measures</th>
<th>Achieved in 2018</th>
<th>Deadline</th>
<th>Status</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring transparent communication with stakeholders.</td>
<td>Strengthening of contact with stakeholders and intensification of dialogue on both local and Group levels. Development of guidelines for country organisations to ensure structured involvement of local players.</td>
<td>Expansion and strengthening of communication with stakeholders at national level. Formulation of an auditing programme in cooperation with Group Internal Audit for the area of CSR.</td>
<td>Ongoing</td>
<td></td>
<td>60/61</td>
</tr>
<tr>
<td>Support for the economic and social development of neighbouring communities</td>
<td>Provision of in-kind and monetary donations for non-profit organisations as well as the development of strategic “shared value” projects. Development and promotion of corporate volunteering.</td>
<td>Strengthening of the donation process and collection of data in the various countries. Development of a simplified tool to evaluate the quality of project proposals. Preparation of a leaflet on measures to prevent corruption in the area of CSR. Implementation of numerous projects to support the local community in the various countries.</td>
<td>Ongoing</td>
<td></td>
<td>60/61</td>
</tr>
</tbody>
</table>
Appendix

69 ➔ Key figures
77 ➔ About this report
78 ➔ GRI content index
84 ➔ Imprint

Image: Cement plant in Burglengenfeld, Germany.
## Key figures

### Strategy & management

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue/result</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Group revenue</td>
<td>15,166</td>
<td>17,266</td>
<td>18,075</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td>Result from current operations before depreciation and amortisation</td>
<td>2,887</td>
<td>3,297</td>
<td>3,074</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td>Result from current operations</td>
<td>1,928</td>
<td>2,188</td>
<td>1,984</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td>Profit for the financial year</td>
<td>831</td>
<td>1,058</td>
<td>1,286</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td>Group share of profit</td>
<td>657</td>
<td>918</td>
<td>1,143</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td>Dividend per share</td>
<td>1.60</td>
<td>1.90</td>
<td>2.10</td>
<td>€</td>
<td></td>
</tr>
<tr>
<td>Earnings per share</td>
<td>3.40</td>
<td>4.62</td>
<td>5.76</td>
<td>€</td>
<td></td>
</tr>
<tr>
<td><strong>Investments in tangible fixed assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including maintenance, optimisation, and environmental protection measures</td>
<td>1,040</td>
<td>1,035</td>
<td>1,061</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td><strong>Depreciation and amortisation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity (including non-controlling interests)</td>
<td>17,792</td>
<td>15,987</td>
<td>16,822</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td><strong>Balance sheet</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance sheet total</td>
<td>37,120</td>
<td>34,558</td>
<td>35,783</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td>Net debt</td>
<td>8,999</td>
<td>8,695</td>
<td>8,367</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td><strong>Material costs and other operating expenses</strong></td>
<td>5,874</td>
<td>6,782</td>
<td>7,478</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td><strong>Expenditure on research and technology</strong></td>
<td>116.6</td>
<td>141.0</td>
<td>145.7</td>
<td>€ million</td>
<td></td>
</tr>
<tr>
<td><strong>Group sales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement and clinker:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Western and Southern Europe</td>
<td>22.4</td>
<td>28.9</td>
<td>30.8</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Northern and Eastern Europe-Central Asia</td>
<td>24.2</td>
<td>25.9</td>
<td>25.6</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- North America</td>
<td>14.6</td>
<td>16.4</td>
<td>16.2</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Asia-Pacific</td>
<td>28.7</td>
<td>34.7</td>
<td>36.9</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Africa-Eastern Mediterranean Basin</td>
<td>12.7</td>
<td>19.0</td>
<td>19.7</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Total</td>
<td>102.8</td>
<td>125.7</td>
<td>129.9</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>Aggregates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Western and Southern Europe</td>
<td>67.4</td>
<td>78.5</td>
<td>81.3</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Northern and Eastern Europe-Central Asia</td>
<td>37.0</td>
<td>52.3</td>
<td>51.3</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- North America</td>
<td>118.8</td>
<td>120.8</td>
<td>123.4</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Asia-Pacific</td>
<td>39.2</td>
<td>41.5</td>
<td>43.4</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Africa-Eastern Mediterranean Basin</td>
<td>10.1</td>
<td>12.4</td>
<td>10.1</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Total</td>
<td>272.0</td>
<td>305.3</td>
<td>309.4</td>
<td>million t</td>
<td></td>
</tr>
</tbody>
</table>

