

# DRIVING SUSTAINABILITY



**KNORR-BREMSE**

# Profile

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## 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 Rail Vehicle Systems equips commuter trains, freight trains, locomotives and high-speed trains with safety-critical products and systems. As well as braking systems, these include entrance systems and HVAC systems. Knorr-Bremse Commercial Vehicle Systems supplies products and systems for trucks, buses, trailers and agricultural machines. These include braking systems, but also solutions related to vehicle dynamics, including steering systems.

## 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 2020 business year; the previous year's data is provided for comparison where available. The report is published annually and the next Sustainability Report is due to be published in March 2022.

This 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 18). 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 04) and "Compliance and risk management" (page 24).

## 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 March 15, 2021. This Sustainability Report is available in German and English.

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# Foreword

*Dear Readers,*

2020 was an extraordinary year in which the Covid-19 pandemic brought health, political and economic challenges that also had a huge impact on Knorr-Bremse. Covid-19 represented a major entrepreneurial challenge that focused attention in particular on sustainability, even though there were times when environmental protection took a back seat in the public perception.

Some people were very badly affected by the pandemic, and I do hope that all our business partners, employees and their families who fell ill will make a full recovery. Our thoughts are also with those colleagues who died as a result of the virus.

Over the last decade, Knorr-Bremse has built up reliable structures in terms of organization, personnel and specific areas, especially when it comes to sustainability management. This means we were able to respond effectively to the challenges of the Covid-19 pandemic. With the support and solidarity of everyone in the Group, the crisis team that was quickly established succeeded in drawing up, coordinating and efficiently implementing measures to protect against Covid-19. These enabled us to provide effective protection and support to our employees at corporate facilities, our supply chain and our customers from January 2020 onwards.

Thanks to the commitment of our suppliers and business partners, we were largely able to maintain the stable delivery processes that were essential for us to remain on course during this period. We were thus also able to continue our R&D activities during 2020, with above-average levels of investment establishing a strong market position for the Company in the long term.

Knorr-Bremse is already delivering answers to the most important industrial trends in our sectors – and sustainability looms large among them. Over the coming years the second generation of e-mobility, as the cornerstone of zero-emission transportation, will shape the activities of Knorr-Bremse's CVS division. The new, internal eCUBATOR unit has already started to work on developing the systems solutions required for emission-free commercial vehicles of the future.

By contrast, rail transportation is already the current and future emission-free method of transport. The RVS division is driving the development of greater product sustainability, among other things with the aim of improving rail vehicles' carbon footprint. And our high-tech HVAC systems from Merak are an important element in combating the Covid-19 pandemic.

The Group-wide Climate Strategy 2030 unveiled by Knorr-Bremse in March 2020 represented a milestone for the Company. It set the goal of halving our CO<sub>2</sub> emissions by 2030 and achieving carbon neutrality for Company facilities with effect from 2021. We are convinced that our redoubled efforts to protect the environment will contribute to the long-term financial success of the Company.

The pandemic has identified certain constraints, but at the same time has acted as a driver of progressive action. This applies specifically to the intensified process digitalization in all areas of the Company. In addition to smart product and process innovation, this includes developing comprehensive concepts for mobile working, with new working models that will improve



work-life balance. In this context – and with regard to the professional development of employees in general – an important role is going to be played by our recently launched eLearning platform which offers 16,000 different courses.

Finally, the need to take measures to cope with the crisis has underlined the importance of ESG (Environmental, Social, Governance) issues and entrepreneurial risk awareness within Knorr-Bremse. This will contribute to strengthening the Company's resilience and will be welcomed by our stakeholders.

In this report we wish to make transparent our sustainability performance and highlight key measures, targets and indicators. By doing so we are underlining our commitment to the ten principles of the UN Global Compact for responsible corporate governance.

We hope you find the report interesting and inspiring.

*Yours Jan Mrosik*

**Dr. Jan Mrosik**  
Chief Executive Officer of 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. These include 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 2020, Knorr-Bremse's global sales totaled EUR 6.2 billion. Some 29,500 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 2020 Annual Report, see the chapters entitled 'Overview of the Group' and 'Business Model/Structure of the Group'.

1.01 Knorr-Bremse in figures

**As of 31.12.2020,  
orders received  
amounted to  
EUR 4,977 million**



billion EUR revenue generated  
by the two divisions in 2020



Number of employees in Group worldwide  
as of December 31, 2020

**In 2020 we  
invested 6.4%  
of revenues in  
research and  
development  
activities**





## Covid-19 – the major challenge of 2020

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Social and economic life in 2020 was dominated by the Covid-19 pandemic. Knorr-Bremse reacted early on, making every endeavor to implement protective measures to safeguard the health of its employees, the stability of its business processes and its delivery capability – factors that form the bedrock of an enduringly robust company. At the same time, however, the pandemic response tied up resources, in Knorr-Bremse as in other organizations. Business processes were subject to dramatically changed conditions and numerous restrictions, which meant that Knorr-Bremse was not able to implement all the sustainability measures planned for 2020. Nevertheless, we can see that our corporate structure, including sustainability management, proved effective and we were able to continue the task of realizing the majority of our planned internal and external projects. In line with our commitment to transparency, we would like to start by providing information about measures in the various CR management action areas that were introduced or expanded to reduce the spread of Covid-19. These included rapid activation of the crisis committee to protect the company and our staff, accelerated product development for air-conditioning systems, and socio-economic support for staff and aid organizations.

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## CR area of activity: Strategy and Management

### The crisis committee as operations center

The Covid-19 pandemic challenged Knorr-Bremse's high expectations of itself as a fair business partner and employer. At the same time, a wide range of sustainability management tasks had to be driven forward. Our existing, effective global corporate structure provided the basis for all our measures to cope with Covid-19. In January 2020, Knorr-Bremse mobilized the crisis committee, part of its Global Security Management system, with the aim of protecting the company and staff, and it has been meeting regularly ever since. The committee, consisting of representatives from the divisional management boards and numerous departments, led the way in developing a program of measures to tackle the Covid-19 pandemic. The aim of the activities was to ensure that Knorr-Bremse could fulfil its responsibilities towards the environment, its employees, partners and society in general.

### Central measures to combat the effects of the Covid-19 pandemic

Knorr-Bremse's top priority when it came to crisis committee planning was, and continues to be, protection of the company. An intrinsic part of this goal is the company's duty of care to its employees, and this was the main focus of specific measures taken. At the same time, the company's workflows and production processes were adapted to the changing circumstances arising from the pandemic. Consistently transparent communication with all of our stakeholders is crucial when implementing these measures.

**Employee protection:** We are protecting our employees around the world against Covid-19 (for details see page 09).

**Support for employees:** In order to reduce the socio-economic impacts of the pandemic on employees, various Knorr-Bremse sites introduced short-time working and comparable arrangements or measures guided by local policy. The Knorr-Bremse Social Fund supports colleagues and their families who have been particularly affected by the pandemic.

**Operational activities:** Segregation of teams and shifts while maintaining the same level of capacity optimized occupational health and safety. In order to reduce personal contact between employees, the layout of the production lines was adapted as part of the prescribed Covid-19 protective measures.

**Business workflows:** In terms of business management, cost-reduction programs were planned and/or implemented in the divisions (see Annual Report 2020).

**Supply chain and customers:** Intensive monitoring of suppliers and customers, and consultation on processes aimed at ensuring an unbroken supply chain (for details see page 08).

**Society:** Knorr-Bremse Global Care and Local Care initiatives safeguarded the work of NGO partners in particular through a Covid-19 rescue fund and other support measures (for details see page 11)

### Crisis committee puts together package of measures

The Knorr-Bremse crisis committee, which is led by Corporate Security and involves the management boards of the two divisions as well as representatives of the HSE, IT, Communications, HR and Legal departments and, in this case, works council representatives, cooperates closely with the Executive Board. Other experts are called in, depending on the issue at hand.

The crisis committee is the hub for all the company's pandemic measures. Its core tasks include global and divisional situation monitoring and action planning. It assesses the current situation, agrees necessary measures with the Executive Board, runs and manages communications, draws up and distributes reports and puts together packages of measures. As well as procuring and distributing protective equipment for employees, staff protection measures include working from home, segregating teams, travel restrictions and visitor regulations (for details see page 09). A Group-wide Knorr-Bremse Covid-19 reporting tool provides data and findings concerning the situation at our sites.

As things stand, the crisis committee appears to have proved its worth with its cross-departmental teamwork and far-sighted decision-making. It continues to be in demand as the company manages the crisis. A review of lessons learned will be carried out once the crisis is over.



## CR area of activity: Products and Partners

### Product developments for health protection

Even during the crisis, Knorr-Bremse kept up its strong R&D focus, investing over 6% of sales revenue in future-oriented research and development projects in 2020 – more than its competitors. This commitment also reflects the company's long-term growth and innovation priorities, because continuous, forward-looking development pays off, as demonstrated, for instance, by Merak's high-tech HVAC technology for rail vehicles.

### Key measures and development projects during the Covid-19 pandemic

From classic product and systems development to the maintenance and optimization of supply chains, these are the challenging tasks that Knorr-Bremse tackled and continued to pursue during the Covid-19 pandemic:

#### R&D: Pressing ahead

- Reproducible Braking Distance: Further development work on brake architecture for increased train frequency, which will be able to support social distancing measures in the future
- clean[air] HVAC technology: Air-conditioning systems from Merak for filtering air in rail vehicles

During the pandemic, customer interest in further development of highly-automated driving systems for commercial vehicles remained high. Within the Group, the Schwieberdingen site has considerable expertise in this field.



### Supply chain & customers: Keeping processes running

- Intensive supplier monitoring
- Supplier support through individual business agreements and advice on financial matters, such as applying for external or government support; provision of safety equipment such as masks for various suppliers
- Special monitoring and needs prioritization for critical projects, deliveries within the Group to avoid detrimental impacts on the business
- Close consultation with customers based on a fully transparent supply chain and monitoring of the reopening of customer sites

### Demand for advances in HVAC systems

Companies in the rail transportation sector are using cutting-edge technology to support safe, sustainable rail travel. Knorr-Bremse is collaborating closely in this area with railcar manufacturers and is making HVAC systems for active and passive air filtration during train journeys. The clean[air] technology developed by our subsidiary Merak comprises a three-pronged concept for effective air purification: intelligent air distribution that maximizes the fresh air fraction, filtration of 99% of micro-particles, and purification by destroying dangerous micro-organisms such as bacteria – and even coronaviruses – using dielectric barrier discharge and UV-C light.

### Open communication reduces supply bottlenecks

To safeguard business continuity, Knorr-Bremse's US subsidiary Bendix worked very closely with suppliers and its logistics network during the pandemic. A cross-team working group assessed the business impacts of interrupted supply chains. Then, as part of a risk-reduction plan for supply bottlenecks, Bendix, its partners and suppliers carried out daily checks of stock levels and lead times for each part number. The Bendix procurement and supply chain managers continuously monitored the status of potentially affected part numbers and worked with the suppliers to find alternative sources or alternative parts.



## CR area of activity: Employees and Leadership

### Global protection concept for employees

The top priority for Knorr-Bremse is to protect its employees against Covid-19, and the crisis committee quickly introduced a coherent concept to achieve this. Implementation of the key measures was primarily agreed and planned between Corporate Security, Human Resources and the divisions. The guidelines provided local managing directors with a framework for implementing measures at their sites.

The early employee protection concept included strict travel regulations and hygiene measures. Knorr-Bremse was in a position to provide employees with masks at any time. It also put in place the necessary infrastructure for remote working and switched to multiple shift production operations.

### Core measures to protect employees

The pandemic protection measures were constantly communicated throughout the Group and adapted at the sites in line with local guidelines, resulting in synergies and learning effects across the Group. This applied in particular to central health protection measures for employees.

- Home-working arrangements for all colleagues whose jobs could be done remotely; rapid provision of technical equipment where required
- Home-working arrangements for colleagues with childcare responsibilities because of daycare center and school closures, or for those with caring responsibilities; together with flexible working time solutions or leave of absence models
- Accelerated implementation of a range of courses on the virtual LinkedIn Learning platform that can be followed from anywhere at any time. Launched at the German sites first, it will be rolled out worldwide from the start of 2021 onwards
- Comprehensive protection concepts for staff who do not work from home (hygiene measures, mandatory team allocations), distribution of personal protective equipment (face masks, gloves, disinfectants), contact tracing
- Transparent communication on the protective measures and information campaigns (Intranet), safety at work instructions, medical consultations for employees

- Short-time working and similar measures in Europe, and partial closures of production facilities with the aim of ensuring financial stability and saving jobs by reducing personnel costs. In the USA, furloughed employees were reinstated sooner than expected thanks to the business continuity achieved as a result of the pandemic measures
- The Knorr-Bremse Social Fund supports colleagues who are particularly affected by the pandemic, as well as their families. Beneficiaries were selected by the relevant site. For each employee, EUR 20 (or an equivalent sum in the local currency) was paid into the local Social Fund. At sites with no Covid-19 related hardship cases, the funds were used to support other local charitable causes

### Best practice: Covid-19 protective measures around the world

Travel advice and the distribution of protective equipment were two key protective measures introduced in the Knorr-Bremse Group early on in the pandemic.

Where are employees still allowed to travel on business? What restrictions do they need to observe on their outward and return journeys? What are the visitor regulations for Knorr-Bremse sites? At the start of the pandemic in particular, Corporate Security, HR and the in-house medical team were closely involved in operations, providing advice and supporting many individual cases. One important task was providing support to employees stranded abroad and helping them return to their home countries.

The efficient needs analysis, procurement and distribution of protective equipment for employees at the European Knorr-Bremse sites was exemplary. This measure was implemented from Munich by the crisis committee and internal purchasing team. In May 2020, each European employee received two reusable face masks. The distribution of protective equipment to other Group sites worldwide was organized at regional level. Around the world, numerous sites initiated additional protection campaigns for staff, like Knorr-Bremse in Reims, France, which introduced a “welcome back kit” containing ten reusable masks. Medical masks were available on request.



## CR area of activity: Environment and Climate

### Continuation of the Climate Strategy 2030

Knorr-Bremse is aware that there is more to sustainable corporate responsibility than Covid-19 protective measures – even though public perception shifted in 2020. Acting sustainably means pushing ahead with long-term projects. This is why we shone a spotlight on our new Climate Strategy 2030 internally and externally, even in the year of the pandemic. In doing so, we were honoring our commitment to the UN's Sustainable Development Goals (SDGs).

### Pursuing emission reduction measures

The Covid-19 pandemic and its consequences lowered energy consumption and CO<sub>2</sub> emissions worldwide, including at Knorr-Bremse. The emissions reduction came in part from the exceptional situation and from temporary interruptions to the production chain. Reduced travel – which is likely to be a long-term change – also played a role. Apart from these effects, we continued with the systematic implementation of our new Climate Strategy 2030 for CO<sub>2</sub> reduction with targeted measures (see "Environment and Climate", page 58).

### Impacts of the pandemic on climate strategy, learning culture and audits

In March 2020, Knorr-Bremse presented its Climate Strategy 2030, which aims to halve the Group's CO<sub>2</sub> emissions by 2030. In addition, we are committed to achieving carbon neutrality from as early as 2021. Since direct employee communications, e.g. at the annual Knorr-Bremse Days, were not possible in 2020, we initiated site-specific employee information campaigns on the "Climate Action" SDG, with activities planned till the middle of 2021 (see "Strategy and Management", page 12). To provide the knowledge base necessary for these campaigns, 60 managing directors from Knorr-Bremse sites were given training on the new Climate Strategy. Online learning, which was accelerated during the pandemic, will also be used to encourage employees to support our climate strategy in the long term – ideally through actions that go beyond the workplace. Regular online discussions were able to compensate in large part for the cancelled inter-site and inter-divisional HSE meetings in 2020.

However, the Covid-19 pandemic did lead to the postponement of some sustainability projects and measures. It was not possible to complete all projects in the area of auditing and certification, and most on-site audits did not take place.

During the Covid-19 pandemic, digital learning was much in demand and more important than ever. Knorr-Bremse Global Care provided support in the form of the necessary hardware. In Berlin (picture above) the work of the organization "Die ARCHE Kinderstiftung" and in the USA the "Motogo" education program for young people.





## CR area of activity: Commitment and Society

### **Covid-19 rescue fund safeguards long-term projects**

Knorr-Bremse provided direct assistance in the fight against the Covid-19 pandemic and its social consequences via Local Care projects and the Knorr-Bremse Global Care aid organization. In addition to financial and material emergency relief measures, this also involved support for long-term project partners and ongoing projects in order to maintain their important work during the crisis, and to support the people involved. Notwithstanding its special Covid-19 support, the long-term mission of Knorr-Bremse Global Care is still to provide sustainable support to projects in the areas of education and WASH (water, sanitation and hygiene) (see “Commitment and Society”, page 68).

### **Knorr-Bremse Global Care’s Covid-19 rescue fund**

Many of Knorr-Bremse Global Care’s long-term partner NGOs are struggling during the pandemic to find the financial resources to cover extraordinary expenses. To safeguard the important work of these organizations, Knorr-Bremse Global Care set up a Covid-19 rescue fund of over EUR 700,000, on top of its support for long-term education and WASH programs.

Knorr-Bremse Global Care is providing financial assistance to more than 27 organizations, in addition to its ongoing program commitments. The supported projects are diverse and located all over the world. See below for a selection of our projects:

**Information and education:** In Cape Town, South Africa, Knorr-Bremse Global Care is supporting Covid-19 information campaigns organized by its long-term partner Amandla. The organization also provides access to online lessons for local children.

**Education and meals:** Local aid organizations close to Knorr-Bremse sites, e.g. in Germany and the USA, are supporting children from low-income families. The assistance includes resources for online learning and meals.

**Hygiene (WASH):** The pandemic protection project run by World Vision in Kitui and Makueni County in Kenya includes training health workers and volunteers in measures to prevent and minimize the spread of Covid-19. As well as raising awareness in the community for social distancing and other behavioral changes, World Vision also provides practical assistance, such as repairing standpipes and providing hand washing facilities.

**Food provision:** In Delhi, India, Global Care is supporting the work of Save the Children in Bhanvar Singh Camp, one of the country’s largest slums, distributing food, hygiene kits for children and protective equipment for employees of the aid organization. In Brazil, close to São Paulo, Knorr-Bremse Global Care’s partner, Instituto Anchieta Grajau, is organizing food distribution in an impoverished neighborhood.

### **Local Care initiatives at Knorr-Bremse sites**

A large number of Knorr-Bremse sites organized their own Local Care projects in 2020, including financial and in-kind donations to mitigate the impacts of the Covid-19 pandemic. A selection from the Knorr-Bremse regions:

#### **Asia/Australia:**

- Covid-19 equipment for a medical aid organization, funding (Sakado/Japan)
- Psychotherapy for needy children suffering from the effects of Covid-19, financial support (Seoul/Korea)
- Covid-19 tests in a hospital, and food donations for socially disadvantaged people, funding (Palwal/India)

#### **Europe/Africa**

- Food and hygiene products for children from socially disadvantaged families, financial support and donations in kind (Berlin/Germany)
- Laptop donations and funding for teaching materials for children from socially disadvantaged families (Florence/Italy, Munich/Germany)
- Medical supplies and hospice care for the elderly, financial support (Liberec/Czech Republic)

#### **Americas**

- Funding for three assembly workbenches to produce ventilators (Itupeva/Brazil)
- Funding food and cooking gas for socially disadvantaged families (Itupeva/Brazil)
- Local food banks for people in need, financial support (Elyria/USA, Westminster/USA)



# Strategy and Management

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» **The UN Sustainable Development Goals include specific requirements for companies, making it easier for us to align our actions with clear objectives. This way we can use our financial strength and capacity for innovation to tackle economic, social and environmental challenges.** «

— **Stefan Bräuherr**

Head of Corporate Responsibility  
Knorr-Bremse AG

#### Sustainability ratings

The DAX 50 ESG index newly created by the German stock exchange listed Knorr-Bremse from the very outset. The Company received an "A" from MSCI ESG Rating, and an "A-" from CDP for transparency and performance in climate protection.

#### Knorr-Bremse SDG initiatives

With our five global initiatives and resulting measures, we contribute to achieving Knorr-Bremse's core SDGs. Each member of the Executive Board of Knorr-Bremse AG and the Chair of the Executive Board of Knorr-Bremse Global Care is responsible for one SDG initiative.

#### Knorr-Bremse Day

Since August 2020, Knorr-Bremse Values Day has been organized by Group sites all over the world as a digital, company-wide "Climate Action!" campaign. The central focus is on SDG 13 (climate action).

# 95%

of employees with access to a company learning platform completed compliance training



#### 17 SDGs

Knorr-Bremse already contributes to many of the 17 Sustainable Development Goals (SDGs) and their sub-goals. To ensure a focused commitment, we have selected five core SDGs (5, 8, 9, 12 & 13) on which we will concentrate at present and in the future. For Knorr-Bremse Global Care, there is a special focus on two further global goals (4 & 6).

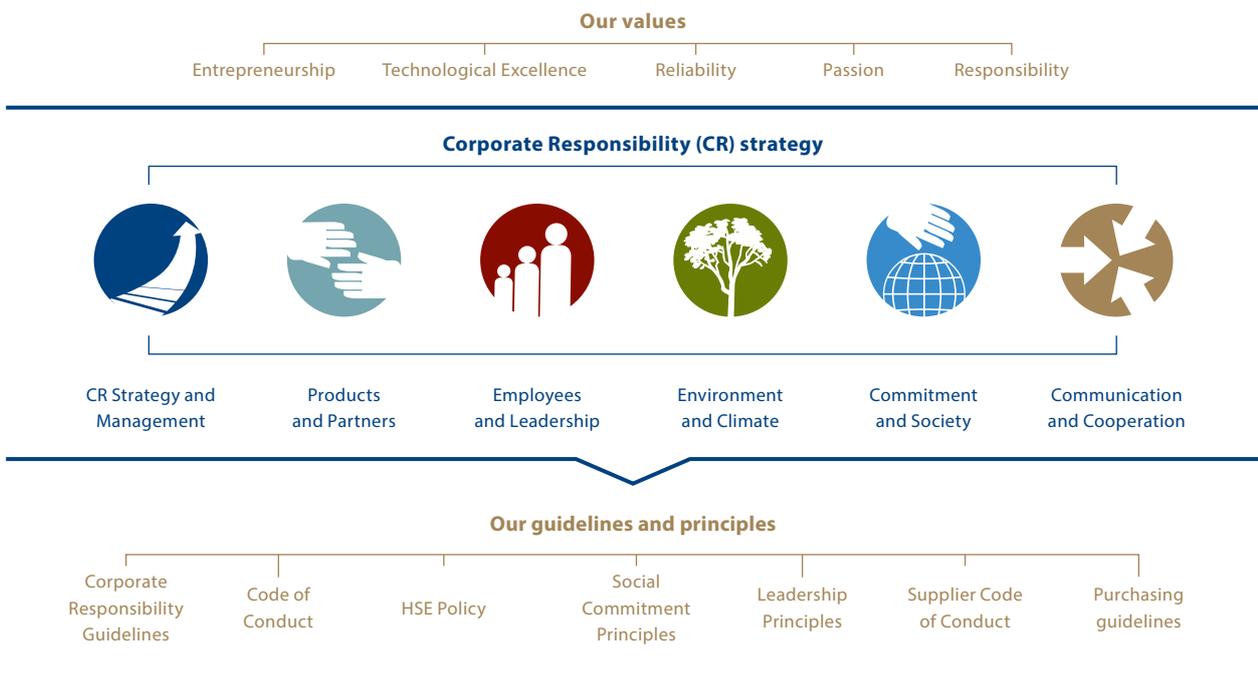
# Strategy and Management

**As a successful global player in the mobility sector, Knorr-Bremse’s aim is to contribute towards creating a sustainable society. Our many products and system solutions are already helping to shape tomorrow’s world of mobility. As part of a continuous process, our Group-wide sustainability strategy addresses issues that affect our employees, the environment and society.**

Knorr-Bremse’s aim is to be the global driving force behind innovative and sustainable systems that make mobility and transport more reliable, safer, and more efficient. The Company is driven by a desire to create added value for its customers and at the same time make a positive contribution to society. One important element in achieving this vision is Knorr-Bremse’s Corporate Responsibility (CR) strategy, complete with all the current and planned measures that it involves.

