

DRIVING SUSTAINABILITY



KNORR-BREMSE

PROFILE



AT A GLANCE

Knorr-Bremse is the global market leader for braking systems and other systems for the rail and commercial vehicle industries. We drive forward innovations for sustainable system solutions in the mobility sector. Every day, we make a decisive contribution to greater safety, efficiency and reliability on rail tracks and roads around the world.

DIVISIONS

Knorr-Bremse has a global market share of approximately 50% in the rail vehicle braking systems segment and a 42% share in pneumatic braking systems for commercial vehicles. The company also holds leading positions in the markets for other systems, including entrance and HVAC systems for rail vehicles or driver assistance systems for commercial vehicles.

ABOUT THIS REPORT

Our Sustainability Report (entitled UN Global Compact (UNGC) Progress Report until 2018) has kept our stakeholders informed of Knorr-Bremse's sustainability activities since 2011. The report describes the impact the company has on the environment and society. It also sets out Knorr-Bremse's sustainability objectives, the key indicators used to measure progress and how we manage our sustainability-related activities. This report covers the 2019 business year; the previous year's data is provided for comparison where available. The report is published annually; the next Sustainability Report is due to be published in April 2021.

The present Sustainability Report includes the mandatory separate Non-Financial Report of the Knorr-Bremse Group, as controlled by Knorr-Bremse AG, pursuant to Sections 315b and 315c of the German Commercial Code (Handelsgesetzbuch – HGB), in conjunction with Sections 289b to 289e HGB. Reportable content was identified in 2018 on the basis of a materiality analysis in compliance with the requirements of the German EU CSR Directive

Implementation Act (CSR-Richtlinie-Umsetzungsgesetz – CSR-RUG) (see page 14). The report covers the fully consolidated subsidiaries listed in the Group's accounts; any content that only applies to a specific part of a company within the Group has been identified as such. The material non-financial content of this report within the meaning of Section 289c HGB has been audited by KPMG Wirtschaftsprüfungsgesellschaft AG (limited assurance). This content is marked with the symbols [] (in body text) and ✓ (for charts and diagrams). Links to other materials and references within the audited content did not form part of the audit, except in the sections entitled 'About Knorr-Bremse' (page 4) and 'Compliance and risk management' (page 18).

PUBLICATION NOTES

All references to specific roles in this report should be read as referring equally to all genders. The final deadline for submission of content was April 2, 2020. This Sustainability Report is available in German and English.

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Letter from the CEO

Dear Readers,

In 2019 and again at the beginning of this year, the term sustainability took on a new significance. On the one hand, this came about as a result of the long-standing political and economic debate about the consequences of climate change. On the other, more markedly, it was due to the health policy and economic challenges presented by the Covid-19 pandemic. As a result, measures are being stepped up with the aim of encouraging a sustainable approach in all areas of life. Today, nearly all stakeholder groups, including the financial community and investors, are demanding that companies act sustainably. This is a good thing, and Knorr-Bremse endorses it entirely.

For sustainability is of vital importance for Knorr-Bremse. We can provide the answers to the challenges facing us – having spent the past decade putting in place the structures needed to do so with regard to our organization, our human resources and the issues we are focusing on. This is evident now during the Covid-19 pandemic. Since January this year, we have been supporting our employees in our plants, our supply chain and our customers in the current situation by initiating coordination measures flexibly and quickly worldwide.

Our long-term CR strategy is aligned with the United Nations Sustainable Development Goals (SDGs), and Knorr-Bremse can go a very long way towards achieving the five goals it has chosen: Gender Equality; Decent Work and Economic Growth; Industry, Innovation, and Infrastructure; Responsible Consumption and Production; and Climate Action.

Our products contribute significantly to meeting the SDGs, and their competitive edge today is in part due to our customers' demands for more sophisticated solutions, which focus not only on safety and customer benefit, but also on sustainability. Our products and systems for rail transportation form an intrinsic part of climate-friendly mobility solutions. This applies equally to the Commercial Vehicle Systems division where we were early to realign all of our product development activities towards efficiency and low energy consumption. We will continue to steadily increase our contribution to electrified transportation and electromobility, as we see huge potential in both of our divisions.

The new Climate Strategy 2030, which supersedes the climate protection objectives set in 2015, represents a true milestone for Knorr-Bremse. Our goal is to halve our CO₂ emissions by 2030 with a set of measures that will guide our path into the future. In addition, Knorr-Bremse has pledged to become climate neutral from 2021 onwards.

Our commitment to sustainability is also receiving recognition. Rating institutes such as ISS ESG, EcoVadis and MSCI ESG Research have given us very positive ratings, providing transparency for our stakeholders at the same time.

This report is intended to make our sustainability performance transparent for you, highlighting our key measures, goals, and performance indicators. It also emphasizes our commitment to the United Nations Global Compact's ten principles for responsible corporate governance.

We hope you find our report interesting and inspiring.

Yours, 

BERND EULITZ, CHIEF EXECUTIVE OFFICER OF KNORR-BREMSE AG



KNORR-BREMSE



BERND EULITZ
CHAIRMAN OF THE EXECUTIVE BOARD
KNORR-BREMSE AG

About Knorr-Bremse

Knorr-Bremse is the world market leader in braking systems and other rail and commercial vehicle systems. Knorr-Bremse's products make a decisive contribution to greater safety and energy efficiency on rail tracks and roads around the world.

Major global megatrends including urbanization, sustainability, digitization and mobility offer the promise of long-term, sustainable growth for both the rail and commercial vehicle markets. To its customers, Knorr-Bremse is a byword for quality and reliability. The Company is focused on meeting all local regulations and standards in both of these sectors, acting as a global partner for vehicle manufacturers and operators alike.

As the leading partner for braking, entry and HVAC systems, as well as a range of other sub-systems, the Rail Vehicle Systems division provides equipment for passenger and freight trains, light rail vehicles, metro trains and other vehicles. Knorr-Bremse is constantly driving connectivity both within and between the various subsystems. This is also true of our Commercial Vehicle Systems division, which supplies braking systems and vehicle dynamics solutions, including driver assistance and automated driving systems, for trucks, buses, trailers and agricultural vehicles.

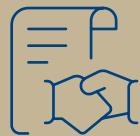
We are a partner to all key customers worldwide. They are convinced by our local market expertise and presence combined with the excellence of the products and systems we offer globally.

With a history dating back over 115 years, Knorr-Bremse is one of Germany's most successful industrial companies. In 2019, Knorr-Bremse's global sales totaled EUR 6.9 billion. Some 29,000 employees at over 100 sites in more than 30 countries use their competence and motivation to satisfy customers worldwide with products and services.

You can find more information about Knorr-Bremse in our 2019 Annual Report, see the chapters entitled 'Overview of the Group' and 'Business Model/Structure of the Group'.

1.01 KNORR-BREMSE IN FIGURES

**Incoming orders:
€ 7,066 million**



€ million revenue generated by the two divisions in 2019



Number of employees in Group worldwide
as of December 31, 2019

**Spending on
research and
development
activities in 2019:
€ 397 million**





Strategy and Management

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Knorr-Bremse and the Sustainable Development Goals

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Compliance and risk management

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Due diligence processes for human rights

Knorr-Bremse wants to contribute to creating a sustainable society. As a successful global player in the mobility sector, we can play an active part in making our environment more sustainable. Our products and systems are destined to become the mobility solutions of the future. Our Group-wide sustainability strategy addresses issues affecting our employees, the environment and society in a continuous process.

SUSTAINABILITY RATINGS

Knorr-Bremse receives Gold level rating from ECOVADIS; ISS ESG awards us "Prime Status"; and MSCI Rating gives Knorr-Bremse an "A".

SUSTAINABLE DEVELOPMENT GOALS

We seek to achieve the SDGs chosen by Knorr-Bremse (Gender Equality; Decent Work and Economic Growth; Industry, Innovation, and Infrastructure; Responsible Consumption and Production; and Climate Action) through global initiatives.

DUE DILIGENCE PROCESSES FOR HUMAN RIGHTS

Start of in-depth risk analysis focusing on ethical recruitment.



COMPLIANCE TRAINING

90%

coverage of employees
with access to a Company learning platform

Strategy and Management

Knorr-Bremse is conscious of both the positive and the negative impacts of its business activities. That is why we constantly endeavor to provide services that deliver maximum benefit for our customers and contribute to sustainable mobility at the same time. As a fair business partner and employer and an active corporate citizen, we strive to live up to our social responsibilities. With this in mind, we are committed to employing business processes in which sustainability aspects are fully integrated by means of a transparent CR strategy.

The CR strategy helps Knorr-Bremse to translate its sustainability-focused approach into commercial success and to fulfil its responsibilities to society and the environment. It plays an important role in shaping our efforts to create value while

conserving natural resources and also guides our behavior as a fair partner and employer committed to fulfilling our duty to conduct due diligence on human rights. Knorr-Bremse aims to constantly improve its sustainability performance in

2.01 VALUES AND CORPORATE RESPONSIBILITY GUIDELINES



every part of the value chain. Our efforts to achieve this objective are driven in large part by our corporate values and Code of Conduct, as well as company-specific guidelines.

[Chart → 2.01.](#)

Senior Management has firmly anchored a sustainable focus within the Company and its processes in a way that is fully consistent with Knorr-Bremse's five corporate values of Entrepreneurship, Technological Excellence, Reliability, Passion and Responsibility.

The actions set out in the CR strategy are also in line with Knorr-Bremse's vision:

"We want to be the global driving force behind innovative and sustainable systems that make mobility and transport more reliable, safer and more efficient. We are driven by our desire to create added value for our customers while making a positive contribution to society."

Principles and processes for strategy and management

The way our CR Management structures are configured in practice is designed to reflect legal frameworks and internal rules, as well as various guidelines and policies. Together, these documents give employees across all our divisions, as well as our customers, our suppliers and other commercial partners, the knowledge they need to ensure their actions are consistent with our expectations on sustainable corporate governance.

- Our **CR guidelines** set the principles and strategic objectives for responsible corporate governance within Knorr-Bremse.
- Our **Code of Conduct** defines our understanding of responsible behavior for all our employees worldwide.
- Our **Supplier Code of Conduct** demonstrates our commitment to fair and sustainable business practices within our supply chain.
- Our **Purchasing Quality Standards** set out what we expect of our suppliers, including in terms of sustainability.
- Our **Health, Safety and Environmental Policy** represents a commitment to the highest possible standards.
- Our **Leadership Guidelines** serve as a guide for successful employee management. They show how HR responsibility should be exercised at Knorr-Bremse.
- The **Principles for Social Commitment** provide the framework for our community initiatives at site level.

In addition, we also make use of international guidelines and conventions to help ensure our business activities are

DUBLIN DECLARATION OF THE EUROPEAN RAIL SUPPLY INDUSTRY

The Presiding Board of UNIFE (the European Rail Supply Industry Association) constitutes a fully-fledged taskforce to raise EU policymakers' awareness of the importance of the rail sector, both for sustainable development in Europe and for the planet as a whole. On June 13, 2019 the members of UNIFE's Presiding Board signed the "Dublin Declaration of the European Rail Supply Industry".

The declaration calls upon the EU to address three core issues. The first is making sure there is a "level playing field and business environment"; the declaration calls for measures to ensure European companies can secure access to international markets and for fair global competition based on the principle of reciprocity. The second issue comes under the heading of "innovation and investment," and includes calls for the Shift2Rail program for research and innovation to be extended as part of Horizon Europe, as well as to use ambitious EU funding to make rail the backbone of the Trans-European Transport Network. The third key point raised in the declaration is referred to using the shorthand "people." It highlights the need for improvements in skills intelligence and for skills shortages in the industry to be addressed.

conducted in line with the principle of sustainable entrepreneurship. One significant external initiative in this area is the United Nations (UN) Global Compact, which Knorr-Bremse signed back in 2010. Other important sources of guidance include the United Nations (UN) Guiding Principles on Business and Human Rights, the principles behind the conventions of the International Labour Organization (ILO), and standards set by the International Organization for Standardization, such as ISO 14001, ISO 50001 and ISO 45001.

At industry level, Knorr-Bremse is a leading signatory to both the International Association of Public Transport (UITP) Charter for Sustainable Development and the Code of Conduct of the German Rail Industry (VDB). As a sign of our commitment to safe mobility and promoting rail transportation, we have also signed the European Railway Safety Culture Declaration and the Declaration of the European Rail Supply Industry.

Corporate Responsibility strategy

For Knorr-Bremse, commercial success is based on acting responsibly in all our interactions with employees, partners, the environment and society. This is why we have anchored our CR program within the Company at strategic level. The program demonstrates our clear commitment to the United Nations Sustainable Development Goals and to respecting

human rights all over the world. We live up to this commitment by establishing management systems, setting clear policies and monitoring the implementation of sustainability measures.

2.02 OUR CR PROGRAM 2015-2020

AREA OF ACTIVITY: STRATEGY AND MANAGEMENT



Strategic objectives

Selected measures 2015-2020

Anchoring CR in Group structures

- CR prioritized by senior management
- Sustainability objectives currently being defined for relevant heads of department and managers
- Complementary internal sustainability committees (Purchasing, EcoDesign) established

Integration of CR in strategic planning and operational processes

- Materiality analysis conducted; ongoing continuous validation
- Knorr-Bremse's business contribution to key SDGs identified, allowing SDG initiatives to be developed
- Risk analysis on due diligence for human rights currently being carried out with a view to developing measures
- Expansion of CR KPI system under way

Establishment of compliance management system

- Group-wide compliance structure set up
- Guidelines currently being rolled out to complement Code of Conduct
- Online and face-to-face training on Code of Conduct currently being delivered
- Compliance whistleblower system set up

AREA OF ACTIVITY: EMPLOYEES AND LEADERSHIP



Strategic objectives

Selected measures 2015-2020

Improvement of corporate culture

- Worldwide employee days on corporate values and SDGs already taking place
- Global employee satisfaction survey conducted and subsequent measures taken
- Leadership feedback sessions currently being conducted worldwide
- Multiple recognition as top employer at "Top Employer Ingenieure Deutschland" awards
- Offering of options for change management as part of reorganization

Improvement of diversity and equality of opportunity

- Flexible working hours currently being introduced (sabbaticals, home-working, flexitime, compensatory time off)
- Global job evaluation system currently being introduced

Promotion of professional training and development

- Systematic performance appraisal process ("Staff Dialogue") being expanded
- "IMPG" and "JMPG" management development programs being reviewed
- Training offerings (including e-learning) currently being adapted to needs
- Expansion of coaching offerings for managers initiated and ongoing

Improvement of occupational health and safety

- Review of HSE Policy complete
- Health management and health facilities currently being expanded at various sites
- Management systems for occupational health and safety in the Rail Vehicle Systems division certified according to OHSAS 18001 (from 2019: ISO 45001)

AREA OF ACTIVITY: COMMITMENT AND SOCIETY



Strategic objectives

Selected measures 2015-2020

Systematization of Local Care activities worldwide

- Group-wide Local Care strategy being developed
- Regional exchange of best practices within Global Care initiatives
- Donation activities and volume being documented worldwide

Expansion of corporate volunteering

- Number of corporate volunteering projects increased
- Voluntary work initiative established worldwide
- Employees participated in the delivery of Global Care projects

AREA OF ACTIVITY: PRODUCTS AND PARTNERS



Strategic objectives

Selected measures 2015-2020

(Further) development of sustainable products and technologies

- More EcoDesign specialists employed in the divisions
- New systems/products on sustainability currently under assessment
- Sustainability aspects integrated into product design and development
- Life cycle analyses conducted

Embedding CR in procurement processes

- More sustainability specialists employed in purchasing organization
- Supplier Code of Conduct drawn up and rolled out
- Sustainability performance of strategic and preferred suppliers of direct materials currently being assessed
- Sustainability audits conducted at suppliers' sites

Resource conservation through recycling plans and material cycles

- Re-manufacturing department expanded
- Site-specific measures implemented to reduce emissions, waste, and water consumption

AREA OF ACTIVITY: ENVIRONMENT AND CLIMATE



Strategic objectives

Selected measures 2015-2020

Implementation of climate strategy, 2015-2020

- Measures being taken to achieve climate-neutral growth at our most energy-intensive sites
- Measures implemented to improve CO₂ efficiency
- Proportion of renewable and self-generated electricity increased
- ISO 50001-compliant energy management system introduced for the 25 most energy-intensive sites

Development of climate strategy for 2020-2030

- Climate strategy for 2030 drawn up in line with the 1.5 degree target
- Capture of Scope 3 emissions being introduced step-by-step

Standardization of environmental management across Group

- Increasing number of sites certified according to ISO 14001
- Environmental KPIs being standardized and measured across the Group
- Launch of group-wide SDG initiative on zero-waste
- Development of Group Guideline on purchasing of renewable energy and energy-efficient products

AREA OF ACTIVITY: COMMUNICATION AND COOPERATION



Strategic objectives

Selected measures 2015-2020

Enhancement of Knorr-Bremse's sustainability profile

- External CR reporting developed further (CR Report, Modern Slavery Statement, product communication)
- Transparency and reliability of externally reported data and information increased
- Actively involved in sustainability issues through membership in industry bodies (e.g. UNIFE, VDA, VDB, Railsponsible)
- ESG ratings enhanced

Improvement of employees' awareness and knowledge of CR objectives and activities

- CR communicated more intensively on internal channels
- Global Knorr-Bremse Values Days devoted to sustainability
- Continuous communication in regular management meetings
- Comprehensive communication on the SDGs

Intensified cooperation with customers on sustainability questions

- Systematic analysis under way of customer requirements regarding CR
- Improvement of customer ratings on CR
- Direct dialog taking place with customers on sustainability issues, plus active participation in stakeholder dialog

RATINGS AGENCIES RECOGNIZE OUR ACHIEVEMENTS ON SUSTAINABILITY

“Responsible behavior includes such areas as working conditions, human rights, environmental protection and safety, business ethics, and compliance in all parts of the Company. We are delighted that our high standards in these areas have received recognition from well-known rating agencies such as ISS ESG, EcoVadis and MSCI ESG Research. This encourages us to make further improvements.”
Ralph Heuwing, CFO of Knorr-Bremse AG

The assessments provided by our external rating partners are very important to Knorr-Bremse because they show us how we can improve our performance and meet the expectations of our external stakeholders. In 2019 we were for the first time awarded Gold level status in the EcoVadis rating of companies' sustainability performance. This places us among the 6% of companies rated by EcoVadis as top performers. The sustainability rating agency ISS ESG (formerly known as ISS-oekom) also assessed our sustainability performance in 2019, and awarded us its coveted “Prime” status. This puts us in the top 20% of comparable companies, and demonstrates our above-average commitment to the environment, social issues and corporate governance.

2019 also saw the first assessment of Knorr-Bremse by MSCI ESG Research, the world's largest provider of sustainability analyses. Knorr-Bremse was awarded an “A” rating, putting us in the third-highest of seven categories. Our work on Health & Safety and Governance was singled out for particular praise.



Corporate Responsibility: areas of activity

Knorr-Bremse structures its work on corporate responsibility in terms of six distinct areas of activity, which serve as the pillars of strategic CR management within the Company. Within this structure, the two overarching areas of “strategy and management” and “communication and cooperation” provide the framework for the other four, more content-focused areas:

- Strategy and management
- Products and partners
- Employees and leadership
- Environment and climate
- Commitment and society
- Communication and cooperation

These areas of activity provide a framework for tackling strategic issues identified in our materiality analysis (see “Materiality analysis and stakeholder involvement” on page 13) that are drawn from the United Nations Sustainable Development Goals (SDGs – for more details, see “Knorr-Bremse Group and the Sustainable Development Goals” on page 17). Our due diligence processes for human rights are based on the United Nations General Declaration on Human Rights and the UN Guiding Principles on Business and Human Rights (see “Due diligence processes for human rights” on page 21).

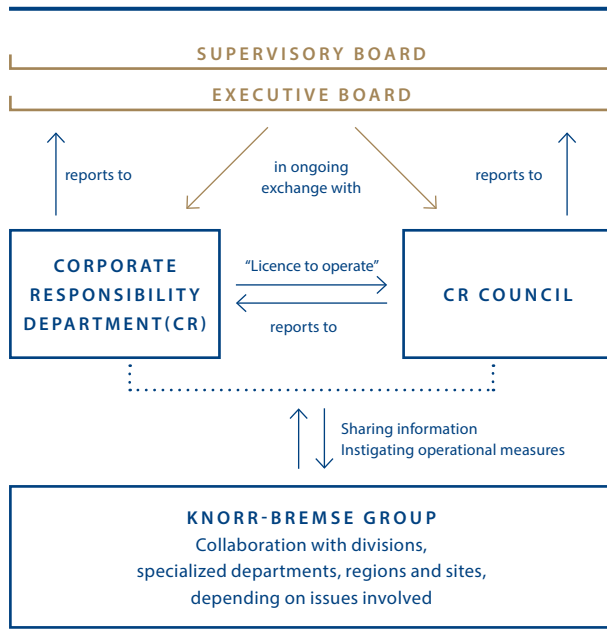
Knorr-Bremse is committed to continuous improvement in all six areas of our CR activity. In 2015, we adopted a package of measures to help us achieve this aim, including setting a target of significantly improving the sustainability of Knorr-Bremse's structures and processes by 2020. We have made demonstrable progress towards this goal in recent years, and the CR program we are working on for the years ahead is designed to build on that progress. A cornerstone of the new program will be our Climate Strategy 2030, which we approved in 2019. We are also keen to increase the contribution we have already made towards meeting the SDGs, and to sharpen our focus on due diligence for human rights. It is very important for us to be able to document our progress, which is why we intend to establish a transparent system for monitoring the status of our projects. [Table → 2.02](#)

Corporate Responsibility: organization

The Corporate Responsibility department is responsible for sustainability, and reports directly to the Executive Board and the Corporate Responsibility Council (CR Council).

The CR Council meets twice a year and is composed of one member of the Executive Board, one representative each of the Management Boards of the Company's two divisions, the Chair of the charitable association Knorr-Bremse Global Care, and the head of the Corporate Responsibility department. The Council takes decisions on the CR program, which

2.03 CR ORGANIZATION AT KNORR-BREMSE



records our CR objectives and the actions to be taken to address strategic issues. Unless otherwise stated, all relevant issues are reported to the Executive Board via the CR Council.

The Corporate Responsibility department and CR Council are central to the development, supervision, implementation and monitoring of CR projects. A variety of committees and Company departments also play an important role in implementing and developing the CR program, as do a number of expert panels made of up global heads of department and operational project managers. These panels are intended to facilitate discussions on specialist topics in areas including sustainable procurement, climate protection and ecodesign, and to monitor the operational implementation of CR initiatives. The other departments are also in constant dialogue with the CR department and report directly to the CR Council on their CR projects as required. This organizational structure ensures that sustainability is firmly established at the highest levels of decision-making within the Group.

Materiality analysis and stakeholder involvement

The materiality analysis we conducted in 2018 identified the most important issues facing Knorr-Bremse, and helped us to determine which of these needed to be addressed most urgently. Under the German CSR Directive Implementation Act ("CSR-RUG"), all information relevant to business performance, business results and the Company's financial position must be

formally reported, along with any relevant impacts of the Company's business activities with the potential to affect non-financial matters. The results of the materiality analysis help to highlight sustainability issues that need to be addressed in order to safeguard the long-term commercial success of the Company and help it to meet stakeholder expectations.