1) External assurance of the key figures for 2018 within the framework of the Annual Report 2018 or in line with our obligation with regard to the Global Cement and Concrete Association (GCCA). The KPIs collected by the GCCA correspond to those of its predecessor organisation CSI (Cement Sustainability Initiative), on which the assurance in previous years was based.
### Strategy & management

#### Group sales

<table>
<thead>
<tr>
<th>Region</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready-mixed concrete:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Western and Southern Europe</td>
<td>15.0</td>
<td>17.3</td>
<td>17.5</td>
<td>million m³</td>
<td></td>
</tr>
<tr>
<td>- Northern and Eastern Europe-Central Asia</td>
<td>6.2</td>
<td>6.9</td>
<td>7.0</td>
<td>million m³</td>
<td></td>
</tr>
<tr>
<td>- North America</td>
<td>6.3</td>
<td>6.8</td>
<td>7.1</td>
<td>million m³</td>
<td></td>
</tr>
<tr>
<td>- Asia-Pacific</td>
<td>11.0</td>
<td>10.6</td>
<td>11.6</td>
<td>million m³</td>
<td></td>
</tr>
<tr>
<td>- Africa-Eastern Mediterranean Basin</td>
<td>3.7</td>
<td>5.1</td>
<td>5.3</td>
<td>million m³</td>
<td></td>
</tr>
<tr>
<td>- Total</td>
<td>42.5</td>
<td>47.2</td>
<td>49.0</td>
<td>million m³</td>
<td></td>
</tr>
<tr>
<td>Asphalt:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Western and Southern Europe</td>
<td>3.0</td>
<td>3.3</td>
<td>3.6</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- North America</td>
<td>4.0</td>
<td>4.0</td>
<td>4.1</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Asia-Pacific</td>
<td>1.8</td>
<td>1.8</td>
<td>2.1</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Africa-Eastern Mediterranean Basin</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>- Total</td>
<td>9.4</td>
<td>9.6</td>
<td>10.3</td>
<td>million t</td>
<td></td>
</tr>
<tr>
<td>Cement type portfolio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ordinary Portland cement</td>
<td>44.5</td>
<td>40.0</td>
<td>39.0</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Limestone cement</td>
<td>15.6</td>
<td>17.7</td>
<td>18.0</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Pozollana/fly ash cement</td>
<td>7.9</td>
<td>7.5</td>
<td>9.2</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Slag cement</td>
<td>11.4</td>
<td>13.4</td>
<td>12.1</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Multi-component cement</td>
<td>17.1</td>
<td>18.4</td>
<td>18.5</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Oilwell/white cement</td>
<td>0.7</td>
<td>0.7</td>
<td>0.6</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Masonry cement/special binder</td>
<td>1.2</td>
<td>0.9</td>
<td>0.8</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>- Ground granulated blast furnace slag</td>
<td>1.6</td>
<td>1.4</td>
<td>1.7</td>
<td>%</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Share of integrated cement plants with a certified environmental management system

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>75.0</td>
<td>89.3</td>
<td>96.0</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Aggregates</td>
<td>–</td>
<td>68</td>
<td>68.0</td>
<td>%</td>
<td>–</td>
</tr>
</tbody>
</table>

1) External assurance of the key figures for 2018 within the framework of the Annual Report 2018 or in line with our obligation with regard to the Global Cement and Concrete Association (GCCA). The KPIs collected by the GCCA correspond to those of its predecessor organisation CSI (Cement Sustainability Initiative), on which the assurance in previous years was based.
### Product & innovation