Senior Management has firmly established a sustainable focus within Knorr-Bremse’s structures and processes, in line with the Company’s five corporate values of Entrepreneurship, Technological Excellence, Reliability, Passion and Responsibility.

## 3.01 Values and Corporate Responsibility Guidelines



Knorr-Bremse's CR strategy helps to translate the Company's focus on sustainability into commercial success and enables it to meet its responsibilities to society and the environment. It plays an important role in shaping our efforts to create value while at the same time conserving natural resources and also guides our behavior as a fair business partner and employer committed to due diligence on human rights. Knorr-Bremse aims to constantly improve its sustainability performance across the entire value chain. Our efforts to achieve this are driven in large part by our corporate values and Code of Conduct, as well as by company-specific guidelines. [Fig. → 3.01](#)

## Principles and processes for strategy and management

Our CR management structures are based on statutory requirements and internal regulations such as policies and guidelines. These provide employees across all our divisions, as well as our customers, suppliers and other business partners, with the knowledge they need to ensure their actions are consistent with our sustainable corporate governance requirements.

- Our **CR guidelines** define the principles and strategic objectives for responsible corporate governance within Knorr-Bremse.
- Our **Code of Conduct** sets out 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 **Conflict Minerals Policy** focuses on the handling of conflict materials and provides guidance for Knorr-Bremse procurement and suppliers on this issue.
- Our **Occupational Health and Safety and Environmental Protection Policy** commits us to the highest standards.
- Our **Leadership Guidelines** serve as a guide for successful employee management and 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.

We also make use of international guidelines and conventions to help ensure our business activities are conducted in line with the principle of sustainable entrepreneurship. One important external initiative in this area is the United Nations (UN) Global Compact, which Knorr-Bremse signed back in 2010. Other sources of guidance include the UN Guiding Principles on Business and Human Rights, the principles

behind the conventions of the International Labor Organization (ILO), and the 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 Railway Industry Association (VDB). As a demonstration of our commitment to safe mobility we have also signed the European Railway Safety Culture Declaration and the Dublin Declaration of the European Rail Supply Industry.

## Corporate Responsibility strategy

For Knorr-Bremse, commercial success goes hand in hand with consistently responsible behavior in relation to our employees, business partners, the environment and society. Our CR program therefore forms an integral part of the Company's strategy and demonstrates our clear commitment to the United Nations' Sustainable Development Goals and our respect for human rights all over the world. We live up to this commitment by establishing management systems, setting out clear policies and monitoring implementation of appropriate measures.

### Corporate Responsibility: Areas of activity

Knorr-Bremse structures its corporate responsibility into six areas of activity that serve as the pillars of our strategic CR management system. 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 the strategic issues identified in our materiality analysis (see “Materiality analysis and stakeholder involvement”, page 18) and in external ratings and rankings (see “Corporate Responsibility: external assessments”, page 17) as well as being based on the United Nations Sustainable Development Goals (SDGs) (see “Knorr-Bremse and the Sustainable Development Goals”, page 22). 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”, page 26).

Knorr-Bremse aims to continuously improve its performance in all six CR fields of action. In line with a package of measures approved in 2015, the sustainability of structures and processes used within the Company was significantly improved in the period to 2020 (see Knorr-Bremse Sustainability Report 2019, “Strategy and Management”, page 10). This has provided the basis for drawing up a CR program for the next few years. One essential element will be our Climate Strategy 2030, but in addition we aim to generate further contributions to achieving the SDGs and to focus on ensuring human rights due diligence.

**Corporate Responsibility: Organization**

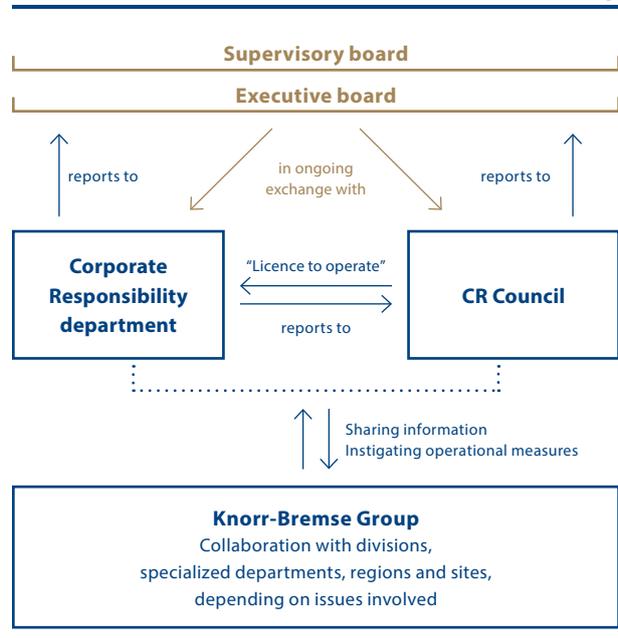
The Corporate Responsibility department is responsible for sustainability, and reports directly to the Executive Board and the Knorr-Bremse Corporate Responsibility Council (CR Council).

The CR Council, which meets twice a year, consists of one member of the Executive Board, European Management Board representatives from each 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 decides on the CR program, which lays down the aims and measures for implementing the strategic themes. Unless otherwise stated, all relevant issues are reported to the Executive Board via the CR Council.

The CR department and CR Council play central roles in developing, implementing and controlling CR projects. Other bodies and specialized departments also contribute to the implementation and development of the CR program. Established bodies exchange ideas on individual specialized topics and oversee operational implementation. These include

bodies for sustainable procurement, climate protection or EcoDesign. In addition to the CR department, global specialists and operational project managers are also represented. The specialist departments continually exchange information with the CR department and, when necessary report on their CR projects directly to the CR Council. This clear organizational structure ensures that sustainability is firmly established at the highest levels of decision-making within the Group. [Fig. → 3.02](#)

**3.02 CR organization at Knorr-Bremse**



### Corporate Responsibility: External evaluations

External evaluations are important to Knorr-Bremse, as they show us how to achieve improvements in meeting the expectations of external stakeholders. We use sustainability ratings and rankings to analyze and evaluate our CR performance, as comparisons with other players in the industry and early identification of trends to help us further develop our Company. Since being listed on the capital market, we have also increased our orientation towards ESG (Environmental, Social and Governance) criteria. Thus it is important

for Knorr-Bremse to have non-financial information available when business-related decisions are being made. Knorr-Bremse has been listed from the very outset on the DAX 50 ESG index of sustainable businesses set up by the German Stock Exchange in 2020. In addition, the Company was frequently rated as above average for its sustainability measures. Table 3.03 shows a selection of sustainability ratings and rankings, together with indexes on which Knorr-Bremse is listed. [Tab. → 3.03](#)

### 3.03 ESG ratings and rankings by the capital market and customers

Index, rating and ranking	Current assessments of Knorr-Bremse	Details of assessments
<b>DAX 50 ESG Index</b>	Knorr-Bremse has been listed from the outset on this index.	This index contains details of the top 50 companies based on their ESG performance, stock exchange value and revenues.  <a href="https://qontigo.com/products/dax-50-esg-en/">https://qontigo.com/products/dax-50-esg-en/</a>
<b>DJSI (Dow Jones Sustainability Indices)</b>	Knorr-Bremse achieved 50 out of 100 points, putting it among the top 25% in the peer group.	In addition to economic criteria, the Dow Jones Sustainability Indices (DJSI) also take into account ecological and social criteria according to the best-in-class principle. The top sustainability performers in an industry are included on the index.  <a href="http://www.spglobal.com/esg">www.spglobal.com/esg</a>
<b>MSCI</b>	In 2020, Knorr-Bremse once again received an "A" rating, ranking it as third best out of 7 categories and among the top 20-43% in the peer group.	MSCI ESG Ratings rank companies on a scale of "AAA" to "CCC" in terms of their industry-specific ESG risks and their success in managing these risks.  <a href="http://www.msci.com/esg-ratings">www.msci.com/esg-ratings</a>
<b>ISS ESG</b>	Knorr-Bremse retained its "Prime Status C+" rating awarded by ISS ESG, putting it among the best 10% in the industry.	ISS ESG – the Responsible Investment arm of Institutional Shareholder Services Inc, rates sustainability performance on a scale of A+ to D-.  <a href="http://www.issgovernance.com/esg">www.issgovernance.com/esg</a>
<b>Sustainalytics</b>	In 2020 Knorr-Bremse received 19.0 out of a total of 100 risk points – in other words it was rated as low-risk and ranked among the top 2% in an industry comparison.	Sustainalytics assess ESG risks according to five risk categories (negligible, low, medium, high, severe).  <a href="http://www.sustainalytics.com">www.sustainalytics.com</a>
<b>CDP</b>	CDP has awarded Knorr-Bremse an "A-" rating for its transparency and climate protection measures (2019: C). This puts Knorr-Bremse at CDP's Leadership level, ranking among the top 13% of the peer group.	CDP rates companies with regard to their climate protection measures on a scale of A to D.  <a href="http://www.cdp.net">www.cdp.net</a>
<b>EcoVadis</b>	For 2020, Knorr-Bremse received a "Silver" rating (2019: Gold), putting us among the best 10% in the peer group.	EcoVadis ranks suppliers from 150 countries in terms of environment, social commitment, ethics and sustainable procurement and assigns them Platinum, Gold, Silver or Bronze status.  <a href="http://www.ecovadis.com">www.ecovadis.com</a>
<b>SAQ (Customer rating)</b>	13 Knorr-Bremse sites are rated on a scale of 80-89%.	The SAQ (Self-Assessment-Questionnaire) is distributed to companies in the automotive (supply) industry and rates the sustainability performance of individual company sites on a scale of 0-100%.  <a href="https://drivesustainability.org/">https://drivesustainability.org/</a>

## Materiality analysis and stakeholder involvement

We used a materiality analysis to decide on the main points of focus for our CR management and reporting. The results of the analysis highlight sustainability-related 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

Knorr-Bremse's materiality analysis takes into account the requirements of the CSR Directive Implementation Act (CSR-RUG), as the Company has integrated the non-financial report in accordance with sections 315b and 315c in conjunction with 289b to 289e of the German Commercial Code (HGB) into its sustainability report since 2018. Under CSR-RUG, all information relevant to business performance, results and the Company's financial position must be formally reported, along with any relevant impacts of the Company's business activities on non-financial matters.

Topics are selected on the basis of a materiality analysis, which was last carried out comprehensively in 2018. The existing topics for particular focus among our six areas of activity were assessed against external sustainability standards and frameworks, and compared with the issues identified as significant by the peer group. In intensive workshops, CR management and the responsible experts assessed these non-financial issues according to CSR-RUG requirements. In 2019, CR management, in conjunction with the specialist departments, critically reviewed the main non-financial topics. In addition, both net and gross risks and the probability of occurrence were considered in greater detail (see Knorr-Bremse Sustainability Report 2019, "Strategy and Management", page 13). The materiality analysis for 2020 was confirmed by the Executive Board and Supervisory Board.

The materiality matrix for the year under review includes a total of 13 non-financial issues. Nine of these were prioritized 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 79). These topics also represent the specific focuses of the individual Knorr-Bremse areas of activity around which the present report is structured. "Product and system safety," "Ecological product design," "Sustainability standards in the supply chain," "Energy and CO<sub>2</sub> emissions", "Personnel development", "Anti-corruption and fair competition", "Employment conditions", "Occupational health and safety", and "Diversity and equality" all retain the potential to exert a significant influence on

Knorr-Bremse's business activity and performance, and therefore continue to be classified as priority issues for the Company. As last year, "Anti-corruption and fair competition" is covered by the section on compliance and risk management.

The materiality analysis also identified four additional issues – "Data protection", "Waste", "Water" and "Social commitment" – as having both positive and negative effects on Knorr-Bremse's business activities. However, because of their relatively low relevance, they are not of central importance as far as CSR-RUG reporting is concerned. "Social commitment" is discussed in a separate chapter, as it constitutes an area of CR activity in its own right.

Despite the Covid-19 pandemic, the issue of "Occupational health and safety" was not ranked as being of greater importance in 2020 than in 2019. In both the past and present we have responded to increasing demand for health protection measures (see "Occupational health and safety", page 56; "Covid-19 – the major challenge", page 09). This is, however, an area in which Knorr-Bremse can make use of existing structures and management processes, because the company was already prioritizing health protection prior to the pandemic. [Fig. → 3.04](#)

3.04 Materiality matrix 2020



Material issues within Knorr-Bremse areas of activity



CR areas of activity

<b>CR Strategy and Management</b>	<b>Products and Partners</b>	<b>Employees and Leadership</b>	<b>Environment and Climate</b>	<b>Commitment and Society</b>	<b>Communication and Cooperation</b>

### Non-financial risks

According to CSR-RUG, in addition to reporting material aspects, companies must also disclose any associated non-financial risks. In the analysis, Knorr-Bremse did not identify any significant risks in net terms that would be very likely to have a serious negative impact. In order to reduce risks relating to key sustainability aspects as far as possible, Knorr-Bremse has implemented management systems and processes based on globally applicable guidelines and supplementary standards. Adherence to these standards is monitored by internal systems such as audits or the whistleblower system. Issues relating to sustainability are also taken into account in Group-wide risk management.

### Stakeholder involvement

The basis for sustainable corporate success is stakeholder trust – and Knorr-Bremse aims to justify, strengthen and further develop this. For this reason we conduct an ongoing dialog with people, society and markets. We provide plenty of scope for contact with stakeholders through direct customer discussions, global trade fairs, active association work, meetings with investors, the Annual General Meeting and the global Knorr-Bremse Day for employees.

## 3.05 Involvement of stakeholders

Stakeholder groups	Format	Examples from 2020	Key issues
<b>Customers</b>	<ul style="list-style-type: none"> <li>Customer discussions and visits</li> <li>Workshops</li> <li>Trade fairs</li> <li>Conferences</li> <li>Customer events</li> <li>Customer satisfaction survey</li> </ul>	<p><b>Events at customer sites:</b></p> <ul style="list-style-type: none"> <li>Daimler Supplier Award</li> <li>DAF Trucks "Mid-Year Business Update 2020"</li> <li>NAVISTAR Supplier Day 2020</li> <li>PACCAR annual "A" panel meeting</li> <li>Daimler Trucks North America "DTNA Technology Review"</li> </ul> <p><b>Customer events:</b></p> <ul style="list-style-type: none"> <li>Bendix virtual live product demonstrations of trucks and school buses, Elyria</li> </ul>	<ul style="list-style-type: none"> <li>Product safety</li> <li>Road safety</li> <li>Reliable delivery</li> <li>Quality, prices</li> </ul> <p><b>Innovations:</b></p> <ul style="list-style-type: none"> <li>Mobility transition, energy efficiency</li> <li>Governance and compliance</li> <li>Sustainability</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>Feedback meetings with line managers</li> <li>Intranet, employee magazine</li> <li>Company health care/ company sports</li> <li>Employee survey</li> <li>Volunteering</li> <li>Employee events</li> </ul>	<ul style="list-style-type: none"> <li>Digital Days 2020</li> <li>Global Knorr-Bremse Day/Virtual campaign 2020/2021 "Climate Action!"</li> </ul>	<ul style="list-style-type: none"> <li>Wages and salaries</li> <li>Safety at work</li> <li>Working conditions</li> <li>Current business performance</li> <li>New products</li> <li>Customer projects</li> <li>SDGs</li> </ul>
<b>Suppliers and business partners</b>	<ul style="list-style-type: none"> <li>Conferences</li> <li>Guideline</li> <li>Trainings</li> <li>Supplier talks</li> <li>Supplier assessment</li> <li>On-site audits</li> </ul>	<ul style="list-style-type: none"> <li>Follow-up to audits and evaluation of planned correction measures</li> <li>Training documentation on conflict minerals</li> </ul>	<ul style="list-style-type: none"> <li>Price, quality, delivery reliability</li> <li>Governance and compliance</li> <li>Safety</li> <li>Climate protection</li> <li>Human rights due diligence</li> </ul>
<b>Shareholders and investors</b>	<ul style="list-style-type: none"> <li>AGM</li> <li>Roadshows/conferences</li> <li>One-on-one meetings, financial information, reports</li> </ul>	<ul style="list-style-type: none"> <li>2020 AGM</li> <li>Annual report 2020 "driving innovation"</li> <li>(Virtual) roadshows</li> <li>Investor discussions and ESG ratings</li> </ul>	<ul style="list-style-type: none"> <li>Dividend</li> <li>Business developments and outlook</li> <li>Sustainability/ESG</li> </ul>
<b>Policymakers/ authorities/ local initiatives</b>	<ul style="list-style-type: none"> <li>Local representative bodies</li> <li>Reception given to policymakers and diplomats</li> </ul>	<ul style="list-style-type: none"> <li>Automotive industry dialog on the German Federal Ministry for Labor and Social Affairs National Action Plan.</li> </ul> <p><b>Local business initiatives:</b></p> <ul style="list-style-type: none"> <li>30 members of Lower Austria Industrial Association visit Knorr-Bremse Mödling</li> <li>Munich Business Climate Pact 2</li> <li>Sino-German International Industrial Park, Beijing: Knorr-Bremse receives Covid-19 face masks</li> </ul>	<ul style="list-style-type: none"> <li>Safety</li> <li>Climate protection</li> <li>Governance and compliance</li> </ul>

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.

In order to maintain communication with customers, Knorr-Bremse attends many events organized by commercial vehicle manufacturers. During the Covid-19 pandemic, for example, Volvo issued an invitation to the "Virtual IAA". Examples in the USA were the Navistar Supplier Award Day and the annual Paccar "A" panel meeting in July 2020. The Daimler Trucks North America "DTNA Technology Review", in November 2020 was equally informative.

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. A specialist from Knorr-Bremse is also involved in two UNIFE (Union des Industries Ferroviaires Européennes) working groups on sustainability and the environment. Among other things, the Commercial Vehicle Systems division is involved in the "Environment Product" working party of the German Association of the Automotive Industry (VDA). [Tab. → 3.05](#)

Stakeholder groups	Format	Examples from 2020	Key issues
<b>Residents near sites</b>	<ul style="list-style-type: none"> <li>Local Care initiatives</li> <li>Personal contact</li> </ul>	<p><b>Local Care initiatives at sites:</b></p> <ul style="list-style-type: none"> <li>See list on page 75</li> </ul> <p><b>Direct contact:</b></p> <ul style="list-style-type: none"> <li>Factory visits</li> </ul>	<ul style="list-style-type: none"> <li>Safety</li> <li>Attractive employer</li> <li>Local engagement</li> <li>Operational changes</li> </ul>
<b>Sector/associations/trade unions</b>	<ul style="list-style-type: none"> <li>Lobbying work</li> <li>Project work, working with associations</li> <li>Conferences, workshops</li> <li>Publications</li> <li>Public relations activities</li> </ul>	<p><b>Selected Knorr-Bremse international memberships:</b></p> <ul style="list-style-type: none"> <li>Rail and commercial vehicles: American Public Transportation Association (APTA), USA</li> <li>Rail: Association of American Railroads (AAR), USA; Union des Industries Ferroviaires Européennes (UNIFE), Belgium; Railsponsible, sectoral initiative</li> <li>Commercial vehicles: Motor &amp; Equipment Manufacturers Association (MEMA), USA</li> </ul> <p><b>Active project work:</b></p> <ul style="list-style-type: none"> <li>Railsponsible: Management of the "Responsible Purchasing" Working Group</li> <li>UNIFE: Knorr-Bremse represented in steering committee of working group on Sustainability/Environment</li> <li>VDA meetings of "Environment Product" and "Sustainability in the Supply Chain" working groups</li> </ul>	<ul style="list-style-type: none"> <li>Industry lobbying work</li> <li>Road safety</li> <li>Mobility transition</li> <li>Climate protection</li> <li>Product innovations</li> </ul>
<b>Young talent</b>	<ul style="list-style-type: none"> <li>Careers fairs</li> <li>Partnerships and projects with schools and educational institutions</li> <li>Careers advice</li> <li>Promoting women in STEM professions</li> </ul>	<p><b>Partnerships:</b></p> <ul style="list-style-type: none"> <li>With universities including the Technical University of Munich and RWTH Aachen</li> </ul> <p><b>Recruitment of young talent:</b></p> <ul style="list-style-type: none"> <li>HTL (Höhere technische Lehranstalt) Recruitment Day, Mödling, Austria</li> <li>RTWH and FH Aachen: Bonding Company Contact Fair Aachen (virtual)</li> <li>Deutsche Gesellschaft für Personalführung (DGFP): Future Workforce Planning Summit</li> </ul> <p><b>Promoting women in STEM professions:</b></p> <ul style="list-style-type: none"> <li>"Girls for Technology" camp (virtual), Munich</li> </ul>	<ul style="list-style-type: none"> <li>Working conditions</li> <li>Development opportunities</li> <li>Work/life balance</li> <li>Corporate values</li> <li>Current business performance</li> <li>New products</li> <li>Diversity</li> </ul>
<b>Media</b>	<ul style="list-style-type: none"> <li>Press conferences</li> <li>Factory visits</li> <li>Press releases</li> </ul>	<ul style="list-style-type: none"> <li>Annual press conference</li> <li>Press events</li> <li>Financial, trade and corporate press releases</li> </ul>	<ul style="list-style-type: none"> <li>Product innovations</li> <li>Business situation</li> <li>HR issues, e.g. training</li> </ul>
<b>NGOs</b>	<ul style="list-style-type: none"> <li>Local Care initiatives</li> <li>Knorr-Bremse Global Care projects</li> </ul>	<p><b>Local Care initiatives at Knorr-Bremse sites:</b></p> <ul style="list-style-type: none"> <li>See list on page 75</li> </ul> <p><b>Support projects:</b></p> <ul style="list-style-type: none"> <li>Emergency relief Covid-19 pandemic India, South Africa and Germany</li> <li>Drinking water and sanitation programs (WASH) in Kenya and India</li> </ul>	<ul style="list-style-type: none"> <li>Education</li> <li>Social cohesion</li> <li>Health</li> <li>Water, sanitation and hygiene</li> <li>Environment</li> </ul>

### “Climate Action!” Employee campaign on SDG 13 Climate Action

In 2020 the pandemic meant that joint employee events at a single location were impossible, which was why the digital, Group-wide “Climate Action!” campaign was launched to replace the traditional worldwide “Knorr-Bremse Day”. It started on August 22, Earth Overshoot Day 2020, and will run for several quarters during 2020/2021. The central focus is on SDG 13 (climate protection measures). As with Knorr-Bremse Day in previous years, the Company’s aim is to raise employee awareness of an SDG. This year, in the context of SDG 13, the focus was on the new Knorr-Bremse Climate Strategy 2030 (see “Energy and CO<sub>2</sub> emissions”, page 61) and individuals’ personal contributions to greater climate protection. In addition to continuing to inform and report on the topic via the intranet, the sites have implemented their own measures, organizing community activities as well as virtual measures that are ideal for employees involved in mobile working:

- **Knorr-Bremse RVS China** has organized a “Clean Earth” project in which more than 2,000 colleagues recorded their footsteps in an app within a specified period of time. The Company has then converted the total into monetary donations to support the charity Tencent Public Welfare in carrying out social projects and other “Clean Earth” activities.
- **Bendix, USA**, has focused its campaigns on the idea of employees’ personal contributions to climate protection. In the fourth quarter of 2020, for example, a “home energy audit” was on offer to identify the scope for energy and cost savings in individuals’ homes.
- **Knorr-Bremse Systèmes Ferroviaires, Reims, France** is offering employees a varied “Climate Action” program. In addition to providing six charging points for electric vehicles and e-learning courses on energy efficiency, Knorr-Bremse is arranging for employees to be provided with locally-produced food from farms.
- **Knorr-Bremse, Melksham, UK**, is providing seedlings for local tree planting in a joint project with Melksham Town Council. Company employees are involved on a voluntary basis.