Materiality analysis: 2019 review

The materiality analysis Knorr-Bremse commissioned in 2018 helped it to identify material issues facing the Company. The results of this analysis were comprehensively validated in a series of workshops held during 2019. The CR management team engaged in intensive dialogue with the respective departments to address major non-financial issues, while net risks, gross risks and the likelihood of such risks actually materializing were also examined in detail. The workshops discussed the questions listed below and sent their responses to the CR Council, which considered, updated and approved the results of their analysis.

- Assessment of gross risks: What impact would Knorr-Bremse have on the environment without any mitigating measures? How likely is it that the risks concerned will materialize?
- Review of the materiality analysis: Have assessments of the scale of the effects (gross risks) and/or the business relevance of the issues concerned changed in comparison to last year?
- Mitigating measures: What are the management structures, measures and objectives designed to prevent gross risks from materializing at Knorr-Bremse? Have any of these changed in the course of the 2019 reporting year?
- Assessment of net risks: Once all the mitigating measures have been taken into account, is the remaining net risk still high enough to be reportable?

Materiality analysis: risk reporting

Under the CSR-RUG, companies are obliged to report both material issues and any non-financial risks associated with them. Knorr-Bremse's analysis has not identified any material net risks that would be highly likely to result in significant negative repercussions. To reduce any risks associated with material issues around sustainability as far as possible, Knorr-Bremse has implemented various management systems and processes based on globally accepted guidelines and complementary standards. Compliance with these guidelines is monitored using a range of internal systems, including audits and the whistleblower system, and sustainability issues are also taken into account in Group-wide risk management procedures.

Materiality analysis: material issues

The materiality matrix for the year under review includes a total of 13 non-financial issues. Nine of these were prioritized in the materiality analysis and deemed material for the purposes of non-financial reporting in accordance with CSR-RUG (for details of how each issue is classified under the CSR-RUG framework, see the index on page 71). These topics also represent the specific focuses of each Knorr-Bremse area of activity around which the present report is structured.

The materiality analysis also identified four additional issues with positive and negative effects on Knorr-Bremse’s business activities. However, their relevance to the business was assessed as being low, meaning they are not of central importance as far as CSR-RUG reporting is concerned.

“Social Engagement” is discussed in a separate chapter, as it constitutes an area of CR activity in its own right.

Some of the priorities and the terms used have changed in comparison to the findings of the 2018 materiality analysis.

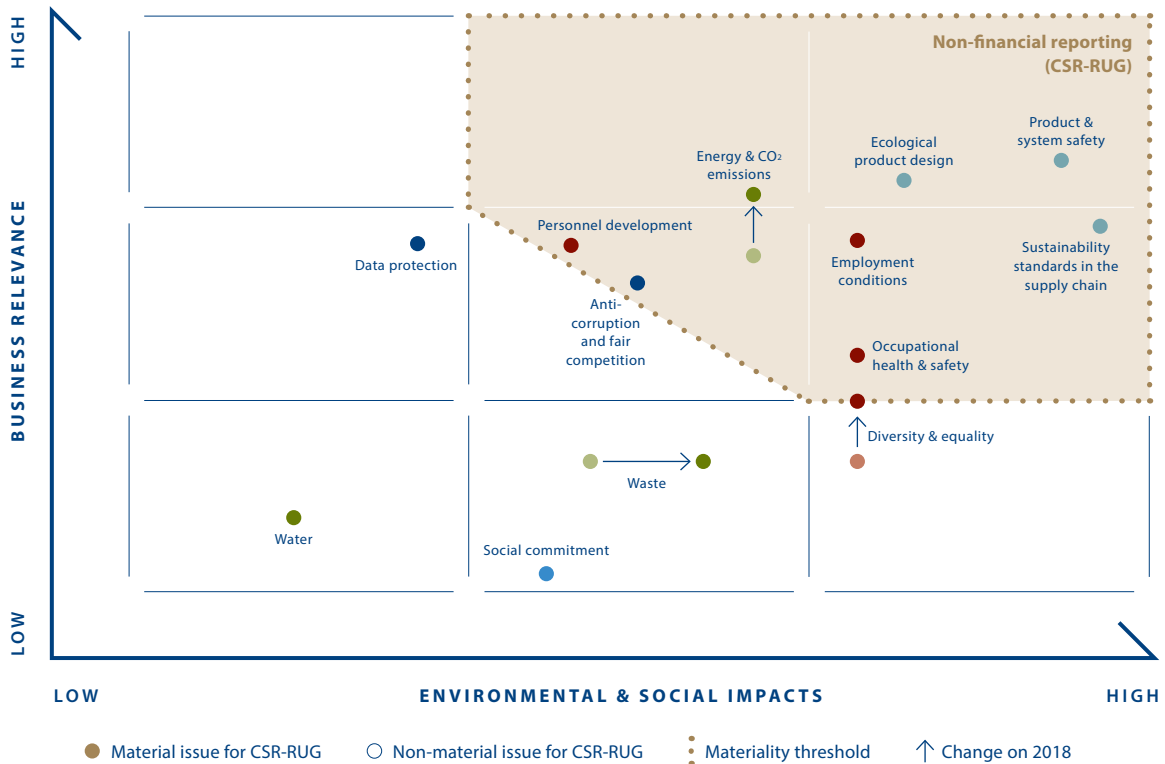
Nine priority material issues under CSR-RUG:

- “Product and system safety”, “Ecological product design”, “Sustainability standards in the supply chain”, “Personnel development”, “Anti-corruption and fair competition”, “Employment conditions”, and “Occupational health and safety” all retain the potential to exert a significant influence on Knorr-Bremse’s business activity and performance, and therefore continue to be classified as very important issues for the Company.

2.04 MATERIALITY MATRIX 2019



MATERIAL ISSUES WITHIN KNORR-BREMSE AREAS OF ACTIVITY



CR AREAS OF ACTIVITY

CR strategy and management	Products and partners	Employees and leadership	Environment and climate	Commitment and society	Communication and cooperation

- The issue of “**Energy and CO₂ emissions**” was assessed as being more relevant to the business than it was the year before (2018). This increases the pressure on suppliers, but also gives Knorr-Bremse greater differentiation potential: They will have to ensure that their organizations are equipped to meet demands from customers and, increasingly, from the financial markets for relevant information and data.
- Promoting “**Diversity and equality** of opportunity” boosts Knorr-Bremse’s ability to innovate, as well as helping it get closer to its customers and compete for the best talent. With this in mind, the CR Council decided to classify it as more relevant to the development of the Company than originally assessed in 2018.
- A number of structural changes have also been made to the analysis in comparison to the 2018 version. The “**Anti-corruption and fair competition**” issue is covered as part of the chapter on compliance and risk management. The CR Council also decided that the issue referred to as “Employee satisfaction” in 2018 should be renamed “**Employment conditions.**”

Four material issues not prioritized under CSR-RUG:

- The issues of “**Waste**”, “**Water**” and “**Social commitment**” continue to be classified as material.
- This report is the first to include a detailed discussion of “**Data Protection**”, which was first adopted as a material issue in 2018 (see “Compliance and risk management” on page 18).
- In 2019, the issue of “Indirect economic effects” was categorized as a material sustainability issue, but one that was not relevant for management purposes. This issue has been removed from the materiality matrix.

Stakeholder involvement

Stakeholder trust is key to sustainable commercial success. Knorr-Bremse wants to justify, deepen and develop that trust, which is why we keep a close eye on the issues around us that really matter to individuals, society and markets. Engaging in active dialogue with our stakeholders allows us to gain quick access to knowledge on future trends, global developments and market expectations, and we create numerous opportunities to pursue this dialog at events all over the world. Opportunities for that include direct customer engagement, international trade shows, active participation in industry associations, investor meetings, the annual shareholders’ meeting and the global KB Day for employees.

Our most important stakeholder groups are our employees, new recruits, customers and suppliers, shareholders and investors, business partners, public authorities, trade unions, professional associations, the media, policymakers, non-governmental organizations (NGOs), residents in the vicinity of our sites, and representatives of local action groups.

EUROPEAN RAILWAY SAFETY CULTURE DECLARATION

“United for Railway Safety”: In February 2019, Knorr-Bremse signed the European Railway Safety Culture Declaration of the European Union Agency for Railways (ERA). The declaration expresses the commitment of Knorr-Bremse and several of the European rail industry’s other leading companies and authorities to raising awareness and promoting a positive safety culture. A positive safety culture forms the basis of an effective safety management system. And safety is key to a successful European rail industry.

By signing the declaration, Knorr-Bremse has undertaken to promote the principles of safe behavior and a reporting culture inside and outside of the company. As well as management and employees, the target groups also include authorities, contractors, suppliers and service providers. The declaration also contains a commitment to strengthen efforts aimed at minimizing the risk of human error in rail transportation. The declaration’s goal is for the European Union to be the world leader in railway safety.

The Knorr-Bremse European FleetCouncil for operators of commercial vehicle fleets offers an important opportunity for us to communicate with our customers. One theme of the 2019 event was “sustainable e-drive solutions,” and one of the workshops was dedicated to this topic. Knorr-Bremse regularly invites industry specialists to its production plant at Aldersbach, and in May 2019 it played host to “Backstage at Knorr-Bremse.” The event was organized together with AAMPACT, the international body that represents leading after-market suppliers to the automotive industry, and brought together a variety of experts to discuss the added value that can be created by using top-quality products. Knorr-Bremse also maintains a significant presence at OE events both in Europe and in the USA, and attended both the Navistar Supplier Award Day and September’s annual Paccar “A” Panel Meeting during 2019.

As far as industry-level engagement on environmental issues is concerned, our Rail Vehicle Systems (RVS) Division, supported by a Knorr-Bremse ecodesign expert, plays an active role in the VDB technical group for the environment, which meets in Berlin several times a year. Specialists from Knorr-Bremse are involved in two UNIFE (European Rail Supply Industry Association) working groups on sustainability and the environment,

2.05 STAKEHOLDER INVOLVEMENT

Stakeholder groups	Engagement	Examples	Key issues
Customers	<ul style="list-style-type: none"> Meeting and visiting customers Workshops Trade shows Conferences Customer events Customer satisfaction 	<p>Trade shows, conferences:</p> <ul style="list-style-type: none"> Zukunftskongress Nutzfahrzeuge 2019, Berlin, keynotes <p>Events at customer sites:</p> <ul style="list-style-type: none"> EUROPART Supplier Day, Poland, April 2019 (Truck) <p>Events for customers:</p> <ul style="list-style-type: none"> Fleet Council 2019, October 2019 (Truck) Knorr-Bremse Iberica Dealer Event, Aldersbach/Munich, June 2019 (Truck) 	<ul style="list-style-type: none"> Product safety Road safety Reliable delivery Quality, prices <p>Innovations:</p> <ul style="list-style-type: none"> Mobility transition, energy efficiency Governance and compliance Sustainability
Employees	<ul style="list-style-type: none"> Feedback meetings with line managers Intranet, employee magazine Occupational healthcare/ company sports facilities Employee survey Volunteering Employee events 	<ul style="list-style-type: none"> Knorr-Bremse CEE (Central and Eastern Europe) Meeting World Meeting, Knorr-Bremse management Digital Days 2019 Global KB Day 	<ul style="list-style-type: none"> Wages and salaries Safety at work Working conditions Current business performance New products Customer projects SDGs
Suppliers and business partners	<ul style="list-style-type: none"> Conferences Training courses Supplier training Guidelines 	<p>Training courses:</p> <ul style="list-style-type: none"> Supplier Code of Conduct <p>Joint workshops:</p> <ul style="list-style-type: none"> GaBi user workshop conducted by thinkstep, March 2019 	<ul style="list-style-type: none"> Price, quality Governance and compliance Safety Climate protection Due diligence on human rights
Shareholders and investors	<ul style="list-style-type: none"> Shareholders' meeting Roadshows/conferences One-on-one meetings, financial information, reports 	<ul style="list-style-type: none"> Shareholders' Meeting 2019, Munich, 6/18/2019 2019 ANNUAL REPORT: "Driving Growth" North America Roadshow, August 2019 Investor meetings and ESG ratings 	<ul style="list-style-type: none"> Dividends Business performance and outlook Sustainability/ESG
Policymakers/ public authorities/ local initiatives	<ul style="list-style-type: none"> Local representative bodies Reception for policymakers and diplomats 	<p>Local business initiatives:</p> <ul style="list-style-type: none"> Signatory to the Munich business community's Climate Pact² 	<ul style="list-style-type: none"> Safety Climate protection Governance and compliance
Residents near sites	<ul style="list-style-type: none"> Local Care initiatives Personal contact 	<p>Local Care initiatives at sites</p> <ul style="list-style-type: none"> See list on page 67 <p>Direct contact:</p> <ul style="list-style-type: none"> Factory visits 	<ul style="list-style-type: none"> Safety Attractive employer Local engagement Operational changes
Industry/ associations/trade unions	<ul style="list-style-type: none"> Lobbying work Project work, working with associations Conferences, workshops Publications Public relations activities 	<p>Conferences:</p> <ul style="list-style-type: none"> Zukunftskongress Nutzfahrzeuge, Berlin, keynotes, November 2019 <p>Selected Knorr-Bremse international memberships:</p> <ul style="list-style-type: none"> Rail and commercial vehicles: American Public Transportation Association (APTA), USA Rail: Association of American Railroads (AAR), USA; Association of the European Rail Industry (UNIFE), BEL; Railsponsible (industry scheme set up by BSR and EcoVadis) Commercial vehicles: Motor & Equipment Manufacturers Association (MEMA), USA <p>Active project work:</p> <ul style="list-style-type: none"> VDB Expert Panel on the Environment, review of REACH guidelines, Berlin, September 2019 VDA meeting of Sustainability in the Supply Chain working group 	<ul style="list-style-type: none"> Industry lobbying work Road safety Mobility transition Climate protection Product innovations
Young talent	<ul style="list-style-type: none"> Careers fairs Partnerships and projects with schools and educational institutions Careers advice Promoting women in STEM professions 	<p>Partnerships:</p> <ul style="list-style-type: none"> With universities including the Technical University of Munich and RWTH Aachen <p>Promoting women in STEM professions:</p> <ul style="list-style-type: none"> Girl's Day; "TechGirls" scheme, Hungary; #womeninstem, USA, (Science, Technology, Engineering) 	<ul style="list-style-type: none"> Working conditions Development opportunities Work-life balance Corporate values Current business performance New products Diversity
Media	<ul style="list-style-type: none"> Press conferences Factory visits Press releases 	<ul style="list-style-type: none"> Annual press conference Press conferences at leading trade shows Financial, trade and corporate press releases 	<ul style="list-style-type: none"> Product innovations Business situation HR issues, e.g. training
NGOs	<ul style="list-style-type: none"> Local Care initiatives Global Care relief organization projects 	<p>Local Care initiatives at Knorr-Bremse sites:</p> <ul style="list-style-type: none"> See list on page 67 <p>Support projects:</p> <ul style="list-style-type: none"> Water, sanitation and hygiene (WASH) programs in Ethiopia and Sri Lanka; support for the aid organizations arche noVa e.V. and CARE Deutschland e.V. 	<ul style="list-style-type: none"> Education Social cohesion Health Water, sanitation and hygiene Environment

and our CR management team is represented on UNIFE's Sustainable Transport Committee (STC). Knorr-Bremse is also keen to improve sustainability practices within the rail industry supply chain by making a proactive contribution to the industry's international Railsponsible initiative.






Knorr-Bremse and the Sustainable Development Goals

The 17 United Nations (UN) global Sustainable Development Goals (SDGs) provide businesses with guidance on how to make their activities compatible with sustainable development. In turn, this guidance gives industry the opportunity to use its financial resources and capacity for innovation to meet the economic, social and environmental challenges associated with the SDGs, which were first adopted in 2015. Knorr-Bremse's products, services and mobility-related activities have already made a significant contribution to the SDGs, and we have focused on and further strengthened our commitment to meeting them over recent years.

We have been analyzing the effects of our contributions to the global sustainability goals since 2017. In 2018, we identified the SDGs that were most important to Knorr-Bremse and most heavily influenced by our business model and corporate processes. We believe that focusing on the individual development goals listed below maximizes our ability to make a real difference:

- **SDG 5:** Gender Equality (see "Diversity and equality" on page 45)
- **SDG 8:** Decent Work and Economic Growth (see "Due diligence processes for human rights" on page 21, "Employment conditions" on page 40)
- **SDG 9:** Industry, Innovation and Infrastructure (see "Ecological product design" on page 29)
- **SDG 12:** Responsible Consumption and Production (see "Conserving resources" on page 57)
- **SDG 13:** Climate Action (See "Energy and CO₂ emissions" on page 53)

2.06 SDG INITIATIVES AT KNORR-BREMSE

SDG Initiative	Main aims	Status
 <p>SDG 5: Gender Equality</p>	<ul style="list-style-type: none"> • Support women in their careers • Recruit more highly-qualified female staff • Increase the proportion of women in management roles 	<ul style="list-style-type: none"> • Status quo analysis by IMPG (International Management Potential Group) • Recommendations on specific action • Implementation plan finalization for 2020
 <p>SDG 8: Decent Work and Economic Growth</p>	<ul style="list-style-type: none"> • Increase employee development measures • Design innovative working environment • Implement ethical recruitment standards 	<ul style="list-style-type: none"> • Testing LinkedIn Learning in Berlin • WeCon app pilot project in Lisieux • Risk analysis focusing on ethical recruitment
 <p>SDG 9: Industry, Innovation and Infrastructure</p>	<ul style="list-style-type: none"> • Expand sustainable product portfolio • Integrate aspects of EcoDesign into development and innovation processes • Apply new innovation methods 	<ul style="list-style-type: none"> • Incorporation of EcoDesign issues into strategic planning • Identification of new EcoDesign projects • Launch of an accelerator program with sustainable technology start-ups • Recycling projects identified
 <p>SDG 12: Responsible Consumption and Production</p>	<ul style="list-style-type: none"> • Develop a global waste management strategy • Reduce waste in general, and the proportion of hazardous waste in particular • Reduce use of non-reusable plastic packaging • Promote the principle of the circular economy (reuse of materials) 	<ul style="list-style-type: none"> • Global survey of waste balance • Internal waste audits and subsequent action plan • Regional/local initiatives, e.g. Zero Plastic at Bendix; new waste management concept in Munich • Worldwide KB Day 2019 focused on SDG 12
 <p>SDG 13: Climate Action</p>	<ul style="list-style-type: none"> • Group-wide climate action strategy in accordance with Paris Climate Accord • Set targets for direct and indirect CO₂ emissions • Support the implementation of climate protection measures at site level 	<ul style="list-style-type: none"> • Climate strategy for 2030 adopted

KNORR-BREMSE DAY: FOCUSING ON SDG 12

Almost every employee at Knorr-Bremse is now well aware of SDG 12. This goal calls for “Responsible Consumption and Production,” and supplied the overarching theme of Knorr-Bremse Day 2019. The corporate values event, which involves all Knorr-Bremse staff worldwide, provided the backdrop to a wide variety of discussions and ideas about how to reduce waste and conserve valuable natural resources in production facilities and offices alike.

The employees brought the SDG to life in talks, games, competitions and initiatives, while a number of demonstrations showed exactly how Knorr-Bremse’s products are promoting sustainable mobility. In time-honored fashion, the event was also used as an opportunity to recognize employees for their outstanding performance by presenting them with Knorr-Bremse Value Awards.

Here are just a few examples of action Knorr-Bremse sites around the world took to encourage “sustainable consumption and sustainable production” in 2019:

- **Granville, Australia:** “Cans for Kids” returned used drinks cans, collected the deposits, and donated them to a good cause.
- **Suzhou, China:** The Kids’ Center at the Suzhou site decorated cloth bags – using them helped to reduce the use of plastic bags.
- **Palwa, India:** Employees at Palwa developed their own website to raise awareness of waste-related issues, and unveiled it as part of a talk show.
- **Melksham, UK:** Employees started a campaign to prevent waste by rediscovering local produce.
- **Getafe, Spain:** Employees worked to explain the principle of sustainable product design, including for packaging.
- **Elyria, USA:** A panel discussion on best practices was held to encourage a zero-waste culture.

So, what about 2020? The next Knorr-Bremse Day will focus on SDG 13 Climate Action. We are confident that our sites around the world will come up with plenty of ideas and initiatives to address this issue.

Knorr-Bremse is also making major contributions to SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation) through the activities of Knorr-Bremse Global Care. For more details, see “Commitment and society” on page 60.

SDGs: Knorr-Bremse’s selection process

The decision as to which SDGs Knorr-Bremse should focus on was based on a combination of management-level analysis and employee consultation. At their World Meeting in 2018, 160 Knorr-Bremse managers compiled a shortlist of SDGs relevant to Knorr-Bremse. Knorr-Bremse employees around the world were invited to vote online on which of the shortlisted SDGs were important to them.

Getting the employees involved in choosing the Group SDGs was a top priority for Knorr-Bremse, because they are the ones who have to internalize and act on the SDGs in their everyday working lives. Knorr-Bremse Day, our annual corporate values event for all Knorr-Bremse employees worldwide, is another important tool for further embedding the SDGs across the Company (see text table).

SDGs: what Knorr-Bremse is doing

In early 2019 Knorr-Bremse launched worldwide initiatives in connection with the five SDGs selected. These initiatives focus on specific improvements and targets that will enhance the Company’s contribution to achieving the SDGs by 2030. Each of the five initiatives is led by a member of the Executive Board who is responsible for steering the key issues across the divisions, departments and sites. Each initiative focuses on the following: [Table → 2.06](#).

Compliance and risk management

Stakeholders have to be able to trust Knorr-Bremse on economic and social issues. Our strict Code of Conduct and clear rules on compliance at every stage of the value chain provide the foundation for that trust. They also help us to live up to our own standards and uphold our commitments to reliability, fair competition, anti-corruption measures and consistently avoiding any potential conflicts of interest.

Compliance structure

Knorr-Bremse set up a central compliance structure in 2016, and added a whistleblowing portal and an e-learning system the following year. The Chief Compliance Officer (CCO) is responsible for ensuring compliance with agreed Knorr-Bremse Guidelines and reports regularly to the Compliance Committee, which is chaired by the Chief Financial Officer. The other members of the Compliance Committee are the global heads of Knorr-Bremse’s Controlling, Human Resources and Legal departments, and the head of our Internal Audit. Compliance Officers covering Asia/Pacific, Europe/Africa, and the

Americas provide the CCO with information on local compliance management activity in their regions.

Our sites worldwide play a key role in our compliance structure and strategy. The regional Compliance Officers are given specific responsibility for providing advice and training to employees in their regions, handling compliance issues, and identifying local risks. 2019 saw the implementation of a wide range of measures to further strengthen Knorr-Bremse's international compliance structures, including:

- **Asia/Pacific region:** Internal Audit carried out a series of compliance audits to identify where processes within the compliance management system could be improved further. A new full-time post of Regional Compliance Officer (RCO) for the Asia/Pacific region was also created and successfully filled.
- **Europe/Africa region:** Preparations for the appointment of Local Compliance Officers (LCOs) at all relevant sites have now been completed prior to implementation in 2020.
- **Americas region:** Internal Audit carried out compliance audits in South America similar to those completed in the Asia/Pacific region.

The aim of our compliance structure and its work is to prevent breaches of our own guidelines, and above all of our binding Code of Conduct. We implement a range of measures to reduce the risk of breaches, including employee training sessions, supplier briefings, and the application of risk management procedures.