#### Sustainable construction
- **Sales of recycled aggregates**
  - 2016: –
  - 2017: –
  - 2018: 3.4 million t
- **Membership of Green Building Councils and Sustainable Infrastructure Councils**
  - 2016: 12
  - 2017: 11
  - 2018: 12

#### Revenue from sustainable products
- **Share of revenue**
  - 2016: –
  - 2017: –
  - 2018: 11.43%

### Production & supply chain

#### Reduction in CO₂ emissions

<table>
<thead>
<tr>
<th>Component</th>
<th>1990</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cement business line:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Absolute gross CO₂ emissions</td>
<td>84.7</td>
<td>74.4</td>
<td>74.2</td>
<td>76.7</td>
</tr>
<tr>
<td>– Absolute net CO₂ emissions</td>
<td>83</td>
<td>70.4</td>
<td>70.3</td>
<td>72.7</td>
</tr>
<tr>
<td>– Specific gross CO₂ emissions (per tonne of cementitious material)</td>
<td>755.5</td>
<td>638.9</td>
<td>636</td>
<td>627.5</td>
</tr>
<tr>
<td>– Specific net CO₂ emissions (per tonne of cementitious material)</td>
<td>748</td>
<td>610.5</td>
<td>607.6</td>
<td>599.2</td>
</tr>
<tr>
<td>– Indirect CO₂ emissions</td>
<td>9.7</td>
<td>4.2</td>
<td>4.7</td>
<td>5.3</td>
</tr>
</tbody>
</table>

#### Energy/raw materials

<table>
<thead>
<tr>
<th>Component</th>
<th>1990</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Absolute energy consumption:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Cement</td>
<td>463,702</td>
<td>375,342</td>
<td>371,765</td>
<td>382,321 TJ</td>
</tr>
<tr>
<td>– Aggregates</td>
<td>n/a</td>
<td>8,026</td>
<td>8,109</td>
<td>9,203 TJ</td>
</tr>
<tr>
<td><strong>Specific energy consumption:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Cement</td>
<td>4,175</td>
<td>3,254</td>
<td>3,215</td>
<td>3,152 MJ/t</td>
</tr>
<tr>
<td>– Aggregates</td>
<td>n/a</td>
<td>31.0</td>
<td>31.0</td>
<td>32.1 MJ/t</td>
</tr>
</tbody>
</table>

#### Fuel mix for clinker production

<table>
<thead>
<tr>
<th>Component</th>
<th>1990</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Hard coal</td>
<td>51.4</td>
<td>48.6</td>
<td>48.2</td>
<td>47.1</td>
</tr>
<tr>
<td>– Lignite</td>
<td>0.0</td>
<td>1.8</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>– Petroleum coke</td>
<td>8.6</td>
<td>17.7</td>
<td>19.0</td>
<td>18.4</td>
</tr>
<tr>
<td>– Natural gas</td>
<td>18.4</td>
<td>9.9</td>
<td>7.8</td>
<td>8.2</td>
</tr>
<tr>
<td>– Light fuel oil</td>
<td>0.7</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>– Heavy fuel oil</td>
<td>15.9</td>
<td>1.9</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>– Other fossil fuels</td>
<td>2.1</td>
<td>0.1</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>– Alternative fossil fuels</td>
<td>2.7</td>
<td>12.8</td>
<td>13.1</td>
<td>13.3</td>
</tr>
<tr>
<td>– Biomass</td>
<td>0.2</td>
<td>6.9</td>
<td>7.8</td>
<td>8.4</td>
</tr>
<tr>
<td>– Proportion of biomass in mix of alternative fuels</td>
<td>6.3</td>
<td>35.2</td>
<td>37.4</td>
<td>38.7</td>
</tr>
</tbody>
</table>

1) External assurance of the key figures for 2018 within the framework of the Annual Report 2018 or in line with our obligation with regard to the Global Cement and Concrete Association (GCCA).