### 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. This 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 over recent years we have focused on further strengthening our commitment to meeting them.

In 2017 we analyzed the impact of our contributions towards meeting global sustainability goals, and in 2018 identified five key SDGs whose achievement we can significantly influence through our business model and processes. The selection was made in a two-stage process based on an analysis by Knorr-Bremse management worldwide and a global employee poll. The five SDGs defined as essential by Knorr-Bremse are:

- **SDG 5:** Gender Equality (see “Diversity and equality”, page 53)
- **SDG 8:** Decent Work and Economic Growth (see “Due diligence processes for human rights”, page 26; “Employment conditions”, page 49)
- **SDG 9:** Industry, Innovation and Infrastructure (see “Ecological product design”, page 36)
- **SDG 12:** Responsible Consumption and Production (see “Conserving resources”, page 65)
- **SDG 13:** Climate Action (see “Energy and CO<sub>2</sub> emissions”, page 61)

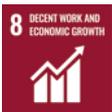
Knorr-Bremse is also making a major contribution to SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation) through the activities of Knorr-Bremse Global Care (see “Global Care: Worldwide commitment”, page 71)

Knorr-Bremse has launched global initiatives related to the five priority SDGs that aim to increase the Company's corporate contribution by 2030 through specific improvement measures and targets. Created in 2019, each of these five initiatives is supervised by a member of the Executive Board and the Chair of the Executive Board of Knorr-Bremse Global

Care. The project manager leads the implementation of the topics across divisions, departments and sites. The following key topics were developed in the individual initiatives and advanced in the reporting year. [Tab. → 3.06](#)

### 3.06 SDG initiatives at Knorr-Bremse

Each member of the Executive Board of Knorr-Bremse AG and the Chair of the Executive Board of Knorr-Bremse Global Care e.V. is responsible for steering the content of one of the five SDG initiatives.

SDG initiative	Engagement	Examples
 <b>SDG 5:</b> Gender equality	<ul style="list-style-type: none"> <li>Support women in their careers</li> <li>Recruit more highly-qualified female staff</li> <li>Increase the proportion of women in management roles</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of an internal women's network</li> <li>Introduction of quotas for women in management level job applications/appointments in Germany</li> <li>Setting a women's quota for staffing internal support programs</li> <li>Signing up to the Diversity Charter</li> </ul>
 <b>SDG 8:</b> Decent work and economic growth	<ul style="list-style-type: none"> <li>Expand personnel development measures</li> <li>Design innovative working environment</li> <li>Implement ethical recruitment standards</li> </ul>	<ul style="list-style-type: none"> <li>Introduced LinkedIn Learning in Europe and North America</li> <li>WeCon app pilot project in Lisieux, France</li> </ul>
 <b>SDG 9:</b> Industry, Innovation and Infrastructure Knorr-Bremse initiative "Sustainable products"	<ul style="list-style-type: none"> <li>Expand sustainable product portfolio</li> <li>Integrate aspects of EcoDesign into development and innovation processes</li> <li>Apply new innovation methods</li> </ul>	<ul style="list-style-type: none"> <li>Started and partially completed recycling projects in various CoCs at CVS and RVS</li> <li>Included EcoDesign criteria in prioritization of new innovation projects in RVS division</li> <li>Used the Techfounders Accelerator program to find startups in the field of sustainability – conducted a joint project with a startup in the field of HVAC</li> </ul>
 <b>SDG 12:</b> Responsible consumption and production Knorr-Bremse initiative "Zero waste"	<ul style="list-style-type: none"> <li>Cut waste through avoidance, reduction, recycling and re-use.</li> <li>Improve waste management across the entire product life cycle</li> <li>Focus purchasing measures more on waste reduction</li> <li>Promote awareness of individual sustainable behaviors</li> </ul>	<ul style="list-style-type: none"> <li>Global waste balance analysis</li> <li>Focus of sub-working group on reducing packaging waste and single-use plastics</li> <li>Regional/local initiatives (see "Environment and Climate", page 67)</li> </ul>
 <b>SDG 13:</b> Climate Action	<ul style="list-style-type: none"> <li>Group-wide climate action strategy in accordance with Paris Climate Accord</li> <li>Set targets for direct and indirect CO<sub>2</sub> emissions</li> <li>Support the implementation of climate protection measures at site level</li> </ul>	<ul style="list-style-type: none"> <li>Internal and external communication of Climate Strategy 2030</li> <li>Virtual employee campaign 2020/2021 "Climate Action!"</li> <li>Selection of carbon-offsetting projects in conjunction with atmosfair gGmbH</li> <li>Implementation of climate protection measures (energy efficiency measures, new photovoltaic plant in USA)</li> <li>Centralization of electricity purchasing from renewable sources</li> </ul>

## 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 consistent avoidance of any potential conflicts of interest.

### Compliance: Guidelines

Compliance management is driven by our aim to adhere to laws, internal regulations and voluntary commitments at all times. We place great emphasis on integrity and responsibility in our dealings with our commercial partners and employees. This approach serves to protect the Company and its employees against possible liability claims and damage to our image and assets, and as such is a prerequisite for sustainable corporate growth.

The Knorr-Bremse Code of Conduct sets out the fundamental principles governing our behavior. It 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 an appropriate manner. The Code provides a common definition of responsible business behavior that applies across borders. 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 and, from 2021, will be an integral part of every new employment contract worldwide. They are given concrete form through four Group-wide compliance guidelines:

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

### Compliance: Structure

In 2016 Knorr-Bremse created a central compliance structure, to which a whistleblower system and an e-learning module on the Code of Conduct were added in 2017. The Chief Compliance Officer (CCO) is responsible for adherence to the Knorr-Bremse guidelines and reports regularly to the Compliance Committee, which is chaired by the Financial Board and Audit Committee. Other members of the Compliance Committee include those with global responsibility in the

Company for Controlling, Human Resources, Accounting, and Legal, as well as the Head of Internal Audit. Discussions on relevant compliance-related issues and the main focus for our work are held in the Compliance Committee. Following a compliance risk analysis of selected business divisions and markets, the Committee designated preventing corruption, ensuring fair competition and avoiding conflicts of interest as core compliance issues. The analysis will be updated in 2021. In addition, the Executive Board decided during the year under report that in 2021 the Compliance department would be strengthened and its staffing increased.

Regional Compliance Officers for the Asia/Australia, Europe/Africa and Americas regions are involved in the regional implementation of compliance management. Our sites around the world play a key role in our compliance structure and strategy. The regional Compliance Officers are tasked in particular with providing advice and training to employees in their regions, handling compliance issues and identifying local risks. 2020 saw the implementation of a wide range of measures to further strengthen Knorr-Bremse's international compliance structures, including:

- **Asia/Australia:** Expansion of the organizational structure included the appointment of local Compliance Officers (LCO) at 16 sites.
- **Europe/Africa:** Appointment of more than 50 local Compliance Officers (LCO) at European sites.

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 are implementing a range of preventive measures, including employee training, information for employees and managers on compliance-related topics, supplier briefings, and the application of risk management procedures.

### Compliance: Whistleblower system

Knorr-Bremse uses a variety of measures and tools to raise awareness of its Code of Conduct among 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, and is accessible to all employees and third parties all over the world, allowing incidents to be reported in 31 different countries and in 20 languages.

Employees can use the system to report any suspected offenses or serious breaches of the law without having to reveal their identity. Our guideline for the whistleblowing system sets out the legal framework for the submission of reports and ensures that confidentiality and data protection rules are respected. Reports are automatically forwarded to the Chief Compliance Officer and also, as required, to the responsible regional Compliance Officer. Knorr-Bremse conducts regular audits to check how familiar its managers are with 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 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 21 reports were submitted via the whistleblower system in the 2020 reporting year. All substantiated reports have either been investigated or are currently under investigation. Where misconduct is identified, appropriate disciplinary action is taken.

During the year under review the INAS incident notification and alarm service was also launched. It is used to report time-critical and/or security-critical incidents relating to data protection, information security and corporate security. INAS makes it possible for incidents classifiable as critical (e.g. criminal acts, data protection breaches, threats to information security, corruption) to be reported to the responsible Group functions without delay. Compliance-related reports can also be filed to INAS and will be passed on to the relevant department.

#### **Compliance: Training courses**

Prevention of compliance breaches is our goal, and clear communications combined with ongoing employee training are the key to achieving this. E-learning is an important tool for reaching our employees. Following a decision taken by Knorr-Bremse in 2017, all staff are now required to repeat the content of e-learning modules on compliance issues every two years.

We use e-learning materials in 11 different languages on our Code of Conduct, which has also been available in Russian since 2020. Training has to take place every two years using the Group's learning platforms or manually per link at selected locations. By December 2020, over 95% of the 17,000 employees required to complete e-learning (around 60% of the total workforce) had achieved valid certification (2019: over 90%). Our success in increasing the proportion to over 95% during the year under review was largely due to the introduction of a Group-wide automatic reminder system that includes escalation mechanisms for management staff.

Face-to-face training is used to complement or substitute e-learning materials. In the course of 2020, a total of around 13 additional courses took place worldwide in which employees in key markets were introduced to the provisions of the Code of Conduct and associated guidelines. Because of the pandemic, most of the training was held on-line.

A combination of e-learning and classroom training has proven its worth at Knorr-Bremse for years. 2020 saw the Company intensify its training for key topics such as anti-corruption and fair competition. For this, new e-learning content was developed and will be rolled out during the first half of 2021.

#### **Risk management: Organization and processes**

The primary aim of risk management is to utilize opportunities and minimize risk in order to increase Knorr-Bremse's long-term corporate value. As a global company manufacturing safety-critical components, we are constantly exposed to risks. Identifying them and proactively seizing opportunities early on gives us more scope to manage them effectively.

The risk management system is anchored in a Group policy guideline that comprehensively defines responsibilities and reporting structures. Risk management processes follow the procedures of Knorr-Bremse's corporate organization. Potential risks are identified on a quarterly basis in the course of global inventories. All Group companies are involved in this process.

Knorr-Bremse encourages all its employees to take a pro-active approach to reporting risks, and expects them to handle such risks responsibly. To ensure that significant risks are identified as rapidly as possible, there is also an internal ad-hoc reporting process in addition to routine reporting procedures. The Executive Board of Knorr-Bremse receives quarterly reports on the development of opportunities and risk situations, and the details are discussed during the corresponding Board meetings. The Group risk management system is subject to continuous development to adapt it to internal and external requirements. In 2020, in addition to ongoing benchmarking, this included, in particular, preparations for compliance with the requirements of the new regulations of Audit Standard 340 issued by the Institute of Auditors, which will be implemented with effect from the 2021 business year. For this reason we completed a readiness check in 2020, with the support of an independent auditor. The results and the related implementation concept were reported, among others, to the Executive Board and the Audit Committee.

You will find a full description of the risk management system, including a complete list of material risks, in the “Risks, opportunities and forecast report” section of the 2020 Annual Report.

### **Data Protection and Information Security: A growing 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 increasingly important. Overall responsibility for Knorr-Bremse’s data protection unit lies with the Executive Board and the Managing Directors of the division. At the end of 2020 an updated Data Protection Policy was published that regulates data protection within the Group in alignment with the requirements of the GDPR.

Knorr-Bremse has continuously expanded its data protection structures since 2017, and in 2020 started a process of harmonizing data protection processes worldwide. 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.

Information security is managed by the Corporate Information Security Officer and controlled by a Corporate Security Board. In addition to the responsible member of the Executive Board, this also includes managing directors of the two business divisions and the Chief Information Officer. The sophistication of the control processes has been significantly improved in recent years, with a revised information security policy and a newly introduced process for audits and risk management.

The main purpose of operationally-focused projects is to protect Knorr-Bremse’s IT infrastructure by implementing IT security solutions across the Group.

### **Data Protection and Information Security: A growing issue for products 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 futuristic applications and products such as highly-automated driving. Another example is 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 fully compliant with statutory requirements.

In both divisions Knorr-Bremse has set up dedicated information security units and teams, whose 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. That 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 Global Compact, Knorr-Bremse is committed to upholding human rights. Moreover, we also pledge to comply with relevant national legal frameworks, and to abide by the International Labor Organization (ILO) human rights conventions and the United Nations (UN) General Declaration on Human Rights. In order to ensure due diligence on human rights, we base our processes on 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.

### **Principles and guidelines**

Our key principles and rules regarding respect for human rights are set out in Knorr-Bremse’s Code of Conduct, which is binding on all employees and is supplemented by further guidelines related to human rights, including the HSE Policy, local human resources guidelines and the Security Guideline

newly implemented in 2020. In the context of employee safety, the latter regulates the handling of human rights related, safety-critical incidents such as harassment, bullying, threats or bodily harm.

We require our suppliers to respect human rights and to follow our Supplier Code of Conduct. In the case of human rights, the Code emphasizes above all the fundamental observance of employee rights, including personal rights, fair remuneration and fair working hours, freedom of assembly, health and safety standards, and the prohibition of discrimination, forced labor and child labor. The company-wide Knorr-Bremse Conflict Minerals Policy that was rolled out in 2020 (see "Sustainability standards in the supply chain", page 40) contributes to our human rights due diligence.

The recently revised stand alone Knorr-Bremse Human Rights Policy brings together all the human rights related provisions currently contained in various different guidelines. We plan to disseminate the new policy to Knorr-Bremse sites and employees worldwide.

### Structures and processes

Responsibility for taking remedial action in the case of possible human rights violations lies with the Executive Board. Control is currently carried out within the framework of CR management, which coordinates activities and processes relating to human rights due diligence throughout the Group. Knorr-Bremse is currently examining the possibility of setting up a cross-divisional human rights governance structure to define how the issue of human rights is to be managed in organizational terms. The aim in future is to develop and implement cross-functional measures to anchor human rights more firmly in global corporate processes.

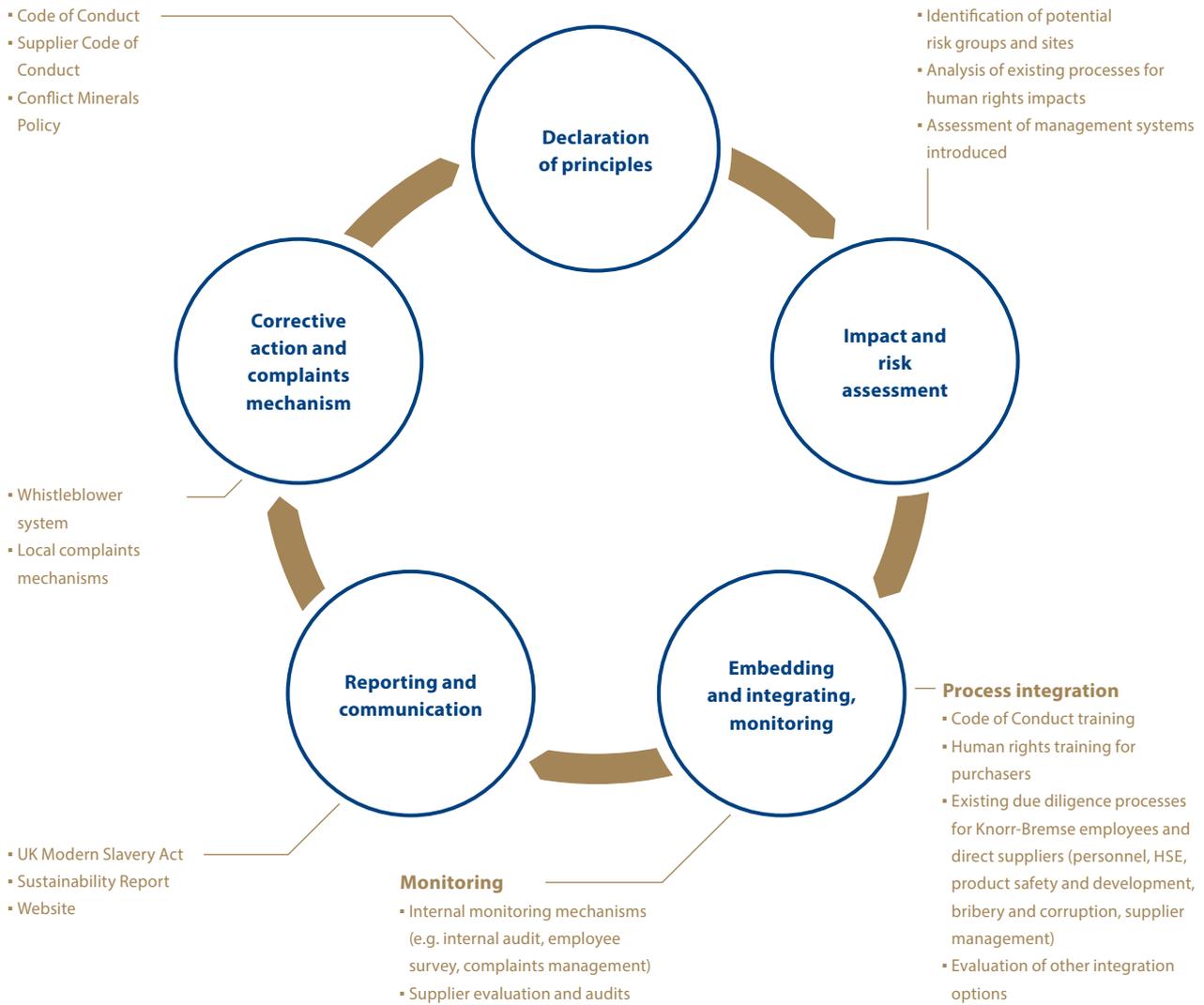
In order to ensure due diligence on human rights, we base our processes on the UN Guiding Principles for Business and Human Rights and the German government's National Action Plan for the Economy and Human Rights (NAP). Our existing processes, for example in HR, Purchasing and HSE Management, take into account aspects of human rights due diligence. Operational implementation and review of these activities are the responsibility of the relevant functions in the divisions and local units (see "Products and Partners", "Employees and Leadership", "Environment and Climate").

At the same time, we are working to integrate human rights due diligence more closely into our operational processes in order to minimize risks and prevent negative impacts. We take the results of the human rights risk analysis and detailed information as an opportunity to review our corporate processes and implement improvement measures. [Fig. → 3.07](#)

### Transparent communication

We aim to continuously expand our reporting on human rights due diligence, thereby fulfilling a key requirement of the UN Guiding Principles and the German National Action Plan on Business and Human Rights (NAP). In our annual Sustainability Report, we explain our activities and identify potential for improvement. In addition, since 2016, Knorr-Bremse has been publishing a separate declaration on the Group's website on guidelines and measures to prevent modern slavery and people-trafficking. This also fulfils the requirements of the UK Modern Slavery Act. With effect from 2021, we are also required to comply with the Australian Modern Slavery Act.

3.07 Human rights due diligence at Knorr-Bremse



**Identifying human rights risks**

In 2018 we initiated a risk and gap analysis aimed at building upon our existing processes for due diligence on human rights and prioritizing possible risks. As a result of this analysis we identified a number of areas for improvement and have drawn up specific recommendations for action. Among other things the results have identified temporary staff, service providers at our sites and supply chain employees as key risk groups regarding working conditions. For this reason, we are currently carrying out a Group-wide

review of potential risks for these categories and in 2021 will continue with an in-depth analysis focused on “ethical recruitment” (see text box).

Since 2019 our factory related human rights risk analysis has served as a criterion for selecting sites for internal audits. These regular audits examine the local situation regarding selected human rights, and in the case of complaints trigger counter-measures at the site concerned.

In the case of the supply chain, we carry out sustainability assessments and audits to identify potential human rights risks (see “Sustainability standards in the supply chain”, page 40). On the basis of these sustainability assessments we assign suppliers to a risk category. In the future, we will use the pre-audit checklist to help identify and assess human rights risk profiles of direct suppliers during regular audits.

### Complaints management

Employees and external stakeholders can report violations of laws or voluntary commitments anonymously or on a personalized basis via the whistleblower system. They can also use the system to report suspected human rights abuses. All complaints are examined and passed on to the relevant body for closer investigation. In every justified case, suitable measures are taken to rectify the situation. In the case of suspected human rights infringements, the CR department is informed. The aim is to systematically evaluate all information received and take appropriate measures. Employees can also report complaints to the newly-created Incident Notification and Alarm Service (INAS) (see “Compliance and risk management”, page 24).

### Awareness-raising and training

As part of professional capacity building, we continuously promote awareness of human rights due diligence within the Company. This enables us to meet increasing statutory requirements and respond to stakeholders’ growing interest in these issues. In this context we maintain an ongoing dialog with our specialized departments. The Head of Corporate Responsibility reports regularly to top management on planned or completed Company-wide activities related to human rights due diligence. He also informs the Supervisory Board of current developments in the field of human rights and any related measures taken by Knorr-Bremse.

The Code of Conduct informs Knorr-Bremse employees of their duty to comply with human rights. The compliance management systems support compulsory training on the Code of Conduct and methods of reporting infringements. With effect from January 2021, the Code of Conduct is an integral part of employment contracts for German Knorr-Bremse companies, and therefore also part of the on-boarding process for new employees. We are planning roll-out to our international sites in mid-2021. We use various channels to engage in dialog with our suppliers, and offer training on a variety of sustainability-related topics. In 2020 we started to draw up a practical guide for suppliers on the implementation of human rights due diligence in the Company, and a seminar for high-risk suppliers is planned for 2021 (see “Sustainability standards in the supply chain”, page 40). We are also participating in automotive industry

discussions on the National Action Plan for the Economy and Human Rights drawn up by the German Federal Ministry of Labor and Social Affairs. Together with other companies, policymakers, civil society and NGOs, we aim to develop joint solutions to meet increasing human rights requirements.

### Protecting at-risk target groups from modern slavery

Workplace exploitation and modern slavery are found in many global supply chains. Workers assigned to companies by 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 2019, in order to improve our understanding of these risks at Knorr-Bremse and identify scope for improvement, we carried out an in-depth risk analysis in these areas. In 2020 we were planning to examine the following specific issues at site level using a comprehensive “Ethical Recruitment Questionnaire”, but the pandemic and resulting lack of time meant this had to be postponed until 2021, when the following aspects will be examined:

- Our existing processes for recruiting and on-boarding new employees.
- Knorr-Bremse’s expectations of recruitment agencies, temporary employment agencies and service providers in terms of the establishment and monitoring of fair working conditions.
- Local complaints systems and information about incidents that have occurred.



# Products and Partners

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33 Product and system safety

36 Ecological product design

40 Sustainability standards in the supply chain

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## » Knorr-Bremse is determinedly forging ahead with developing technologies for sustainable, available and attractive rail transportation. «

— **Dr. Jürgen Wilder**

Executive Board member, Rail Vehicle Systems  
Knorr-Bremse AG

## » We see e-mobility for commercial vehicles as an ongoing trend that we aim to play a part in. «

— **Dr. Peter Laier**

Executive Board member, Commercial Vehicle Systems  
Knorr-Bremse AG

### Quality management

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

### EcoDesign standards

180 main contact persons for EcoDesign in the RVS division took part in virtual training sessions with a view to achieving a common understanding of EcoDesign standards for assessing product developments.

### Conflict minerals policy

First rolled out in 2020, this regulates handling of conflict materials and provides guidance to Knorr-Bremse purchasing personnel and suppliers.

# 67%

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



### Industry, innovation and infrastructure

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

# Products and Partners

**Knorr-Bremse's products and systems make a crucial contribution to ensuring safe, energy-efficient, networked transportation by road and rail – both today and in the future. In so doing, we aim to create added value for our customers, our partners, and society as a whole. With a firm focus on sustainable mobility, we develop innovative technologies, incorporating sustainability criteria throughout the life cycle of our products and systems – from the initial vision, via development and manufacturing, right through to maintenance and remanufacturing. We view 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, sustainability, digitization and mobility are set to shape society – and with it, Knorr-Bremse's product and service portfolio – for years to come. For us, as the technology leader in braking systems and subsystems for rail and commercial vehicles, the safety of our products and systems remains a number one priority. They 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 environment-friendly product

design forms an integral part of its product and systems development process. We also actively involve our suppliers in the ongoing improvement of our products.