Key compliance issues

Discussions on relevant compliance-related issues and how to focus our compliance work are held in the Compliance Committee. Following a compliance risk analysis examining selected business divisions and markets, the Committee designated preventing corruption, ensuring fair competition and avoiding conflicts of interest as core compliance issues.

Compliance guidelines

Managers within our compliance structure are guided in their work by the need to comply with legislation, internal rules and our voluntary commitments. By abiding by these rules and commitments we can build relationships with our employees and business partners based on integrity and responsible behavior. Measures to ensure compliance help to protect the Company and its employees from liability and to prevent financial and reputational damage, making them essential to achieving sustainable growth.

All our actions are guided by the Knorr-Bremse Code of Conduct. The Code of Conduct is based on our corporate values and the principles of the UN Global Compact, and defines the

basis for ensuring our day-to-day business activities are conducted in a responsible manner. It also serves to ensure that all our employees worldwide have a shared understanding of what we mean by responsible behavior in business. Among other provisions, it includes a complete ban on corruption, including bribery and blackmail, as well as protection for a number of human rights such as freedom of expression, protection against discrimination, and a ban on the use of child and forced labor. These principles and rules are binding for all Group employees. To help embed these principles in practice, we have instituted four new Guidelines on compliance. The Guidelines were originally rolled out internationally in 2018, and in 2019 we took the decision to make them binding across Knorr-Bremse, with local Managing Directors being asked to confirm in writing that the new rules had been received, implemented and communicated to local workforces. The new Guidelines cover:

- Handling gifts and invitations
- Preventing corruption
- Conflicts of interest
- Fair competition

The compliance whistleblower system

Knorr-Bremse uses a variety of measures and tools to raise awareness of its Code of Conduct among its employees. The independent, anonymous whistleblower system we introduced in 2017 is a key component of our compliance management system. The whistleblowing portal is operated by an external service provider using an independent and secure server. It is accessible to all employees and third parties all over the world, and allows incidents to be reported in 31 different countries and in 20 languages.

Employees all over the world can use the system to report any suspected offenses or serious breaches of the law without having to reveal their identity. Our Guideline for using the whistleblower system also sets out details of the legal framework governing any reports made. All reports made via the system are automatically forwarded to the Chief Compliance Officer, and some are also sent to the Regional Compliance Manager where appropriate. Confidentiality and privacy are maintained at all times throughout this process.

Knorr-Bremse conducts regular audits to check how well its managers know the Code of Conduct and how well they are communicating it to their staff. The Company's internal audit function also supports the Executive Board in its monitoring duties by providing independent and objective audit services. These services are designed to improve corporate processes and to detect any breaches of internal rules and guidelines or of legislation.

Across all areas of the Company, a total of 35 reports were filed via the whistleblower system in the 2019 reporting year. All substantiated reports have either been investigated or are currently under investigation. Where misconduct is identified, appropriate disciplinary action will be taken.

Compliance training

Clear communications and continuous employee training are key requirements for preventing compliance breaches. E-learning is a very useful tool for reaching our employees; following a decision taken by Knorr-Bremse in 2017, all staff are now required to repeat e-learning modules on relevant compliance-related issues every two years.

Since 2017, we have also been providing e-learning materials on our Code of Conduct in ten different languages. As of the end of 2019, over 90% of our 17,000 employees with access to a Company learning platform (or approximately 60% of the total workforce) had completed e-learning on compliance. Given that our underlying workforce grew by over 600 between 2018 and 2019, the percentage of employees who completed training remained more or less stable (it was 92% in 2018).

Face-to-face training is used to complement or substitute e-learning materials, and help us to reach staff who do not have access to a learning platform. In the course of 2019, a total of around 150 employees were introduced to the provisions of the Code of Conduct and associated guidelines in face-to-face training sessions all over the world.

Knorr-Bremse also sharpened its focus on key compliance issues in 2019, and particularly on corruption prevention and fair competition, for example. We introduced a new, improved combination of e-learning and face-to-face training for selected employees working in Purchasing and Sales, as well as introducing a new training program on our "Trade Partner Agreement Guidelines". These Guidelines were rolled out in 2019 with a view to reducing compliance risks arising from relationships with distributors and intermediaries.

Risk management: organization and processes

The primary aim of risk management is to exploit opportunities and minimize risk in order to increase the value of Knorr-Bremse in the long term. As a global company manufacturing safety-critical components, Knorr-Bremse is constantly exposed to risk. Identifying risks early gives us more scope to manage them effectively.

At Knorr-Bremse, the foundation of our risk management system is provided by a Group Guideline that clearly defines risk management responsibilities and reporting structures. Our risk management procedures are in line with the processes followed within the Group as a whole, and a worldwide risk

inventory covering all of the Group's subsidiaries is carried out every quarter.

Knorr-Bremse encourages all its employees to report risks proactively and to take a responsible approach to dealing with them. To ensure that significant risks are identified as early as possible, we have set up an internal ad-hoc reporting process in addition to routine reporting procedures.

We produce a regular risk report that summarizes risk-related reporting. This report is submitted to the Executive Board of the Knorr-Bremse Group on a quarterly basis and discussed in detail at a meeting of the Executive Board.

You will find a detailed description of the risk management system, including a full list of material risks, in the "Risks, opportunities and forecast report" section of the 2019 Annual Report.

Data protection and information security: an increasingly important issue

Along with strict compliance with the Code of Conduct, consistent application of our data protection policy is crucial to building trust in Knorr-Bremse and its products. As data-based business models become more and more common, the issue of data protection is becoming ever more important. Overall responsibility for Knorr-Bremse's data protection unit lies with the Executive Board and the Managing Directors of the divisions. A data protection policy is in place to regulate the way data is handled across the Group and it is binding for all our employees. This is aligned with the requirements of the GDPR.

Knorr-Bremse has continuously expanded its data protection structures since 2017. The overall structure is headed by the Group Data Protection Officer, who is supported by Data Protection Managers at divisional level and at our European sites. Data Protection Coordinators have also been appointed for key departments, serving as points of contact for data protection issues.

The Information Security function is led by the Corporate Information Security Officer, who manages it in line with the priorities set by the Corporate Security Board. The Corporate Security Board is in turn composed of the member of the Executive Board responsible for information security, the Managing Directors of the two business units, and the Chief Information Officer. The Board's monitoring procedures matured significantly in 2019, with the adoption of a revised Guideline on information security by the Executive Board and the introduction of a new process for audits and risk management.

The main focus for operationally-focused projects is to protect Knorr-Bremse's IT infrastructure by implementing IT security solutions across the Group.

Data Protection and information security: products matter too

Data protection and information security (often referred to in this context as "cyber-security") are both important considerations with regard to a wide range of Knorr-Bremse's products, services and projects. Both divisions help to underpin the trust of customers and society at large in future-oriented applications and products, such as highly-automated or autonomous driving, or collision avoidance systems, which generate vast amounts of product-specific data, for example by using cameras to gather data on the vehicle's surroundings. For these products we implement a number of security and privacy measures in line with the principles of privacy by design. All such measures are based on data protection impact assessments and are in full compliance with statutory requirements.

Knorr-Bremse has set up dedicated information security units and teams in both of its divisions. Their role is to make sure that cyber-security issues are integrated into product development processes and customer projects, thus ensuring that such considerations are taken fully into account.

Due diligence processes for human rights

Knorr-Bremse is well aware of its duty to carry out due diligence on human rights and is committed to fulfilling this duty at all times, including at all stages of the value chain and in our dealings with all those potentially affected by our business activities. This is why we are systematically expanding our processes designed to safeguard respect for human rights in line with our Code of Conduct and external guidelines.

As a signatory to the United Nations (UN) Global Compact, Knorr-Bremse is committed to upholding human rights. In addition, we pledge to comply with applicable national legal frameworks, all of the International Labour Organization's conventions on human rights and the UN's Universal Declaration of Human Rights. Moreover, Knorr-Bremse is committed to fulfilling our duty to carry out due diligence on human rights. To meet that commitment, we ensure our processes are consistent with the UN Guiding Principles for Business and Human Rights and the German government's National Action Plan for the Economy and Human Rights (NAP).

By gearing its activities towards achieving the UN Sustainable Development Goals (SDGs), Knorr-Bremse is making an additional contribution towards due diligence on human rights. Over 90 percent of the 169 targets that make up the SDGs are based on international standards for human rights and labor law (Source: The Danish Institute for Human Rights). We intend to continue to expand our due diligence processes in future, thus making a concerted and systemic contribution to achieving the SDGs by 2030.

Guidelines related to human rights

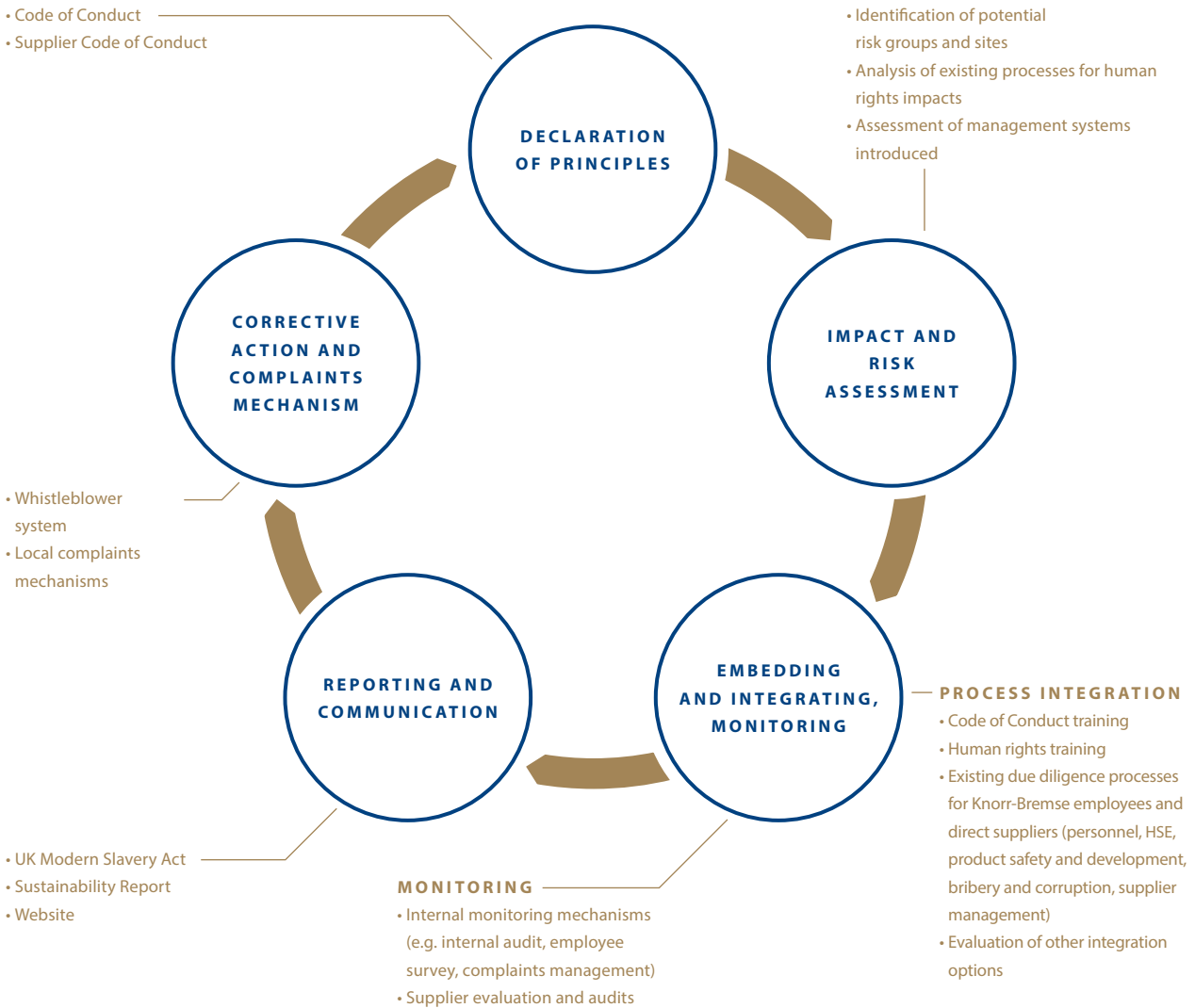
Knorr-Bremse has drawn up a set of key principles and rules to ensure respect for human rights and has incorporated them into a Code of Conduct. The Code of Conduct is binding for all our employees and is complemented by additional guidelines relevant to human rights, including the Code of Conduct for Suppliers, the HSE Policy and local human resources guidelines. Our existing processes, including those for HR, purchasing and HSE management, all address selected aspects of our duty to carry out due diligence on human rights.

PROTECTING AT-RISK GROUPS FROM MODERN SLAVERY

Exploitation at work and modern slavery are part of many global supply chains. Workers assigned to companies via recruitment agencies, temporary workers and employees of some local service providers (e.g. cleaning companies or logistics firms) are all at greater risk of falling victim to modern slavery or exploitation in the workplace. In order to improve our understanding of these risks at Knorr-Bremse and identify where we can improve, in 2019 we carried out an in-depth risk analysis in these areas. In 2020 we plan to examine the following specific issues at site level using a comprehensive "Ethical Recruitment Questionnaire":

- Our existing processes for recruiting and on-boarding new employees.
- The demands Knorr-Bremse makes of recruitment agencies, temporary employment agencies and service providers to ensure fair working conditions.
- Local complaints systems and information about incidents that have occurred.

2.07 DUE DILIGENCE ON HUMAN RIGHTS AT KNORR-BREMSE



Our whistleblower system allows us to record breaches of the Code of Conduct and, in turn, to monitor respect for human rights more effectively (see “Compliance and risk management” on page 18). Our independent central Internal Audit function also examines compliance on selected aspects of human rights at our sites worldwide as part of its routine audits.

Progress over the year under review

Over the course of the year under review we have continued to develop a range of measures based on the results of a human rights risk and gap analysis conducted in 2018 (for more

details, please refer to the Knorr-Bremse UN Global Compact Progress Report 2018).

This analysis showed that we needed to review our due diligence processes in relation to working conditions for certain at-risk groups, in particular for temporary workers, service providers at our sites, and employees in our supply chain. With this in mind, in 2019 we focused our efforts on conducting a deeper risk analysis in this area and identifying the appropriate action to take.

The following measures were implemented in 2019:

- **Declaration of principles:** We developed a stand-alone Knorr-Bremse Human Rights Policy, which will be formally adopted in 2020. This policy brings together all the human rights provisions currently contained in various different guidelines. We plan to disseminate the new policy to Knorr-Bremse sites and employees worldwide and to conduct risk-based training to facilitate its introduction.
- **Identifying risks:** In 2019 we started an in-depth risk analysis focused on ethical recruitment in order to improve our understanding of the risks that may affect certain groups, including temporary workers and people working for our service providers, so that we can address these risks more effectively. This analysis will continue in 2020.
- **Anchoring and integration:**
 - Supplier audit: Suppliers will in future be required to provide details of their human rights situation as part of the Pre-Audit Checklist for Suppliers.
 - Internal audit: We have adopted human rights as a criterion for selecting sites for internal audits.
 - We are working with relevant departments, such as HR, Purchasing and Compliance, to build specialist capacity and assess additional scope to integrate due diligence on human rights.
- **Reporting and communication:**
 - We are making our reporting more transparent and incorporating material issues into the Sustainability Report and our statement pursuant to the UK Modern Slavery Act.
 - We are participating actively in industry discussions on sustainability and human rights issues.
- **Remedies and complaints systems:**
 - The Corporate Responsibility department will be involved in the procedure associated with suspected human rights breaches.
 - We will look to expand our human rights complaints systems further in 2020 as part of our new Human Rights Policy.

The process of analyzing the responses and identifying action to be taken will be completed in early 2020, and we will publish the results in our next Sustainability Report.

TRANSPARENT COMMUNICATION

We are making strenuous efforts to expand our reporting on due diligence for human rights and thus to fulfil a key requirement of both the UN Guiding Principles and the German government's National Action Plan for the Economy and Human Rights (NAP). In our annual Sustainability Report we describe exactly what we have done in this area and where there is still room for improvement. We are currently examining the possibility of adopting the "UN Guiding Principles Reporting Framework," the UN's framework for advanced reporting on diligence for human rights. Since 2016, Knorr-Bremse has also published a separate statement on the Company website on the action we are taking to combat modern slavery and people trafficking, thus complying with the UK Modern Slavery Act. We are constantly developing our reporting procedures for the Act in accordance with recommendations from the British government.



Products and Partners

26

Product and system safety

29

Ecological product design

33

Sustainability standards in the supply chain

Our aspiration is to shape the future of rail and commercial vehicle transportation through our products and systems by making them safer, more reliable, and more sustainable. At the same time, we want to create added value for our customers, our partners, and society as a whole. And we will succeed with our innovative solutions for today's megatrends, with which we will defend both our technological leadership and our strong market position.

QUALITY MANAGEMENT

84 Knorr-Bremse sites operate certified quality management systems (ISO 9001, ISO TS 22163, or IATF 16949).

REMANUFACTURER OF THE YEAR

The CVS division's aftermarket business wins the 2019 Remanufacturer of the Year Award in the "Best Reman Process Optimization" category at ReMaTec in Amsterdam.

ECODESIGN

A cross-divisional working group develops standards in product development and processes for the entire product life cycle.



SUSTAINABLE SUPPLIERS

61%

of the purchase volume from direct suppliers was assessed according to sustainability criteria

Products and Partners

Knorr-Bremse makes a significant contribution towards improving safety, efficiency and connectivity on road and rail. With the goal of sustainable mobility firmly in mind, we focus on innovative technologies, incorporating sustainability criteria throughout the life cycle of our products and systems – from the initial vision and the development and manufacturing stages right through to maintenance and remanufacturing. We see our suppliers as partners and expect them to take their social and environmental responsibilities every bit as seriously as we do.

The megatrends of urbanization, eco-efficiency, digitization and automated driving are set to shape the mobility sector – and Knorr-Bremse's product and service portfolio – for years to come. As the technology leader in braking systems and subsystems for rail and commercial vehicles, the safety of our products and systems remains our number one priority. However, our products are already making a significant contribution to environmental sustainability and energy efficiency in the mobility and transportation sector. With its EcoDesign approach, Knorr-Bremse ensures that ecological product design forms an integral part of its product and systems development process. We also actively involve our suppliers in the ongoing development of our products.

Over 12,000 granted or pending patents bear witness to the Company's strength in innovation. In 2019, we once again

increased our investment in research and development by 33 million euros. At the end of the year under review, the Company employed 3,558 staff in Research and Development.

Product and system safety

We aim to contribute to improved traffic safety by supplying reliable, high-quality products, systems and services. Our zero-defect philosophy helps to ensure that our solutions comply with the highest safety standards. We also implement high quality standards in all our processes and across every part of our business. To ensure that these standards are met, several Knorr-Bremse facilities have achieved international quality management system certification (ISO 9001, ISO TS 22163 or IATF 16949). As well as following various other guidelines, we are of course also guided by our customers' requirements.

Given the safety-critical nature of their applications, our products must be checked carefully to minimize any risks. To this end, Knorr-Bremse makes routine use of comprehensive quality planning, quality assurance and testing procedures. The Company follows international standards to ensure the continuous optimization of its business processes. Our Rail

3.01 R&D COSTS

in million euros



Vehicle Systems (RVS) and Commercial Vehicle Systems (CVS) divisions both constantly strive to further improve our high safety and quality standards.

With a portfolio that includes both braking systems and a wide range of other products, product and system safety is of paramount importance to Knorr-Bremse. Drawing on decades of experience, we systematically develop innovative new products and enhance existing ones.

- Solutions like Knorr-Bremse's derailment detectors help to improve rail vehicle safety. The detectors are available either as electronic or pneumatic systems.
- Driver assistance systems that are integrated into braking systems – for example ABS and ESP – enhance road safety for commercial vehicles by supporting collision avoidance and vehicle stabilization.
- Collision avoidance systems help to prevent accidents by providing emergency braking assistance for rail and road vehicles and blind-spot assistance for trucks. We are continuing to develop and augment these systems in order to enable automated driving and ultimately driverless operation of commercial vehicles. The same applies to light rail vehicles, which at some point in the future will travel through busy urban traffic without a driver. Knorr-Bremse is responding to this trend by developing collision avoidance systems equipped with environment recognition and condition monitoring sensors that can be used in a similar way on both road and rail.
- As well as supporting collision avoidance, the obstacle detection technology of start-up RailVision contributes to safe – and perhaps one day autonomous – vehicle operation.
- In 2019, Knorr-Bremse and Continental collaborated on the development of highly automated driving. Knorr-Bremse's Global Scalable Brake Control (GSBC) plays a key part in ensuring the safety of the system as a whole.
- New e-drive products were another focus of the commercial vehicles business in 2019. The Electronic Parking Brake (EPB) has been successfully deployed by several customers in Europe and North America and is now also available as a separate system for manual activation. By automatically applying the brakes under certain conditions, the EPB helps to prevent accidents caused by vehicles rolling and running away.

HIGHLY AUTOMATED DRIVING PARTNERSHIP

Knorr-Bremse and Continental reached an important milestone in their partnership to develop highly automated driving solutions for commercial vehicles when the Platooning Demonstrator's capabilities were trialed at a testing ground in July 2019. The Platooning Demonstrator involves three virtually coupled trucks of different makes driving in convoy with only a short distance between each vehicle. The lessons learned from the Demonstrator will feed into the development of the Highway Pilot, which aims to enable highly automated highway driving for individual trucks. A closer look at the technology reveals that the two partners are an excellent fit in terms of their respective expertise, and highlights the central importance to automated driving of Knorr-Bremse technologies such as Global Scalable Brake Control.

The environment recognition technology and the central control module (Automated Driving Control Unit, ADCU) for the associated data processing are both supplied by Continental. The driving strategy is determined using the environment model as well as data from the GSBC brake control system. Trajectory and motion control requirements are planned by the system before actuators translate the corresponding driving decisions into specific control actions. An efficient redundancy architecture guarantees the system's reliability. Knorr-Bremse is also responsible for system integration, including validation. This development partnership is making a direct contribution to safe, more efficient driving. The automation of individual behind-the-wheel actions, such as lane changing, driving at reduced speeds in road work zones, emergency braking, and even full (hub-to-hub) automation on certain routes will lead to safer commercial vehicles in the future.

INCREASING RAIL NETWORK CAPACITY

More precise rail vehicle braking could make it possible to reduce the safety distance between trains so that more trains can run on the same rail network. The new deceleration control system currently being developed by Knorr-Bremse is one technology that could help to make this happen. Knorr-Bremse is set to obtain authorization from the Polish Office of Rail Transportation (UTK) to install the system on a three-car regional train. Deceleration control enables significantly more stable braking performance in different conditions and at all speeds. In the future, it will be possible to add this functionality to products like the new EP2002 3.0 brake control system. With an extended overhaul cycle of over ten years, the EP2002 3.0 offers an effective, resource-efficient solution throughout its lifetime. It is substantially lighter and requires significantly less installation space than conventional brake control systems for regional and long-distance trains. This means that the EP2002 3.0 can make an important contribution to attractive and competitive passenger transportation. Value-added application scenarios include everything from automatic train operation (ATO) to fully-fledged driverless systems and routes with platform screen door systems.