2) Collected since 1 January 2018 in GER, BE, NL, PL, CZ, NOR, SWE.
## Production & supply chain

### Energy/raw materials

| Alternative fuel mix for clinker production: | 1990 | 2016 | 2017 | 2018 | Unit | Assurance 1)
|---------------------------------------------|------|------|------|------|------|----------------
| Plastics                                    | 1.6  | 25.3 | 25.3 | 26.8 | %    | ●   
| Waste oil                                   | 29.0 | 6.8  | 3.4  | 3.2  | %    | ●   
| Used tyres                                  | 17.1 | 11.8 | 11.8 | 12.1 | %    | ●   
| Solvents                                    | 30.8 | 4.3  | 7.6  | 6.0  | %    | ●   
| Dried sewage sludge                         | 0.0  | 2.5  | 2.1  | 2.0  | %    | ●   
| Meat and bone meal                          | 0.0  | 4.0  | 4.2  | 3.8  | %    | ●   
| Agricultural waste and waste wood           | 0.0  | 3.7  | 3.7  | 6.5  | %    | ●   
| Other biomass                               | 6.3  | 25.0 | 27.4 | 26.4 | %    | ●   
| Other alternative fuels                     | 15.1 | 16.6 | 14.6 | 13.2 | %    | ●   
| Proportion of alternative fuels (incl. biomass) | 2.9  | 19.7 | 20.8 | 21.7 | %    | ●   
| Clinker content in cement                   | 81.8 | 75.2 | 75.3 | 74.7 | %    | ●   
| Proportion of alternative raw materials:    |      |      |      |      |      |     
| Clinker                                     | n/a  | 3.6  | 2.7  | 3.1  | %    | –   
| Cement                                      | n/a  | 12.0 | 11.1 | 11.3 | %    | –   

### Emissions

| Absolute NO\(_x\) emissions               | 84,571 | 92,814 | 119,642 | 114,514 | t   | ●   
| Specific NO\(_x\) emissions               | 1,585  | 1,343  | 1,373   | 1,263   | g/t clinker | ●   
| Absolute SO\(_x\) emissions               | 27,007 | 21,746 | 31,989  | 31,858  | t   | ●   
| Specific SO\(_x\) emissions               | 506    | 315    | 367     | 351     | g/t clinker | ●   
| Absolute dust emissions                    | 17,043 | 8,031  | 7,862   | 7,272   | t   | ●   
| Specific dust emissions                    | 319    | 116    | 90      | 80      | g/t clinker | ●   
| Proportion of clinker produced in kilns with continuous or discontinuous measurement of all emissions: | 65     | 86     | 87      | 83      | %    | ●   
| Proportion of clinker produced in kilns with continuous measurement of dust, NO\(_x\), and SO\(_x\) emissions: | 87     | 83     | 88      | 90      | %    | ●   
| Mercury:                                   |        |        |        |        |      |     
| Specific emissions                         | n/a    | 0.028  | 0.034  | 0.030  | g/t clinker | ●   
| Number of kilns reporting                  | n/a    | 77     | 107    | 112    |      | –   
| Dioxins and furans:                        |        |        |        |        |      |     
| Specific emissions                         | n/a    | 0.018  | 0.059  | 0.035  | µg TEQ/t clinker | ●   
| Number of kilns reporting                  | n/a    | 78     | 111    | 125    |      | –   

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## Production & supply chain