Almost 11,000 granted or pending patents bear witness to the Company's strength in innovation. Our investment in research and development in 2020 was the same as the previous year. This meant that the ratio of R&D expenditure to Group revenues increased to 6.4% (2019: 5.7%). At the end of the year under review, the Company employed 3,793 staff in research and development. [Fig. → 4.01](#)

## 4.01 R&D expenditure

in € million



## Product and system safety

Our aim is 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 meet the highest safety standards. We have to carefully control any risks related to our safety-critical applications, and to this end make routine use of comprehensive quality planning, quality assurance and testing procedures. We also apply 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). We are also driven by the requirements of our customers.

Both our corporate divisions – Rail Vehicle Systems (RVS) and Commercial Vehicle Systems (CVS) – work tirelessly to further improve our already high standards of safety and quality. This applies equally to our business processes, which are based on international standards, and our product portfolio: Drawing on decades of experience, we systematically develop innovative new products and improve existing ones.

- **RVS and CVS products:** 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 goes for light rail vehicles that have to operate in complex urban traffic situations and can benefit from appropriate assistance systems. Knorr-Bremse is responding 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.
- **RVS products:** Eddy current brakes enable noiseless, wear-free braking of high-speed trains, and for OE freight cars Knorr-Bremse offers the new generation of organic “whisper brake” blocks. Both these developments reduce noise emissions and material abrasion.
- **RVS products:** The obstacle detection technology developed by start-up company RailVision, of which Knorr-Bremse owns a share, supports collision avoidance and contributes to safe – and perhaps one day autonomous – vehicle operation.
- **Development RVS:** To enable LRVs to increase their transportation capacity by operating at shorter frequencies, a team of engineers has developed the Reproducible Braking Distance system which integrates three technologies – a new deceleration control system (DCC), adaptive wheel slide protection (MGS3) and a sanding system that operates along the entire length of the train.

- **RVS drive systems:** In the field of sustainable drive systems, Knorr-Bremse is breaking new ground by retrofitting diesel multiple units with traction batteries, converting them into energy-efficient hybrid systems.
- **CVS products:** For the first generation of electrically propelled vehicles, Knorr-Bremse offers, for example, specially designed screw compressors for e-buses and trucks.
- **CVS products:** The new Global Scalable Brake Control (GSBC) provides a future-proof basis for the next generation of driver assistance systems and highly-automated driving.
- **CVS drive systems:** Auxiliary diesel drive systems for trolley-buses can be converted to emission-free, battery-powered IMC systems.

## eCUBATOR – paving the way for e-mobility

The trend towards e-mobility continues, and commercial vehicles are no exception – a development driven partly by strict CO<sub>2</sub> emission reduction targets for 2025 and 2030. This means that a new generation of emission-free vehicles is needed, which is why Knorr-Bremse has channeled its e-mobility expertise into a separate development unit within the Company entitled eCUBATOR. As many as 60 in-house and external specialists at Knorr-Bremse’s Munich and Budapest sites are collaborating with customers, technology partners and start-ups, using unconventional working methods to identify innovative, future-oriented solutions for electrically-powered vehicles. With an eye to the second generation of e-vehicles, which will hit the market around 2025, Knorr-Bremse is looking, among other things, at future energy management systems, electro-mechanical actuators and further vehicle stabilization and drive functions. Experts at the eCUBATOR are working freely and creatively according to the SCRUM method (see “Employees and Leadership”, page 46) – an approach that enables the Company to work closely with customers and react much faster to changes in the market environment. Over and above its own potential for development and growth, Knorr-Bremse places great emphasis on supporting its customers with the electrification of their commercial vehicles.

### Rail Vision start-up:

#### Obstacle detection for greater rail safety

Together with Israeli start-up Rail Vision, Knorr-Bremse is working on obstacle recognition systems for autonomous train operation. In 2020 Knorr-Bremse increased to 36.8% its stake in Rail Vision, a specialist in sensor technology and AI-based obstacle recognition. Knorr-Bremse's participation in the project is a further step towards providing solutions for automated rail operations.

Rail Vision's technology uses electro-optical sensors that allow obstacle detection up to two kilometers ahead of the train. This is combined with artificial intelligence and deep learning to enable safe – and where possible autonomous – train operations. The technology's versatile applications are evident in a project that is currently at the functional prototype stage: Knorr-Bremse and RailVision are equipping shunting locomotives belonging to Swiss rail operator SBB Cargo with remote-controlled electro-optical systems for obstacle detection, providing both drivers and remote operators with critical real-time alerts. The system recognizes switches and monitors signals and the track up to 200 meters ahead. When an obstacle is detected, the system analyzes and classifies it. If it decides a warning is needed, it sends both visual and acoustic alerts to the driver, and optionally also to the command & control center. Thanks to obstacle detection combined with a remote control interface, the prototype systems enable a single individual to control shunting from a remote location. Current shunting operations usually require two people. In general, the use of obstacle detection makes sense wherever there is a potential increased risk of danger. In addition to classic passenger and freight train services, it also applies to metros, rapid transit commuter trains and streetcars. Here Knorr-Bremse aims to ensure even greater safety by using technology to support the driver in difficult situations, such as poor visibility.

### Principles and guidelines

In Knorr-Bremse's vision and Code of Conduct we commit ourselves to product safety and quality. This commitment, together with the maxims of reliability and technological excellence is also reflected in our corporate values. 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 manufacture to service operation, maximum delivery reliability, accident prevention, and more efficient infrastructure utilization.

In order to apply these principles we use management systems that satisfy various external criteria, including customer and statutory requirements and relevant standards.

### Structures and processes

Knorr-Bremse's product and systems safety management structures are firmly embedded within the organization. Responsibility for implementing product and systems safety measures lies with senior management, divisional 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 overarching objectives and strategies for improving the quality of our products and systems.

The RailExcellence (REX) and TruckExcellence (TEX) management systems are the foremost method of controlling and describing management processes for product and systems safety. The 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 covers everything from development and testing 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 implementation of our process management system.

Knorr-Bremse monitors compliance with all our relevant quality indicators by means of monthly reporting from the global sites to the divisional quality organization. Regular regional, global and product-specific quality reviews and strict escalation processes ensure that possible 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 parts 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 2020, 96 Knorr-Bremse sites around the world were operating certified quality management systems (either ISO 9001, ISO TS 22163 or IATF 16949), compared to 90 in 2019<sup>1)</sup>. 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. In particular, ISO/TS 22163 certification is recognized by Knorr-Bremse for acquisition of "Preferred Supplier" status. An on-site process audit is also carried out at the supplier's premises. In the CVS division, each supplier undergoes a product safety audit and is also assessed by the Sourcing Board.

#### **Electric drive systems to replace diesel: Buses with IMC® technology for Solingen**

"This purchase order could well act as a signal in the market. It shows that 12-meter diesel buses operating on routes with overhead wires can now be electrified thanks to the IMC® concept."

Alexander Ketterl, Managing Director of Kiepe Electric GmbH, Düsseldorf

Solingen has been pioneering ecological public transport for decades and is keen to electrify its fleet of buses. Battery-powered trolley-buses equipped with In Motion Charging (IMC®) technology from Kiepe Electric are ideal for this purpose. 16 emission-free Solaris Trollino 12-meter trolleybuses with IMC® technology are to be supplied to Solingen's public transport authority from 2021 onwards. They will replace diesel-powered buses and use battery power on extensive route sections where there are no overhead wires. Four electric articulated buses with IMC500 equipment have already been in service in Solingen since 2018. Known as BOBs (Battery Overhead wire Buses), they currently operate on 12 km of sections without overhead wires – 75% of the total route. The IMC® concept involves the BOBs charging their batteries while operating on parts of the route with overhead wires. Energy generated during braking can also be used. Where there is no overhead electricity supply, they can continue their journey in battery mode wherever the route takes them.

<sup>1)</sup> Figure for previous year adjusted because some subsidiaries received their certificates after this report was completed.

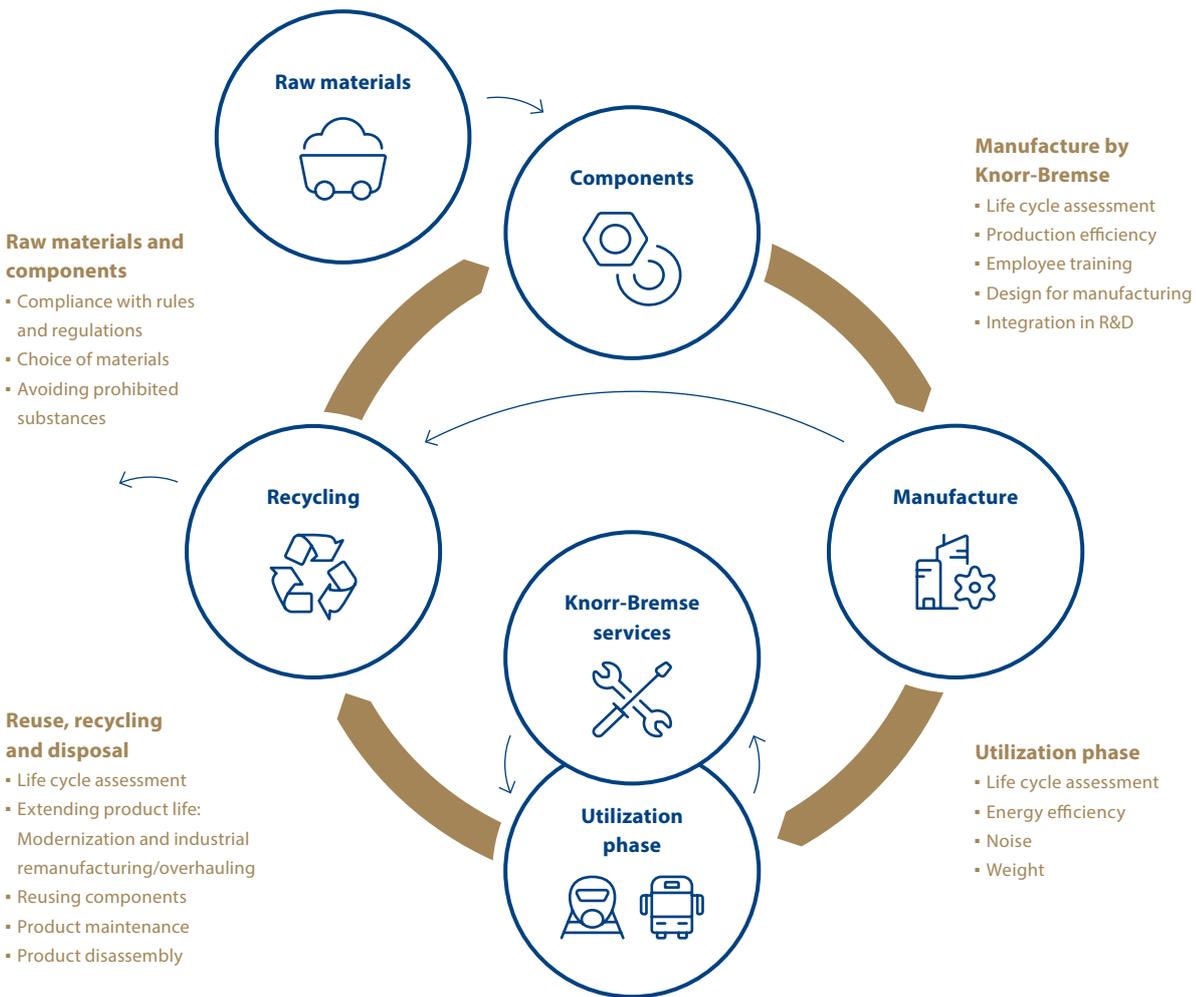
### Ecological product design

EcoDesign is the name given to Knorr-Bremse’s eco-friendly approach to product design. This 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. And at all times ensuring product safety remains the overriding priority.

**Fig. → 4.02**

#### 4.02 EcoDesign in the value chain



**Principles and guidelines**

As well as setting and meeting financial targets, developing products on the basis of environment-friendly design criteria reflects our corporate vision and HSE policy. That is why health, occupational, energy and environmental considerations all form an integral part of our business and product design processes and contribute to achieving SDG 9 (Industry, Innovation and Infrastructure). In addition to a stronger focus on EcoDesign criteria, the product development process also has to take the relevant regulatory requirements, standards and customer expectations into account. Knorr-Bremse’s product development processes have to address sustainability criteria such as maximizing product service life, reducing weight, increasing resource and energy efficiency, and avoiding hazardous substances and waste. Our sustainable product design is also driven by our successful RailServices and TruckServices businesses, both of which extend products’ lives even further through remanufacturing. In the Knorr-Bremse CVS division, we are driving this development forward with our “Product design remanufacturing” guideline, which 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**

Organizational structures can help to create synergies and establish standardized processes across the Group’s two divisions in the field 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 in

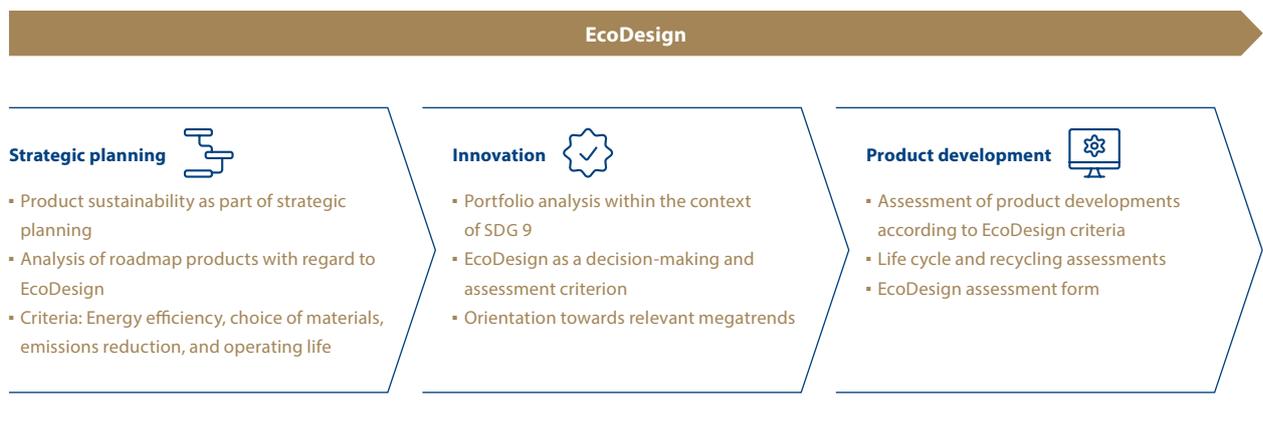
terms of reducing products’ environmental impact. Every month, specialists from the RVS and CVS divisions meet with at least one representative from the Corporate Responsibility department and, if necessary, the Remanufacturing department. This cross-divisional working group develops standards in product development 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 generate synergies. The EcoDesign specialists are involved in defining the relevant measures and also form an integral part of both divisions’ development departments.

Ensuring that our engineers and developers receive the appropriate training is key to successful EcoDesign implementation in our processes. In mid-2020, 180 main contact persons for EcoDesign in the RVS division took part in four virtual training sessions with a view to achieving a common understanding of EcoDesign standards for assessing product developments. Topics included the processes and methods involved in Knorr-Bremse’s EcoDesign approach, and also the legal requirements of the REACH regulation.

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. [Fig. → 4.03](#)

**4.03 Integration of EcoDesign**



### SDG 9 Initiative:

#### Recycling pilot project launched

In a total of eight worldwide Knorr-Bremse Centers of Competence (COCs) in the RVS and CVS divisions, the aim has been to use specific projects to identify scalable recycling opportunities for the Group. The pilot projects, two of which were already completed in the year under review, cover a wide variety of aspects. These range from packaging materials and the recycling content of supplied materials to take-back concepts at the end of components' life cycles. The aim in all cases has been to identify measures that can help Knorr-Bremse contribute to the goals of a circular economy. For example, the analysis revealed an ecological alternative to polystyrene packaging for components. In future the new design will be made from 100% biodegradable wood pulp and will require only about 50% of the original transport capacity due to improved stackability.

### SDG 9 Initiative:

#### Using new innovation formats

The SDG 9 initiative also leveraged access to start-ups. Knorr-Bremse had been a partner in the Munich-based Techfounders accelerator program since 2018. In 2020, the technology search field "Energy efficient and low emission transportation" was included, for which Knorr-Bremse launched a call for tenders. At the end of a multi-stage selection process, Knorr-Bremse opted for the start-up "weavair", which develops innovative technology for HVAC systems that boosts energy efficiency and as a result improves air quality. This solution is now being tested as part of a proof-of-concept project at Group subsidiary Merak.

**Strategic planning:** The divisions set their product and system goals for the next five years through strategic planning (STRAP). Product sustainability is one of many aspects forming an integral part of this process, including energy efficiency, materials selection, emissions reduction and service life.

**Innovation:** In our innovation process, we evaluate the potential of projects and product ideas to be taken forward 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, we carried out an analysis of our portfolio in order to assess the EcoDesign aspects of innovation ideas. In 2020, this resulted firstly in various pilot projects focusing on recycling that were launched at eight Knorr-Bremse Centers of Competence worldwide. Secondly, innovation management promoted cooperation with start-ups, which in the case of an innovative air-conditioning technology led to a proof-of-concept project at Merak.

In the RVS division, prioritization of new Knorr-Bremse innovation projects according to EcoDesign criteria was also introduced for the first time. This is now one of five different evaluation criteria and is set to become a mandatory part of the planning process. In 2020, approximately 150 projects were evaluated for the first time according to EcoDesign criteria. According to their prioritization ranking, projects receive a development budget to bring them to market. With this process-related implementation of EcoDesign, we aim to ensure a future-proof product portfolio for the benefit of our customers.

**Product development:** New products under development are evaluated on the basis of the relevant EcoDesign criteria. To evaluate the potential environmental impact of our products and systems, we use tools such as the results of life cycle and recycling assessments, and in future also the EcoDesign assessment form that is currently under development.

Knorr-Bremse uses life cycle assessments (LCAs), which include a calculation of product-related CO<sub>2</sub> emissions. The LCAs measure and document the amount of materials and energy consumed by our products both in 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, we put

great emphasis on ensuring that the materials we use can be recycled. In 2020 we carried out recyclability assessments in accordance with ISO 22628 and/or ISO 21106 for around 37 projects in the RVS division. These revealed that the overall recyclability rate for Knorr-Bremse RVS division products is over 90%.

A complementary tool is the cross-divisional EcoDesign assessment form (checklist). In 2020, among other things, it was used and further developed during the development of a HVAC system. With the help of the checklist, product ideas can be systematically analyzed on the basis of sustainability criteria such as enhanced energy efficiency, hazardous substance content, 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.

**Saving resources through industrial remanufacturing**

By extending the life of our products, we can increase their environmental and economic sustainability both for our Company and our customers. New Knorr-Bremse products are optimized in terms of suitability for remanufacture and overhaul right from the research and development stage onwards, with the aim of ensuring that they can be reused for exactly the same function later in their lives. The fact that fewer new materials and less energy are required has a positive impact on their overall environmental footprint. Today, "remanufacturing" in the CVS division and "overhaul" in the RVS division are important business activities for Knorr-Bremse. In the RVS division, large numbers of components supplied to customers are regularly overhauled and, after testing, re-installed in fleets or vehicles. The aim is to retain the functionality of these components until the end of the train's operating life. One example is compressors, which require overhaul after a certain period of time or number of operating hours. Modernization can also extend the useful life of an entire train. If a component requires replacing because it is obsolete or has performance problems, or an additional function needs to be added, the RVS division can also carry out a complete upgrade as part of the modernization process. In 2020, 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 4,900 high-speed train cars and 1,500 locomotives, as well as almost 1,900 metro train units. It also delivered 1,700 remanufactured entry systems for high-speed trains and 2,100 remanufactured HVAC units.

**4.04 Turnover from remanufactured products as a percentage of total service turnover**



The CVS division offers a remanufactured product portfolio with around 1,000 product codes under the EconX® brand. In 2020, Knorr-Bremse saved 1,560 tons of CO<sub>2</sub>, 542 tons of material and 6,335 MWh of energy through industrial remanufacturing. [Fig. → 4.04](#)

**Test project for ecological refrigerant CO<sub>2</sub>**

Integration of the newly-introduced Eco-Design assessment form into the development process is demonstrated by a project involving an air-conditioning system using the ecological refrigerant CO<sub>2</sub>. Deutsche Bahn signed a contract with Merak – then Kiepe Electric Vienna – to test a new type of air conditioning system in DB Regio double-decker passenger cars. The product's EcoDesign uses natural and much more ecological CO<sub>2</sub> instead of a conventional hydrofluorocarbon (HFC)-based refrigerant. The difference is considerable: The Global Warming Potential (GWP) of HFCs is a factor of one to two thousand higher than that of CO<sub>2</sub> (GWP 1). Knorr-Bremse benefits from this collaborative venture in the form of real field data flowing back into the development process that can be used to further optimize technology and demonstrate suitability for volume production. Our partner in this pilot project benefits from proving the reliability of the new ecological technology in practical use.

### Bendix celebrates global Reman Day 2020

Remanufacturing is the industrial reprocessing of end-of-life products, and thus the highest form of recycling and circular economy. At the same time, it is an important line of business for Knorr-Bremse Commercial Vehicle Systems. There is a remanufacturing plant in Liberec, Czech Republic, and Knorr-Bremse subsidiary Bendix Commercial Vehicle Systems, based in Elyria, USA, is highly active in the business. Bendix is the North American leader in the design and manufacture of active safety, air management and braking solutions for commercial vehicles. "Reman Day" – held on April 9, 2020 at the initiative of the Remanufacturing Industries Council – demonstrated how remanufacturing, with its commitment to sustainability, is shaping the entire industry in the United States. With a view to moving the industry forward, the Council uses the opportunity to provide information sessions, workforce development programs (curated webinars) and best-practice sharing. The idea is to raise awareness of the benefits of remanufacturing around the world. The size of the remanufacturing business can be seen in Bendix's 2019 figures: the company produced 2.7 million remanufactured components, saving more than 6,900 tons of raw materials and reducing its carbon footprint by more than 24,000 equivalent tons of CO<sub>2</sub>.

### Sustainability standards in the supply chain

Knorr-Bremse's efforts to promote high sustainability standards in the supply chain benefit both the 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.