STAKE ACQUIRED IN OBSTACLE DETECTION START-UP RAILVISION

Knorr-Bremse has taken the next step towards system solutions for automated rail transportation by acquiring a stake of over 21% in Israeli start-up RailVision. RailVision's obstacle detection technology uses a combination of image recognition and infrared to see up to two kilometers ahead. This is critical to enabling safe – and perhaps one day fully autonomous – rail vehicle operation. Reliable detection of things such as people, vehicles, signals and track switch positions is also key. One specific application of the technology is to support rail path recognition for Knorr-Bremse's collision avoidance system for LRVs. It could also be used to detect track and infrastructure maintenance requirements, enabling targeted, cost-effective maintenance work.

Principles and guidelines

Knorr-Bremse's vision and Code of Conduct outline the Company's commitment to product safety and quality. These factors are also reflected in our corporate values of reliability and technological excellence. Moreover, each of our two divisions has its own safety and quality policies that must be observed by all their sites. These focus on continuously improving the quality of our products and systems and on the day-to-day responsibility of every employee to ensure that our production and work processes are carried out safely.

Accordingly, we have adopted an ambitious zero-defect philosophy for all our products, systems and services. This helps us to achieve our goals of increased efficiency, maximum flexibility and productivity throughout every stage from the vehicle's manufacture to when it is in service, maximum delivery reliability, accident prevention, and more efficient infrastructure utilization.

In order to implement these principles, we use management systems that satisfy various external criteria such as customer and statutory requirements and the relevant standards.

Structures and processes

Knorr-Bremse's product and systems safety management structures are embedded within the organization.

Responsibility for implementing product and systems safety measures lies with senior management, the divisions' Quality Management departments, and the departments responsible for the products in question. In both Knorr-Bremse divisions, a global council composed of the international quality managers holds regular meetings to set the overarching objectives and strategies for improving the quality of our products and systems.

The RailExcellence (REX) and TruckExcellence (TEX) management systems are the leading systems for describing and managing product and systems safety management processes. The process manuals and work instructions contain all the basic rules for these processes. Various methods are employed to ensure that the relevant quality and safety standards are observed at every stage of the value chain that Knorr-Bremse is in a position to influence. Across the different parts of the business, this encompasses everything from the development and testing phase to the careful choice of suppliers, the manufacturing stage and the use of the products by our customers. In addition to Failure Mode and Effects Analysis (FMEA), the processes include product safety audits, supplier monitoring, self-auditing of production lines, product

safety training for employees, product and field testing, and close monitoring of the relevant markets. Regular internal audits and assessments serve to verify and optimize the implementation of our process management system.

Each of our sites around the world submits monthly reports to their respective division's quality management organization. This worldwide monthly reporting helps to monitor compliance with all the relevant quality standards. Regular regional, global and product-specific quality reviews and strict escalation processes ensure that potential safety-critical incidents are assessed and resolved as quickly as possible.

Quality management systems in line with international standards

Our aim is to continuously improve Knorr-Bremse's processes and products with the aid of our quality management systems. Accordingly, these systems are based on international standards. The applicable quality standards for the RVS division are ISO 9001 and ISO/TS 22163 (formerly the International Railway Industry Standard IRIS). The specific rail industry requirements contained in ISO/TS 22163 have been fully incorporated into the division's processes and manuals and into the Knorr-Bremse Production System. The quality standard for the CVS division is IATF (International Automotive Task Force) 16949.

Regular audits, reviews and training courses provide guidance for staff in the different aspects of the business and at individual sites, ensuring that they are properly equipped to observe all the relevant standards and processes. These measures also identify aspects of the safety and quality standards that could be improved. In 2019, 84 Knorr-Bremse facilities around the world operated certified quality management systems (either ISO 9001, ISO TS 22163 or IATF 16949), compared to 81 in 2018. No Knorr-Bremse facility has ever been de-certified.

In order to meet the relevant supplier management quality standards, both divisions monitor and audit their supplier base. The RVS division initially asks suppliers to provide information about themselves, including quality certificates. ISO

TS 22163 certification is mandatory for preferred suppliers, while an on-site process audit is also carried out at suppliers' sites. In the CVS division, each supplier undergoes a product safety audit and is also assessed by the Sourcing Board.

Ecological product design

EcoDesign is the name given to Knorr-Bremse's ecological product design approach, which guides the development of the Company's products and systems with a view to minimizing any negative impact on the environment throughout their lifetime. A systematic environmental focus during the product development stage can deliver leading-edge solutions that promise to give the Company a competitive advantage in the medium and long term. Nevertheless, guaranteeing product safety at all times remains the overriding priority.

Principles and guidelines

As well as setting and meeting financial targets, products developed using ecological design criteria reflect our corporate vision and HSE policy. Health, occupational, energy and environmental considerations all form an integral part of our business and product design processes. For instance, our efforts to prevent particulate emissions in the development process reduce pollution and improve air quality for local residents. These structures provide the basis for the development and widespread deployment of safe, environmentally friendly technologies. By setting ourselves the goal of expanding our sustainable product portfolio, Knorr-Bremse also aims to contribute to SDG 9 (Industry, Innovation, and Infrastructure). In addition to a stronger focus on EcoDesign criteria, the product development process must also take the relevant regulatory requirements, standards and customer expectations into account. This means that the product development process must address sustainability criteria such as extending our products' service life, reducing their weight, increasing resource and energy efficiency, and avoiding hazardous substances and waste.

Our sustainable product design is also driven by the successful RailServices and TruckServices businesses, both of which extend our products' lives even further through remanufacturing. The CVS division's Remanufacturing Product Design Guideline is an in-house guideline aimed at minimizing the environmental footprint of Knorr-Bremse products. It sets out various requirements, for example with regard to materials use and ease of product disassembly, so that products can be industrially remanufactured later in their lives.

Structures and processes

Knorr-Bremse is committed to proactively incorporating EcoDesign into the product development process, and is working to systematically embed sustainability criteria in all its processes, from strategic planning (STRAP) to innovation and product development. [Grafic → 3.02](#)

Organizational measures can help to create synergies and establish standardized processes across the Group's two divisions in the area of EcoDesign. At an organizational level, EcoDesign is integrated into both divisions in a manner that supports strategic R&D planning. For example, the divisions' EcoDesign specialists contribute to the evaluation of product ideas, encouraging developers and engineers to think about reducing products' environmental impact.

In 2017, Knorr-Bremse established a cross-divisional EcoDesign working group. Every month, specialists from the RVS and CVS divisions meet with at least one representative from the Corporate Responsibility department and, if necessary, the Remanufacturing department to jointly formulate product development standards and processes for the entire product life cycle.

The goal of expanding our sustainable product portfolio is supported by an SDG 9 initiative implemented at Executive Board level. Under this initiative, the heads of innovation from both divisions hold regular discussions with the CR department in order to drive cross-divisional product development and create synergies. The EcoDesign specialists are involved in defining the relevant measures and also form an integral part of both divisions' development departments.

Strategic planning: The divisions set their product and system goals for the next 5 years through the strategic planning (STRAP) function. It is important that strategic planning should include product sustainability, and in 2019 this aspect was firmly embedded in the STRAP process.

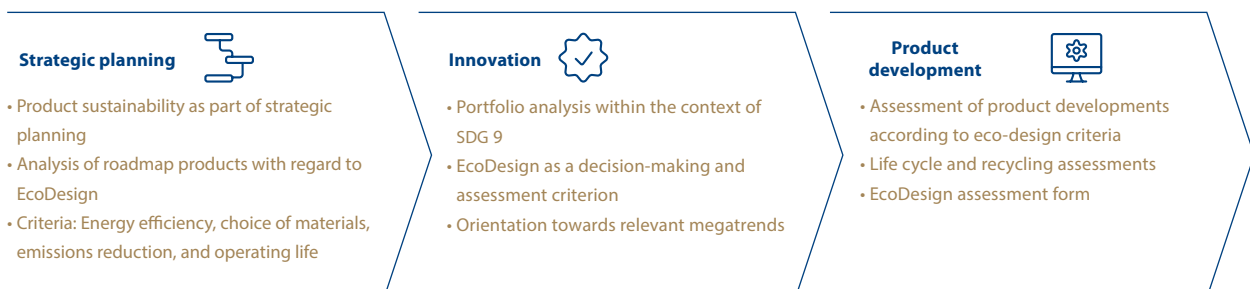
More specifically, as part of the strategic planning process, the products in the roadmap are analyzed in terms of how well they meet EcoDesign criteria such as energy efficiency, choice of materials, emissions reduction and operating life. This product assessment was carried out on a voluntary basis in 2019, but in future we plan to further refine its focus and make it mandatory.

Innovation: In our innovation process, we evaluate the potential of projects and product ideas to determine whether they should be explored and implemented. Focus on the megatrends that are strategically relevant for Knorr-Bremse's business plays an important part in this decision.

As part of our SDG 9 initiative, in 2019 we commenced an analysis of our portfolio in order to assess the EcoDesign

3.02 INTEGRATION OF ECODESIGN

ECODESIGN



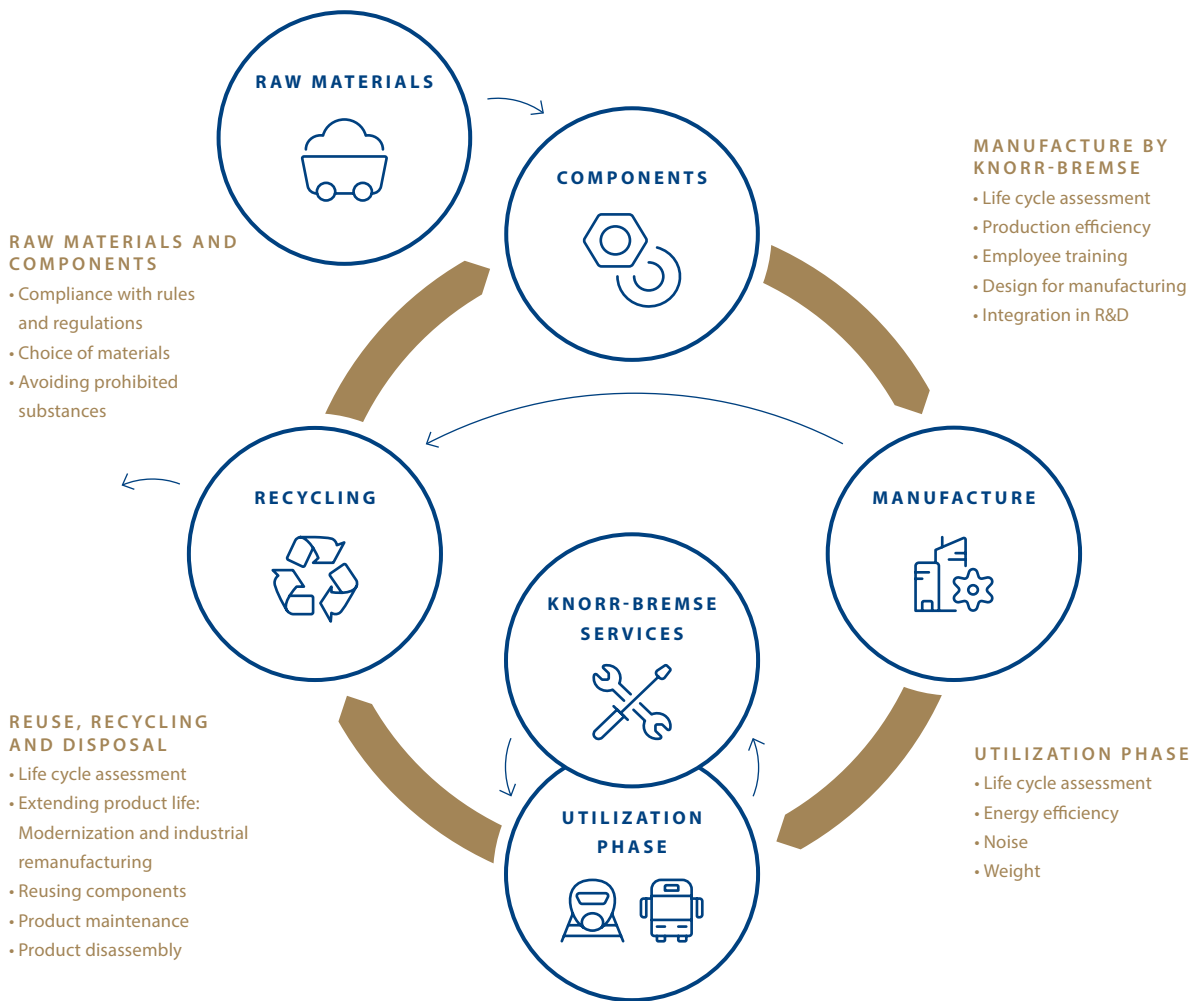
aspects of innovation ideas. This evaluation allowed us to identify innovation ideas that are particularly relevant purely from an EcoDesign perspective, regardless of financial criteria. In the RVS division, a number of innovation projects with EcoDesign potential were identified for the brakes, HVAC, doors and aftermarket product groups. A similar portfolio analysis was also initiated in the CVS division during the year under review.

Our aim is to embed EcoDesign as an integral decision-making and decision evaluation criterion within the innovation process.

Product development: EcoDesign aims to minimize the environmental impact of newly designed products. To this end, products under development are evaluated on the basis of the relevant EcoDesign criteria. We use tools such as the results of life cycle and recycling assessments to evaluate the potential environmental impact of our products and systems. We are also planning to introduce an EcoDesign assessment form that will provide a checklist for the systematic analysis of product ideas.

Knorr-Bremse uses life cycle assessments (LCAs) for purposes such as calculating product-related CO₂ emissions. The LCAs measure and document the amount of materials and energy

3.03 ECODESIGN IN THE VALUE CHAIN



FINALIST IN THE ENERGY GLOBE AWARDS

In 2019, Knorr-Bremse was a finalist in the “Air” category of the Energy Globe Awards, the prestigious global environmental awards of the Energy Globe Foundation.

The Knorr-Bremse Remanufacturing project “EconX – Knorr-Bremse TruckServices industrial remanufacturing gives old products a second life” was commended as an outstanding industrial project due to its resource-efficiency and CO₂ savings.

The judges praised the project’s innovative approach to remanufacturing, which uses a number of cleaning and remanufacturing processes developed and patented by Knorr-Bremse engineers.



consumed by our products both during operation and during their manufacture, recycling and disposal. Our life cycle assessments are carried out in accordance with standards such as ISO 14040 and, in the RVS division, the UNIFE Product Category Rules.

One important way of reducing the environmental impact of our products and systems is to reuse their materials when they come to the end of their life cycle. Consequently, ensuring that the materials we use can be recycled is of paramount importance to us. Since 2014, we have carried out recyclability assessments in accordance with ISO 22628 for around 200 projects in the RVS division, including 42 in 2019. According to these assessments, the overall recyclability rate for Knorr-Bremse RVS division products is over 90%.

Both divisions are currently working together to develop an EcoDesign assessment form. This will provide a checklist for systematically analyzing product ideas on the basis of sustainability criteria such as enhanced energy efficiency, whether the product contains any hazardous substances, the emissions generated in the production process and during use, recyclability, and ease of maintenance. For each section of the checklist, we are developing standards to help with the evaluation of our products’ environmental impact.

Ensuring that our engineers and developers receive the appropriate training is key to successful EcoDesign implementation in our processes. Accordingly, the further development of our training program was one of our priorities in the area of EcoDesign during 2019. We are working to create EcoDesign standards in order to assist with the evaluation process. Moreover, Knorr-Bremse has piloted a training program on environmental product law covering topics such as REACH and RoHS at Knorr-Bremse GmbH subsidiary Zelisko in Mödling, Austria.

Saving resources through industrial remanufacturing

By extending the life of our products, we can increase their environmental and financial sustainability for both our Company and our customers. New Knorr-Bremse products are optimized for remanufacturing right from the research and development stage so that they can be reused for exactly the same function later on in their lives. Remanufacturing products requires fewer new materials and less energy, and thus has a positive impact on their overall environmental footprint.

Known as “overhaul” in the RVS division, remanufacturing is now an important part of Knorr-Bremse’s business. Almost all of the systems in Knorr-Bremse’s RVS division, including brakes, doors and HVAC systems, are remanufactured. As recently as 2018, Knorr-Bremse and Rumo, Brazil’s largest rail operator for agricultural products, opened a plant for remanufacturing and testing in the city of Rio Claro so that freight car braking systems can be overhauled and tested on-site at the customer’s premises. In 2019, the Knorr-Bremse Service Center in Berlin remanufactured approximately 66,500 products of various kinds. In the same year, Knorr-Bremse’s Chinese business remanufactured brake equipment for over 5,500 high-speed train cars and 1,790 locomotives, as well as almost 18,000 metro train units. It also delivered 2,088 remanufactured entry systems for high-speed trains and 1,960 remanufactured HVAC units. The CVS division offers a remanufactured product portfolio of around 1,000 product codes under the EconX® brand. In 2019, Knorr-Bremse saved 1,906 tonnes of CO₂, 634 tonnes of material and 7,883 MWh of energy through industrial remanufacturing.

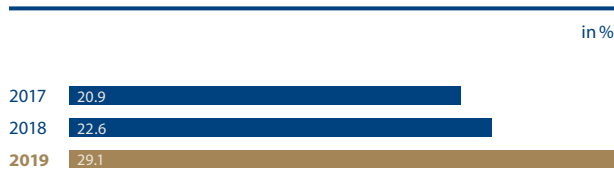
The Company’s commitment to remanufacturing has also been recognized by the industry. Knorr-Bremse’s Commercial Vehicle Systems aftermarket business, Knorr-Bremse Truck-Services, won the Remanufacturer of the Year Award 2019 in the Best Reman Process Optimization category at ReMaTec in Amsterdam.

REGIONAL INITIATIVE: THE ASPIRE RESEARCH PROJECT

The publicly funded ASPIRE research project is investigating the design of remanufacturing cleaning process chains with a view to improving their quality and cost-effectiveness. The process chain includes the identification of contaminants, definition of the required cleanliness standards, identification of appropriate testing and cleaning processes, and their analysis and documentation. The project aims to establish as many cleaning process chain standards as possible in areas where they are currently lacking. By delivering the goal of higher regeneration rates in the value-added process, the project hopes to contribute to a reduction in CO₂ emissions and material consumption.

Several Bavarian companies are participating in this project, which is set to run from 2017 to 2020 and is funded by the Bavarian Research Foundation (BFS). The project partners are the two Fraunhofer institutes, Knorr-Bremse, MAN Bus & Truck AG, Nabu-Oberflächentechnik GmbH, Rösler Oberflächentechnik GmbH and Schuk GmbH.

3.04 REVENUES FROM REMANUFACTURED PRODUCTS AS A PERCENTAGE OF TOTAL AFTERMARKET REVENUES



Sustainability standards in the supply chain

Our efforts to promote high sustainability standards in the supply chain benefit both Knorr-Bremse as a group and our suppliers, whose sustainable development we support in this way. As a global company, Knorr-Bremse works with a wide range of predominantly local suppliers who form an integral part of our value chain and make a significant contribution to the success of our business.

We currently spend over € 3 billion a year on raw materials, manufacturing supplies, goods and services. Our biggest orders are for metals, friction components, electronic components and plastics. Knorr-Bremse’s choice of suppliers can thus have a significant environmental and social impact in the countries where these items are produced. Consequently, we strive to ensure that our supplier management processes take sustainability into account, as well as insisting on compliance with environmental and human rights standards. We do this because we believe these standards to be necessary and because non-compliance by our suppliers would pose reputational risks for Knorr-Bremse and could also lead to increased costs as a result of cancelled deliveries.

Principles and guidelines

We want to achieve a shared understanding of corporate responsibility – as set out in our Code of Conduct and CR policy – throughout the entire value chain, including our suppliers and business partners.

INDUSTRY INITIATIVES: SUSTAINABILITY STANDARDS FOR THE ENTIRE SUPPLY CHAIN

The Railsponsible initiative was launched at the beginning of 2015. Alongside Knorr-Bremse's RVS division, its founding members include Alstom Transport, Bombardier Transportation, Deutsche Bahn, Nederlandse Spoorwegen and the French rail operator SNCF. The initiative's objective is to ensure sustainable procurement within the rail industry. In addition, Railsponsible aims to encourage rail industry customers and suppliers to act in an ethical and socially responsible way and to commit to responsible business and environmental practices. The initiative currently has twelve members in total. In a position paper on climate change, Railsponsible pledges its support for the Paris Climate Agreement, as well as setting out expectations and proposals regarding the measures that its members and their business partners can take to tackle climate change. Since September 2018, experts from Knorr-Bremse and some 25 other companies have been working on measures to promote sustainability in the supply chain in a working group of the German Association of the Automotive Industry (VDA). The committee, which meets several times a year, aims to strengthen the dialogue between manufacturers and suppliers in order to implement sustainability standards across the entire supply chain, develop support measures for small and medium-sized suppliers, and draw up industry standards to ensure compliance with sustainability requirements.

Our Group-wide Supplier Code of Conduct sets out the requirements that must be met by Knorr-Bremse's suppliers. It describes the standards we expect our suppliers to observe in terms of working conditions, human rights, environmental protection, safety, business ethics, and compliance. The Supplier Code of Conduct is designed to support the systematic inclusion of sustainability criteria in all our supplier contracts and procurement processes. It calls on our suppliers to ensure that their own suppliers are also aware of our expectations. The 14 languages in which the Code of Conduct is available adequately cover our supplier base.

In addition, internal guidelines determine the weight that should be attributed to sustainability criteria when making procurement decisions. The Procurement Guideline for Indirect Materials states that sustainability criteria must be taken into account when choosing suppliers. There are also specific guidelines on the procurement of particular types of goods and services such as packaging, renewable energy, business travel, energy-efficient products, equipment, and services.

Structures and processes

The two divisions are each responsible for the direct procurement of their own production materials. Procurement of indirect materials (non-production-related material) is organized globally at Group level. A dedicated Group-level function supports compliance with and optimization of sustainability standards in the supply chain, meeting several times a year with the heads of direct and indirect procurement and the CR department to discuss strategic issues in the Sustainable Procurement Committee.

Sustainability criteria are incorporated into our procurement processes in order to support the adoption of Knorr-Bremse's own voluntary commitment to responsible behavior throughout the supply chain. This process is based on three pillars: The definition of our sustainability standards, their evaluation and validation, and the provision of training for our suppliers and procurement team. [Graphic → 3.05](#)

Standards: Standards in our Supplier Code of Conduct.

Our Supplier Code of Conduct sets out our expectations with regard to supplier sustainability management. We are taking the following measures to encourage the systematic adoption of the Code of Conduct by our entire supplier base.

Knorr-Bremse contacts its existing direct (production) material suppliers directly, asking them to confirm receipt of and acknowledge the Supplier Code of Conduct. In 2019, 85% of our direct suppliers by purchase volume had acknowledged our Code of Conduct.

New Knorr-Bremse direct material suppliers are contractually obliged to acknowledge the Supplier Code of Conduct. In the CVS division, the Supplier Code of Conduct is incorporated into the Quality Management Guideline, which direct suppliers are obliged to sign. This guideline also includes additional minimum sustainability requirements such as an obligation to use ISO 14001 certified environmental management systems wherever possible. The Quality Management Guideline for the RVS division is currently being updated. The updated guideline will also include a contractual obligation to abide by our Supplier Code of Conduct.

As far as indirect suppliers are concerned, in 2019 we established a Supplier Code of Conduct strategy together with an action plan for implementing the Code in supplier framework agreements. Rollout of the Code of Conduct has not yet commenced.

Validation and evaluation: Assessments and audits for selecting suppliers. We employ targeted tools to evaluate and validate compliance with our standards, and take the results into account in our procurement decisions.