<table>
<thead>
<tr>
<th>Biodiversity and conservation of resources</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of quarries in areas with a high biological value, with biodiversity management plan:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Cement</td>
<td>–</td>
<td>43</td>
<td>47</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>– Aggregates</td>
<td>–</td>
<td>38</td>
<td>41</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Proportion of active quarries with a restoration plan:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Cement</td>
<td>–</td>
<td>80</td>
<td>88</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>– Aggregates</td>
<td>–</td>
<td>–</td>
<td>76</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Water management (cement)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total water withdrawal</td>
<td>52.6</td>
<td>60.4</td>
<td>65.4</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>By source:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Surface water</td>
<td>27.9</td>
<td>29.3</td>
<td>33.6</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>– Groundwater</td>
<td>7.3</td>
<td>9.7</td>
<td>9.5</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>– Seawater</td>
<td>2.3</td>
<td>2.3</td>
<td>3.2</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>– Public/private water supply</td>
<td>4.2</td>
<td>5.2</td>
<td>5.5</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>– External wastewater</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>– Quarry water</td>
<td>9.1</td>
<td>9.4</td>
<td>9.4</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>– Collected rainwater</td>
<td>1.7</td>
<td>4.5</td>
<td>4.1</td>
<td>million m³</td>
<td>🟢</td>
</tr>
<tr>
<td>Total water discharge/wastewater</td>
<td>23.6</td>
<td>25.2</td>
<td>33.1</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>By place of discharge:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Surface water</td>
<td>19.8</td>
<td>21.2</td>
<td>27.7</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>– Groundwater</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>– Seawater</td>
<td>2.7</td>
<td>2.7</td>
<td>1.2</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>– External water treatment systems</td>
<td>0.6</td>
<td>0.7</td>
<td>1.2</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>– Other discharge area</td>
<td>0.5</td>
<td>0.6</td>
<td>0.6</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>Water consumption (water withdrawal minus wastewater discharge)</td>
<td>29.0</td>
<td>35.2</td>
<td>32.2</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>Quarry water not used</td>
<td>62.7</td>
<td>64.2</td>
<td>57.1</td>
<td>million m³</td>
<td>–</td>
</tr>
<tr>
<td>Specific water withdrawal for cement</td>
<td>551.2</td>
<td>526.2</td>
<td>547.8</td>
<td>L/t</td>
<td>🟢</td>
</tr>
<tr>
<td>Specific water withdrawal for clinker</td>
<td>756.6</td>
<td>692.8</td>
<td>721.2</td>
<td>L/t</td>
<td>🟢</td>
</tr>
<tr>
<td>Specific water consumption for cement</td>
<td>303.9</td>
<td>306.5</td>
<td>269.9</td>
<td>L/t</td>
<td>–</td>
</tr>
<tr>
<td>Specific water consumption for clinker</td>
<td>417.1</td>
<td>403.5</td>
<td>355.4</td>
<td>L/t</td>
<td>–</td>
</tr>
</tbody>
</table>

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## Employees & employment

### Employees and employment

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance ±</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees as at 31 December:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western and Southern Europe</td>
<td>15,781</td>
<td>15,497</td>
<td>15,903</td>
<td>employees</td>
<td></td>
</tr>
<tr>
<td>Northern and Eastern Europe-Central Asia</td>
<td>13,107</td>
<td>13,531</td>
<td>12,515</td>
<td>employees</td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>8,444</td>
<td>8,726</td>
<td>8,750</td>
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<tr>
<td>Asia-Pacific</td>
<td>14,956</td>
<td>14,039</td>
<td>14,086</td>
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<tr>
<td>Africa-Eastern Mediterranean Basin</td>
<td>7,602</td>
<td>6,856</td>
<td>6,214</td>
<td>employees</td>
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<tr>
<td>Group Services</td>
<td>534</td>
<td>405</td>
<td>472</td>
<td>employees</td>
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<tr>
<td>Total</td>
<td>60,424</td>
<td>59,054</td>
<td>57,939</td>
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<tr>
<td>Employee turnover:</td>
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<td></td>
</tr>
<tr>
<td>Western and Southern Europe</td>
<td>11</td>
<td>13</td>
<td>14</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Northern and Eastern Europe-Central Asia</td>
<td>13</td>
<td>15</td>
<td>14</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>North America</td>
<td>14</td>
<td>18</td>
<td>20</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>10</td>
<td>11</td>
<td>9</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Africa-Eastern Mediterranean Basin</td>
<td>11</td>
<td>13</td>
<td>5</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Personnel costs and social benefits:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wages, salaries, social security costs</td>
<td>2504.0</td>
<td>2801.8</td>
<td>2816.0</td>
<td>€ million</td>
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<td>Costs of retirement benefits</td>
<td>138.3</td>
<td>153.3</td>
<td>176.4</td>
<td>€ million</td>
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<tr>
<td>Other personnel costs</td>
<td>31.2</td>
<td>34.6</td>
<td>39.3</td>
<td>€ million</td>
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<tr>
<td>Total</td>
<td>2673.5</td>
<td>2989.7</td>
<td>3031.7</td>
<td>€ million</td>
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<tr>
<td>Proportion of part-time employees (Group)</td>
<td>2.4</td>
<td>2.5</td>
<td>2.5</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Proportion of part-time employees (HeidelbergCement AG)</td>
<td>11.4</td>
<td>11.1</td>
<td>11.6</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Age structure (Group):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger than 30</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>%</td>
<td>–</td>
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<tr>
<td>30–49</td>
<td>52</td>
<td>52</td>
<td>54</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>50 and older</td>
<td>36</td>
<td>36</td>
<td>34</td>
<td>%</td>
<td>–</td>
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</tbody>
</table>