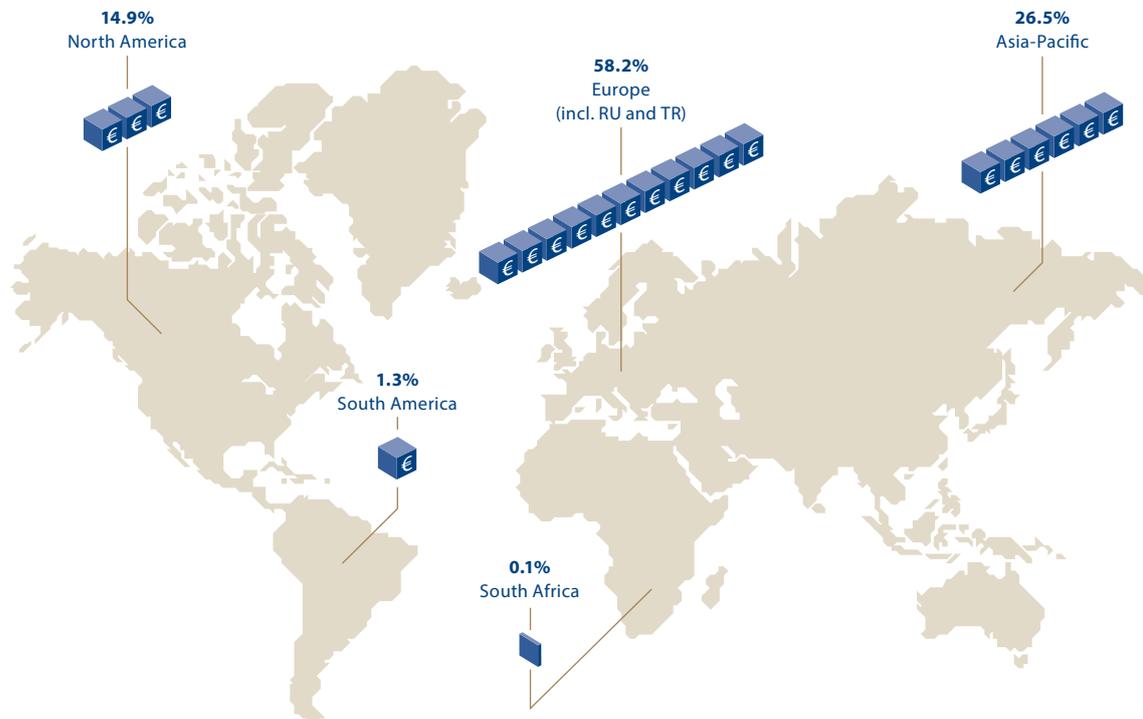
We currently purchase products and services from more than 29,000 suppliers every year, mainly buying components in the form of semi-finished or finished products that are assembled at our sites. Our biggest orders are for metals, friction components, electronic components and plastics, while we only purchase a small proportion of raw materials. Knorr-Bremse's choice of suppliers has a significant environmental and social impact in the countries where these items are produced. It is therefore of central importance to us to ensure that our supplier management processes take sustainability into account, as well as complying 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. This could also lead to increased costs as a result of cancelled deliveries. [Fig. → 4.05](#)

#### Principles and guidelines

We aim to achieve a shared understanding of corporate responsibility throughout the entire value chain, including our suppliers and business partners. We have incorporated this in our Code of Conduct and our CR Guideline.

Our Group-wide Supplier Code of Conduct lays down the requirements that must be met in order to work with us. 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 Code of Conduct is currently available in 14 languages. During the year under review, Knorr-Bremse also drew up a policy statement on the handling of conflict materials (see "Handling of conflict materials", page 44).

**4.05 Knorr-Bremse supply chain: regions' share of purchasing volume**



**>29,000**  
suppliers

**>70**  
countries

**> EUR 3 billion**  
global purchasing volume

In addition, internal guidelines determine the extent to which sustainability criteria should be considered when making procurement decisions. Thus 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 renewable energy, business travel, or energy-efficient products, equipment, and services.

**Structures and processes**

Procurement at Knorr-Bremse is divided into direct procurement, organized on a divisional basis, and global cross-divisional indirect procurement. Direct procurement involves materials for production processes, and includes all externally procured raw materials, articles or components. Indirect procurement involves the supply of non-production related materials and services that are not an integral part of Knorr-Bremse products but are required to support the internal organization.

A dedicated Group-level function supports compliance and optimization with regard to sustainability standards in the supply chain. Meetings are held 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. Implementation and application of sustainability standards in the supply chain is based on three pillars: definition of our sustainability requirements, their evaluation and validation, and provision of training for our suppliers and procurement team. [Fig. → 4.06](#)

#### **Standards: requirements in our Supplier Code of Conduct.**

In 2020 we continued step-by-step rollout of our Code of Conduct across our entire supplier base.

Knorr-Bremse contacted its existing direct (production) material suppliers, asking them to confirm receipt of and recognize the Supplier Code of Conduct. The Supplier Code of Conduct has also been integrated into the supplier installation process and its recognition is mandatory. This process is being rolled out step by step. Our supply contracts also reference the Code. In addition, 2020 saw us achieve an important goal, with rollout of the Knorr-Bremse Code of Conduct for indirect suppliers. All orders placed by Knorr-Bremse worldwide now contain a reference to our Supplier Code of Conduct, and the Code has also been integrated into our supplier framework agreements. In 2020, 37% of the volume of Knorr-Bremse's indirect procurement incorporated the Code of Conduct.

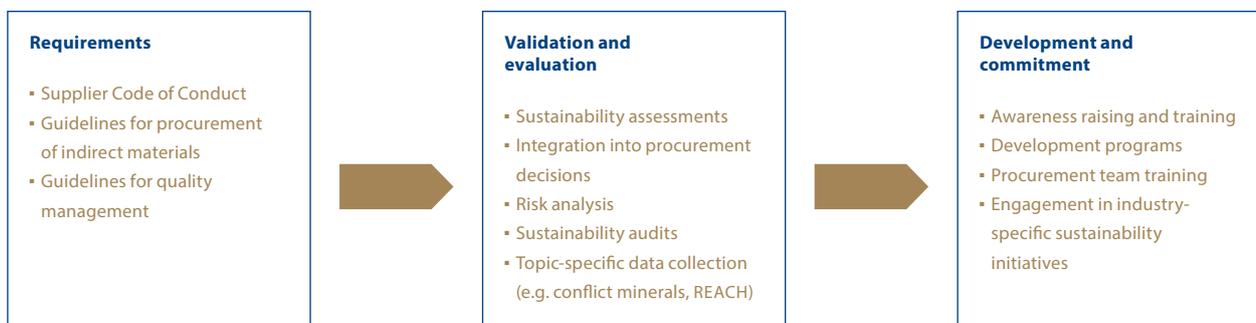
**Validation and evaluation: assessments and audits for selecting suppliers.** We employ targeted tools to evaluate and validate compliance with our standards, taking the results into account in our procurement decisions.

Sustainability assessments, involving surveying and evaluating suppliers on their sustainability performance, were continued in both divisions. With the assistance of external service providers, we request our business partners to complete questionnaires about their social and environmental performance. The external providers then validate and evaluate the self-disclosures and verification documents submitted by our suppliers.

921 of our direct suppliers have been assessed to date. This brings coverage to 67% of our global purchasing volume (2019: 61%) – a gratifying improvement in view of the global nature of our complex product range and the diversity of our supply chains. Once again, this meets the 60% annual target that we have set ourselves. During the year under review we also launched assessments of indirect suppliers.

These sustainability assessments of suppliers are taken into account in our procurement process. In the CVS division, the 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 the RVS division, priority is given to suppliers with “preferred” status. To achieve this, Knorr-Bremse requires them to possess a valid sustainability evaluation document. In addition,

## 4.06 Sustainability in the supply chain



suppliers should be able to provide evidence that they operate a certified environmental management system. Suppliers with such a system currently account for some 54% of the total purchase volume.

In addition, we use an ABC analysis of the findings from the sustainability assessments to evaluate the risks associated with suppliers to both divisions. In order to improve our sustainability performance, we developed a classification and evaluation system during the year under review that makes the assessments comparable in terms of risk classification. Level C covers companies with a potentially higher sustainability risk. In future we aim to reduce the proportion of suppliers coming from this category by subjecting them to closer analysis and organizing measures such as training sessions as part of development plans.

We regard internal and external audits as effective ways of examining and assessing suppliers' sustainability performance. This is why we integrate sustainability aspects into existing standard audits as well as carrying out specific external sustainability audits. The pre-audit checklist helps people carrying out routine audits to determine whether the supplier could potentially fall into the high-risk category for sustainability. It contains questions and practical advice to help members of Knorr-Bremse's supplier development team to 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. In 2020 the Covid-19 pandemic and cancellation of standard supplier audits meant that this measure could not be implemented.

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. The supplier's management methods and their implementation are also scrutinized in the areas of compliance, environment, occupational health and safety, human and labor rights, and supplier management. In 2020, none of the planned 43 audits of high-risk suppliers could be carried out (2019: 24 audits in Asia, America and Europe). Covid-19-related restrictions prevented the implementation of on-site audits, and these will now be carried out during 2021, if conditions permit.

**Development: development plans, training and involvement in sustainability initiatives.** If an audit or sustainability assessment reveals instances of non-compliance or areas where there is room for improvement, Knorr-Bremse works with the supplier to draw up a plan to improve their performance. Implementation is reviewed and documented. The information provided for the sustainability assessments is also used to identify any necessary measures, which are then communicated to the supplier in question. The assessments also help us to identify potential risk areas that we will need to especially take into account in our supplier management. For example, our external sustainability audits have identified waste management and human rights due diligence as potential risk factors and included these in our pre-audit checklist.

We are constantly working on raising our suppliers' awareness and developing their competence in these areas. Together with sustainability assessment service providers, we offer a range of webinars and follow-up resources on sustainability-related topics. Thus, in 2020 we drew up training documentation for suppliers on the subject of conflict minerals. In the same year we also started producing a practical guide for suppliers on carrying out human rights due diligence in their business, and for 2021 we are planning a seminar for Level C high-risk suppliers on the subject.

Another key requirement for sustainable procurement management is to ensure that Knorr-Bremse's own employees receive appropriate training to give them the necessary knowledge to properly assess, advise and audit our suppliers. During the year under review, we held webinars for Knorr-Bremse procurement specialists on sustainability in procurement. The focus was on Knorr-Bremse's expectations of suppliers, provision of background knowledge on conflict materials, and interactive Q&A sessions. From 2021 onwards, Knorr-Bremse will also provide information on conflict materials as part of its on-boarding training for procurement specialists.

To further develop our activities in this area, we also draw on discussions within relevant industry initiatives. The CVS division is in close contact with the German Automotive Industry Association, which is working to develop effective industry-wide solutions for high-risk raw materials. We are also founding members of the Railsponsible initiative, whose goal is sustainable procurement in the rail industry.

### Railsponsible – Sustainability standards in the supply chain

“Knorr-Bremse chairs the working party on ‘Responsible procurement’. Together with the groups looking at ‘Climate protection’ and ‘Social responsibility’, Railsponsible aims to strengthen responsible procurement. It is an important milestone on the road to making the rail industry the most sustainable transport sector.”

Hartmut Sievers, Vice President Direct Purchasing, Knorr-Bremse RVS

The Railsponsible initiative, with 15 members, was launched at the start of 2015 by a number of well-known European rail companies, including the RVS division of Knorr-Bremse, with the aim of establishing sustainable procurement in 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. In a position paper on climate change, Railsponsible pledges its support for the terms of the Paris Climate Agreement. Knorr-Bremse currently chairs the working group on “Responsible procurement”. The central focus is on the transfer of in-depth knowledge to members and suppliers regarding sustainable purchasing behavior, transparent business processes and further development of suppliers. Among the tools and measures to achieve this are appropriate purchasing guidelines, introduction to sustainability audits, and supplier training.

### Handling of conflict minerals

In 2020 we expanded the due diligence process for the management and reporting of potential conflict materials.

An important milestone was the formulation and rollout of our Company-wide Knorr-Bremse Conflict Minerals Policy, which lays down as a long-term target the exclusive use of conflict-free materials and components in our products. To start with, we are taking immediate action to achieve transparency in the procurement process for minerals such as tin, tantalum, tungsten and gold (“3 TGs”) from conflict zones or other high-risk areas. On an annual basis we require direct suppliers to provide 3TG-relevant information on the origin of minerals they use by applying the “Conflict Minerals Reporting Template” (CMRT) drawn up by the Responsible Minerals Initiative. By the end of 2020 we had received information about the origin of conflict materials from 73% of our direct suppliers in terms of purchasing volume. The information was generated from internal analysis of product groups, suppliers’ self-disclosures or the use of the CMRT. We intend to extend the scope of our analysis in our next survey.

### Ecological logistics throughout the value creation chain

Knorr-Bremse aims to ensure environment-friendly logistics at every stage of the value chain, 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. Our preferred providers are logistics partners that use fuel-efficient vehicles or have an efficient logistics network that minimizes CO<sub>2</sub> emissions from transportation.

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 promote innovations that reduce fossil fuel consumption. For this reason, CO<sub>2</sub> reporting on transport emissions in the transport sector is carried out in the CVS division in accordance with EN16258. 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 identify scope for consolidating shipments and cutting CO<sub>2</sub> emissions.

Examples of RVS division measures during the year under review:

- Combining several consignments in a single transport operation
- Using rail instead of air freight for inter-company shipments to and from China
- Cutting CO<sub>2</sub> emissions by restructuring the supply chain network

Examples of CVS division measures during the year under review:

- Combining inbound shipments: Milk-runs to the sites in Liberec, Czech Republic and Kecskemét, Hungary
- Reducing sea freight: Optimizing container capacity utilization through regular monitoring
- Efficient, low-emissions transportation within the Knorr-Bremse network: Direct collection by customers from production facilities

In freight logistics, 2020 saw our Sales Inventory & Operations Planning (SIOP) system help to optimize planning of shipments in the Knorr-Bremse Commercial Vehicle Systems division. Among other things, it enabled us to further reduce the number of special freight shipments compared with the previous year.

During the year under review, the RVS division decided to increase its focus on transport-related CO<sub>2</sub> emissions as a further criterion for making decisions on future logistics optimization.

We also set high sustainability standards for our own internal logistics operations and are constantly working to improve logistics processes between our sites. During the Covid-19 pandemic we have been reducing the impact of product transportation on the environment by further optimizing coordination of rail, road and sea links. This has been 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 prioritize inter-continental shipments by ship or rail. In the Rail division, we increased our rail freight traffic between Europe and China in 2020, and during the Corona crisis we safeguarded our supply chains by shifting goods consignments normally handled by ship to rail. We try to avoid the use of air freight wherever possible.



# Employees and Leadership

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» **In 2020 the main focus of HR management was on protecting employees' health in the face of the Covid-19 virus. In this context, the IT structures for mobile working and e-learning built up in recent years proved their worth, enabling departmental and cross-departmental cooperation within the Group to continue.** «

— **Klaus Remmler**

Senior Vice President Human Resources  
Knorr-Bremse AG

#### Top employer

In 2020, Knorr-Bremse received a Top Employer for Engineers in Germany award for the seventh time in a row.

#### Digital strategy

At the Knorr-Bremse Digital Days in November 2020, some 230 Knorr-Bremse executives from around the world met with outside experts to discuss the significance of digitalization for the Company's future development.

#### Proportion of female employees

The quota concept approved by the Executive Board is aimed at recruitment for Level 2-4 management posts in German Knorr-Bremse companies as well as for young talent development programs.

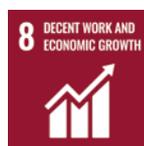
# 16,000

The virtual self-learning tool LinkedIn Learning offers employees in Germany courses on work-related topics, and in 2021 will be rolled out throughout the Group.



#### Gender equality

Achieve gender equality and empower all women and girls.



#### Decent work and economic growth

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

# Employees and Leadership

**Knorr-Bremse has around 29,500 employees worldwide, all of whom are expected to carry out their work with high levels of motivation and expertise. This is the only way we can continue to be a successful and future-proof company in the long term – with secure employment, challenging work and scope for personal and professional development. The key is forward-looking, transparent human resource management, including strategic staff development and training, as well as the highest standards of occupational health and safety at all our sites. The basis for the success of all our activities is Knorr-Bremse’s corporate culture, which is characterized by diversity and equal opportunities, respect and transparency.**

The number of Knorr-Bremse employees rose slightly in 2020 to 29,714 (2019: 28,905). The Group’s international focus is evident from the fact that 83% of employees work at sites outside Germany. Wherever they work, our colleagues are a key reason for our success. And for this to continue, we need to be an attractive employer, so that we can attract and retain the best specialist and managerial staff. As a powerhouse of innovation, Knorr-Bremse relies on highly skilled staff, professionals and early-career employees. We aim to counter the shortage of skilled workers with a clear HR strategy, attractive employment conditions, a commitment to equal opportunities and a holistic approach to employee development. In many industrialized nations with Knorr-Bremse sites, this also means finding answers to demographic change and an ageing society. [Fig. → 5.01](#)

In the year under review, Knorr-Bremse started implementing its global HR Strategy 2025, which had been presented in 2019. Developed jointly by global and regional HR managers, it is intended to support and strengthen Knorr-Bremse’s corporate strategy – assisted by our aim to position ourselves as an attractive employer with a competitive workforce,

pioneering leadership skills and operational excellence. The HR policy mission and the following strategic focus areas were defined on the basis of our corporate vision:

- We support the Company’s overall strategy with improved, standardized global HR processes that make valuable contributions.
- We aim to be an attractive employer all over the world. We achieve this through fair employment conditions, systematic employer branding and an international focus for staff 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 – which is characterized by top performance, mutual trust and responsibility.

### 5.01 Number of employees in the Group as of December 31, 2020

2018	28,452
2019	28,905
2020	29,714

### Employment conditions

We want satisfied employees who are happy with their employment conditions and appreciate our open, supportive corporate culture. Knorr-Bremse is committed to protecting employees' rights and to providing fair, appropriate remuneration. In addition, the Company offers support to individual employees facing challenging personal situations such as health issues that require special organizational measures. The global staff turnover rate<sup>1)</sup> in the Knorr-Bremse Group in 2020 was 14.0% (2019: 13.1%), with some regional variations. The staff turnover rate for employees handing in their notice was 5.1% (2019: 6.8%).

Two priority projects promote good employment conditions at Knorr-Bremse over the long term, and contribute to SDG 8 (decent work and economic growth). The first is the in-depth risk analysis focusing on ethical recruitment, which we will implement in 2021. This is designed to provide better protection against human rights violations for high-risk groups in the global supply chain, such as temporary staff and employees of service providers (see "Due diligence processes for human rights", page 26). The second is the establishment of Knorr-Bremse Learning Culture 4.0, which underscores the importance of remote learning and personalized instruction tailored to the individual's job and personality. As part of the SDG 8 initiative, we took the year of the pandemic as an opportunity to accelerate the introduction of the LinkedIn Learning self-directed learning tool. An online learning platform with more than 16,000 courses on various work-related topics, LinkedIn Learning has been available to all employees in Germany since September 1, 2020. The German sites were informed of the new service via the Intranet. The plan is for LinkedIn Learning to be rolled out globally across the entire Company at the beginning of 2021.

### Principles and guidelines

Knorr-Bremse aims to offer all employees the best opportunities and conditions in their professional sphere for developing their personal abilities. We are guided by 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 "Due diligence processes for human rights", page 26). Our commitment is set out 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 establishes a working environment with high standards of health and safety, fair working conditions and respect for freedom of association, and calls for equal opportunities and treatment of our employees around the world.

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

### Structures and processes

The central HR department plans, manages and monitors all strategic employee-related tasks at Knorr-Bremse. The Head of Human Resources holds overall responsibility for employees and reports regularly to the Chair of the Executive Board. Regional HR Managers are responsible for implementing HR measures in the regions – Asia/Australia, Europe/Africa and America – and for ensuring compliance with the detailed provisions of our Code of Conduct.

Local HR Managers implement and monitor HR measures at the local sites. Our intention is to ensure a continuous flow of information throughout the organization. Employees and external partners who need information about the Code of Conduct or any infringements can resort to established processes. Anyone with questions can contact managerial staff, the Compliance team, the HR department or the works councils, where these are available. 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", page 24).

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

### Top Employer award

“As a technology leader, Knorr-Bremse offers its employees modern infrastructure and an attractive working environment. This includes exciting work in international teams, future-proof employment, and a very high degree of individual responsibility. We are delighted that the working conditions we offer our engineers have once again been commended, and see this as an incentive to keep on improving.”

Klaus Remmler, HR Director, Knorr-Bremse AG

In 2020, Knorr-Bremse received a Top Employer for Engineers in Germany award for the seventh time in a row. The award recognizes the fact that Knorr-Bremse’s HR strategy and leadership are focused on the professional and personal development of employees. The Top Employers Institute examines ten general HR policy criteria, including talent strategy, personnel planning, learning and development, executive development, remuneration, special benefits and culture.

### 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, most recently in March 2018. The next employee survey, our seventh overall, is planned for 2022. It gives Knorr-Bremse employees worldwide the chance to voice their opinion of their employer. The survey is carried out by an independent institute, which ensures confidentiality. The anonymous evaluation process means it is impossible to link answers to individuals.

The aim of the survey is to measure employee satisfaction and to gather and implement suggestions for improving working conditions. The results are communicated to employees via a clearly defined process and discussed in workshops, so that specific measures can be drawn up.

In addition to these measures, which are implemented at the individual sites, the Executive Board has chosen the topics of Leadership and Collaboration as focus areas for the Group as a whole. Knorr-Bremse plans to make use of the potential for improvement identified in the global employee feedback in these two areas. The cultural change program planned in this context had not yet been launched by the end of 2020.

### Work-life balance

Work-life balance has an impact on the perceived attractiveness of employment conditions and, consequently, on employee satisfaction. Knorr-Bremse has increasingly tailored its organizational structures towards this in recent years, for example, by improving IT structures so that people can work from home efficiently. This paid off when the pandemic hit in 2020: Mandatory remote working was rolled out across the board. It meant that, within reason, employees with caring responsibilities were able to adapt their working hours flexibly.

Knorr-Bremse offers most of its staff a wide range of options for arranging their own working conditions:

- Flexible working hours and working time accounts
- Part-time contracts
- Sabbaticals lasting several months
- Mobile working
- 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

The Munich site was awarded a certificate from *berufundfamilie* for its efforts towards establishing a family- and life-phase-conscious HR policy, most recently in 2019, following a three-month audit. Each *berufundfamilie* audit ends with a binding agreement on objectives for the next certification audit in three years’ time.

### Remuneration, benefits and co-determination

Knorr-Bremse aims to be a fair employer that makes sure its employees are appropriately remunerated in line with global market rates. Minimum wages are not relevant for the majority of Knorr-Bremse employees because the skill levels required are generally high. Pay differences at Knorr-Bremse should be based exclusively on employee skills, qualifications and performance. Other criteria, such as gender, should not play a role.

In aiming to achieve fair remuneration and ensure posts can be compared internationally, we intend to assess all job profiles according to a standardized international system and to compare them against benchmarks. 59% of all employees have now had their roles assessed (2019: 58%). 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 extent to which employees meet their own individual targets. These targets are agreed between the employee concerned and their manager as part of the standardized global Staff Dialogue process (see "Personnel development", page 51). The incorporation of sustainability aspects into employee targets depends on the employee's role.

A wide range of site-specific, voluntary additional benefits are also available to Knorr-Bremse employees. These may include subsidized meals and transport, as well as sport and health provisions. Where local circumstances allow, Knorr-Bremse may make voluntary additional payments to company pension schemes, while complying with all of the country's statutory provisions and local tax and social security legislation.

In the context of co-determination by employees and their representatives, Knorr-Bremse focuses on trust-based collaboration with all employees across all levels of the hierarchy. This includes an objective exchange of views with employee representation bodies such as the Group Works Council. In this context, we respect both our employees' right to freedom of assembly and association and their right to engage in collective bargaining in countries where this is possible and permitted by law. 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 skilled employees give us a competitive advantage and form the basis of our commercial success. Personnel development is shaped by market requirements and our corporate objectives. We can initiate necessary change processes in the Company by systematically identifying our strengths and potential for improvement. This leads to a need for targeted personnel development with needs-based professional and personal training. In fiscal 2020, the People Development team responded to the special challenges and conditions created by the global Covid-19 pandemic and adapted a large number of in-person training sessions to online formats.

### Principles and guidelines

The global HR Strategy 2025 emphasizes the importance of employee development. As well as continuing training and support for specialist careers, we are focusing on the development of managerial staff.

Good leadership skills are essential for maximizing Knorr-Bremse's performance, creativity and long-term success. The Knorr-Bremse Leadership Principles set out what leadership should look like in practice. They help colleagues create a working environment in which employees can develop their full potential. The principles cover five core aspects: Reflect, Step ahead, Engage, Develop and Execute.

### Structures and processes

Our HR process model provides the framework for 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 adapted to their profiles. The focus is always on building knowledge and skills to equip employees for future challenges. The measures include seminars and workshops on topics such as social and intercultural skills, languages, project management, (braking) technology, quality, law, IT and CAD.