Both divisions have started requesting information about their suppliers' sustainability performance and evaluating the results. We employ external service providers to ask our business partners to complete questionnaires about their social and environmental performance. The external providers then validate and evaluate the voluntary information submitted by our suppliers. 830 of our direct suppliers have been assessed to date. This brings coverage to 61% of our global purchasing volume (2018: 53%) – a gratifying improvement in view of the global nature of our complex product range and the diversity of our supply chains. We thus

achieved our target of 60% for 2019. These supplier sustainability assessments are taken into account in our procurement process. In the CVS division, the sustainability assessments are one of the factors considered by the Sourcing Board – the internal body that examines and decides on supply contracts. In practice, this means that suppliers are only nominated for supply contracts if they have recognized the Supplier Code of Conduct and have completed, or are in the process of completing, a sustainability assessment. In addition, suppliers should be able to provide evidence that they use a certified environmental management system. Suppliers with a certified environmental management system currently account for approximately 65% of the CVS division's total purchase volume. In the RVS division, suppliers who have achieved "preferred supplier" status are more likely to be awarded supply contracts – and European suppliers must present a valid sustainability assessment before they can be granted preferred supplier status.

In addition to the supplier sustainability assessments, we also carry out selected sustainability audits in which independent experts visit the supplier's sites to evaluate compliance with the applicable social and environmental standards. They also audit the supplier's management methods and their implementation in the areas of compliance, the environment, occupational health and safety, human and labor rights, and supplier management. In 2019, audits of this kind were carried out at a total of 24 high-risk suppliers in Asia, America and Europe. The results have been used to draw up development plans with the suppliers in question.

In 2019, we developed a pre-audit checklist that will allow us to assess suppliers' sustainability risk profiles more accurately. The checklist will help people carrying out routine audits to

3.05 SUSTAINABILITY IN THE SUPPLY CHAIN



HUMAN RIGHTS DUE DILIGENCE AT OUR SERVICE PROVIDERS

In 2019, we commenced an in-depth risk analysis focused on ethical recruitment, in order to make sure that better protection is being provided to groups that are more vulnerable to human rights violations. This high-risk category includes agency workers and employees of service providers. Further information is available on "Due diligence processes for human rights" page 21.

determine whether the supplier could fall into the high-risk category for sustainability. It contains questions and practical advice to help members of Knorr-Bremse's supplier development team identify and assess sustainability risks when visiting suppliers' sites. The completed checklists will be used to decide which suppliers should undergo independent on-site sustainability audits.

Development: Supporting sustainability through training and engagement. If an audit or sustainability assessment uncovers instances of non-compliance or areas where there is room for improvement, Knorr-Bremse works with the supplier to draw up a plan aimed at improving their performance, and verifies and documents its implementation. The information provided for the sustainability assessments is also used to identify any necessary measures, which are then communicated to the supplier in question.

We also promote continuous awareness-raising among our suppliers through a variety of different training measures. Together with our sustainability assessment service providers, we offer a range of webinars and follow-up resources on the subject of sustainability. We are also planning to produce a practical guide for suppliers on carrying out human rights due diligence in their business.

Another key requirement for sustainable procurement management is to ensure that Knorr-Bremse's own employees receive the appropriate training so that they have the necessary knowledge to properly assess, advise and audit our suppliers. Accordingly, in 2019 we piloted a new e-learning

course on pre-audit checklists for supplier audits. We also continued our global workshops on sustainability and quality in procurement. Following the first of these workshops in India in 2018, we held similar training events in North America and Spain during 2019.

Conflict minerals

Knorr-Bremse strives to ensure a transparent procurement process for minerals from conflict zones or other high-risk areas, such as tin, tantalum, tungsten and gold. In the context of our sustainable supplier management activities, in 2019 we established a due diligence process for the management and reporting of potential conflict materials, which we will continue to implement in 2020. As part of this process, we have incorporated a question about the provenance of minerals into our supplier sustainability questionnaire. We are currently seeking this information from 1,400 suppliers and expect to have the results by May 2020. We will conduct a detailed analysis of the answers in both divisions, as well as assessing whether sufficient evidence has been provided in support of the responses. Our North American subsidiaries require their suppliers to produce an additional annual report detailing the provenance of all the minerals supplied to them. We are currently working on plans to introduce closer scrutiny of our suppliers, especially in the electronics industry. In further developing our activities in this area we can draw on our discussions within the relevant industry initiatives. The CVS division is in close contact with the German Association of the Automotive Industry, which is working to develop effective industry-wide solutions for high-risk raw materials.

Environment-friendly logistics at every stage of the value chain

Knorr-Bremse aims to ensure environment-friendly logistics at every stage of the value chain. We are therefore working with external service providers to continuously optimize our operational logistics management. These service providers are responsible for the planning, consolidation and operational execution of deliveries by external suppliers to Knorr-Bremse, between our sites and from us to our customers. While we require all of them to comply with the current European commercial vehicle emission standards, our preferred providers are logistics partners that use fuel-efficient vehicles or have an efficient logistics network that minimizes transportation-related CO₂ emissions.

For all our CVS sites, we are striving to achieve full transparency with regard to the carbon footprint of our global logistics network and to identify the relevant emission drivers. This will help us to promote innovations that reduce fossil fuel consumption. To this end, in 2019 the CVS division introduced global carbon reporting for its logistics transportation emissions, in line with the EN16258 standard. All our logistics service providers must carry out regular carbon reporting for all shipments that they handle. We also work with our logistics service providers to regularly review and analyze logistics flows in order to find opportunities for consolidating shipments and cutting CO₂ emissions.

As far as freight logistics is concerned, in 2019 our Inventory & Operations Planning (SIOP) system and “planning circle” helped to optimize planning within the Knorr-Bremse Commercial Vehicle Systems division. Among other things, this allowed us to reduce the number of special air freight shipments by almost half year on year. During the year under review, the RVS division decided to increase their focus on transportation-related CO₂ emissions in its future logistics optimization decisions.

We also set high sustainability standards for our own internal logistics operations and are constantly working to improve logistics processes between our sites. We are reducing the impact of product transportation on the environment by optimizing our use of rail, road and sea links. This is achieved through the use of standardized processes and methods that also help to improve delivery reliability, quality and lead times across all our distribution channels. We try to make most of our inter-continental shipments by ship or rail, avoiding the use of air freight wherever possible.



Employees and Leadership

40

Employment conditions

43

Personnel development

45

Diversity and equality

48

Occupational health and safety

We want to have motivated employees who are able to systematically apply their know-how to the roles and tasks they perform. They are indispensable if we are to continue in the long term to be a successful and future-proof company. The key to this is forward-looking and transparent human resource management. This includes strategic human resource development and training, as well as optimum occupational health and safety at all our sites.

NEW HR STRATEGY

Global and regional HR managers draw up a global HR strategy to 2025 to reinforce our overall corporate strategy.

DIGITAL STRATEGY

At the Knorr-Bremse Digital Days in November 2019, some 150 Knorr-Bremse executives from around the world met with outside experts to discuss the significance of digitization for the Company's future development.

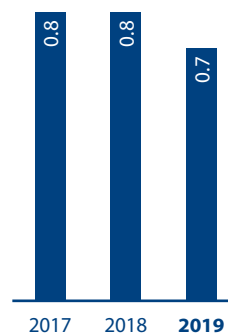
TOP EMPLOYER

In 2019, Knorr-Bremse received a Top Employer for Engineers in Germany award for the sixth time in a row.



NUMBER OF WORKPLACE ACCIDENTS

resulting in lost days per 200,000 hours worked



Employees and Leadership

Knorr-Bremse has about 29,000 employees worldwide. We wish to be seen by them and by all potential new employees as an attractive employer offering secure employment, challenging work, and opportunities for personal and professional development. Underpinning this is a corporate culture characterized by diversity and equal opportunities, respect and transparency. Our approach to human resource management is aligned with this aim.

The number of employees in the Knorr-Bremse Group rose slightly in 2019 to 28,905 (2018: 28,452). The Group's international focus is evident from the fact that 82% of its employees work at sites outside Germany. Wherever they work, our employees are a vital factor in our Company's success, and for this to continue, we need to be an attractive employer, so that we can recruit and retain the best skilled workers and managers. As an innovation powerhouse, Knorr-Bremse relies on highly qualified staff, professionals and early-career employees. We aim to counter the current skills shortage with a clear human resources strategy, attractive employment conditions, a commitment to equal opportunities and diversity, and a holistic approach to employee development. In many industrial countries with Knorr-Bremse sites this also means finding answers to the demographic challenge presented by an ageing society.

In the year under review, the Group developed its Global HR Strategy 2025 with the aim of supporting and strengthening its corporate strategy. Positioning ourselves as an attractive

employer with a competitive workforce, pioneering leadership skills and operational excellence will contribute to achieving this. With this in mind, global and regional HR managers jointly drew up an HR strategy to 2025. Taking our corporate vision as their starting point, they defined the HR policy mission and the following strategic focus:

- We support the company's overall strategy with improved, globally standardized HR processes that make an important contribution to added value.
- Our aim is to be an attractive employer globally. We will achieve this through fair employment conditions, consistent employer branding, and an international focus for employee and executive development.
- We see ourselves as a learning organization that pursues agile development and is open to new modes of working.
- We continuously and proactively develop our corporate culture. This culture is characterized by top performance, mutual trust, and responsibility.

Employment conditions

Knorr-Bremse aims for employee satisfaction to result from beneficial working conditions in an open and supportive corporate culture. Knorr-Bremse is committed to protecting employees' rights and to ensuring that remuneration is fair and appropriate. In addition, Knorr-Bremse offers support to individual employees facing challenging personal situations, such as health issues that require special organizational

4.01 NUMBER OF EMPLOYEES IN THE GROUP AS OF DECEMBER 31, 2019

2017	27,705
2018	28,452
2019	28,905

measures. The global staff turnover rate¹ in the Knorr-Bremse Group in 2019 was 13.1%, with some regional variations. The staff turnover rate for employees handing in their notice was 6.8%.

We have initiated three projects designed to ensure good employment conditions and at the same time contribute to SDG 8 (Decent Work and Economic Growth). In the year under review, we conducted an in-depth risk analysis focused on ethical recruitment. Our aim was to provide better protection against human rights violations for high-risk groups in the global supply chain, such as temporary workers and employees of service providers (see “Due diligence processes for human rights” on page 21). We are currently establishing Knorr-Bremse Learning Culture 4.0, which focuses both on individual learning and on collaboration between employees. We are implementing the program via a new IT platform for digital learning. The digital platforms offer flexible access in terms of time and place and form part of our plan to promote equal opportunities for our global workforce. Also in 2019, we piloted a new ideas management software program at one of our French sites. The aim here is to generate employee suggestions for boosting innovation and improving the working environment.

Principles and guidelines

Knorr-Bremse wants to offer all its employees the best opportunities and conditions in their working environment so that they can make the most of their personal capabilities. We base our policies on the principles of the UN Global Compact, the United Nations Universal Declaration of Human Rights and the human rights conventions of the International Labor Organization (ILO) (see page 9).

The standards we set for ourselves are detailed in the Knorr-Bremse Code of Conduct, which forms the basis for day-to-day dealings between employees within the Knorr-Bremse organization. Compliance with the Code of Conduct reinforces high standards of occupational health and safety, fair working conditions, respect for freedom of association, promotion of equal opportunities, and equal treatment of our employees around the world.

The goals of the new HR Strategy 2025 include making continuous improvements to employment conditions and enhancing our attractiveness as an employer. The focus is on the efficient structuring and harmonization of global HR processes and benefits. At the same time, we aim to promote an open and transparent corporate culture.

Structures and processes

The central Human Resources (HR) function plans, manages and monitors all strategic employee-related tasks at Knorr-Bremse. The Head of Human Resources holds overall responsibility for our employees and reports regularly to the Chief Executive Officer. Responsibility for implementing HR measures and ensuring compliance with the specific provisions of our Code of Conduct in the regions – Asia/Australia, Europa/Africa and America – lies with regional HR officers, while local HR staff implement and monitor HR measures at site level. Our intention is to ensure a continuous flow of information throughout the organization.

Employees and external partners who require information regarding the Code of Conduct or become aware of any infringements can use established processes. Anyone who has questions can contact managerial staff, the Compliance team, the HR department, or the works councils, where present. Any infringements of the principles contained in the Code of Conduct can be reported anonymously via a global whistleblower system (see “Compliance and risk management” on page 18).

Evaluation of employment conditions

An important indicator of good employment conditions is employee satisfaction. In order to analyze and manage this indicator, we conduct employee surveys at regular intervals. Our sixth, and most recent, survey was in March 2018. The survey gives Knorr-Bremse employees worldwide the chance to give their views on their employer. It is carried out by an independent institute which ensures that the responses remain confidential. The anonymous evaluation process makes it impossible for responses to be linked to individuals.

The aim of the survey is to measure employee satisfaction and to gather and subsequently implement suggestions as to how working conditions might be improved. The results are communicated to employees via a clearly-defined process and discussed in workshops so that site-specific measures can be developed.

In addition to these specific measures, which were implemented at the individual Knorr-Bremse sites in 2018 and 2019, the Executive Board selected two focus areas for the Group as a whole – leadership and collaboration. The idea is to exploit the potential for improvement in these two areas identified in global employee feedback. Against this backdrop, preparations for a cultural change program began in the second half of 2019. Following a kick-off event in the first quarter of 2020, the program will be rolled out worldwide in the coming years.

¹ Definition: Number of employees leaving as a percentage of the average total workforce; does not include temporary workers, trainees/apprentices and contract workers.

CERTIFICATE: FAMILY-FRIENDLY WORKPLACE

In June 2019, Knorr-Bremse in Germany was awarded the *berufundfamilie* certificate for the family-friendly policies at its Munich site. It is the third time it has received this since 2012. Knorr-Bremse constantly endeavors to improve its employees' work-life balance and offers solutions such as sabbaticals to take care of family members, working from home, or reductions in working hours, so that employees can spend more time with their children. Knorr-Bremse plans to gain certification for all its German sites in 2020.

The *berufundfamilie* audit is a development audit, which means the three-month audit process checks whether past achievements have stood the test of time. It also evaluates whether improvement measures have been started or already implemented. This is because each audit ends with a binding agreement on objectives for the next certification audit in three years' time.

TOP EMPLOYER AWARD

As a technology leader, Knorr-Bremse needs to be an attractive employer for highly skilled early-career employees and professionals. This is essential to attract highly qualified employees and maintain our strong market position. In 2019, Knorr-Bremse AG received a Top Employer for Engineers in Germany award for the sixth time in a row. The award recognizes that Knorr-Bremse's HR strategy and management focus on the professional and personal development of the employees. The Top Employers Institute examines companies' HR policies according to ten general criteria, including talent strategy, personnel planning, learning and development, executive development, remuneration, special benefits, and culture.



Work-life balance

Work-life balance has a major influence on the perceived attractiveness of employment conditions and, consequently, on employee satisfaction. Knorr-Bremse offers most of its employees a wide range of options that help them design their individual working conditions:

- Flexible working hours and working time accounts
- Part-time working
- Sabbaticals lasting several months
- Working from home
- Family support (e.g. helping employees to find childcare and care services for relatives, programs for children during school vacations)
- Family assistance programs, such as contributing to health care and health insurance plans, special financial assistance, granting leave if children or relatives fall ill, and maternity and parental leave (even in countries where there are no statutory provisions)
- A range of health-promotion programs and access to health facilities

Remuneration, benefits and co-determination

Knorr-Bremse aims to be a fair employer, making sure that its employees worldwide are appropriately remunerated in line with market rates. Salaries at many of our sites are above the minimum rates set in collective bargaining agreements. Because most of the roles at Knorr-Bremse require highly qualified personnel, minimum wages are not relevant for most of the Company's workforce. At Knorr-Bremse, differences in salary are solely based on the employees' skills, qualifications and performance; other criteria, such as gender, are considered immaterial.

In aiming to ensure fair remuneration and enable posts to be compared internationally, we are working to assess all job profiles according to a standardized international system and to compare them against benchmarks. 58% of all employees' roles have already been assessed (2018: 56%). The higher the level of responsibility associated with a role, the greater the variable component of the overall remuneration package. This is based on the Company's success and the employee's individual targets. These targets are agreed between the employee concerned and their line manager as part of the standardized global Staff Dialogue process (see "Personnel development" on page 43). Sustainability aspects may be incorporated into an employee's targets depending on his or her role.

Knorr-Bremse offers its employees voluntary benefits which vary from site to site. These may include subsidized meals and transportation, as well as sport and health offerings. Where local circumstances allow, Knorr-Bremse may make additional voluntary payments to company pension plans in compliance with the statutory provisions and local tax and social security legislation.

Within the framework of co-determination by employees and their representatives, Knorr-Bremse focuses on trust-based collaboration with all employees across all levels of the Company hierarchy. This includes an objective exchange of views with employee representatives such as the Group Works Council. Where possible, and to the extent permitted under local legislation, we support our employees' rights to freedom of assembly and association and to engage in collective bargaining. Members of employee representative bodies and/or trade unions are treated equally within the company and are neither discriminated against nor given preferential treatment.

Personnel development

Knorr-Bremse's highly qualified employees give it a competitive advantage and are the foundation for the Group's success. That is why we aim to give our employees the necessary qualifications to perform their roles and meet our needs, enabling them to develop personally and professionally in the process. Our personnel development policy is shaped by market requirements and our corporate objectives. We can initiate necessary change processes within the Company by systematically identifying strengths and potential for improvement. This shows us where there is a need for targeted personnel development with needs-based training.

Principles and guidelines

We are committed to developing our employees, as emphasized in our HR Strategy 2025. While providing ongoing skills training programs and those designed to further specialist careers, we also focus on developing our managers because good leadership is essential when it comes to maximizing the Company's performance, creativity and long-term success. The Knorr-Bremse Leadership Principles set out what leadership should look like in practice and thus help managers to create a working environment in which employees can develop their full potential. The principles comprise five core elements: Reflect, Approach, Consult, Develop and Implement.

Structures and processes

Our HR process model provides the framework for our personnel development initiatives. The model focuses on two areas of performance:

- Source: Attracting new employees and talent, developing a strong long-term brand as an employer, and collaborating with universities, colleges and other training institutions.
- Develop: Assessing and supporting our employees and managers, offering targeted training programs, and continuing to develop our leadership culture and principles.

Personnel development at Knorr-Bremse offers employees qualification and training measures tailored to their roles, with a continuous focus on building up the knowledge and skills they will need to meet future challenges. The training measures include seminars and workshops on topics such as social and intercultural skills, languages, project management, (brake) technology, quality, law, IT and CAD.

Knorr-Bremse wants to improve leadership quality and fill vacant management positions with talented internal candidates wherever possible. This requires executive development and succession planning, for which Knorr-Bremse employs potential analysis procedures (development centers) and group-wide management development programs (Management Potential Groups)

Promoting new management strategies

Knorr-Bremse is shaping the digitalization of mobility through its products, such as its highly automated driving solutions. The opportunities linked to digitalization are changing our way of thinking and certain process sequences, for instance in innovation and the development of new business models. In these areas, the market environment calls for an agile corporate and leadership culture, and this is being promoted within the Group. This is demonstrated by the Knorr-Bremse Digital Days 2019 where the Knorr-Bremse management and high-caliber outside experts discussed topics relating to digitalization with the aim of bringing awareness and the full range of potential digital applications into the Knorr-Bremse Group.

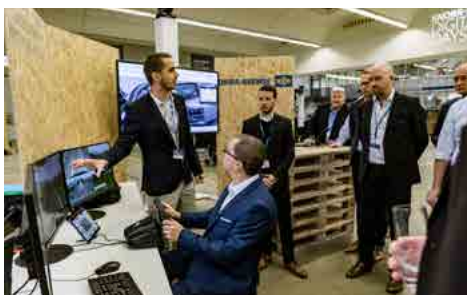
Agile leadership can be an advantageous management technique for identifying the best solutions. As well as training and using various agile methods such as scrum, design thinking and the canvas business model, we focus on spreading an agile mindset within the organization. The transformation process is advanced by events such as the Digital Days, training courses and internal initiatives.

THE ROAD TO BECOMING A DIGITAL COMPANY: DIGITAL DAYS 2019

“Digital tools open up a wealth of opportunities for Knorr-Bremse – from the service and aftermarket business to our development activities. It is important to identify the most promising areas.”

Dr. Peter Laier, Executive Board Member responsible for the Truck division, and host of Digital Days 2019

Digitalization is also a major topic in the area of personnel development. At the Knorr-Bremse Digital Days in November 2019, some 150 Knorr-Bremse executives from around the world discussed the strategic areas that will have the greatest influence on the company's future development. Invited guests from the fields of science and industry and Knorr-Bremse specialists shared their expertise in presentations and discussions. Knorr-Bremse's Virtual Testing and Simulation department presented the different ways in which digital tools can be used in product development and virtual testing, with virtual validation of new products offering savings in terms of time and money. In addition, a simulation demonstrated that the Highway Pilot for automated driving is already at an advanced stage of development.



Using new management methods in a sustainable and targeted way is as important for Knorr-Bremse as keeping in mind the management approaches that have shaped the company's success. Our aim is to achieve a sensible balance in combining traditional and new approaches.

Training and education

Knorr-Bremse offers apprenticeships in the skills it needs in its workforce, which means graduates have a good chance of being taken on permanently. We offer a range of technical and commercial apprenticeships across our international sites. The subjects in particularly high demand among young people are industrial mechanics, machining, electronics, mechatronics and IT. 207 young people were training as apprentices at Knorr-Bremse as of December 31, 2019 (2018: 207).

In the area of academic training, we work closely with universities. Knorr-Bremse has been a partner of the university Duale Hochschule Baden-Württemberg (DHBW) in Ravensburg and its external campus in Friedrichshafen since 2008, offering three-year sandwich courses for students in industrial engineering, electrical engineering, mechanical engineering, and industrial computing.

We have also established a dual-track academic training system based on the German model at Knorr-Bremse Fékrendszerek Kft in Kecskemét, Hungary. 42 students have been studying transport engineering there since 2012 in partnership with the University of Kecskemét. So far, more than 30% of the dual-track students have found employment at Knorr-Bremse Fékrendszerek Kft.

Professional development and skills training

In order to give our employees the chance to develop both professionally and personally at Knorr-Bremse, once a year managers speak to each of their staff about their achievements and development potential in what is known as the Staff Dialogue program. The format involves standardized performance appraisals throughout the Group, using assessment criteria and a talent management system that is constantly being expanded. The result is an evaluation of performance and potential capabilities, with written agreements on targets for each individual. Knorr-Bremse can use these to draw up training programs with each employee. In 2019, 76.2% of our workforce participated in performance appraisals (2018: 71.1%). 94.7% of employees completed the Staff Dialogue process (2018: 94.1%).

Our culture of candidness is also evident in the Leadership Feedback process that managers responsible for three or more employees have to carry out once in every two-year period. The current period for this feedback process is 2019/2020. In this process, employees provide feedback on the leadership their direct supervisors. The feedback forms the basis for

4.02 STAFF DIALOGUE COVERAGE AND COMPLETION RATES 

in %	2019	2018	2017
Staff Dialogue coverage	76.2	71.1	75.0
Staff Dialogue completion	94.7	94.1	92.6

jointly developing further improvements in the way the manager and the employees work with each other.