1) External assurance of the key figures for 2018 within the framework of the Annual Report 2018 or in line with our obligation with regard to the Global Cement and Concrete Association (GCCA).

The KPIs collected by the GCCA correspond to those of its predecessor organisation CSI (Cement Sustainability Initiative), on which the assurance in previous years was based.
## Employees & employment

<table>
<thead>
<tr>
<th>Employees and employment</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of female employees (Group)</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees in top management positions (Group)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees in programmes for the advancement of future executives (Group)</td>
<td>14</td>
<td>22</td>
<td>22</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees (Germany)</td>
<td>16</td>
<td>16</td>
<td>15</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees in top management positions (Germany)</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees N-1 (Germany)</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees N-2 (Germany)</td>
<td>9</td>
<td>11</td>
<td>13</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of female employees in programmes for the advancement of future executives (Group)</td>
<td>28</td>
<td>36</td>
<td>26</td>
<td>%</td>
<td>–</td>
</tr>
<tr>
<td>Share of local managers in senior management positions (Group)</td>
<td>76</td>
<td>74</td>
<td>79</td>
<td>%</td>
<td>–</td>
</tr>
</tbody>
</table>

Proportion of disabled employees:
- Germany: 4.1, 4.3, 4.1 %
- HeidelbergCement AG: 4.6, 4.4, 4.8 %

<table>
<thead>
<tr>
<th>Apprenticeships and employee training</th>
<th>2018</th>
<th>Training hours per employee</th>
<th>Structure of training hours:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees in programmes for the advancement of future executives</td>
<td>474</td>
<td>individuals</td>
<td>–</td>
</tr>
<tr>
<td>Training hours per employee</td>
<td>26</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>Structure of training hours:</td>
<td></td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>Management training</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Soft skills training</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Specialist training</td>
<td>31</td>
<td>28</td>
<td>23</td>
</tr>
<tr>
<td>Occupational safety training</td>
<td>47</td>
<td>50</td>
<td>61</td>
</tr>
<tr>
<td>Language courses</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Percentage of trainees in Germany</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Percentage of trainees retained as permanent employees in Germany</td>
<td>91</td>
<td>82</td>
<td>85</td>
</tr>
</tbody>
</table>

1) External assurance of the key figures for 2018 within the framework of the Annual Report 2018 or in line with our obligation with regard to the Global Cement and Concrete Association (GCCA). The KPIs collected by the GCCA correspond to those of its predecessor organisation CSI (Cement Sustainability Initiative), on which the assurance in previous years was based.
### Employees & employment