When the Covid-19 pandemic started in March and April 2020, Knorr-Bremse responded by offering training sessions on remote working topics for employees in Europe via an online platform. As well as IT topics, such as working with Sharepoint, the focus was on collaboration and leadership. The topics covered in these areas ranged from leading remote teams to managing critical conversations. In addition, LinkedIn Learning, the self-learning platform with thousands of courses that was introduced in Germany in 2020, will vastly expand the range available to Knorr-Bremse employees worldwide from early 2021 onwards (see "Employment conditions", page 49).

Knorr-Bremse aims to improve leadership quality and fill management vacancies with internal candidates wherever possible. We use methods designed to analyze potential (Development Center) and Group-wide management development programs (Management Potential Groups) for succession planning and executive development.

### Developing e-mobility with SCRUM

In the eCUBATOR unit, around 60 engineers identify and develop growth opportunities for Knorr-Bremse in the field of electric mobility. The team makes intensive use of the SCRUM method for working in agile, self-organizing teams. The SCRUM Master constantly observes, evaluates and supports the transformation of the processes in the projects. They can use their insights to coach the teams and strengthen teamwork. An important tool in the SCRUM Master's toolbox is the daily "scrum", during which the team members report back to the rest of the team on what they have done over the past 24 hours. Opportunities for improvement are evaluated on the spot.

### Knorr-Bremse Digital Days 2020

As a consequence of the Covid-19 pandemic, the fourth edition of Knorr-Bremse Digital Days was held entirely online in 2020 for the first time – a logical move on the road to becoming a digital company. On three days at the end of November 2020, some 230 Knorr-Bremse executives and experts from around the world and invited guests met online to discuss the significance of digitalization for the Company's future development. The focus was on the innovations, ideas, opportunities and challenges of digitalization in the area of smart products and processes. External keynote speakers from research and industry enriched the event with their views on topics like "Digital transformation in companies" and "From component manufacturer to mobility partner". A number of Knorr-Bremse divisions and subsidiaries presented solutions for smart products, including the retrofittable blind spot assistant for trucks, which uses cutting-edge object recognition software, and the prototype test for a remote shunting system for freight trains. The process aspect of the event included demonstrations of purchasing process automation with the help of software robots, and networking of machines at the Lisieux facility.

### Support for new management strategies

Knorr-Bremse is helping to shape the digitalization of transport through products like highly automated driving solutions. The opportunities linked to digitalization are changing ways 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. Examples include the Knorr-Bremse Digital Days, held online in 2020, where the Knorr-Bremse management and high-caliber external experts discuss topics relating to digitalization to bring the relevant awareness and the full range of potential digital applications into the Knorr-Bremse Group.

Agile leadership can be a preferred management method for identifying the best solutions. As well as training and using various agile methods such as SCRUM, design thinking and the canvas business model, the focus is on spreading an agile mindset. The transformation process is fueled by events such as digital days, training courses and in-house initiatives. The long-term and targeted use of new management methods is as important for Knorr-Bremse as drawing on the management approaches that have shaped the Company's success in the past. Our aim is to combine traditional and new approaches in meaningful ways.

### Training and education

We train people in the skills that are in demand within the Knorr-Bremse Group. It means people have good chances of being taken on permanently when they finish their training. We offer a range of technical and commercial apprenticeships across our international sites. The subjects in particular high demand among young people are industrial technology, machining, electronics, mechatronics and IT. 254 young people were undergoing training at Knorr-Bremse on December 31, 2020 (2019: 207).

When it comes to academic training, we work closely with universities. Knorr-Bremse has been a partner of the Duale Hochschule Baden-Württemberg (DHBW) in Ravensburg and its external campus in Friedrichshafen since 2008. Within this partnership, Knorr-Bremse offers three-year dual-track 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. Since 2012, 65 students have been studying transport engineering there in partnership with the University of Kecskemét. So far, more than 27% of the dual-track students have found employment at Knorr-Bremse Fékrendszerek Kft.

**Professional development and skills training**

Our aim is for employees to have the chance to develop personally and professionally at Knorr-Bremse. As part of the Staff Dialogue program, managers speak to each employee once a year about their achievements and development potential. The format involves standardized Group-wide performance appraisals with assessment criteria and a talent management system that is constantly being expanded. This program results in a performance and potential evaluation and written agreements on targets for each individual. Knorr-Bremse can use these to draw up training programs with each employee. In 2020, 82.1% of our global workforce underwent a performance appraisal (2019: 76.2%). Of these, 89.7% completed the Staff Dialogue process (2019: 94.7%).

[Fig. → 5.02](#)

**5.02 Staff Dialogue coverage and completion rates**

in %	2018	2019	2020
Coverage	71.1	76.2	82.1
Completion rate	94.1	94.7	89.7

Our open dialog culture 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. In this process, employees provide feedback on the leadership practices of their direct supervisors. This allows us to work together with the manager to develop ways of further improving their relationship with their employees. On average, managers at Knorr-Bremse achieved 4.9 out of 6 points in this assessment. This result was calculated on the basis of all the feedback completed during the implementation period. The completion rate for the Leadership Feedback process in 2019/2020 was around 92%.

**Management and young talent**

Company 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. At 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 needs-based education and training.

All the in-person training sessions for the programs aimed at managers and young talent were cancelled in 2020 because of the Covid-19 pandemic, so the personnel development team designed some virtual, voluntary management training

sessions and offered them in Germany and the rest of Europe. Early topics focused on impacts of the pandemic and included a seminar on remote management. The number of training sessions was gradually expanded to include classic management topics like high-performing teams and coaching. These online solutions were able to close the gap created by the absence of in-person training sessions and meet employees' needs.

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

**Global 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 sessions, events and a mentor support their personal and professional development.
- **International Management Potential Group (IMPG):** Each year, 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 sessions and projects, as well as strengthening their leadership expertise and expanding their own international networks. The program was suspended in 2020 because of the Covid-19 pandemic.

**Regional development programs:**

- **Junior Management Potential Group (JMPG):** A support program for employees whose achievements make them good candidates for (future) team leadership roles.
- **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**

Around 29,500 people work for Knorr-Bremse at over 100 sites in more than 30 countries. This cultural and individual diversity, paired with equal opportunities, represents a great opportunity for Knorr-Bremse – a driver of creativity, innovation and cultural competence in dealings with customers and suppliers. At the same time, these factors are all elements of Knorr-Bremse's strong financial position, underpinning our technology and market leadership.

### The Diversity Charter

“As a global company, we have an obligation and a desire to treat one another with respect. This is the only way that our workforce diversity can drive diversity in our innovations and products.”

Dr. Jürgen Wilder, Member of the Executive Board of Knorr-Bremse AG

In signing the Diversity Charter in Germany, Knorr-Bremse is underscoring its intention to commit to diversity management. The fundamental idea behind this commitment is that the German economy – influenced as it is by globalization and demographic change – can only be successful if it recognizes and makes use of the existing diversity of its workforce. In this context, diversity refers to the different personal traits and abilities of each individual in a workforce. By joining the initiative, Knorr-Bremse commits to making diversity an integral part of its organizational culture, creating a working environment that is free from prejudice.

### Principles and guidelines

The enrichment potential of diversity can only be realized in a context that is free from discrimination. This is what we want to ensure for all our current and future employees. Our commitment to diversity, equal opportunities and equal treatment is enshrined in our Code of Conduct. The underlying principle is the equal treatment of our employees, irrespective of gender, age, national origin, sexual identity, health, religion or ideology. Diversity management is to be integrated step by step into our HR and sustainability strategy over the coming years. In order to safeguard diversity and equality, Knorr-Bremse focuses on four key areas:

- Cultural diversity
- Gender equality
- Generations
- Severe disability

### 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, customers and staff. Within Knorr-Bremse's decentralized structure, the Management Boards of the individual Knorr-Bremse subsidiaries bear responsibility for this issue at local level.

The global, regional and local HR teams help the Executive Board and Management Boards to achieve the goal of diversity and equal opportunity within the workforce.

As part of its global HR strategy, Knorr-Bremse intends to advance diversity and equal opportunities by:

- creating a reliable database to use as a basis for setting targets
- raising awareness among employees through internal communication
- running training sessions for current and future managers
- identifying risks and opportunities

Procedures for exposing potential risks and violations of our diversity and equality requirement are already established within the Company. In the event of a possible case of discrimination regarding a material issue or course of action, each Knorr-Bremse subsidiary has a contact person responsible for dealing with the matter, who can be reached directly. If an employee finds themselves discriminated against in terms of a material issue or course of action, or if they want to make a complaint of any kind, they can contact the relevant HR department at our sites in Germany, in accordance with Germany's General Equal Treatment Act (AGG). In addition, works council members also receive complaints at the sites. Complaints can also be submitted via the general whistleblower system run by the Compliance department (see “Compliance and risk management”, page 24).

We regard training sessions as an important tool for raising awareness among employees. In 2021, we will be offering a training session on uncovering unconscious bias for our employees in Germany.

### Cultural diversity

We are a Group with global operations, and this international focus is an important factor in Knorr-Bremse's success. 9,4% of the workforce at our German sites is non-German and represents 64 different nations. In order to respond to local and cultural circumstances, most of the top management positions are staffed by local employees (2020: 83.6%, 2019: 86%).

We want to play an active role in spreading respect for our employees' different lifestyles within the Company. We support international dialog through intercultural training sessions, language courses, multi-site projects and assignments abroad. Knorr-Bremse has a presence in over 30 countries, and overseas postings are widespread. Our employees can spend between six months and five years working abroad. Our International Transfers department supports them from initial preparations to their return home and reintegration into their former workplace. In 2020, a total of 60 employees worldwide were posted to Knorr-Bremse sites in other countries (2019: 80).

### Gender equality

In line with SDG 5 (gender equality), Knorr-Bremse advocates for gender equality and intends to create more space for this within the Company in the future. Within the SDG initiative, Knorr-Bremse intends to strengthen the following key points:

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

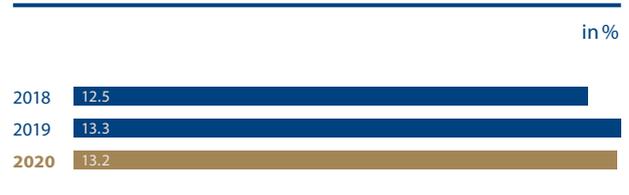
An internal working group within the IMPG employee development program (see “Professional development and skills training”, page 53) conducted a comprehensive analysis of the situation regarding gender equality at Knorr-Bremse in 2019. Among other things, it evaluated existing support programs and carried out and evaluated equal pay 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. [Fig. → 5.03, 5.04](#)

Building on the analyses of the IMPG working group, Knorr-Bremse developed a quota concept to increase the proportion of women in the workforce, which was approved by the Executive Board in mid-2020. The concept is aimed at recruitment for Level 2-4 management posts in German Knorr-Bremse companies as well as the young talent development programs. In a first step, the concept prescribes a minimum proportion for women in recruitment and for internal promotion measures. Women should make up at least a third of employees participating in support programs. Implementation of these measures is being supported by a new Women@Knorr-Bremse network.

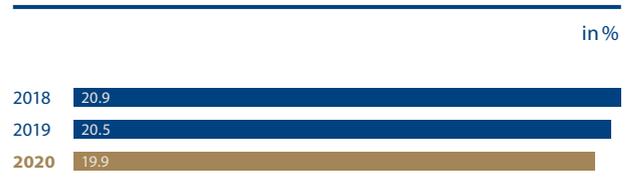
In parallel, Knorr-Bremse employs and supports a number of other programs designed to achieve a higher proportion of women in leadership positions. Knorr-Bremse’s MEP trainee program is just one example.

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 support them in their studies and early careers. The program is complemented by a range of targeted seminars and training sessions.

### 5.03 Global percentage of women in management positions across all areas<sup>2)</sup>



### 5.04 Global percentage of female employees<sup>2)</sup>



<sup>2)</sup> Proportion of the total workforce included in gender calculation: approx. 90%

### Generation management

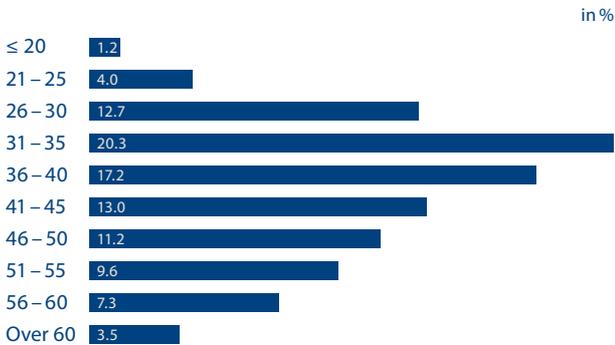
In Germany and other industrialized nations, demographic change is leading to a rise in the average age of employees. The average age of Knorr-Bremse employees in 2020 was 40.4 (2019: 39.9<sup>3)</sup>).

Our aim is to offer every employee the best working conditions at every stage of their life. Our generation management measures are designed to help achieve this aim. We are creating workplaces with reduced physical demands that are ergonomically designed for older employees. In particular, robots are being systematically integrated to support production employees at the Aldersbach facility.

Inter-generational understanding and collaboration are promoted by involving retired employees who pass on their experience to younger colleagues. In most cases, these are specialist and managerial staff with responsibility for project and consultancy tasks. [Fig. → 5.05](#)

<sup>3)</sup> Proportion of the total workforce included in age calculation: approx. 56%; the Company continues to work on increasing this proportion.

### 5.05 Age structure within the Group<sup>3)</sup>



#### People with disabilities

People with severe disabilities and health issues are an important part of the diverse Knorr-Bremse workforce. Measures for their inclusion are as important to us as the special protection and support that we provide. These include 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 people with disabilities to find the right workplace within the Company. The aggregated severe disability rate at German sites in 2020 was 4.5%.

### Occupational health and safety

Knorr-Bremse wants employees to remain healthy and productive. To create the necessary conditions for this, we have firmly established occupational health and safety in our business processes. This results in numerous measures for preventative health management, medical care, ergonomic workplaces and emergency plans for occupational safety.

#### Principles and guidelines

The Group-wide Health, Safety and Environment (HSE) Policy sets out relevant commitments and key principles for strategic planning and action planning in the areas of occupational health and safety. The policy was modified in 2020 in line with the new requirements of occupational health and safety standard ISO 45001 and the revised version was approved by the Executive Board.

#### Structures and processes

The HSE specialists at our sites have the task of coordinating all the occupational health and safety measures and assisting management with their implementation. One key task involves assessing the risk of injury and accident for employees and contract workers posed by production facilities, workplaces and work processes. Another aim is to promote

safety awareness in the workforce through training and information campaigns. They also conduct accident investigations and use the findings to develop measures to avoid accidents.

We systematically address any significant issues that might affect health and safety at work, ensuring we fulfill our responsibility towards all our employees. In the Rail Vehicle Systems division, 43 production and service sites around the world have already achieved ISO 45001 certification (2019: 39<sup>4)</sup>). In 2020, the remaining Knorr-Bremse sites that were still certified under the Occupational Health and Safety Audit Scheme (OHSAS 18001) were aligned with the new ISO 45001 international occupational health and safety standard. In-house HSE processes flesh out Knorr-Bremse's occupational safety management system. Regular internal audits and training programs promote compliance with these processes.

Our HSE reporting measures include employing standardized processes to record and analyze the key occupational safety indicators, and using the results to develop measures aimed at improving our performance in these areas. Professional development measures strengthen the quality of HSE management at Knorr-Bremse. During the pandemic of 2020, however, there were limited opportunities for regular in-house training sessions for the relevant specialists and for taking part in international meetings, conferences and projects. In addition to these measures, in-house campaigns raise awareness about occupational safety so that employees are better able to identify and avoid hazards. This effectively helps prevent health hazards and workplace accidents.

#### 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

<sup>3)</sup> Proportion of the total workforce included in age calculation: approx. 56%; the Company continues to work on increasing this proportion.

<sup>4)</sup> Figure for previous year adjusted because some subsidiaries received their certificates after this report was completed.

Thanks to these measures, in 2020 we were able to maintain our workplace accident rate at 0.9 accidents per 200,000 hours worked (2019: 0.9). [Fig. → 5.06, 5.07](#)

#### 5.06 Number of workplace accidents per 200,000 hours worked<sup>5)</sup>



#### 5.07 Number of workplace accidents resulting in lost days per 200,000 hours worked<sup>5)</sup>



<sup>5)</sup> The accident rate for 2020 refers 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'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 we are informed promptly of serious incidents by all our sites, so that the appropriate measures can be taken.

### Workplace health

In addition to occupational safety, Knorr-Bremse supports disease prevention and health promotion. Maintaining good employee health is a key priority. This is why Knorr-Bremse's occupational health management system analyzes workplaces in terms of health risks and ergonomics. Examples of improved workplace design elements include low-vibration electrical equipment and taking ergonomic aspects into account when planning the assembly process.

Water coolers and fruit for staff, preferential rates for sporting activities, in-house sports facilities, financial assistance for employees who purchase bicycles as part of the "Job Rad" scheme, and talks by experts on health issues all help to promote a healthy lifestyle among employees. Only a few occupational health activities involving groups of employees took place in 2020 because of the sometimes far-reaching social distancing rules introduced in response to the Covid-19 pandemic. When developing occupational health programs, we take account of our employees' needs. They make suggestions and put forward ideas during regular meetings or via the employee suggestion scheme.

### RoSPA award for HSE achievements

In 2020, Knorr-Bremse Rail Systems (UK) Ltd received a RoSPA Gold Medal Award for its health and safety achievements for the ninth year running. The gold medal recognizes the Melksham site's outstanding management, efficient implementation and consistently safe working environment for all employees in 2019. RoSPA is an internationally recognized organization with designated experts who assess the submitted health and safety management documentation.

### Risk assessment for mental stress

The Me-Meine Gesundheit (Me-My Health) program pools the occupational health management services at Knorr-Bremse's Munich site. Working with in-house and external stakeholders, including managers, HSE, works councils, HR and professional associations, the site offers a number of services designed to safeguard the health and job satisfaction of employees over the long term. "Psycho-social health risks" is a strategic area of health management that focuses on the high work demands of the Industry 4.0 age. Knorr-Bremse has established appropriate measures in this area. One key tool is the risk assessment for mental stress, which is already implemented at the Munich site and is due to be rolled out to other German sites. Covid-19 and its impacts on employees' mental health were integrated in the assessment in 2020 through questions concerning the pandemic and remote working. General workshop topics include dealing with everyday workloads, analyses following a mental stress risk assessment, and training sessions for managers on dealing with employees suffering from mental stress.



# Environment and Climate

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60 Environmental management

61 Energy and CO<sub>2</sub> emissions

65 Conserving resources

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» **We have set ourselves the ambitious goal of halving our sites' CO<sub>2</sub> emissions by 50 per cent no later than 2030 and also becoming carbon-neutral by 2021, by additionally offsetting residual emissions. These goals are consistent with climate science-based calls to limit global warming to no more than 1.5°C, to help achieve the goals of the Paris Climate Agreement** «

— **Frank Markus Weber**  
CFO  
Knorr-Bremse AG

#### **Environmental management standard**

Since 2001, we have been requiring relevant sites to obtain certification to ISO 14001, the international standard for environmental management. By the end of 2020, 67 production plants had achieved certification.

#### **Purchasing renewable energy**

To achieve our climate goal, we sourced green electricity for all our sites in Europe, China, the USA and Canada in 2020. This means that 81% of electricity purchased by Knorr-Bremse is currently covered by green electricity certificates.

#### **CO<sub>2</sub> offsetting projects**

In atmosfair gGmbH, Knorr-Bremse has a new partner for implementing projects to offset residual CO<sub>2</sub> emissions. As part of Knorr-Bremse's 2030 climate strategy, this provides for the Company to offset 40,000 tons of CO<sub>2</sub> per year.

# 59%

reduction of CO<sub>2</sub> emissions compared with the previous year: This means we over-achieved our 4.2% annual CO<sub>2</sub> reduction target.



#### **Responsible consumption and production**

Ensure sustainable consumption and production patterns.



#### **Climate protection measures**

Take urgent action to combat climate change and its impacts.

# Environment and Climate

**Knorr-Bremse's environmental management systems use a combination of clear processes and effective action to encourage the responsible use of resources. An important lever we employ to reduce our ecological footprint is lowering the environmental impact of our production processes through efficient use of energy and materials. At the same time, our new Climate Strategy 2030 aims to make a major contribution towards the targets set by the Intergovernmental Panel on Climate Change (IPCC).**

Climate change – especially the need to cut CO<sub>2</sub> emissions – and waste reduction are long-term global challenges. For this reason, despite the pandemic, 2020 saw Knorr-Bremse continue to push ahead with its environmental and climate protection measures and offer long-term solutions. Through our sustainability efforts we intend to meet our own expectations, as well as those of our customers and society. Doing this helps to consolidate a strong long-term competitive position for our company and make it attractive to investors. In addition, sustainability management can boost our growth strategy, because the early development of processes that contribute to Knorr-Bremse's own sustainability targets, such as CO<sub>2</sub> reduction, will lower costs in the long term. Knorr-Bremse aims to minimize the risks associated with environmental measures, such as additional costs and production restrictions.

Over the past decade, Knorr-Bremse has adopted a systematic approach to incorporating aspects of sustainability into its strategy, organization and processes, laying the foundation for optimizing energy and materials consumption. The action we are taking in this area is guided by SDG 9 (industry, innovation and infrastructure), SDG 12 (responsible consumption and production), and SDG 13 (climate action).

The fact that Knorr-Bremse produces components in production plants all over the world has a major impact on the environment, particularly in terms of CO<sub>2</sub> emissions and the consumption of resources. In order to reduce this impact, our environmental management system is always guided by

new developments, legislation, framework regulations and customer expectations at national and international level. We operate environmental management at our sites using standardized processes for environmental protection and targets at Group and site level. Our Group-wide risk management system also covers environmental issues, and we are working tirelessly to raise awareness of environmental issues among our employees.

## Environmental management

Knorr-Bremse's corporate structures are designed to steer and implement environmental management, with central Health, Safety and Environment (HSE) departments in the Rail Vehicle Systems (RVS) and Commercial Vehicle Systems (CVS) divisions. These draw up strategic guidelines and pool all the management and coordination tasks from site 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, and 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 specialist departments, as and when required.

Regular discussions between HSE officers help us to set the overall direction for environmental management across the Group. It is important that our HSE work is as consistent as possible across both business divisions, as this allows us to make full use of synergies between them. Our cross-site and cross-divisional HSE meetings, which are usually held at least once a year, did not take place in 2020 because of the Covid-19 pandemic. However, regular conference calls, video conferences and existing platforms provided opportunities to discuss HSE-related issues, best practice and legal requirements and to complete the associated reporting tasks.

### Principles and processes

The principles of environmental protection and energy management at Knorr-Bremse are set out in our HSE policy. This was updated in 2020 in line with the revised standards on occupational safety (ISO 45001) and energy management (ISO 50001), and the updated version was approved by the Executive Board.

We aim to prevent or minimize any negative impacts that our processes, services or products may have on health, safety and the environment. To this end, we use standardized management systems that encompass statutory and customer requirements, internal guidelines and procedural instructions. On this basis, our sites collect their own environmental and energy data at local level and then analyze it 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), ISO 45001 (occupational health and safety), and ISO 50001 (energy management).

Knorr-Bremse makes use of audits and reporting in order to monitor its environmental management activities. In line with Covid-19 protection measures, the audits took place both on-site and, increasingly, via video conferences. We have regular internal and external audits to check compliance with relevant standards and implementation of specified improvements. The divisions also produce regular reports throughout the year containing data on health, safety and the environment. Since 2001, relevant sites have been required to obtain certification to ISO 14001, the international standard for environmental management. By the end of 2020, 67 production plants had achieved certification (2019: 66<sup>1)</sup>).

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, feedback from ESG ratings and the SDGs. Key topics include climate protection and waste management.