Management and young talent

Our Company's success depends on strong management, which is why we want to attract the best managers across all age groups. This is the aim of our HR Strategy 2025 and our current leadership development programs. From an early stage, Knorr-Bremse opted for local managers at its sites around the world. Proximity to local markets and customers, plus local language skills and cultural expertise can be important success factors in combination with tailored education and training.

Knorr-Bremse aims to train and retain managers and young talent in-house and offers its own development programs:

- Management Evolution Program (MEP): In this 18-month program, trainees familiarize themselves with three different departments, gain experience in international projects, and work at a foreign location for at least six months. Training courses, events and a mentor provide additional support for their personal and professional development.
- Junior Management Potential Group (JMPG): A support program for employees whose achievements make them good candidates for (future) team leadership roles.
- International Management Potential Group (IMPG): This development program gives employees with middle management potential all over the world the opportunity to develop their talents by participating in a range of training courses and projects, as well strengthening their leadership skills and expanding their own international networks.
- Engineering Development Program (EDP): This program offers U.S. college graduates in technical subjects the opportunity to complete a two-year professional development course in mechatronics, for example by transferring between divisions or departments, or by working at one of our Mexican sites.

Diversity and equality

As a company with international operations, Knorr-Bremse has the goal, set out in our Code of Conduct, to embrace our employees' cultural diversity, different beliefs, and life experiences, and to acknowledge that these contribute to the company's success. In total, Knorr-Bremse has nearly 29,000 employees working at over 100 sites in more than 30 countries. We want to develop their creative and innovative potential and use it to defend our technological and market leadership.

Principles and guidelines

The diversity of our workforce reflects our inner conviction and is in keeping with our Code of Conduct – and can also be a factor in commercial success. This is why we promote understanding and appreciation of different cultures and living situations, for instance by assisting in the integration of employees from other countries. The underlying principle is that our employees are treated equally, irrespective of gender, age, national origin, sexual identity, health, religion or belief. Discrimination of any kind is incompatible with Knorr-Bremse's values and corporate culture.

In 2019, Knorr-Bremse decided to incorporate the issue of diversity and equal opportunities more fully into its HR and sustainability strategy and to give more weight to it (see "Materiality analysis", page 13). Knorr-Bremse is therefore focusing on the issues of cultural diversity, gender, generations and severe disability. We will be making the relevant updates to our HR Strategy 2025 in 2020 and identifying necessary measures for its implementation.

ISOS – ASSISTANCE WITH INTERNATIONAL BUSINESS TRIPS

Knorr-Bremse offers all Group employees 24/7 assistance via the International SOS app. From medical consultation before a trip to sudden illness abroad or an accident, International SOS offers advice and professional assistance in 90 languages and dialects. In the event of civil unrest or natural disasters, it can also organize support via local service centers.

Structures and processes

Responsibility for diversity and equal opportunities within the company rests with the Executive Board of Knorr-Bremse AG as part of its global responsibility for the business, the customers and the employees. In line with Knorr-Bremse's decentralized structure, the Management Boards of the individual Knorr-Bremse subsidiaries are responsible for these matters within the respective companies. The HR organization supports the Executive Board and Management Boards on a global, regional and local level in its goal of achieving diversity and equal opportunity within the workforce. This can only succeed on a routine, day-to-day basis if managers heed and practice the principles of diversity and equality in their everyday decisions and actions.

For this reason, as part of the upcoming implementation of the global HR strategy, Knorr-Bremse intends to develop an action plan to promote and achieve a working environment characterized by diversity and equality by developing and applying systematic, integrated processes.

Procedures for exposing potential risks and violations of our diversity and equality directive have already been established within the company. If any employees consider themselves discriminated against in terms of a material issue or course of action, or if they wish to make a complaint of any kind, they can contact the relevant HR department at the German sites, in accordance with Germany's General Equal Treatment Act. Grounds for complaint may include discrimination on the grounds of race, gender, ethnicity, religion, belief, disability, age or sexual identity. In addition, works council members are available to hear complaints at the sites. Complaints can also be submitted via the general whistleblower system run by the Compliance department (see "Compliance and risk management" on page 18). Complaints are escalated to a higher level manager or to the Management Board.

In 2020, we plan to further develop our procedures for identifying risks and exposing violations. We will be focusing here on training courses, for instance on how to detect unconscious bias.

Cultural diversity

Knorr-Bremse operates around the world, and this international focus is an important factor in the Group's success. 8.2% of the workforce at our German sites is non-German and represents 62 different nations. In order to take full account of local conditions and cultures, most (86%) of the top management positions in the regions are held by local employees.

We want to play an active role in spreading respect for our employees' different lifestyles throughout the company. We encourage international exchange through intercultural training and language courses, multi-site projects, and assignments abroad. Knorr-Bremse has a presence in over 30 countries, and overseas postings are widespread, with employees spending between six months and five years working abroad. Our International Transfers department provides them with the necessary support – from the initial preparations for the posting to their return home and reintegration into their former workplace. In 2019, a total of 80 employees worldwide were posted to other Knorr-Bremse sites (2018: 81).

In addition to long-term international assignments, facilitating short-term exchanges between our sites for specific purposes is a major priority for Knorr-Bremse. International project assignments are intended to enable employees to build up expertise in specific areas and exchange specialist knowledge and to ensure knowledge transfer within the Company.

Gender equality

For Knorr-Bremse, establishing good employment conditions for individuals means not only offering personal and professional development opportunities, but also embracing diversity. In line with SDG 5 (Gender Equality), Knorr-Bremse advocates gender equality and intends to create more space for this within the company in the future. Within the SDG initiative, Knorr-Bremse is focusing on the following key aims:

- Increase the proportion of women in management roles
- Support women in their careers
- Recruit highly skilled women

An internal working group within the IMPG employee development program (see page 45) conducted a comprehensive analysis of the current situation regarding gender equality at

4.03 GLOBAL PERCENTAGE OF WOMEN IN MANAGEMENT POSITIONS ACROSS ALL AREAS²



4.04 GLOBAL PERCENTAGE OF FEMALE EMPLOYEES



² Proportion of workforce included in calculation: approx. 90% of total workforce

Knorr-Bremse. Among other things, it evaluated existing support programs and conducted and evaluated wage equality analyses. The analyses in Germany, the USA and the UK showed that Knorr-Bremse still needs to make intensive efforts to increase the proportion of women, especially at higher management levels.

Based on the working group's analyses, a list of suggestions has been drawn up to help reach the targets. These are being examined as part of the new diversity strategy.

Knorr-Bremse uses and supports a number of programs designed to achieve a higher proportion of women in leadership positions. Knorr-Bremse's MEP trainee program is just one example. Our North American subsidiary Bendix offers female managers the opportunity to take part in a special training program for women in leadership positions. The program features a regular series of workshops, held over a period of six months. Exchanges with female managers at other companies in the industry play a key role in these workshops.

We also support female students in STEM subjects via our partnership with the Technical University of Munich. As part of our mentorING program, mentors provide female students with advice and support, helping them to build an initial network to aid them in their studies and early careers. The program is complemented by a range of targeted seminars and training sessions.

Generation management

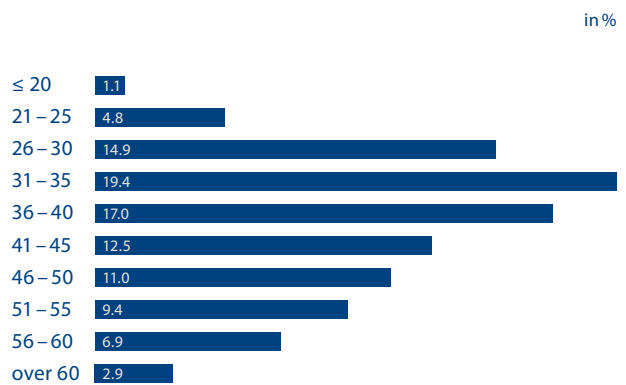
In Germany and other industrial nations, demographic change is leading to a rise in the average age of the workforce. The average age of Knorr-Bremse employees in 2019 was 39.9.²

Our aim is to offer every employee the best working conditions at every stage of their life, and our generation management measures are designed to help us achieve this. As a result, workplaces are ergonomically designed for older employees. On the production lines at our Aldersbach facility in particular, robots are being systematically integrated to support employees. To retain knowledge within the Company, some of which has been acquired over decades, we make it possible for retired employees to pass on their experience to younger colleagues. In most cases, these are skilled workers and managers with project and advisory roles.

People with disabilities

Employees with severe disabilities and health issues receive special protection and support at Knorr-Bremse. This includes working conditions and workplaces adapted to the needs of wheelchair users, contact with social institutions, and activities organized as part of existing partnerships with these institutions. The representative body for disabled employees helps them find the right workplace within the Company. The aggregated severe disability rate at German sites was 4.6%.³

4.05 AGE STRUCTURE WITHIN THE GROUP



² Proportion of workforce included in age calculation: approx. 61% of total workforce; the company is working on increasing this proportion.

³ Proportion of workforce included in calculation: approx. 85%

Occupational health and safety

Knorr-Bremse wants employees to stay healthy – and, as a result, productive – on a long-term basis. To create the necessary conditions, occupational health and safety has been firmly enshrined in our business processes. This has led to numerous measures for preventative health management, medical care and ergonomic workplaces, and the inclusion of emergency plans in our occupational safety guidelines.

BENDIX: ONE OF THE SAFEST U.S. COMPANIES IN 2019

Bendix, a subsidiary of Knorr-Bremse AG, was ranked in the top 16 companies in the USA for safety in 2019 by EHS Today, a U.S. journal for managers working in the field of environment, health and safety. Bendix received the award at a ceremony during the Safety Leadership Conference in Dallas, Texas. In order to be recognized as one of the safest U.S. companies, Bendix had to demonstrate top performance in the areas of health, safety and the environment. The basic criteria are visible management participation and the active involvement of employees in the HSE strategy. Innovative safety measures and accident prevention, accident and sickness rates significantly lower than the industry average, and comprehensive professional HSE development and training programs are among the requirements. Bendix has a declared target of zero injuries and its processes are designed to achieve this. They include a 24-hour incident notification and containment policy. In 2019, Bendix started giving personal safety briefings before meetings. Among other things, they cover safety-related incidents at the various Bendix plants, so that the company can identify and eliminate similar risks in other places.

Principles and guidelines

Our Group-wide Health, Safety and Environment (HSE) Policy sets out the relevant commitments and key principles for strategic planning and action planning in the areas of occupational health and safety.

Structures and processes

The HSE specialists at our sites are tasked with coordinating all the occupational health and safety measures and assisting the local management in implementing them. Key aspects of their work include assessing the risk of injury and accident for employees and contract workers posed by production equipment, workplaces and working processes, promoting safety awareness among the workforce through training and information campaigns, and analyzing accidents for the purpose of developing measures to avoid accidents in the future.

In order to meet our responsibility towards all our employees, we carefully examine any significant issues that might affect health and safety at work. In 2019, we aligned our occupational health and safety management system with the ISO 45001 international occupational health and safety standard. All sites that were already certified to OHSAS (Occupational Health and Safety Audit Scheme) 18001, were re-certified according to the new standard. In the Rail Vehicle Systems division, 35 production and service sites around the world have already achieved ISO 45001 certification (as of December 31, 2019). Additional in-house HSE processes flesh out the occupational safety management system of Knorr-Bremse as a whole and are backed up with regular internal audits and training courses to promote compliance.

Our HSE reporting system includes standardized processes for recording and analyzing the key occupational safety indicators with a view to developing measures to improve our performance in this area. In order to maintain and further improve the high standard of HSE management at Knorr-Bremse, a dedicated development program provides regular in-house training for specialists, with the option to take part in international meetings, conferences and projects. As a further measure to effectively prevent accidents and health hazards at work, in-house campaigns raise awareness regarding occupational safety so that employees are better able to identify and avoid hazards. For instance, the Bendix Stars program in the USA encourages all work teams to improve their awareness of occupational safety issues, with prizes awarded to the best teams every month.

Prevention of workplace accidents

Knorr-Bremse is committed to doing everything possible to prevent workplace accidents and further reduce the number of accidents per 200,000 hours worked. The following measures are designed to help achieve this aim:

- standardized preventive occupational health and safety management
- information campaigns and regular meetings on occupational safety
- regular system and process audits, HSE safety audits, equipment acceptance audits, and inspections at our sites
- regular internal reporting and follow-up

Thanks to these measures, in 2019 we were able to reduce our workplace accident rate to 0.9 accidents per 200,000 hours worked (2018: 1.0).



⁵ The figure for 2019 includes all sites under operational control. Sites that are not production facilities or service workshops and have fewer than 50 employees are excluded. Approximately 96% of Knorr-Bremse's employees are included. Sites not included in this definition are required to report their workplace accidents in line with the provisions of the corporate policy on compulsory reporting of damage and emergency incidents. This ensures that all our sites promptly inform us of serious incidents, so that the appropriate measures can be taken.

Health in the workplace

Besides occupational safety, one of Knorr-Bremse's key priorities is maintaining good employee health, with a dual focus on disease prevention and health promotion. For this reason, the Company's occupational health management department analyzes our employees' workplaces in terms of health risks and ergonomics. Examples of improved workplace design include low-vibration electrical devices and assembly planning processes that take ergonomic aspects into account.

MERAK: REDUCING NOISE EMISSIONS IN THE TEST AREA

Merak, a Knorr-Bremse subsidiary based in Getafe, Spain, develops and manufactures HVAC (heating, ventilation, and air conditioning) systems. The function and cooling tests for these products last several hours, and the noise produced by some HVAC models during these tests can sometimes exceed the legal limits.

In order to reduce noise at the Getafe facility, the tests are carried out in a special cabinet made of sound-absorbing material. This can be done because the factory has a raised roof. Merak's production facility in Ocaña is inside a penitentiary. The ceilings there are low, which prevents a cabinet from being used for testing. The noise levels in the HVAC testing area are high and the time each worker is exposed to the noise is limited by organizational measures based on extensive data collection.

To begin with, the noise level of each individual noise source surrounding the worker was measured and recorded (point measurement using a sonometer). The results showed the source of the noise, the maximum duration, and daily noise level. Noise emissions were also analyzed if they came from a single source and their noise level varied. A color signal sonometer, which works like a traffic light, shows employees the current and accumulated noise value. The analysis identifies the activities and machines that continually exceed the stipulated noise limits.

This allows the work to be carried out in compliance with the law.

Water coolers and fruit for staff, preferential rates for sporting activities, corporate sports, financing offers for bicycle purchases as part of the "Job Rad" scheme, and talks by experts on health issues are all offered to help promote a healthy lifestyle among employees. In order to develop company health programs in line with demand, we take account of the suggestions and ideas put forward by our employees at regular meetings or via the employee suggestion program.



Environment and climate

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Environmental management

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Energy and CO₂ emissions

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Conserving Resources

Knorr-Bremse has set itself ambitious climate targets. We are aware of the challenge presented by climate change and want to reduce not only our own environmental footprint but also – with the aid of our products – that of transportation as a whole. In our future Climate Strategy 2030, we will implement both proven and new measures. In our view, we can achieve the most by focusing strongly on CO₂ reduction: With the goal of a more sustainable and equitable mobility.

ENVIRONMENTAL MANAGEMENT STANDARD

60 of our production plants have received certification in accordance with the international environmental management standard ISO 14001.

CLIMATE STRATEGY 2030

The climate strategy we have adopted for 2030 supersedes the climate protection objectives set in 2015. Knorr-Bremse aims to halve its sites' CO₂ emissions by 2030. In addition, we are committed to the goal of carbon neutrality for our sites from 2021 onward.

SUSTAINABLE CONSTRUCTION MEASURES

Energy-efficiency optimization work was carried out at our Munich site in 2019. This included a new solar system, a combined heat and power plant and a groundwater heat pump in building TCK 1.



REDUCTION ACHIEVED APPROX. 10%



In 2019 we considerably overfulfilled our 4.2% annual CO₂ reduction target, achieving approx. 10%.

Environment and climate

Our environmental management systems use a combination of transparent processes and effective action to encourage responsible use of resources. Reducing the environmental impact of our production processes by using energy and materials more efficiently is a key aspect of our approach, while our new Climate Strategy 2030 aims to make a major contribution towards the targets set by the Intergovernmental Panel on Climate Change (IPCC).

The need to protect the environment was a major concern throughout 2019, both in the media and across society more generally. There was a particular focus on the challenges associated with climate change (especially the need to cut CO₂ emissions) and reducing waste. Our employees, our customers and society as a whole have increasingly high expectations of us with regard to sustainability. In fact, Knorr-Bremse already offers solutions to these challenges, which puts the Company in a strong competitive position, makes it attractive to investors, and enables it to accelerate its future growth strategy. Developing sustainable processes at an early stage to meet our environmental targets (such as reducing CO₂) will lead to lower costs in the long term. At the same time, we aim to minimize the risks of any additional costs or production restrictions.

The structures and processes we have put in place in recent years are designed to optimize the way we use energy and materials. The action we are taking in this area is guided by SDG 9 for sustainable industry, innovation and infrastructure; SDG 12 for sustainable consumption and production patterns; and SDG 13 for climate action. Over the last decade, Knorr-Bremse has adopted a systematic approach to incorporating aspects of sustainability into its strategy, organization and processes.

Knorr-Bremse produces components in production plants all over the world. This has a major impact on the environment, particularly in the form of increased CO₂ emissions and the consumption of natural resources. In order to reduce this impact, our environmental management is always guided by ongoing developments, legislation, standards and customer expectations at national and international level.

Knorr-Bremse has incorporated environmental issues into its Group-wide risk management procedures, which is why we have adopted standardized processes for environmental protection and set environmental targets at both Group and site level. We are also working tirelessly to raise awareness of environmental issues among our employees.

Environmental management

The organization of Knorr-Bremse is such that it can steer and implement environmental management across the Group. Responsibility for implementing and coordinating environmental management lies with the central Health, Safety and Environment (HSE) departments in the Rail Vehicle Systems (RVS) and Commercial Vehicle Systems (CVS) divisions. These departments draw up strategic targets and pool all strategic management and coordination tasks at divisional level.

Knorr-Bremse's senior management is kept fully involved in environmental management issues at strategic and operational level through regular meetings, ad-hoc reporting, and the CR Council. Ensuring that our sites around the world are fully engaged in this activity is key to reaching our environmental targets. HSE officers work together with local managers at site level to put strategic requirements, objectives and programs into practice. To help them in this task, they can call on additional support from local environmental and energy specialists, regional coordinators and experts within the strategic departments as and when they need it.

Regular discussions between HSE officers help us to set the overall direction for environmental management across the Group. It is very important to Knorr-Bremse that our HSE work should be as consistent as possible across both business divisions, as this allows us to make full use of synergies between them. To maintain this consistency, we hold cross-site and cross-division HSE meetings at least once a year, as well as regular teleconferences. These regular meetings provide opportunities to discuss HSE-related issues, best practices and legal requirements.

Principles and processes

The principles of environmental protection at Knorr-Bremse are set out in our HSE Policy.

We want to minimize any adverse effects associated with our processes, services or products, and ideally to eliminate them altogether. With this aim in mind, we apply a range of standardized management systems that encompass statutory and customer requirements as well as internal guidelines and procedural instructions. They provide the framework for our sites to collect their own environmental and energy data at local level. We then analyze the data to help us plan, assess and manage our environmental protection initiatives.

In addition, our processes are aligned with a number of national and international standards including ISO 9001/IATF 16949 (quality management), ISO 14001 (environmental management), OHSAS 18001 and ISO 45001 (occupational health and safety), and ISO 50001 (energy management).

Knorr-Bremse makes extensive use of audits and reporting in order to monitor its environmental management activities. We have regular internal and external audits conducted to check compliance with relevant standards and how improvements are being implemented. The divisions also produce regular reports throughout the year containing data on health, safety and the environment. Since 2001, we have been requiring relevant sites to obtain certification to ISO 14001, the international standard for environmental management. By the end of 2019, 60 production plants had achieved certification (2018: 59).

The priorities we set for environmental management over the next few years will be strongly influenced by the outcomes of audits and reporting exercises, as well as by the CR materiality analysis and the SDGs. Climate protection and waste management will both feature prominently among those priorities.

Energy and CO₂ emissions

As an industrial manufacturer, Knorr-Bremse consumes energy primarily in its use of buildings and the plant and machinery it operates, and in its production processes. This naturally produces corresponding levels of CO₂ emissions, which Knorr-Bremse is committed to reducing to a minimum by means of energy management. Our energy management policy is also influenced by current and potential future regulatory requirements that may affect the commercial success of our business.

Principles and processes

The role of our environmental and energy management systems is to constantly assess and improve our processes in relation to our energy requirements. These systems allow Knorr-Bremse to monitor consumption data, identify where we can save energy, and monitor the effectiveness of existing initiatives. The Group's environmental and energy management system is also enshrined in its global HSE Policy.

One important aim of Knorr-Bremse's environmental and energy management systems is to reduce both direct and indirect CO₂ emissions. We are looking to do this by increasing energy efficiency and making greater use of energy from renewable sources, while also reducing indirect CO₂ emissions in our value chain as much as possible.

In addition, Knorr-Bremse implements an energy management system based on ISO 50001 as an integral part of its overall HSE management procedure, particularly at its most energy-intensive production plants. By the end of 2019, 35 legal business entities (2018: 33) held this certificate or were undergoing an external energy audit under EN 16247. As part of our energy management system, we define annual objectives and action plans to improve energy efficiency. We are also examining options for generating our own renewable energy. Local energy officers analyze our processes and monitor implementation of relevant measures.

We are also keen to source more renewable energy from external suppliers, an objective we have been pursuing across the Group since 2015 in accordance with our global guidelines on the purchase of renewable energy. The Indirect Purchasing team has conducted a systematic analysis of the current energy contracts at our 25 most energy-intensive facilities. Our target is to source more electricity from renewable energy sources in future, and thus to increase the share of renewables in our energy mix.

LOCAL COLLABORATION: CLIMATE PACT² IN MUNICH

In October 2019, Knorr-Bremse AG was one of 15 major companies to sign the Climate Pact², a voluntary agreement to reduce CO₂ emissions by a combined total of at least 20,000 metric tons by 2021. Under the banner of “More collaboration – more climate protection”, the companies agreed to define joint carbon reduction targets, exchange ideas and develop new projects and initiatives. It is anticipated that the desired cuts will be achieved by making buildings more energy-efficient, increasing the use of decentralized, renewable energy, expanding low-emissions mobility solutions, and increasing awareness of environmental issues among employees.

The signatories include Allianz, Bayern-LB, BMW, BayWa, Deutsche Telekom, the European Patent Office, Giesecke + Devrient, Knorr-Bremse, MAN, MTU, Münchener Rück, Osram, Siemens, Telefónica/O₂ and Versicherungskammer Bayern (VKB)

Climate protection: Strategy 2020

In 2015, Knorr-Bremse set itself both absolute and relative climate protection targets. Our absolute target committed us to achieving real-terms, climate-neutral organic growth at our 43 most energy-intensive sites by 2020. Specifically, this means that operational CO₂ emissions must not exceed 2015 baseline figures from 2020 onwards, even allowing for a major increase in production capacity. We are pleased to report that we have met this target, not least thanks to the introduction in 2019 of a range of measures designed to optimize energy use at our Munich site.