#### Occupational health and safety

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Unit</th>
<th>Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident frequency</td>
<td>2.5</td>
<td>1.9</td>
<td>1.7</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Accident frequency, cement business line</td>
<td>1.4</td>
<td>1.4</td>
<td>1.0</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Accident severity indicator</td>
<td>108</td>
<td>90</td>
<td>70</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Accident severity indicator, cement business line</td>
<td>72</td>
<td>69</td>
<td>44</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Fatality rate</td>
<td>0.7</td>
<td>0.4</td>
<td>0.4</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Fatality rate, cement business line</td>
<td>1.4</td>
<td>0.8</td>
<td>0.4</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Number of fatalities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Group employees</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>individuals</td>
<td>●</td>
</tr>
<tr>
<td>- Employees of other companies</td>
<td>5</td>
<td>9</td>
<td>8</td>
<td>individuals</td>
<td>●</td>
</tr>
<tr>
<td>- Third parties</td>
<td>2</td>
<td>3</td>
<td>19</td>
<td>individuals</td>
<td>●</td>
</tr>
<tr>
<td>- thereof outside our plants</td>
<td>1</td>
<td>2</td>
<td>19</td>
<td>individuals</td>
<td>●</td>
</tr>
<tr>
<td>Accident frequency by region:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Western and Southern Europe</td>
<td>5.2</td>
<td>3.2</td>
<td>2.1</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>- Northern and Eastern Europe-Central Asia</td>
<td>2.8</td>
<td>2.3</td>
<td>2.2</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>- North America</td>
<td>2.1</td>
<td>1.7</td>
<td>1.6</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>- Asia-Pacific</td>
<td>1.2</td>
<td>1.1</td>
<td>1.2</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>- Africa-Eastern Mediterranean Basin</td>
<td>1.3</td>
<td>0.9</td>
<td>1.4</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>Occupational illness rate</td>
<td>0.58</td>
<td>0.94</td>
<td>0.91</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>Illness rate</td>
<td>1.93</td>
<td>1.95</td>
<td>1.90</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>Proportion of employees represented by H&amp;S committees</td>
<td>99.8</td>
<td>98.4</td>
<td>99.8</td>
<td></td>
<td>–</td>
</tr>
<tr>
<td>Proportion of employees represented by H&amp;S committees with trade union representation</td>
<td>93.0</td>
<td>93.0</td>
<td>91.1</td>
<td></td>
<td>–</td>
</tr>
</tbody>
</table>

1) External assurance of the key figures for 2018 within the framework of the Annual Report 2018 or in line with our obligation with regard to the Global Cement and Concrete Association (GCCA). The KPIs collected by the GCCA correspond to those of its predecessor organisation CSI (Cement Sustainability Initiative), on which the assurance in previous years was based.

2) Number of accidents involving Group employees with at least one lost working day per 1,000,000 hours worked.

3) Number of working days lost due to accidents involving Group employees per 1,000,000 hours worked.

4) Number of fatalities of Group employees per 10,000 Group employees.

5) Number of officially recognised occupational illnesses suffered by Group employees per 1,000,000 hours worked.

6) Proportion of working hours lost due to illness relative to the total number of working hours (excluding Egypt, Morocco, North America, and United Kingdom, as the general illness hours are not recorded there).

7) The lower proportion is due to the lack of appropriate trade unions in several countries.
About this report

GRI 102-40, 102-45, 102-46

HeidelbergCement is publishing a Group Sustainability Report for the tenth time. In this publication, we explain how the company is fulfilling its economic, environmental, and social responsibilities and report on the progress we have made in 2018. The report is aimed at our employees, investors and analysts, and business partners as well as political players and non-governmental organisations.

Report content and organisation
This Sustainability Report has been prepared according to the GRI Standards of the internationally recognised Global Reporting Initiative (GRI). The report has been created in accordance with the GRI Standards (Core option). At the same time, it is our annual progress report (Communication on Progress) on the status of the implementation of the ten principles of the UN Global Compact (UNGC).

Materiality analysis: p. 17 f.

When deciding on the most important sustainability themes for the articles in our report, we were guided by the GRI principles (materiality, stakeholder inclusiveness, sustainability context, completeness). We continuously refine our reporting processes in line with these standards.