## Energy and CO<sub>2</sub> emissions

As a manufacturer, Knorr-Bremse's energy consumption comes primarily from its use of buildings, operation of plant and machinery, and production processes. This energy use generates CO<sub>2</sub> emissions which Knorr-Bremse intends to minimize through energy management measures and its climate strategy. In addition, current and possible future regulatory requirements have an impact on energy management and, as a result, could affect the company's financial results.

### Principles and processes

The role of our environmental and energy management systems is to constantly assess and improve our processes in relation to energy requirements. They enable Knorr-Bremse to monitor consumption data, identify scope for saving energy, and monitor the effectiveness of any initiatives launched. Moreover, the Group-wide Climate Protection Committee – consisting of the divisional HSE managers, representatives of the America and Asia regions, the CR department and the energy procurement team – is supporting implementation of the new Knorr-Bremse Climate Strategy 2030.

One important aim of Knorr-Bremse's environmental and energy management systems is to reduce both direct and indirect CO<sub>2</sub> emissions. Reliable production technology can form a good basis on which to implement promising measures to minimize CO<sub>2</sub> emissions. By regularly inspecting and servicing our plant and machinery and carrying out preventive maintenance and repairs, we can reduce the environmental impacts of our operations. Every year we look to identify improved and upgraded equipment and production processes. To help us in our search, we rely on a number of tools, specifically when it comes to recording operating and energy data. These include energy metering devices and systems at selected sites that give us a detailed breakdown of our energy consumption. Knorr-Bremse also makes use of the waste heat from test rigs and maximizes potential energy savings through digitalization. Moreover, sharing examples of local best practice between our sites and divisions helps to create synergies in energy management.

<sup>1)</sup> Figure for previous year adjusted because some subsidiaries received their certificates after this report was completed.

### **Bendix: Putting the Climate Strategy 2030 into practice**

Bendix, Knorr-Bremse's US subsidiary, is pursuing two main goals as part of its sustainability efforts: zero waste to landfill and carbon neutrality, which contribute to SDG 12 (responsible consumption and production) and SDG 13 (climate action). Knorr-Bremse's ambitious Climate Strategy 2030 aims to halve CO<sub>2</sub> emissions by 2030 and achieve carbon neutrality from 2021. These are the targets that Bendix aims to support via its climate action plan, which includes lowering Scope 1 and Scope 2 emissions, investing in important energy efficiency projects and generating renewable energy at Bendix sites. One step is to generate solar power at the company's site in Huntington, Indiana, with a photovoltaic plant that is due to start operating in June 2021. Bendix has invested USD 1.7 million in the plant and plans to reduce CO<sub>2</sub> emissions by 4% and cut annual energy costs by USD 142,000. Another far-reaching energy efficiency and CO<sub>2</sub> reduction project was completed in December 2020 at Knorr-Bremse in Acuña, Mexico (see "Climate protection measures", page 64). To accompany these measures, a one-year in-house climate action campaign will raise awareness among employees about how they can reduce their carbon footprint and contribute to sustainability goals. In 2019, Bendix received the Knorr-Bremse Value Award for Responsibility for its waste management and Zero Waste to Landfill program, which contribute to SDG 12. For its headquarters and eight out of ten production facilities (99.8% overall) Bendix succeeded in meeting its target of sending zero waste to landfill by 2020.

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. At the end of 2020, 36 legal corporate entities (2019: 35) held this certificate or were completing an external energy audit to EN 16247. As part of our energy management system, we set objectives and draw up annual action plans to improve energy efficiency. Local energy officers analyze processes and monitor the implementation of measures.

### **Climate Strategy 2030**

Knorr-Bremse's Climate Strategy 2030, which replaced the climate protection targets we set in 2015, marks a major milestone in our efforts to tackle climate change (see Sustainability Report 2019, page 54). The new climate strategy was drafted as part of Knorr-Bremse's contribution to meeting the 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 Paris Agreement 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 targets: lowering CO<sub>2</sub> emissions and achieving carbon neutrality at its sites.

Firstly, Knorr-Bremse wants to halve CO<sub>2</sub> emissions at its sites by 2030. We aim to cut emissions from the energy consumed by our manufacturing facilities worldwide and the Knorr-Bremse vehicle fleet by 50.4% by 2030. This will require an average reduction in CO<sub>2</sub> of 4.2% per year compared to 2018 levels. We intend to achieve these aims through the following:

- Energy efficiency initiatives and low-carbon fuels in our heating systems and vehicle fleet
- Investment in measures designed to increase the share of renewable energy that we generate ourselves at Knorr-Bremse sites
- Increase in the proportion of renewable energy we source externally, through long-term power purchasing agreements, green energy products and certificates

The vast majority of Knorr-Bremse's environmental investments are earmarked for improving energy efficiency and generating our own renewable energy.

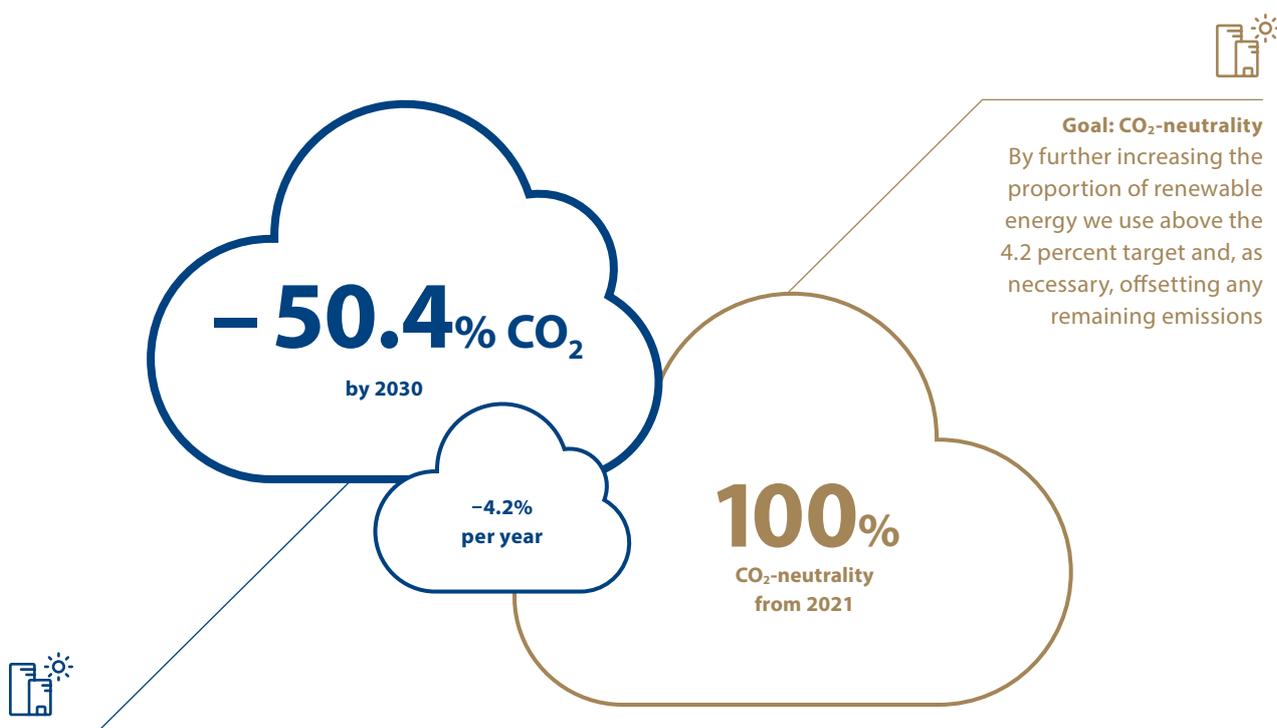
In a second contribution to climate protection, Knorr-Bremse has pledged to achieve carbon neutrality at its sites from 2021 onwards. We intend to go beyond the targets described above by increasing the proportion of renewable energy we use above the 4.2% target and, as necessary, offsetting the remaining emissions by means of high-quality climate protection certificates. [Fig. → 6.01](#)

To this end, Knorr-Bremse signed a cooperation agreement in 2020 with atmosfair gGmbH, a climate protection organization in Berlin, Germany. Starting in 2021, Knorr-Bremse will offset 40,000 tons of CO<sub>2</sub> each year via two projects to be

implemented in collaboration with Knorr-Bremse Global Care: the Clean Drinking Water project in Kenya and Tanzania and the Efficient Wood Gas Stoves project in India. Both carbon offset projects are certified to the independent and internationally recognized Gold Standard.

Our climate strategy relates to direct CO<sub>2</sub> emissions (Scope 1) and indirect CO<sub>2</sub> emissions (Scope 2) as defined in the Greenhouse Gas Protocol. Scope 1 comprises emissions that are produced in our Company, for instance when we burn fossil fuels. Scope 2 refers to emissions from externally sourced energy, such as electricity or district heating. We

**6.01 Knorr-Bremse Climate Strategy 2030**



**Goal: To halve our CO<sub>2</sub> emissions by 2030**

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

**Three levers to achieve a reduction:**



**Energy efficiency**

Improve energy efficiency and switch to low-carbon fuels



**Renewables generation**

Gradually increase share of renewable energy generated on our own



**Renewables purchase**

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

## 6.02 Energy consumption<sup>2),3)</sup>



GWh



## 6.03 Energy efficiency<sup>2),3)</sup>



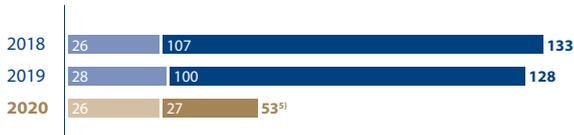
MWh/€ million



## 6.04 Direct and indirect CO<sub>2</sub> emissions<sup>3),4)</sup>



in thousands of tons



■ Direct CO<sub>2</sub> emissions (Scope 1) ■ Indirect CO<sub>2</sub> emissions (Scope 2)

## 6.05 CO<sub>2</sub> intensity<sup>3),4)</sup>

in tons of CO<sub>2</sub>/€ million

<sup>2)</sup> The figure for 2020 refers 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's employees are included.

<sup>3)</sup> In accordance with the Knorr-Bremse Restatement Policy, the key figures have been adjusted for 2018-2020, as there is a deviation of around 5% due to structural changes. Within the period concerned, two sites ended their operations and five were newly added to the scope of the reporting.

<sup>4)</sup> Our recording of CO<sub>2</sub> emissions is based on the recognized specifications in the Corporate Accounting and Reporting Standard (Scope 1 and 2) of the Greenhouse Gas Protocol. The chart shows market based CO<sub>2</sub> emissions.

<sup>5)</sup> Thanks to an expanded purchase of green power certificates, Scope 2 emissions were greatly reduced in 2020.

are currently working on measuring Scope 3 emissions – emissions that occur as a result of our business activities in upstream and downstream value chains – in order to define a long-term reduction target for Scope 3 emissions. We will start by measuring emissions in Scope 3.1 (purchased goods and services) and Scope 3.4 (transportation and distribution), as defined in the GHG Protocol.

### Knorr-Bremse's energy and carbon footprint

The majority of Knorr-Bremse's CO<sub>2</sub> emissions come from energy consumption in production. Around 22% of the Group's total energy requirements are met by gas and 67% by electricity. The proportion of electricity sourced from renewables in 2020 was 86%, and our total energy consumption fell 4.5% to 406 GWh. This reduction is primarily due to the weaker national economy and associated reduction in energy use.

[Fig. → 6.02, 6.03](#)

In 2020, absolute CO<sub>2</sub> emissions fell by approximately 59% (2019: 10%) to 53,000 tons. This is partly in line with our lower energy consumption, but our climate protection measures (see below) also contributed to the figure. This means that in the past two years, we have significantly exceeded our climate target of reducing CO<sub>2</sub> emissions by 4.2% each year. The CO<sub>2</sub> emission intensity (Scope 1 and 2) in 2020 was 8.6 tons per million euros of sales. Our emissions-to-sales ratio has fallen considerably in recent years. Scope 1 emissions in 2020 were 26,000 tons and came primarily from the combustion of natural gas. Indirect CO<sub>2</sub> emissions were 27,000 tons and were caused primarily by externally sourced electricity.

[Fig. → 6.04, 6.05, 6.06](#)

### Climate protection measures

In order to reach our climate target in 2020, we made use of the three strands of our climate strategy and implemented measures in all of them.

To improve energy efficiency, we started a systematic potential analysis in 2020 and asked our production sites to notify us of any energy efficiency projects. To find further areas for improvement, external energy consultants carried out energy audits at our most energy-intensive sites – in Acuña (Mexico), Watertown (USA) and Suzhou (China). A Group-wide climate strategy budget has been set by the Executive Board to implement energy efficiency measures resulting from the audits. The divisions release the funds in consultation with the core climate protection team. The energy efficiency measures implemented at the sites in Acuña, Watertown, Suzhou, Aldersbach (Germany) and Budapest (Hungary) will save 2,000 tons of CO<sub>2</sub> per year. This is equivalent to approx. 3.8% of Knorr-Bremse's global CO<sub>2</sub> emissions in 2020. They

## 6.06 Meeting the climate protection target of 50.4% CO<sub>2</sub> reduction by 2030



In 2020 we succeeded in reducing our CO<sub>2</sub> emissions by 60.2% compared with the base year 2018. This means we over-achieved our target of an annual reduction of CO<sub>2</sub> production by 4.2%. This was largely due to the increased purchase

of green energy certificates as a short-term substantial contribution to climate protection by Knorr-Bremse. We are thus well on the way to achieving our climate protection goal for 2030 and our aim of carbon neutrality from 2021 onwards.

include replacing lighting systems, compressor control systems, waste heat recovery and insulation measures. Additional energy audits are planned for 2021 to identify further potential emissions savings.

We are improving our carbon footprint by generating our own renewable energy at sites including Suzhou in China (Rail), Pune in India (Truck), Faridabad in India (Rail) and Munich in Germany (HQ). A new photovoltaic system is due to start operating in Huntington in the US (Truck) in 2021, increasing the amount of renewable energy that Knorr-Bremse generates itself from approximately 1,400 MWh/year to approximately 3,300 MWh/year and saving around 1,000 tons of CO<sub>2</sub> per year (approx. 1.9% of Knorr-Bremse's global CO<sub>2</sub> emissions in 2020).

As part of its climate strategy, Knorr-Bremse is also keen to source more renewable energy from external suppliers. As we centralize our global energy procurement, the indirect purchasing team is systematically analyzing our existing energy contracts, starting with the production sites. We are being supported in this process by an external energy consultancy firm with a global presence. As in 2019, the Italian sites in Arcore and Buccinasco are sourcing electricity from Italian hydroelectric and solar plants via green energy tariffs. Our Austrian sites are being supplied with Austrian hydroelectric power via a green energy tariff that came into force in 2020. Electricity generated from Spanish wind power was purchased for all other European sites via Energy Attribute Certificates (EACs). These certificates were generated by plants that are less than five years old. The same applies to all sites in China (Chinese IRECs), the USA and Canada (US RECs). In addition, the certificates from Europe and the majority of those from China are for energy sourced from non-support-

ed power plants. The North American certificates come from supported plants and also carry the Green-e label. This means that 81% of electricity purchased by Knorr-Bremse is currently covered by an Energy Attribute Certificate.

### Conserving resources

Knorr-Bremse aims to reduce its use of raw materials, process materials and fuel, and to recycle materials wherever possible. This saving and recycling concept applies to all our waste and water used as a resource.

Our waste management system is fundamentally geared to the avoidance of waste, whether it takes the form of raw materials and packaging in production, or other waste generated on site. At the same time, we are also trying to encourage sustainable water use, while taking our sites' varying situations and requirements into account.

### Waste management

In its waste management, Knorr-Bremse is guided by the principle of a sustainable circular economy. Our ultimate goal is to avoid generating waste in the first place. Where this is not possible, we are committed to recycling our waste in ecological ways. 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 ecological alternatives (e.g. avoiding the use of non-recyclable plastics)
- To encourage ecological reuse or recycling of materials to help create a circular economy

### Customized carbon offset projects in Kenya, Tanzania and India

In collaboration with atmosfair gGmbH in Berlin, Knorr-Bremse and Knorr-Bremse Global Care have selected two projects to offset the Group's residual CO<sub>2</sub> emissions. Both of them are certified to the independent Gold Standard and, between them, provide for an annual offset volume of 40,000 tons of CO<sub>2</sub>. When choosing projects, it was important for Knorr-Bremse that they contributed to several of the Group's focus SDGs, that they were situated in countries with Knorr-Bremse sites or in countries where Knorr-Bremse Global Care already runs projects, and that Knorr-Bremse could play an active role in the project work. The two chosen projects meet all these criteria. The Clean Drinking Water project run by local project partners Boreal Light GmbH and Waterkiosk Ltd supports access to clean drinking water for rural households in Kenya (and, in future, in Tanzania). This prevents water-borne diseases.

A solar-powered water treatment plant in Burani in Kenya desalinates and purifies up to 25,000 liters of water every day, producing clean drinking water for 6,000 people. The plant also supplies lower-quality water for irrigation, fish farming and sanitation. Alongside the pilot project in Burani, the project partners are building additional water treatment plants in Kenya and planning their first plants in Tanzania. Meanwhile, the Efficient Wood Gas Stoves project in India is already fully underway in collaboration with Sapient, the local project partner in Kolkata. The project supplies households in rural West Bengal with efficient wood gas stoves that can reduce firewood consumption by 50% to 60%. The stoves enable smoke-free cooking and the wood gasification process produces charcoal. At the same time, reducing wood consumption protects the mangrove forests of West Bengal.

At Knorr-Bremse, waste consists primarily of scrap metal, paper and residual waste. As a manufacturing company, we produce waste that includes steel and other ferrous materials, light metals, polymers, operating materials and packaging materials. In our product development process we are therefore increasing research into the possible application of ecological and resource-conserving materials (see "Ecological product design", page 36). 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 we can 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 sanitation purposes. In 2020 we used a total of 594,000 cubic meters<sup>6)</sup> of water across our sites worldwide (2019: 606,000 cubic meters). Production processes and our drinking and sanitation 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 waste water via public sewage systems. [Fig. → 6.07](#)

### 6.07 Water consumption<sup>6)</sup>

in thousands of cubic meters



<sup>6)</sup> The 2020 figure includes over 85% of Knorr-Bremse's employees.

### Focus on SDG zero waste initiative: waste programs at sites worldwide

All over the world, Knorr-Bremse sites are implementing numerous measures to prevent waste along the value chain. In doing so, they are setting Knorr-Bremse well on the way to becoming a more sustainable business in terms of SDG 12 (consumption and production) and SDG 13 (climate action).

### Sustainable use of resources in offices

The Knorr-Bremse site in Moscow has banned plastic from its offices. There are no longer any disposable plastic bottles or cups in its meeting rooms, kitchen or staff areas. They have been replaced with glasses, paper cups and glass jugs of filtered water. Waste separation has also been intensified in the Moscow offices, with special containers for paper, plastic, glass bottles and waste that cannot be recycled. All recyclable plastics (packaging, plastic bags, bottles, food containers, etc.), glass and paper is sent for recycling.



### Zero Landfill program

Knorr-Bremse Brazil (RVS and CVS) in Itupeva is reducing the impact of its waste on the local environment through a program aimed at eliminating waste sent to landfill. In 2019, before starting the program, 27% of waste at Knorr-Bremse Brazil was used for energy recovery, 68% was recyclable and 5% consisted of “general waste” (sanitary waste, food waste and organic waste), which was sent to sanitary landfill. The Zero Landfill program

changed all this: Instead of sending 80 tons of waste to a landfill site near São Paulo each year, the waste is now used for energy recovery. In February 2020, Knorr-Bremse Brazil found a partner, Salmeron, which runs a waste-sorting plant near São Paulo. It operates cost-effectively and is authorized by the environment authorities. A contract was signed, along with the relevant permits, and the two companies started working together in May 2020. Once it has been sorted, the waste from Knorr-Bremse is processed by Salmeron to help generate fuel for the cement industry in other parts of Brazil.

### Disposable packaging eliminated

Following the Reduce, Reuse, Recycle approach, a sustainability project in logistics at Knorr-Bremse India has replaced nearly 280,000 disposable corrugated cardboard boxes with reusable packaging. This process, and the employees’ commitment and motivation, earned the company a Knorr-Bremse Value Award for Responsibility 2020. So how have they managed to eliminate so much packaging? The shipping boxes were redesigned and adapted to the component, the type of transport and the available space in the company’s own logistics system. The packaging is returned to Knorr-Bremse via a reverse logistics system, where it can be reused. The company made use of the expertise of a specialist packaging manufacturer for this project, meaning that the model can be implemented worldwide as an example of best practice. Reporting covers the status of outgoing and incoming reusable packaging and storage and shows that in 2019, the reduction in shipping boxes was equivalent to 1,951 trees. This has a positive impact on Knorr-Bremse’s carbon footprint and costs, saving EUR 85,000. Equally important is the fact that the measure improved Knorr-Bremse’s supplier rating with a major Indian truck manufacturer and enabled Knorr-Bremse to qualify as a preferred supplier.



# Commitment and Society

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**71** Global Care: Global commitment

**74** Local Care: Site involvement

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» **In addition to supporting education and WASH programs, funding was provided for Covid-19 relief measures. Most of the money went to support ongoing Global Care projects or our long-term partner organizations. The aim of all our measures is to improve the situation of affected individuals quickly and effectively. They range from distributing food to needy children in Cambodia to providing digital education resources in the USA and donating laptops to schoolchildren in Munich and Berlin. «**

— **Julia Thiele-Schürhoff**

Chair of the Executive Board of  
Knorr-Bremse Global Care

#### **Global Care**

110,000 people were reached in 2020 by 89 Global Care projects, with spending of EUR 1.7 million.

#### **WASH and educational projects in India**

Knorr-Bremse Global Care Asia Pacific has embarked on an extensive project with the NGO "Work for Equality" in the Indian village of Methalwadi

#### **Local Care**

In 2020, around 400 Local Care projects were carried out on all continents around the world.

# 700,000

euros were made available by Knorr-Bremse Global Care for the Covid-19 rescue fund.



#### **Quality education**

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.



#### **Clean water and sanitation**

Ensure availability and sustainable management of water and sanitation for all.

# Commitment and Society

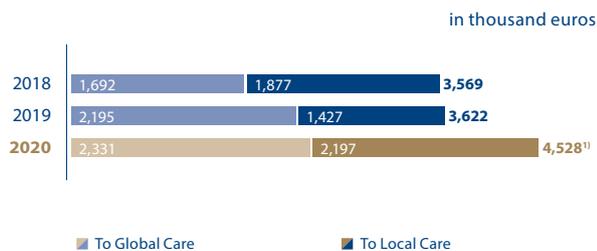
**For Knorr-Bremse, commercial success and corporate social responsibility go hand in hand. Corporate citizenship delivers high added value not only for those affected and supported, but also for the Knorr-Bremse sites and employees. We therefore encourage our employees to become involved in social projects.**

Knorr-Bremse's support for social causes focuses on both global and local issues – through its non-profit organization, Knorr-Bremse Global Care, and 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 that require 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 direct and indirect economic impacts on every region in which it operates. 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. The long-term involvement of our local sites and their close cultural ties help the funded projects flourish and maximize their impact. At the same time, this arrangement

boosts employees' feeling of belonging with Knorr-Bremse and with its social commitment, and also enhances the company's reputation, for instance in terms of employer branding.

In 2020, the Knorr-Bremse Group donated EUR 4.5 million for social causes via Local and Global Care. Of this sum, 51% went to Knorr-Bremse Global Care. This is the total amount, including the contributions from the two regional organizations, Knorr-Bremse Global Care North America Inc. (USA) and Knorr-Bremse Global Care Asia Pacific Ltd. (Hong Kong), which receive their funds from the Knorr-Bremse holding companies in the USA and Asia respectively. [Fig. → 7.01](#)

## 7.01 Donations



<sup>1)</sup> The increase in the volume of donations for Local Care in 2020 is due to payment under the funding agreement for Munich Technical University, Germany (2019/2020).