Our relative target is to increase our CO₂ efficiency by another 10% by 2020 compared to 2015 levels – including at the new sites Knorr-Bremse has or will have acquired over this period. It should be noted that we cannot compare our 2015 and 2020 CO₂ generation figures on an absolutely like-for-like basis. This is because we have been using improved systems for recording relevant indicators since 2018, when we standardized the definitions for key indicators across both our divisions and broadened data collection to include more consolidated companies and sites. This gives us better data for the last few years, but limits our ability to compare it against HSE indicators for earlier years. We have defined completely new climate targets as part of our Climate Protection Strategy 2030.

Climate protection: Strategy 2030

Knorr-Bremse's Climate Protection Strategy 2030, which will replace the climate protection objectives we set in 2015, marks a major milestone in our efforts to tackle climate change. The new climate strategy was drafted as part of Knorr-Bremse's contribution to meeting UN Sustainable Development Goal (SDG) 13 on “Climate Action”. Knorr-Bremse's Climate Strategy 2030 reflects the current consensus among climate scientists as expressed in the UN Paris Climate Accord of 2015, and is designed to contribute to keeping global warming to a maximum of 1.5 degrees. To achieve this, Knorr-Bremse has set itself two specific objectives.

Firstly, Knorr-Bremse wants to halve CO₂ emissions at its sites by 2030. We aim to cut overall CO₂ emissions from the energy consumed by our manufacturing facilities worldwide and from the Knorr-Bremse vehicle fleet by 50.4% by 2030. This will require an average reduction in CO₂ of 4.2% per year compared to 2018 levels.

As part of our Climate Strategy, our Scope 1 and Scope 2 emissions targets are oriented towards the requirements of the Science Based Targets Initiative of CDP, the WWF, the World Resources Institute and the UN Global Compact on corporate climate targets. We are currently working to meet the requirement to include Scope 3 emissions (see page 55).

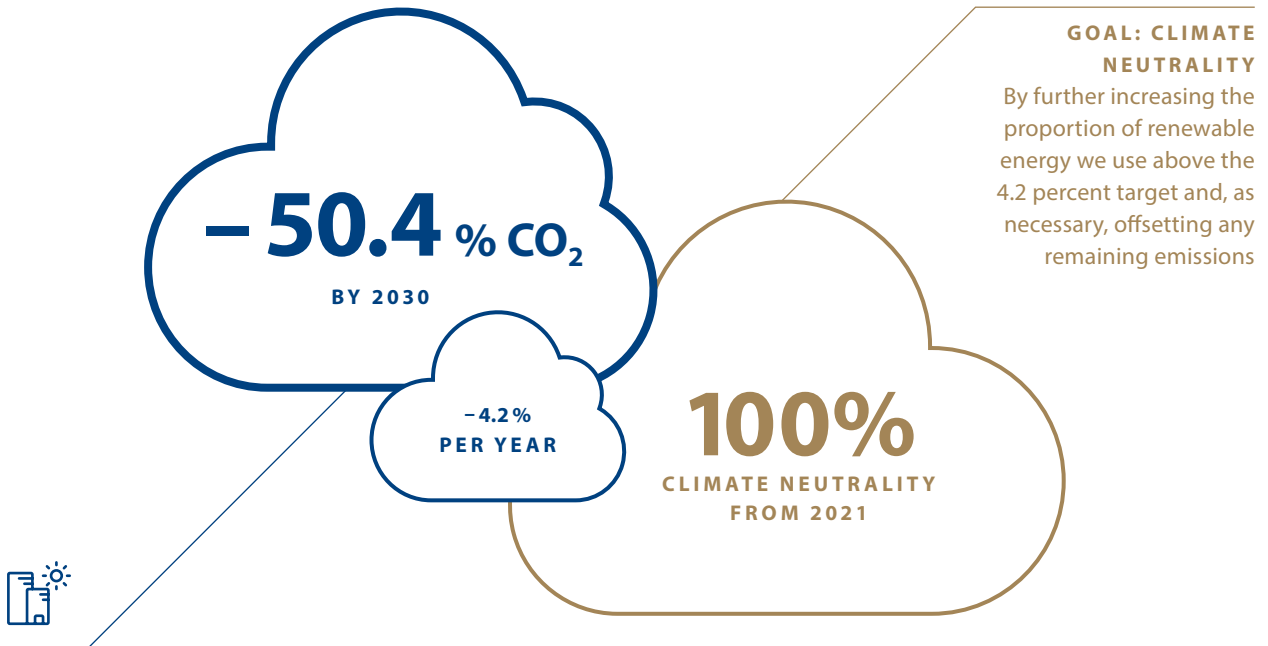
Our Climate Strategy 2030 will be executed on the basis of three pillars, with the vast majority of Knorr-Bremse's environmental investments earmarked for improving energy efficiency and generating our own renewable energy:

- Investing in energy-efficiency initiatives and use of low-carbon fuels in our heating systems and vehicle fleet
- Investing in measures designed to increase the share of renewables in the energy mix at Knorr-Bremse sites
- Increasing the proportion of renewable energy we source externally, making use of long-term power purchasing agreements, green energy products and certificates

Secondly, Knorr-Bremse is making an additional contribution to tackling climate change by committing to make all its sites carbon-neutral¹ from 2021. We intend to go beyond the targets described above by increasing the proportion of renewable energy we use above the 4.2 percent target and, as necessary, offsetting the remaining emissions by means of high-quality climate protection certificates.

We intend to make a further contribution towards SDG 13 in the future. Therefore, we are going to broaden our activities to

¹) By climate neutrality we mean carbon neutrality



GOAL: CLIMATE NEUTRALITY

By further increasing the proportion of renewable energy we use above the 4.2 percent target and, as necessary, offsetting any remaining emissions



GOAL: TO HALVE OUR CO₂ EMISSIONS BY 2030

Average reduction of Scope 1 and 2 emissions by 4.2 percent per annum in relation to the reference year 2018.

Three levers to achieve a reduction:



Energy efficiency

Improvement of energy efficiency and switch to low-carbon fuels



Renewables own generation

Gradual increase of share of own-generated renewable energy



Renewables purchase

Expansion of renewable energy purchasing, making use of power purchase agreements, green energy products and certificates

include relevant sources of CO₂ emissions in our upstream and downstream value chain (Scope 3 emissions) and analyze the climate-related opportunities and threats for our business throughout the entire value chain.

Measures to improve energy efficiency and reduce emissions

In 2019, Knorr-Bremse reduced its absolute CO₂ emissions by around 10%. In order to reduce its direct and indirect CO₂ emissions, Knorr-Bremse is taking numerous measures: These range from optimizing production processes or architecture at sites

around the world to using more efficient manufacturing technology, and, equally importantly, purchasing electricity from renewable energy sources. In 2019, we obtained guarantees of origin for electricity from solar, wind and biogas plants for our German sites and our site in Pamplona, Spain. In Hungary, as in previous years, we used guarantees of origin from hydroelectric plants. We are also generating our own renewable energy at sites including Suzhou, China (Rail), Pune, India (Truck), Faridabad, India (Rail) and Munich, Germany, thus reducing our carbon footprint.

BOWLING GREEN: A PLANT EXTENSION THAT MEETS GREEN BUILDING STANDARDS

September 6, 2019 was a special day for Knorr-Bremse, as the ceremonial foundation stone was laid for a state-of-the-art wheel end plant in Bowling Green, USA. The extension to the existing Bendix Spicer Foundation Brake LLC (BSFB) site is being built to a sustainable design that complies with green building guidelines and the principles behind the LEED (Leadership in Energy and Environmental Design) standard. Measures taken to ensure this new infrastructure is environmentally sustainable include:

- Submetering for heavy energy users (compressors, heavy plant, lighting, air conditioning systems)
- Using energy-efficient machinery and lighting
- Assessing and upgrading insulation
- Taking rain water management and the heat island effect into account in the design of the extension and the parking lots

This approach, combined with zero-waste concepts, constitutes a major contribution by Bendix to achieving United Nations Sustainable Development Goal 12 (Sustainable Consumption and Production). The new building will incorporate a health center for employees alongside production and testing facilities. The expansion of the BSFB plant should be completed by the end of 2020, helping to meet increasing demand for compressed air disc brake systems in the USA. BSFB is a joint venture between Knorr-Bremse's US subsidiary Bendix Commercial Vehicle Systems LLC and Dana Commercial Vehicle Products LLC

These measures show significant promise when it comes to cutting CO₂ emissions, but they will not bear fruit unless our production equipment runs faultlessly at all times. All the machines and equipment at our sites undergo regular inspections, servicing and preventive maintenance to keep them running smoothly and reduce their impact on the environment. Every year we look to identify and introduce new and improved equipment and production processes.

To help us in our search, we rely on a number of important tools. Data from energy metering devices and systems at selected sites is particularly useful because it gives us a detailed picture of how our machinery is used and how much energy it consumes. Knorr-Bremse also makes use of the waste heat from test rigs and maximizes potential energy savings through digitalization. Moreover, exchanging examples of local best practices between our sites and divisions helps to create synergies in energy management.

In the future we will also provide more transparency as far as "Scope 3" emissions from our upstream and downstream value chains are concerned, particularly when it comes to emissions from logistics and business travel. Knorr-Bremse uses inventory & operations planning (SIOP) systems for commercial vehicles as part of its freight logistics operations. This has allowed us to optimize our planning and thus reduce CO₂ (for more details, see "Sustainability standards in the supply chain" on page 33).

5.02 ENERGY CONSUMPTION¹⁾



GWh



5.03 ENERGY EFFICIENCY¹⁾



MWh/€m



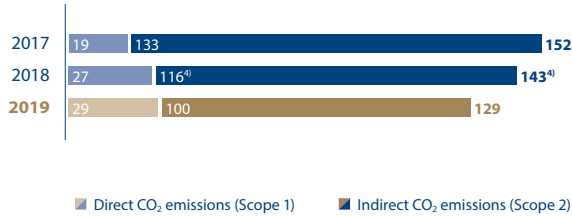
¹⁾ The figure for 2019 includes all sites under operational control. Sites that are not production facilities or service workshops and have fewer than 50 employees are excluded. Approximately 96% of Knorr-Bremse's employees are included.

²⁾ This figure has been adjusted year on year due to the disposal of the Powertech business unit.

5.04 DIRECT AND INDIRECT CO₂ EMISSIONS³⁾



in thousands of metric tons CO₂



³⁾ Our recording of CO₂ emissions is based on the recognized specifications in the Corporate Accounting and Reporting Standard (Scope 1 and 2) of the Greenhouse Gas Protocol. The graph shows market-based CO₂ emissions.
⁴⁾ This figure has been adjusted year on year to reflect updated CO₂ emissions factors in the Czech Republic and the disposal of the Powertech business unit.

5.05 CO₂ INTENSITY



in thousands of tons CO₂/€m



Additional indirect CO₂ emissions result from the way in which we use and dispose of materials purchased externally and our use of capital goods and services. We assess the way we use these materials and their carbon footprints as part of our EcoDesign-based approach and identify relevant measures to help us improve further (see “Ecological product design” on page 29).

Conserving Resources

Knorr-Bremse aims to reduce its use of raw materials, consumables and fuel, and to recycle as much of these materials as possible. To achieve this, we are applying a low-waste, high-recycling mindset to handling all our waste, as well as to the way we use water.

Our waste management system is fundamentally geared toward avoiding waste in all areas of the business, from waste raw materials and packaging arising in the production process to packaging and waste created by individual employees at work. At the same time, we are also making strenuous efforts to encourage sustainable water use, while taking our sites’ varying needs and requirements into account.

Waste management

In general, waste management at Knorr-Bremse is based on the principle of a sustainable circular economy. Our ultimate goal is to avoid generating waste in the first place. Where this

SUSTAINABLE ENERGY SYSTEMS AT OUR MUNICH SITE

In 2019 we renovated the façade of Building TCK 1 at our Munich site in order to make the temperature more controllable, as well as completing other energy upgrades such as installing new solar panels on Building TCK 1 and the roof of the parking garage. We also commissioned a new combined heating and power plant that generates highly efficient heating and electricity, and a heat pump that supplies TCK 1 with energy from the groundwater.

BENDIX “ZERO WASTE” CAMPAIGN -

Knorr-Bremse’s North American subsidiary Bendix has been working hard to achieve “zero waste” in its waste management systems for a number of years. In 2019 it made another significant step forward by rolling out its internal guideline on “Sustainable food service.”

Bendix hopes to stop sending waste to landfill by 2020. Our North American subsidiary has therefore launched a comprehensive waste management program and has already reached an important milestone: In 2019 it managed to re-use or recycle 96% of its waste using a combination of different techniques, including recycling, composting, and using waste to generate energy.

Their new “Sustainable food service” policy applies to all catering services and facilities provided by or supplied to Bendix, including kitchenettes, cafeterias, vending machines and all other catering services, as well as on-site and external events sponsored by the company. The policy stipulates that the use of plastic bottles should be avoided during all such events and completely bans polystyrene products. All Bendix employees are required to attend a mandatory training course that includes a briefing on the company’s waste management system delivered by the Managing Director. Employees can obtain further information from a dedicated Environment Portal on the company’s Intranet and from the Corporate Responsibility officer.

is not possible, we are committed to handling our waste in the most environmentally-friendly way we can.

The focus of Knorr-Bremse's global waste management policy can be summarized in three main aims:

- To avoid waste by using resources in a targeted way, and as efficiently as possible
- To substitute materials with more environmentally-friendly alternatives (e.g. avoiding the use of non-recyclable plastics)
- To encourage environmentally-friendly reuse or recycling of materials to help create a circular economy

At Knorr-Bremse, waste consists primarily of scrap metal, paper and residual material. As an industrial manufacturer, we make extensive use of steel and ferrous materials, light alloys, polymers, consumables and packaging. We are therefore intensifying our research into the possible applications of environmentally-friendly and resource-conserving materials in our product development process (see "Ecological product design" on page 29). In addition, surface treatment of metallic materials produces electroplating sludge. Our product packaging consists primarily of reusable materials and containers.

The Knorr-Bremse Production System (KPS) helps minimize waste in production. Value stream analyses identify and eliminate various forms of waste, such as overproduction and preventable product scrappage. In addition, our quality management guidelines require our suppliers to avoid or minimize packaging wherever possible, and to use recyclable materials.

Water management

It is our aim to use water as efficiently as possible and to reuse it as much as possible through recycling systems.

The water Knorr-Bremse consumes is used primarily in the surface treatment and cleaning of its products, for test applications, and for drinking water and sanitary purposes. In 2019 we used a total of 606 thousand cubic meters² of water across our sites worldwide (compared to 645 thousand cubic meters in 2018). Production processes and our drinking and waste water systems each accounted for a third of total consumption; the remaining third cannot be attributed to any specific activity. The way water is used varies widely between sites. We obtain our water from local authority suppliers. Some of our facilities save drinking water by using rainwater for cleaning, in their sanitary facilities and for watering green spaces. We dispose of our wastewater via public sewage systems.

OUR EMPLOYEES ARE WORKING TO REDUCE CO₂, RESIDUAL WASTE AND WASTE WATER

All over the world, Knorr-Bremse staff are taking action to reduce emissions, waste, and water consumption in their daily working lives. In doing so, they are setting Knorr-Bremse well on the way to becoming a sustainable business, and to meeting SDGs 12 and 13 (focused on waste and water and tackling climate change, respectively).

Ride-sharing to reduce CO₂ emissions

Knorr-Bremse's Technology Center in Pune, India, is making a major contribution to reducing its indirect CO₂ emissions. Employees working for Knorr-Bremse and other nearby companies are using an app to run a ride-sharing scheme, which makes their commute more environmentally friendly. The employees can use their smartphones to see how many journeys they have made and how much money and CO₂ they have saved – as well as how many of their colleagues they have got to know in the process. Since the project was set up, the carpool's 343 members have taken a total of 3,153 trips over a total distance of 16,324 kilometers, thus saving nearly 4 metric tons of CO₂.

Composting to reduce waste

The Pune Technology Center is also using an aerobic decentralized composter to reduce waste. Locally made in India and requiring no



²) The 2019 figure includes over 85% of Knorr-Bremse's employees.



electricity, one composter unit can keep up to 225kg of waste out of landfill every month. If the composter is filled to capacity every day, it can compost up to 2.7 metric tonnes of waste a year.

Using foldable, re-usable cups to prevent waste

Every employee at Knorr-Bremse Rail UK has been issued with a foldable, reusable Knorr-Bremse cup, replacing the paper cups previously used in the cafeteria. Switching to the re-usable Knorr-Bremse cup will save an impressive 200,000 paper cups in 2020 alone. Although the previous cups were recyclable, their waterproof layer meant they had to be transported to a specialist recycling facility and subjected to a long, complicated and energy-intensive process. The new cups come with another benefit too: the money saved on sourcing and recycling the old single-use cups has been used to cut the price of drinks in the café, so everybody wins!

Making organizational changes to reduce waste

By improving its methods for sorting waste, Knorr-Bremse Austria, based at Mödling, managed to reduce the total annual volume of waste it produces from 502 to 463 metric tons between 2015 and 2018, at the same

time as increasing revenues. Despite this significant achievement there was still room for improvement, which is why the site's project team worked together with a local waste disposal firm to come up with a new waste management plan for their offices. Waste is now separated into paper, glass, metals and general waste in offices, kitchens and break rooms. New containers for this purpose were first installed in mid-November, complete with a primer on how to sort waste and additional instructions displayed on posters at the new recycling stations.

Intelligent carwash to reduce waste water

At Knorr-Bremse Brazil in Itupeva, 2019 saw the opening of an "eco-wash center", a water-saving carwash for company vehicles. Unlike the water-intensive carwash outside the plant that uses hoses, with each wash requiring up to 500 liters, the eco-car wash on site uses just 1.2 liters per wash, leading to a corresponding reduction in waste water volumes. Knorr-Bremse Brazil collects the water it uses to operate the facility in a rainwater tank. The new system has a dual benefit: Not only does it deliver a 99% saving in the amount of water Knorr-Bremse Brazil uses to wash company vehicles every year, it also reduces CO₂ emissions by cutting the number of trips to the external carwash.



Commitment and society

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Global Care: Worldwide commitment

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Local Care: Site involvement

Our corporate objectives include both economic growth and the creation of social value. We can offer new life prospects to people in need and invigorate the communities neighboring our sites by investing our management expertise, our labor and financial resources in development projects. The key areas we focus on are health and education. In addition, we support our employees' involvement in a wide range of local social projects.

GLOBAL CARE ORGANIZATION

Alongside the non-profit organization in Munich, local Knorr-Bremse Global Care organizations have started work in the USA and Hong Kong.

WASH PROJECT, ETHIOPIA

Knorr-Bremse Global Care supports a drinking water and sanitation program in Ethiopia – a direct contribution to SDG 6 (Clean Water and Sanitation).

LOCAL CARE

In 2019, around 700 Local Care projects were carried out on all continents around the world.



53,673

people were reached in 2019 by 66 Global Care projects in 33 countries, with spending of 1,743€ million.

Commitment and society

For Knorr-Bremse, commercial success and corporate social responsibility go hand in hand because corporate citizenship delivers high added value not only for those affected and supported, but also for the Knorr-Bremse sites and employees. We therefore encourage our employees to get involved in social projects.

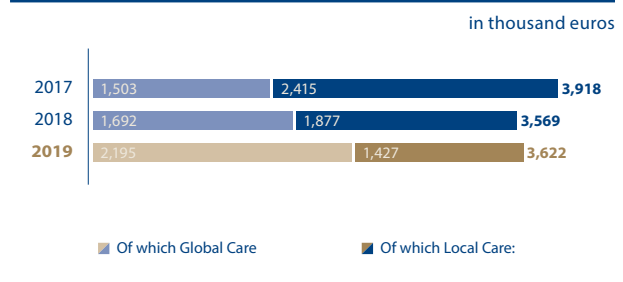
Knorr-Bremse's support for social causes focuses on both global and local issues – through its non-profit organization, Knorr-Bremse Global Care, and through its Local Care initiative. Local Care is the umbrella structure for all the community activities carried out by our sites, while Knorr-Bremse Global Care, with its independent non-profit organizations in Germany, Hong Kong and the USA, supports longer-term aid projects around the world requiring a greater financial outlay.

The close involvement of the Knorr-Bremse sites – over 100 in more than 30 countries – is one of our key concerns because Knorr-Bremse has indirect economic impacts on every region it operates in. As an employer, a purchaser of materials and services, and through its products, the company influences local communities and economies in a variety of ways.

By involving the sites, we can optimize local development activities. At the same time, this arrangement boosts both the employees' identification with Knorr-Bremse and the company's reputation, for instance in terms of employer branding.

In 2019 the Knorr-Bremse Group donated over EUR 3.6 million for social purposes. Over 60% went to Knorr-Bremse Global Care. The rise in donations to Knorr-Bremse Global Care in 2019 was due to the financial support from the two newly founded independent organizations, Knorr-Bremse Global Care North America Inc. (USA) and Knorr-Bremse

6.01 DONATIONS



Global Care Asia Pacific Ltd. (Hong Kong). They receive donations from the Knorr-Bremse holding companies in the USA and Asia.

Global Care: Worldwide commitment

Knorr-Bremse Global Care is a non-profit organization with global activities that offers new prospects to people who find themselves in need through no fault of their own. It supports projects run by partner organizations in three areas: WASH (water, sanitation and hygiene), education, and emergency relief.

Knorr-Bremse Global Care came into being through the foundation of Knorr-Bremse Global Care e.V. in Germany. This non-profit organization was founded by Knorr-Bremse Group employees in Munich to provide rapid assistance following the tsunami that struck South-East Asia in December 2004. Over the following years, the organization continued, expanded and professionalized its work.

Since Knorr-Bremse Global Care was set up in 2005, it and its partner organizations have completed around 310 projects, improving the prospects of over 750,000 people in 61 countries. A total of almost EUR 22 million has been invested in these projects. In 2019, Knorr-Bremse Global Care provided financial support for 66 projects in 23 countries, spending around EUR 1.743 million and reaching more than 53,000 people.

Principles and guidelines

A key objective of Knorr-Bremse Global Care is to promote the independence and individual responsibility of people in need and to fund projects and programs that have a clear focus on results. This is essential for the work to help bring about changes that have structural relevance and a broad impact on society, open up new prospects for people, and have a lasting effect.

EMERGENCY RELIEF: CYCLONE DISASTER IN MOZAMBIQUE

Besides working in its defined project countries, Knorr-Bremse Global Care helps people in disaster areas and crisis situations all over the world to access emergency supplies, food and medical care quickly and with minimum bureaucracy through one-off donations. This directly helps people who have lost everything.

In March 2019, Cyclone Idai struck Mozambique, Malawi and Zimbabwe with wind speeds of 190 km/h. More than 1.85 million people were affected by the disaster. People had to be evacuated, emergency shelters set up, and emergency supplies – from sleeping mats to water purification tablets – organized. The 50,000 euro donation from Knorr-Bremse Global Care funded two Red Cross drinking water stations. Each station supplies drinking water for up to 15,000 people per day in Beira, which also prevents the spread of disease through contaminated water.

SUPPORT AREA WASH: DRINKING WATER AND SANITATION PROGRAM IN ETHIOPIA

In the year under review, Knorr-Bremse Global Care worked with the aid organization arche noVa e.V. to support a drinking water and sanitation program in the Somali Region of Ethiopia.

The WASH project contributes directly to SDG 6 (Clean Water and Sanitation) and focuses on the targets SDG 6.1 (Clean Drinking Water) and 6.B (Support Local Engagement) in particular.

The aim of the program is to improve the drought resilience of pastoralists (nomadic livestock farmers) in the Somali Region by providing a water supply. It gives the pastoralists improved access to safe drinking water, healthier living conditions and improved food security.