Precise definition and methodology of the report
This Sustainability Report for 2018 deals with the 2018 financial year, which runs from 1 January to 31 December. The key facts and figures included in this report correspond to those in the consolidated financial statements and the Group management report of HeidelbergCement’s Annual Report 2018. This also applies to the facts and figures concerning our employees. In 2016, we adjusted the consolidation of the key environmental figures to the international accounting standards. In accordance with the revenue consolidation process, joint ventures are not taken into account, even retrospectively. We report our key figures for environmental performance and occupational safety according to the guidelines of the Global Cement and Concrete Association (GCCA). The guidelines in their original wording:

Precise definition and methodology of the report

Data collection
Methods and systems that have been defined across the Group are used to collect data at our business locations. Internal reporting and consolidation of the data take place via centralised electronic KPI data management systems at the Group; here, the key figures are checked for completeness and credibility. Uniform Group-wide definitions of all the relevant key figures, as well as process guidelines for the reporting processes, are available on the intranet.

Information about the editing process
This Sustainability Report is published in German and English. The editorial deadline was 31 May 2019. The previous Sustainability Report was published in July 2018. In line with this annual reporting cycle, the next report will be published in 2020.

Disclaimer of liability
We have compiled the information and key figures contained in this report with extreme care. All of the contents of this report were examined by the employees responsible for this task. However, we cannot completely exclude the possibility that this report includes erroneous information. The report and the information contained in it do not constitute a test of compliance with the current laws, legal regulations, or recognised sustainability practices in the industry.
The Sustainability Report 2018 was available to the Global Reporting Initiative (GRI) for the implementation of the GRI Materiality Disclosures Service. The correct positioning of the materiality disclosures (102-40 to 102-49) in the report was confirmed by the GRI Services team.

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<tr>
<th>GRI standard</th>
<th>Page</th>
<th>Comments</th>
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</thead>
<tbody>
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<td></td>
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<tr>
<td>GRI 102: General disclosures 2016</td>
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<td>Organisational profile</td>
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<td>GRI 102-1: Name of the organisation</td>
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<tr>
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<td>6, 8/9, 70</td>
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<td>48</td>
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<td>GRI 102-4: Location of operations</td>
<td>6, 22</td>
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<td>6, 8/9</td>
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<td>7, 22, 69/70, 74</td>
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<td>GRI 102-8: Information on employees and other workers</td>
<td>74</td>
<td></td>
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<td>8, 44</td>
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<tr>
<td>GRI 102-10: Significant changes to the organisation and its supply chain</td>
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<td>In the reporting year, there were no significant changes.</td>
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<tr>
<td>Strategy</td>
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<td>1–10</td>
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<tr>
<td>Ethics and integrity</td>
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<tr>
<td>GRI 102-16: Values, principles, standards, and norms of behaviour</td>
<td>2, 22, 45, 48</td>
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<td>22/23</td>
<td>10</td>
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<td>Page</td>
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<td>-----------------------------------------------</td>
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<tr>
<td><strong>Governance</strong></td>
<td></td>
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<tr>
<td>GRI 102-18: Governance structure</td>
<td>➔ 13/14, 21; AR 2018 p. 102 ff.</td>
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<tr>
<td>GRI 102-19: Delegating authority</td>
<td>➔ 13/14</td>
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<tr>
<td>GRI 102-20: Executive-level responsibility for economic, environmental, and social topics</td>
<td>➔ 13/14, 23/24, 35, 50, 52</td>
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<tr>
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<td>➔ 15–17</td>
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<td>➔ 49; AR 2018 p. 102 ff.</td>
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<tr>
<td>GRI 102-25: Conflicts of interest</td>
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<td><strong>Stakeholder engagement</strong></td>
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<td>GRI 102-41: Collective bargaining groups</td>
<td>➔ 49</td>
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<td>GRI 102-42: Identifying and selecting stakeholders</td>
<td>➔ 15–17</td>
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<td>GRI 102-43: Approach to stakeholder engagement</td>
<td>➔ 15–17, 27, 60, 62</td>
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<td>GRI 102-44: Key topics and concerns raised</td>
<td>➔ 16–18, 32</td>
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<td><strong>Reporting practice</strong></td>
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<td>In the reporting year, the information was not restated.</td>
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<td>Our Code of Business Conduct sets out fair working conditions for all employees. Naturally, this also includes equal pay for women and men.</td>
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We are not aware of any justified complaints regarding violations of the protection or loss of customer data.
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