## Global Care: Global commitment

Knorr-Bremse Global Care is a globally active non-profit organization 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: education, WASH (water, sanitation and hygiene), and emergency relief.

Knorr-Bremse Global Care started as a German non-profit organization founded by Knorr-Bremse Group employees in Munich to provide rapid assistance in the aftermath of the tsunami that hit South-East Asia in December 2004. Over the years that followed, the organization continued, expanded and professionalized its work.

Since Knorr-Bremse Global Care was set up in 2005, it and its partner organizations and the new regional entities have completed 399 projects, improving the prospects of over 860,000 people. A total of almost EUR 23 million has been invested in these projects. In 2020, Knorr-Bremse Global Care provided financial support for 89 projects, spending around EUR 1.7 million and reaching more than 110,000 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. Through its work in targeted, long-term project partnerships, it aims to contribute to changes in society that have structural relevance and a broad impact. Care is taken to always involve local communities in the projects, in order to ensure that they deliver benefits and remain sustainable.

The key areas that Knorr-Bremse Global Care supports are education and WASH (water, sanitation and hygiene). In 2020, the organization firmed up its objectives for these two areas and aligned them with the targets of SDGs 4 and 6.

SDG 4 (quality education) and its targets aim to ensure quality education and facilitate lifelong learning for all as a prerequisite for decent work and balanced economic growth. Knorr-Bremse Global Care contributes to SDG 4 by supporting medium- to long-term educational and infrastructure projects. The focus is always on vocational training, as this is the most effective way of giving disadvantaged people the prospect of determining their own lives. In the field of education, Knorr-Bremse Global Care has set itself the goal of providing access to tertiary education, including vocational training, for disadvantaged teenagers and young adults. Aligned with SDG 4.3 and 4.4 and geared to helping to reduce youth unemployment, planned activities include vocational training, teaching workplace skills and providing career advice.

### South Africa: Educational advancement through changemakers

In line with SDG 4 (quality education), Knorr-Bremse Global Care has been supporting the education program of its long-term partner Masifunde during the pandemic. Masifunde, an educational facility in Port Elizabeth in South Africa, has been a reliable partner working with township schools since 2017 and offers a broad range of courses. It caters for up to 450 students, who can take a number of different courses in a friendly atmosphere. They can study school subjects, expand their talents in the drama group or choir, or learn drawing or programing skills. Masifunde trains “changemakers” – talented young people from Walmer Township who have received support in the past and can help other children in the community improve their skills, education and job prospects, and so bring about real change in the community. Knorr-Bremse Global Care has been involved with the project since 2008. The partnership is based on more than just financial support. The strategic development and expansion of Masifunde’s work took place in close collaboration with Knorr-Bremse Global Care, which also helped safeguard Masifunde’s success during the Covid-19 pandemic. The project’s trusty minibus, which has been transporting children and young people for the past ten years, was fitted with Covid-19 protective equipment and used to transport food supplies funded by Knorr-Bremse Global Care to struggling families in Walmer Township, where the Masifunde project is based.



### India:

#### **Covid-19 emergency relief, followed by WASH project**

The new project in Methalwadi in India meets all the Knorr-Bremse Global Care funding criteria: It is close to a Knorr-Bremse site (Pune), it contributes to SDG 4 (quality education) and SDG 6 (clean water and sanitation) and involves emergency relief. Working with an NGO called Work for Equality, Global Care is supporting a WASH program at the local school, which will see the construction of new toilets and provision of clean drinking water. As well as improving conditions for 125 school-children and their teachers, the activities will also benefit the village elders and families living near the school. This will be followed by a supplementary education program that will be set up to provide further training for the children and young people in the villages. During the Covid-19 pandemic, Knorr-Bremse Global Care tackled the challenges facing the local people by providing comprehensive emergency relief. This enabled Work for Equality to distribute 150 food and aid parcels to villagers in need. The donation supported more than 775 children and adults and provided 116,250 meals for the communities, to enable them to live decent lives during these times.



The aims of SDG 6 (clean water and sanitation) focus on providing everyone with access to clean, safe drinking water. They also include appropriate sanitation, hygiene training and proper wastewater disposal. These measures can protect communities against disease, creating better foundations for life, educational and development prospects. This is where Knorr-Bremse Global Care's WASH projects come in. They are designed to help lower morbidity and mortality rates associated with waterborne diseases, particularly among children under the age of five. Global Care's WASH activities include securing fresh water supplies and improving sanitation and hygiene, thereby contributing to SDG 6.1 and SDG 6.2. At the same time, the organization aims to involve the local population or beneficiary communities in the activities and to strengthen their personal responsibility for the projects through training sessions, courses or paid employment.

In the future, Knorr-Bremse Global Care will continue to run the majority of its projects in countries with Knorr-Bremse sites. This enables us to maximize direct contact with the supported projects. The idea is to raise awareness of social causes among employees and motivate them to play an active role themselves. Knorr-Bremse Global Care also supports development projects in ten other countries – Cambodia, Colombia, Ethiopia, Ghana, Kenya, Myanmar, Peru, Sri Lanka, Tanzania, and Ukraine.

#### **Structures and processes**

Knorr-Bremse Global Care consists of the non-profit organization in Munich, 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 organization receives most of its funding from the European companies 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. The Munich organization ensures coherence and coordination in terms of the strategic global orientation. In addition, a small team at Knorr-Bremse Global Care e.V. takes care of the Munich organization's operational activities and the global coordination of 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 development cooperation. It works closely with local partner organizations that are responsible for managing the projects on site and ensuring their efficient and effective implementation and documentation. Joint objectives are set and monitored for each project, based on the desired impact. Sometimes, Global Care members or other Knorr-Bremse employees supervise the projects. As well as 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.

To achieve an even greater impact, in 2020 Knorr-Bremse Global Care decided to focus even more intensively on strategic cooperation arrangements with selected, trusted partners. As well as benefiting the project partners, who can plan and work more sustainably, these targeted, long-term partnerships also lead to greater identification with our supported projects – both among our employees and in the local communities around our sites. In addition, long-term commitments offer better opportunities for reporting and impact analyses. We can use accompanying evaluation studies to measure the results of our activities on an ongoing basis and ensure we target them more effectively. This will give us greater leverage to improve the lives of disadvantaged people over the long term, while making efficient use of our resources.

Further project examples and information on the activities of Knorr-Bremse Global Care can be found at [global-care.knorr-bremse.com](http://global-care.knorr-bremse.com) and in the Knorr-Bremse Global Care 2020 Annual Report.

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### **Covid-19 assistance: Knorr-Bremse Brasil donates money and expertise**

As part of its Covid-19 relief measures, Knorr-Bremse Sistemas para Veiculos Comerciais Brasil Ltda. in Itupeva, Brazil, provided financial support and expertise to KTK, a manufacturer of medical equipment. Based in São Paulo, KTK specializes in anesthesia, intensive care and oxygen therapy products. The donation from the Knorr-Bremse site financed three assembly work benches for the production of ventilators. In addition, ten Knorr-Bremse employees trained KTK staff in the 5S workplace organization method and the Knorr-Bremse Production System (KPS). With the help of Knorr-Bremse Brasil, KTK managed to increase its production of small ventilators from 40 to 2,000 units per month.



## 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 2020, more than 400 Local Care projects were carried out on all continents around the world. The focus was on education and social cohesion. Over 2,800 employees took an active part in Local Care projects in 2020, despite Covid-19 restrictions. Examples of Local Care projects are provided by [Tab. → 7.02](#).

### 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 objectives and standards and specify support areas and criteria. In addition, the Local Care donation guidelines describe the standard principles governing the distribution of donations at Knorr-Bremse sites.

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,
- fundraising 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 taking into account the general budgeting process. We believe this local proximity leads to efficient, sustainable and successful project management. All Local Care projects are documented centrally and sites can exchange examples of best practice via an online platform.

### IFE Motion 2020:

#### actively supporting local NGOs

Members of the workforce at Knorr-Bremse subsidiary IFE played an active part in the "IFE Motion 2020" campaign at the company site in Modrice, Czech Republic – using scooters and roller skates to get around the workplace. The 141 participants added up the kilometers they covered between June and September 2020, and the total was then converted into donations amounting to over EUR 5,000. The money went to a number of local NGOs selected by the IFE employees: a project for a children's hospice, and a rehabilitation center offering patients ergotherapy treatment. In addition, a donation went to a charitable organization focused on social services that purchased oxygen concentrators with the money received. Thus, the IFE employees were able to support the local NGO sector in their community with their enthusiastic input and at the same time found an active way to boost their sense of solidarity despite the restrictions caused by the pandemic.

## 7.02 Selected Local Care projects by support category

	 <b>Environment</b>	 <b>Health</b>
<b>Asia/ Australia</b>	<ul style="list-style-type: none"> <li>▪ Environmental and climate protection project for employees, implementation (all RVS/China sites)</li> <li>▪ Beach and countryside cleanups, implementation (Dalian/China, Daxing/China, Nankou/China)</li> <li>▪ Office waste-reduction projects, implementation (Hong Kong/China)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support for autistic children, financial support and personal involvement of employees (Qingdao/China)</li> <li>▪ School playground renovation, funding (Beijing/China)</li> <li>▪ Support for blind children from socially disadvantaged families, financial support (Shanghai/China)</li> </ul>
<b>Europe/ Africa</b>	<ul style="list-style-type: none"> <li>▪ Foundation for the preservation of the surrounding forest, financial support (Liberec/Czech Republic)</li> <li>▪ Tree planting around the Knorr-Bremse site (Florence/Italy)</li> <li>▪ Tree planting in the local area, funds for saplings (Melksham/UK)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cancer organizations, financial support (Aldersbach/Germany, Florence/Italy, Mechelen/Belgium)</li> <li>▪ Muscular atrophy organization, financial support (Warsaw/Poland)</li> <li>▪ Organization for children with special needs, financial support (Arcore/Italy)</li> <li>▪ Organization for autistic children, financial support (Buccinasco/Italy, Kraków/Poland)</li> <li>▪ Ambulance purchase, financial support (Budapest/Hungary)</li> </ul>
<b>America</b>	<ul style="list-style-type: none"> <li>▪ Pollinator garden for bees on the company site, garden maintenance by employees (Westminster/USA)</li> <li>▪ Beach cleanups, financial support provided to an organization (Elyria/USA)</li> <li>▪ Environmental education for children and young people, financial support provided to a nature conservation organization (Huntington/USA)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Various health organizations, financial support (Elyria/USA, Huntington/USA, Watertown/USA, Westminster/USA)</li> <li>▪ Organization for people with dementia and Alzheimer's, financial support (Westminster/USA)</li> <li>▪ Heart health organization, financial support (Watertown/USA)</li> <li>▪ Medical equipment for local ambulance emergency response service, funding (Acuña/Mexico)</li> </ul>
	 <b>Education</b>	 <b>Social cohesion</b>
<b>Asia/ Australia</b>	<ul style="list-style-type: none"> <li>▪ Support for students from low-income families, payment of tuition fees (Palwal/India)</li> <li>▪ Funding scholarships and home schooling technology for socially disadvantaged children from indigenous populations (Granville/Australia)</li> <li>▪ Extension of a school building to allow more children to attend lessons, financial support (Palwal/India)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Soup kitchen for the homeless, financial support (Granville/Australia)</li> <li>▪ Distribution of food and clothing to socially deprived families (Faridabad/India)</li> <li>▪ Donations of clothing and school materials for children from low-income families (Pune/India)</li> </ul>
<b>Europe/ Africa</b>	<ul style="list-style-type: none"> <li>▪ Children's circus with an emphasis on education, financial support (Berlin/Germany)</li> <li>▪ Apprenticeship for a recognized refugee, payment of apprenticeship costs (Mödling/Austria)</li> <li>▪ Scholarships and financial support for the local university in the field of robot vehicle development and tool purchases, funding (Kecskemét/Hungary)</li> <li>▪ School materials for children from low-income families, financial support (Madrid/Spain)</li> <li>▪ Educational games for socially disadvantaged children (Reims/France)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Equipment for the local fire service, financial support (Modřice/Czech Republic)</li> <li>▪ Food banks for people in need, financial support (Madrid/Spain, Melksham/UK, Munich/Germany)</li> <li>▪ Provision of a vehicle to transport people with special needs, financial support (Buccinasco/Italy)</li> <li>▪ Leisure activities for socially disadvantaged children, funding (Lund/Sweden)</li> <li>▪ Meals for children in an orphanage, funding (Kempton Park/South Africa)</li> <li>▪ Traffic safety program for primary school children, financial support (Kecskemét/Hungary)</li> </ul>
<b>America</b>	<ul style="list-style-type: none"> <li>▪ Scholarships for students from low-income families, funding (Elyria/USA, Watertown/USA, Westminster/USA)</li> <li>▪ Local university, financial support (Huntington/USA)</li> <li>▪ STEM projects for primary school children, support with organization and implementation (Westminster/USA)</li> <li>▪ Foundation for educational projects, purchase of laptops (Del Rio/USA)</li> <li>▪ Construction of a playground and creative space in a primary school, financial support (Quebec/Canada)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Food banks for people in need, financial support (Elyria/USA, Watertown/USA, Westminster/USA)</li> <li>▪ Building houses for the homeless (Acuña/Mexico)</li> <li>▪ Thrift store to fund houses for socially deprived families, financial support (Westminster/USA)</li> <li>▪ Voluntary fire brigade, financial support (Huntington/USA)</li> <li>▪ Car oil change for single mothers, implementation (Bowling Green/USA)</li> <li>▪ Food donations for residents of a retirement home, funding (Itupeva/Brazil)</li> </ul>

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# 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 2020.



## 8.01 UN Global Compact Index

### Human rights

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
<b>Principle 1</b> Businesses should support and respect the protection of internationally proclaimed human rights.	12	<b>Strategy and Management</b>	Code of Conduct
	24	Compliance and risk management	Corporate Responsibility Guidelines
	26	Due diligence processes for human rights	Health, Safety and Environmental Policy
<b>Principle 2</b> Businesses should make sure they are not complicit in human rights abuses.	30	<b>Products and Partners</b>	UN Sustainable Development Goals
	40	Sustainability standards in the supply chain	UN Guiding Principles on Business and Human Rights, NAP
	46	<b>Employees and Leadership</b>	Compliance management and organization
	49	Employment conditions	Supplier Code of Conduct
	51	Personnel development	Conflict Minerals Policy
	56	Occupational health and safety	

### Labor standards

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
<b>Principle 3</b> Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining,	12	<b>Strategy and Management</b>	Code of Conduct
	24	Compliance and risk management	Corporate Responsibility Guidelines
	26	Due diligence processes for human rights	Compliance management and organization
	30	<b>Products and Partners</b>	Leadership Principles
<b>Principle 4</b> and furthermore uphold the elimination of all forms of forced and compulsory labor,	40	Sustainability standards in the supply chain	UN Sustainable Development Goals
	46	<b>Employee and Leadership</b>	
<b>Principle 5</b> the effective abolition of child labor,	49	Employment conditions	
	53	Diversity and equality	
<b>Principle 6</b> and the elimination of discrimination in respect of employment and occupation.			

## 8.01 UN Global Compact Index

### Environmental protection

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
<b>Principle 7</b> Businesses should support a precautionary approach to environmental challenges,	12	<b>Strategy and Management</b>	Code of Conduct
	30	<b>Products and Partners</b>	Supplier Code of Conduct
	33	Product and system safety	Climate protection strategy with Group-wide targets
<b>Principle 8</b> undertake initiatives to promote greater environmental responsibility and	36	Ecological product design	
	40	Sustainability standards in the supply chain	UN Sustainable Development Goals
<b>Principle 9</b> encourage the development and diffusion of environmentally friendly technologies.	46	<b>Employees and Leadership</b>	Health, Safety and Environmental Policy
	56	Occupational health and safety	Environmental Management System
	58	<b>Environment and Climate</b>	Energy Management System
	60	Environmental management	
	61	Energy and CO <sub>2</sub> emissions	
	65	Conserving resources	
	68	<b>Commitment and Society</b>	

### Corruption prevention

Principle	Page	Section	Knorr-Bremse guidelines, regulations and management systems
<b>Principle 10</b> Businesses should work against corruption in all its forms, including extortion and bribery.	12	<b>Strategy and Management</b>	Code of Conduct
	24	Compliance and risk management	Compliance management and organization
	26	Due diligence processes for human rights	Supplier Code of Conduct
	30	<b>Products and Partners</b>	
	40	Sustainability standards in the supply chain	

# Index for the non-financial report

## 8.02 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	24 – 26
Product and system safety	Social issues	Products and Partners	33 – 35
Ecological product design	Environmental issues	Products and Partners	36 – 39
Sustainability standards in the supply chain	Environmental and social issues, human rights, anti-corruption and anti-bribery measures	Strategy and Management	26 – 29
		Products and Partners	40 – 44
Energy & CO <sub>2</sub> emissions	Environmental issues	Environment and Climate	61 – 65
Employment conditions	Employee issues, human rights	Employees and Leadership	49 – 51
Personnel development	Employee issues	Employees and Leadership	51 – 53
Occupational health and safety	Employee issues	Employees and Leadership	56 – 57
Diversity and equality	Employee issues	Employees and Leadership	53 – 56

# Assurance Report

## Limited Assurance Report of the Independent Auditor regarding the Combined Separate Non-Financial Report<sup>1)</sup>

### To the Supervisory 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 §§ 315b and 315c in conjunction with §§ 289b to 289e German Commercial Code (HGB) for the business year from January 1 to December 31, 2020.

#### Management’s Responsibility

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

This responsibility of the legal representatives includes the selection and application of appropriate methods to prepare the Report and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. Furthermore, the legal representatives are responsible for the internal controls they deem necessary for the preparation of the Report that is free of – intended or unintended – material misstatements.

#### Practitioner’s Responsibility

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

We conducted our work in form of a limited assurance engagement 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.

Accordingly, we have to plan and perform the assurance engagement in such a way that we obtain limited assurance of whether any matters have come to our attention that cause us to believe that the Report of the company for the period from January 1 to December 31, 2020 has not been prepared, in all material respects in accordance with §§ 315b, 315c in conjunction with §§ 289b to 289e HGB. We do not, however, issue a separate conclusion for each disclosure. As the assurance procedures performed in a limited assurance engagement are less comprehensive than in a reasonable assurance engagement, the level of assurance obtained is substantially lower. The choice of audit procedures is subject to the auditor’s own judgement.

Within the scope of our engagement, we performed amongst others the following 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 AG
- A risk analysis, including a media search, to identify relevant information on Knorr-Bremse AG sustainability performance in the reporting period
- Reviewing the suitability of internally developed Reporting Criteria

<sup>1)</sup> Our engagement applied to the German version of the Report 2020. This text is a translation of the Independent Assurance Report issued in the German, whereas the German text is authoritative.

- Evaluation of the design and implementation of the systems and processes for determining, processing and monitoring disclosures, including data consolidation, relating to environmental, employee and social matters, respect for human rights, and combating corruption and bribery
- 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 consolidating disclosures
- Inspection of selected internal and external documents
- Analytical evaluation of data and trends of quantitative disclosures as 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 Acuna (Mexico) and Sozhou (China)
- Assessment of the overall presentation of the information

In our opinion, we obtained sufficient and appropriate evidence for reaching a conclusion for the assurance engagement.

#### **Independence and Quality Assurance on the Part of the Auditing Firm**

In performing this engagement, we applied the legal provisions and professional pronouncements regarding independence and 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).

#### **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 AG for the business year from January 1 to December 31, 2020 has not been prepared, in all material respects, in accordance with §§ 315b, 315c in conjunction with §§ 289b to 289e HGB.

#### **Recommendation**

Without affecting the conclusions presented above, we recommend for the indicator occupational safety 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 assurance report is issued purposes of the Supervisory Board of Knorr-Bremse AG, Munich only. We assume no responsibility with regard to any third parties.

Our assignment for the Supervisory 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/bescheinigungen/lib/aab\\_english.pdf](https://www.kpmg.de/bescheinigungen/lib/aab_english.pdf)). By reading and using the information contained in this assurance report, each recipient confirms notice of the provisions contained therein including the limitation of our liability as stipulated in No. 9 and accepts the validity of the General Engagement Terms with respect to us.

Munich, March 30, 2021

KPMG AG  
Wirtschaftsprüfungsgesellschaft  
(Original German version signed by:)

Hell  
ppa. Dollhofer

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## Imprint

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# Key Performance Indicators

Selected operational indicators year on year		2020	2019	2018
<b>Financial indicators</b>				
Revenues	in € million	6,157	6,937	6,616
EBITDA	in € million	1,107	1,329	1,178
Earnings per share	€	3.07	3.65	3.68
Equity ratio	%	26.0	27.8	25.7
Operating Cash flow	in € million	1,036.0	985.8	725.5
Capital expenditure	in € million	341.7	331.8	308.4
Revenues from remanufactured products as a percentage of total revenues	%	26.5	29.1	22.6
Donations	in € million	4.5	3.6	3.6
<b>Innovation</b>				
R&D costs	in € million	396	397	364
R&D employees		3,793	3,558	3,728
<b>Compliance</b>				
Number of reports filed via whistleblower system		21	35	29
<b>Employees</b>				
Group		29,714	28,905	28,452
Employee appraisal (Staff Dialogue) coverage	%	82.1	76.2	71.1
Proportion of women in the total workforce <sup>1)</sup>	%	19.9	20.5	20.9
Proportion of women in managerial positions <sup>1)</sup>	%	13.2	13.3	12.5
Number of workplace accidents per 200,000 hours worked <sup>2)</sup>		0.9	0.9	1
Number of workplace accidents resulting in lost days per 200,000 hours worked <sup>2)</sup>		0.7	0.7	0.8
<b>Certified sites<sup>3)</sup></b>				
Sites with certified quality management system (ISO 9001, ISO TS 22163 or IATF 16949)		96	90	81
Sites with certified environmental management system (ISO 14001)		67	66	59
Sites with certified energy management system (ISO 50001 or EN 16247)		36	35	33
Sites with certified occupational health and safety management system (ISO 45001)		43	39	37
<b>Environment and climate protection<sup>2),4)</sup></b>				
Energy consumption	GWh	406	425	412
Energy efficiency	MWh/€ million	65.9	61.3	62.3
Direct and indirect CO <sub>2</sub> emissions <sup>5),6)</sup>	thousand tons CO <sub>2</sub>	53	128	133
of which direct CO <sub>2</sub> emissions (Scope 1)	thousand tons CO <sub>2</sub>	26	28	26
of which indirect CO <sub>2</sub> emissions (Scope 2)	thousand tons CO <sub>2</sub>	27	100	107
CO <sub>2</sub> intensity	tons CO <sub>2</sub> /€ million	8.6	18.4	20.2
<b>Suppliers<sup>7)</sup></b>				
Number of supplier audits	% of purchase volume	67	61	53
Number of supplier audits		0 <sup>8)</sup>	24	6

<sup>1)</sup> Proportion of the total workforce included in gender calculation: approx. 90%.

<sup>2)</sup> The accident rate for 2020 refers 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'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 we are informed promptly of serious incidents by all our sites, so that the appropriate measures can be taken.

<sup>3)</sup> Figure for previous year adjusted because some subsidiaries received their certificates after this report was completed.

<sup>4)</sup> In accordance with the Knorr-Bremse Restatement Policy, the key figures have been adjusted for 2018-2020, as there is a deviation of around 5% due to structural changes. Within the period concerned, two sites ended their operations and five were newly added to the scope of the reporting.

<sup>5)</sup> Thanks to an expanded purchase of green power certificates, Scope 2 emissions were greatly reduced in 2020.

<sup>6)</sup> Our recording of CO<sub>2</sub> emissions is based on the recognized specifications in the Corporate Accounting and Reporting Standard (Scope 1 and 2) of the Greenhouse Gas Protocol. The chart shows marketbased CO<sub>2</sub> emissions.

<sup>7)</sup> Relating to direct suppliers.

<sup>8)</sup> Because of protection measures related to the Covid-19 pandemic.