Better, permanent access to clean drinking water has been provided by constructing nine "birkas" (traditional rainwater reservoirs) and a hydrant system. Twelve trained hygiene and sanitation officers raise awareness in the communities about the connection between water, hygiene and health, and teach necessary practices. Four trained water committees were set up to ensure the long-term success of the water supply. As well as establishing a water supply, the project also achieved its aim of improving food security.



SUPPORT AREA EDUCATION: LERNHAUS MÖDLING, AUSTRIA

The learning support center at the Knorr-Bremse site in Mödling, Austria, has been offering free learning support for elementary school children from lower-income families since October 2019. In 2018 – the year in which Knorr-Bremse Austria celebrated its 50th anniversary and Zelisko its centenary – Managing Director Jörg Branschädel decided to initiate a Global Care project in the Mödling area. He opted for Lernhaus, a joint project run by Kurier Aid Austria, the relief organization of the Kurier newspaper, and the Lower Austrian Red Cross. At the center, up to 15 children between the ages of six and ten who do not get help with homework or exam preparation at home, receive two hours of learning support from trained Red Cross teachers three afternoons a week. They are also assisted by voluntary learning mentors. There are now eight of these learning support centers in Austria, providing assistance to as many as 200 children.

This kind of education project contributes to SDG 4 (Quality Education), which aims to ensure equitable, quality education, as well as lifelong learning.



Knorr-Bremse Global Care's key support areas include water, sanitation and hygiene (WASH) and education. Activities in these areas contribute to the Sustainable Development Goals (SDGs) – especially SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation). Knorr-Bremse Global Care prioritizes activities in countries with Knorr-Bremse sites so that it can maximize direct contact with the projects it supports. In doing so, the organization strives to raise awareness of social causes among employees and motivate them to play an active role themselves. It also supports development projects in 10 other countries – Cambodia, Colombia, Ethiopia, Ghana, Kenya, Myanmar, Peru, Sri Lanka, Tanzania, and Ukraine.

Through its WASH projects, Knorr-Bremse Global Care aims to bring about long-term improvements to clean water provision and hygiene conditions, especially in developing countries and emerging economies. Clean, safe drinking water, hygiene training and proper sanitation protect communities against disease and increase people's life expectancy, thus providing the basis for life, education and development prospects. The focus is on sustainable and efficient water management and on strengthening community responsibility for it.

High-quality education is essential for professional and social advancement. A good education gives people the chance to escape poverty. For this reason, Knorr-Bremse Global Care supports medium to long-term education and infrastructure projects. The projects cover the entire education pathway – from kindergarten and elementary school to secondary school and vocational training.

Structures and processes

Knorr-Bremse Global Care consists of the non-profit organization in Germany and the two independent regional organizations, Knorr-Bremse Global Care North America Inc. in the USA and Knorr-Bremse Global Care Asia Pacific Ltd. based in Hong Kong.

The Munich-based organization receives most of its funding from the European affiliates and in the form of donations from individual employees and relies on the involvement of its members and Knorr-Bremse employees. The Global Care organizations in Hong Kong and the USA are funded by the Knorr-Bremse holding companies in those regions. All three organizations are staffed by voluntary members and board members. They meet at regular intervals to discuss ongoing projects and project applications and to clarify current issues. In addition, two employees at Knorr-Bremse Global Care e.V. take care of the organization's operational activities in Germany and are responsible for providing global guidance and ensuring coherence between the three organizations.

Knorr-Bremse Global Care's work is characterized by entrepreneurial thinking, results-focused project planning and active involvement. These characteristics have established Knorr-Bremse Global Care as a professional funding partner for aid projects. It works closely with local partner organizations, which are responsible for on-site project management and efficient, results-focused project implementation and documentation. Before a project is launched, objectives are jointly set based on the desired impact. Sometimes, Global Care members or other Knorr-Bremse employees supervise the projects. As well as personally monitoring progress, they contribute experience and skills from their professional roles. These structures ensure that the assistance we provide for our partner organizations and projects entails more than just financial support.

Further project examples and information on the global activities of Knorr-Bremse Global Care can be found at global-care.knorr-bremse.com and in the Knorr-Bremse Global Care 2019 Annual Report.

Local Care: Site involvement

Knorr-Bremse Global Care's activities are supplemented by Local Care projects – social projects that are local to the company's sites. They range from financial support for charitable organizations to corporate volunteering projects, in which employees are personally involved.

In 2019, around 700 Local Care projects were carried out on all continents around the world. The focus was on education and social cohesion. Over 5,000 employees took an active role in Local Care projects. The table gives examples of Local Care projects: [Table → 6.02](#).

Principles and guidelines

Knorr-Bremse's social commitment principles serve as a guideline for its Local Care work and create transparency when it comes to implementing projects. They define goals and standards and establish areas for funding and the criteria involved. In addition, the Local Care donation guidelines describe the standard principles governing the distribution of donations at Knorr-Bremse sites.

BENDIX CARES: THE NEW VOLUNTEERING PLATFORM

The Local Care program at Bendix, Knorr-Bremse's US subsidiary, has two main components: giving and volunteering. A new online platform has been in place since 2019 with the aim of increasing the popularity of the volunteering program among employees. The volunteering and community connecting portal, which went live in 2019, is called Bendix Cares. The aim is to promote a network of colleagues and firmly establish volunteering at each Bendix site, as well as providing information about volunteering opportunities. The portal is easy to use: Employees simply log in, fill out a profile and register for upcoming volunteering activities. It is easy for staff to take part in the volunteering program and there are incentives. Every participant can see at any time how many hours of voluntary work they have done. And anyone who clocks up more than eight hours in a quarter has the chance to win a non-cash bonus. Bendix Cares also lets employees share their project experiences on the platform. Although the Bendix Cares portal is of a new quality, the Local Care program at Bendix, including the volunteering elements, is already well established. In recent years, over 1,000 employees at Bendix sites have put in around 5,500 hours of voluntary work and supported over 100 non-profit organizations.

KNORR-BREMSE BUDAPEST RECEIVES CSR HUNGARY AWARD 2019

In December 2019, Knorr-Bremse received the 2019 Corporate Social Responsibility Hungary Award in the “Shared Problems – Shared Responsibility” category for the local CSR activities of Knorr-Bremse Rail Systems Budapest. The award, whose patron is the Hungarian Minister for Innovation and Technology, Dr. László Palkovics, recognizes outstanding sustainability initiatives by Hungarian companies. The judges highlighted the way the Local Care program develops exemplary solutions to meet social and educational needs. The program is based on employee involvement and the long-term partnerships this generates between Knorr-Bremse and community organizations. The arrangement means Local Care projects can tackle problems affecting local communities effectively. The award entitles Knorr-Bremse Budapest to use the CSR Hungary Award trademark for two years.



Local Care activities focus on projects in the areas of the environment, health, education, and social cohesion. Instruments include:

- voluntary donations of time and money to charitable causes
- corporate volunteering – where the company grants employees time off to support charitable organizations
- the “Get involved” initiative, which provides donations to support the private voluntary work carried out by employees for charitable organizations and projects
- fund-raising campaigns, where Knorr-Bremse tops up donations made by the workforce – matching or multiplying every donation made by employees

Structures and processes

Many Knorr-Bremse sites have appointed a Local Care representative who documents local corporate citizenship activities – including the time and money invested – and reports on them to the head office towards the end of each financial year. Each site sets its own annual budget for social causes and plans the selection, financing and supervision of its Local Care projects autonomously, while respecting the general budgeting process. We believe this local proximity leads to efficient, sustainable and successful project management.

All Local Care projects are recorded centrally and sites can exchange examples of best practice via an online platform.

6.02 SELECTED LOCAL CARE PROJECTS BY SUPPORT CATEGORY

	Environment 	Health 
Asia/ Australia	<ul style="list-style-type: none"> Zero-waste campaigns to raise public awareness, implementation (Seoul/Korea) Tree-planting around Knorr-Bremse sites (Palwal/India, Pune/India) Environmental workshops on upcycling and reducing food waste, implementation (Hong Kong/China) Rainwater collection project for the local community, technical assistance (Pune/India) Litter clean-ups, implementation (Daxing/China, Nankou/China) 	<ul style="list-style-type: none"> Organization that adapts wheelchairs to individual needs, provision of premises (Mackay/Australia) Blood donations (Pune/India) Support for autistic children, financial support and personal involvement of employees (Qingdao/China) Sporting events, participation and financial support (Suzhou/China) Eye disease clinic, financial support (Palwal/India) Cycle race to raise funds for patients with multiple sclerosis, participation (Granville/Australia)
Europe/ Africa	<ul style="list-style-type: none"> Environmental education organization for young adults, financial support (Madrid/Spain) Bee-friendly plants to improve the appearance of Knorr-Bremse site (Melksham/UK) Zero-waste projects in schools, financial support (Kecskemét/Hungary) Riverbank and forest clean-up, implementation (Modřice/Czech Republic, Moscow/Russia) Tree-planting around the Knorr-Bremse site (Budapest/Hungary) Local environmental projects, financial support (Liberec/Czech Republic) 	<ul style="list-style-type: none"> Healthy breakfasts for schoolchildren, supervision by employees (Munich/Germany) Organization for autistic children, financial support (Arcore/Italy) Organization for children with special needs, support by participating in a fundraising race (Granville/Australia) Organization for home care for cancer patients, financial support (Florence/Italy) Support for hospice work, financial support (Kraków/Poland) Meals for children in an orphanage, funding (Kempton Park/South Africa)
America	<ul style="list-style-type: none"> River, beach and street clean-ups, implementation (Acuña/Mexico, Elyria/USA, Watertown/USA, Westminster/USA) School project to install water filters to avoid the use of plastic bottles, financial support (Elyria/USA) Gardens from recycled materials, employees and schoolchildren build things together (Mexico City/Mexico) Rehabilitation and species preservation center for wild animals, financial and technical assistance (Itupeva/Brazil) 	<ul style="list-style-type: none"> Organization fighting brain disease in children, financial support (Westminster/USA) Various health organizations, financial support (Watertown/USA, Huntington/USA) First-aid equipment for a vocational training center, funding and installation (Huntington/USA) Protective equipment for local ambulance emergency response service, funding (Elyria/USA)
	Education 	Social cohesion 
Asia/ Australia	<ul style="list-style-type: none"> Traffic safety training program for children, implementation (Dalian/China, Shanghai/China) Support for a technical university, scholarship funding (Suzhou/China) Support for students from low-income families, payment of tuition fees (Palwal/India) Expansion of learning opportunities offered by the daycare center for employees' children (Suzhou/China) 	<ul style="list-style-type: none"> Caring for elderly residents in a retirement home (Daxing/China) Household items, books and clothes for socially disadvantaged people, employee donations (Pune/India) Facility for victims of domestic violence, financial support (Granville/Australia) Facility for people in need, financial support (Palwal/India)
Europe/ Africa	<ul style="list-style-type: none"> IT lessons for children using a robotics program developed in-house, and funding for better IT equipment (Budapest/Hungary) Education organization for young refugees, financial support (Mödling/Austria) Job application training for schoolchildren, implementation (Melksham/UK) IT equipment for schools, financial support (Kecskemét/Hungary) Children's circus with an emphasis on education, financial support (Berlin/Germany) Apprentices teach schoolchildren about technical occupations (Aldersbach/Germany) 	<ul style="list-style-type: none"> Repair café, financial support (Schwieberdingen/Germany) Leisure activities for socially disadvantaged children, funding (Lund/Sweden) Traffic safety program for kindergarten children, funding (Budapest/Hungary) Technical assistance for women's refuge (Mödling/Austria) Support for orphanage, financial support (Moscow/Russia) Organization that grants wishes for critically ill children, financial support (Lyss/Switzerland)
America	<ul style="list-style-type: none"> Support for STEM programs to spark an interest in technical occupations among young people (Elyria/USA, Watertown/USA) Robotics camps for schoolchildren, implementation (Acuña/Mexico) Employees teaching schoolchildren about STEM subjects through projects (Westminster/USA) School support, especially in the sciences, financial support (Quebec/Canada) 	<ul style="list-style-type: none"> Toys for disadvantaged children, employee donations (Watertown/USA) Building houses for the homeless (Acuña/Mexico, Kalamazoo/USA, Elyria/USA) Employee donations of Christmas presents for children in need (Westminster/USA) Support for socially disadvantaged families, financial support (Quebec/Canada, Westminster/USA) Automobile check-ups for single mothers, implementation (Bowling Green/USA)

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Key Performance Indicators

Implementation of the ten UN Global Compact Principles

Knorr-Bremse has been a signatory to the UN Global Compact since 2010. Each year, we report on how we implement the ten principles of the Global Compact in our company. The following table provides an overview of the voluntary commitments, guidelines and management systems that help us integrate the principles of the Global Compact into our business processes. The index also provides references to the relevant content regarding the Global Compact and its implementation in 2019.



7.01 UN GLOBAL COMPACT INDEX

HUMAN RIGHTS

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights.	08	Strategy and management	Code of Conduct
	18–21	Compliance and risk management	Corporate Responsibility Guidelines
	21–23	Due diligence processes for human rights	Health, Safety and Environmental Policy
Principle 2 Businesses should make sure they are not complicit in human rights abuses.	26	Products and partners	UITP Sustainability Charter
	33–37	Sustainability standards in the supply chain	UN Sustainable Development Goals
	40	Employees and leadership	UN Guiding Principles on Business and Human Rights, NAP and UK Modern Slavery Act
	40–43	Employment conditions	Compliance management and organization
	43–45	Personnel development	Supplier Code of Conduct
	48–49	Occupational health and safety	

LABOR STANDARDS

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining,	08	Strategy and management	Code of Conduct
	18–21	Compliance and risk management	Corporate Responsibility Guidelines
	21–23	Due diligence processes for human rights	Compliance management and organization
Principle 4 and furthermore uphold the elimination of all forms of forced and compulsory labor,	26	Products and partners	Leadership Principles
	33–37	Sustainability standards in the supply chain	UN Sustainable Development Goals
Principle 5 the effective abolition of child labor,	40	Employee and leadership	
	40–43	Employment conditions	
Principle 6 and the elimination of discrimination in respect of employment and occupation.	45–47	Diversity and equality	

7.01 UN GLOBAL COMPACT INDEX

ENVIRONMENTAL PROTECTION

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
Principle 7 Businesses should support a precautionary approach to environmental challenges,	08	Strategy and management	Code of Conduct
	26	Products and partners	Supplier Code of Conduct
	26–29	Product and system safety	Climate protection strategy with Group-wide targets
	29–33	Ecological product design	UN Sustainable Development Goals
Principle 8 undertake initiatives to promote greater environmental responsibility and	33–37	Sustainability standards in the supply chain	Health, Safety and Environmental Policy
	40	Employees and leadership	Environmental Management System
Principle 9 encourage the development and diffusion of environmentally friendly technologies.	48–49	Occupational health and safety	Energy Management System
	52	Environment and climate	
	52–53	Environmental management	
	53–57	Energy and CO ₂ emissions	
	57–59	Conserving resources	
	62	Commitment and society	

CORRUPTION PREVENTION

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.	08	Strategy and management	Code of Conduct
	18–21	Compliance and risk management	Compliance management and organization
	21–23	Due diligence processes for human rights	Supplier Code of Conduct
	26	Products and partners	
	33–37	Sustainability standards in the supply chain	

Index for the non-financial report

7.02 INDEX FOR THE NON-FINANCIAL REPORT IN ACCORDANCE WITH GERMANY'S CSR DIRECTIVE IMPLEMENTATION ACT

Material CR issues for Knorr-Bremse	Non-financial information subject to reporting requirements	Section	Page
Anti-corruption and fair competition	Anti-corruption and anti-bribery measures	Strategy and management	P. 18–21
Product and system safety	Social issues	Products and partners	P. 26–29
Ecological product design	Environmental issues	Products and partners	P. 29–33
Sustainability standards in the supply chain	Environmental and social issues, human rights, anti-corruption and anti-bribery measures	Strategy and management	P. 21–23
		Products and partners	P. 33–37
Energy & CO ₂ emissions	Environmental issues	Environment and climate	P. 53–57
Employment conditions	Employee issues, human rights	Employees and leadership	P. 40–43
Personnel development	Employee issues	Employees and leadership	P. 43–45
Occupational health and safety	Employee issues	Employees and leadership	P. 48–49
Diversity and equality	Employee issues	Employees and leadership	P. 45–47

Assurance Report

Limited Assurance Report of the Independent Auditor regarding the Combined Separate Non-Financial Report¹⁾.

To the Executive Board of Knorr-Bremse AG, Munich

We have performed an independent limited assurance engagement on the Combined Separate Non-Financial Report of Knorr-Bremse AG, Munich and the Group (hereinafter “Knorr-Bremse” or “Company”) as well as the by reference qualified parts “Overview of the Group”, “Business Model/ Structure of the Group” and “Report on Risks, Opportunities and Expected Developments” of the Management Report (hereinafter “Report”) according to Sections 315b and 315c in conjunction with 289b to 289e German Commercial Code (HGB) for the business year from January 1 to December 31, 2019.

Management’s Responsibility

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

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

Independence and Quality Assurance on the Part of the Auditing Firm

We are independent from the entity in accordance with the requirements of independence and quality assurance set out in legal provisions and professional pronouncements and

have fulfilled our additional professional obligations in accordance with these requirements.

Our audit firm applies the national statutory provisions and professional pronouncements for quality assurance, in particular the professional code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).

Practitioner’s Responsibility

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

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): “Assurance Engagements Other than Audits or Reviews of Historical Financial Information” published by IAASB. This Standard requires that we plan and perform the assurance engagement to obtain limited assurance of whether any matters have come to our attention that cause us to believe that the Report for the period from January 1 to December 31, 2019 has not been prepared, in all material respects in accordance with Sections 315b and 315c in conjunction with 289b to 289e HGB. We do not, however, provide a separate conclusion for each disclosure. In a limited assurance engagement the evidence gathering procedures are more limited than in a reasonable assurance engagement and therefore significantly less assurance is obtained than in a reasonable assurance engagement. The choice of audit procedures is subject to the auditor’s own judgement.

¹⁾ Our engagement applied to the German version of the Report 2019. This text is a translation of the Independent Assurance Report issued in German, whereas the German text is authoritative.

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

- Inquiries of personnel on corporate level, who are responsible for the materiality analysis, in order to gain an understanding of the processes for determining material sustainability topics and respective reporting boundaries of Knorr-Bremse
- A risk analysis, including a media search, to identify relevant information on Knorr-Bremse sustainability performance in the reporting period
- Reviewing the suitability of internally developed Reporting Criteria
- Evaluation of the design and implementation of the systems and processes for determining, processing and monitoring disclosures relating to environmental, employee and social matters, respect for human rights, and combating corruption and bribery, including the consolidation of the data
- Inquiries of personnel on corporate level who are responsible for determining disclosures on concepts, due diligence processes, results and risks, for conducting internal controls and consolidation of the disclosures
- Evaluation of selected internal and external documents
- Analytical evaluation of data and trends of quantitative information which are reported by all sites for consolidation on corporate level
- Evaluation of local data collection, validation and reporting processes as well as the reliability of reported data based on a sample of the sites in Elyria, OH (USA), Westminster, MD (USA) and Berlin (Germany).
- Assessment of the overall presentation of the information.

Conclusion

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

Recommendation

Without affecting the conclusions presented above, we recommend to further develop the reporting guideline for the data determination as well as to ensure its consistent implementation through respective processes and internal controls on division and site level, to increase data quality.

Restriction of Use/

Clause on General Engagement Terms

This report is issued for the purposes of the Executive Board of Knorr-Bremse AG, Munich only. We assume no responsibility with regard to any third parties.

Our assignment for the Executive Board of Knorr-Bremse AG, Munich, and professional liability is governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 (https://www.kpmg.de/beraterscheinungen/lib/aab_english.pdf). By reading and using the information contained in this report, each recipient confirms having taken note of provisions of the General Engagement Terms (including the limitation of our liability for negligence to EUR 4 million as stipulated in No. 9) and accepts the validity of the above mentioned General Engagement Terms with respect to us.

Munich, April 21, 2020

KPMG AG

Wirtschaftsprüfungsgesellschaft
Original German version signed by:

Hell
ppa. Dollhofer

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Key Performance Indicators

Selected operational indicators year on year		2019	2018	2017
Financial indicators				
Revenues	million €	6,937	6,616	6,154
EBITDA	million €	1,329	1,178	1,116
Earnings per share	€	3.65	3.68	3.32
Equity ratio	%	27.8	25.7	34.8
Operating Cash flow	million €	985.8	725.5	679.9
Capital expenditure	million €	331.8	308.4	235.2
Revenues from remanufactured products as a percentage of total revenues	%	29.1	22.6	20.9
Donations	million €	3.6	3.6	3.9
Innovation				
R&D costs	million €	397	364	359
R&D employees		3,558	3,728	3,720
Compliance				
Number of reports filed via whistleblower system		35	29	-
Employees				
Group		28,905	28,452	27,705
Employee appraisal (Staff Dialogue) coverage	%	76.2	71.1	75
Proportion of women in the total workforce ¹⁾	%	20.5	20.9	20.2
Proportion of women in managerial positions ¹⁾	%	13.3	12.5	11.2
Number of workplace accidents per 200,000 hours worked		0.9	1	1.1
Number of workplace accidents resulting in lost days per 200,000 hours worked		0.7	0.8	0.8
Certified sites				
Sites with certified quality management system (ISO 9001, ISO TS 22163 or IATF 16949)		84	81	84
Sites with certified environmental management system (ISO 14001)		60	59	59
Sites with certified energy management system (ISO 5001 or EN 16247)		35	33	34
Sites with certified occupational health and safety management system (ISO 45001)		35	37	37
Environment and climate protection²⁾				
Energy consumption	GWh	441	432 ⁴⁾	352
Energy efficiency	MWh/€ million	63.6	65.3	57.2
Direct and indirect CO ₂ emissions ³⁾	thousand tons CO ₂	129	143 ⁵⁾	152
of which direct CO ₂ emissions (Scope 1)	thousand tons CO ₂	100	116	133
of which indirect CO ₂ emissions (Scope 2)	thousand tons CO ₂	29	27	19
CO ₂ intensity	tons CO ₂ /€ million	18.6	21.6	24.7
Suppliers⁶⁾				
Acknowledgement of Supplier Code of Conduct	% of purchase volume	85	81	-
Sustainability assessment coverage	% of purchase volume	61	53	-
Number of supplier audits		24	6	-

¹⁾ Proportion of workforce included in calculation: approx. 90% of total workforce

²⁾ The figures refer to all sites under operational control. Sites that are not production facilities or service workshops and have fewer than 50 employees are excluded. Approximately 96% of Knorr-Bremse employees are included. Sites not included in this definition are required to report their workplace accidents in line with the provisions of the corporate policy on compulsory reporting of damage and emergency incidents. This ensures that all our sites promptly inform us of serious incidents, so that the appropriate measures can be taken.

³⁾ Our recording of CO₂ emissions is based on the recognized specifications in the Corporate Accounting and Reporting Standard (Scope 1 and 2) of the Greenhouse Gas Protocol. The graph shows market-based CO₂ emissions.

⁴⁾ This figure has been adjusted year on year due to the disposal of the Powertech business unit.

⁵⁾ This figure has been adjusted year on year to reflect updated CO₂ emissions factors in the Czech Republic and the disposal of the Powertech business unit.

⁶⁾ relating to direct suppliers



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