



**KNORR-BREMSE**

# Shaping the Future of Sustainable Transportation

SMC Impact Investment Tag

29. Oktober 2024

# Knorr-Bremse – One of Germany’s most successful industrial companies



Entrepreneurship-driven business culture



Global market leader for braking systems



Shared pneumatics experience between RVS and CVS



Technology leadership

## 2023 Key financials



## BALANCED PORTFOLIO<sup>2)</sup> ...



## ... AND DIVERSIFIED GLOBAL FOOTPRINT WITH HIGH LOCAL CONTENT



Notes: Sales, EBITDA, EBITA, and EBIT for 2020 based on annual report prepared in accordance with IFRS, other financial figures for 2020 prepared in accordance with German GAAP (HGB); Aftermarket share based on German GAAP (HGB) where BilRUG sales allocated proportionally between OE and aftermarket; RVS – Rail Vehicle Systems; CVS – Commercial Vehicle Systems; 1) CAGR 1989–2019 based on German GAAP (HGB), 1989 – first year when consolidated accounts are available; 2) Excluding consolidation/other; 3) Including human resources leased staff; Source: Knorr-Bremse information

# Global market leader in rail and truck



## Market leadership

**A global market leader**

~**50% market share**<sup>1</sup> in RVS brakes  
~**23% market share**<sup>1</sup> in CVS brakes



## Market outperformance

Track record of **above industry growth**



## Innovation edge

**Shaping industry trends** by focusing on **safety** and **mission critical** applications



## Sustainability

Our technologies are the **foundation for sustainable and safe transportation**



## Profitability

Focus on **attractive rail and truck end markets**



## High safety requirements

**Key supplier** with global core technology know-how and capabilities  
Clearly ahead in global **homologation** processes



## Resilience

**40% aftermarket share**<sup>1</sup>  
Well-balanced **portfolio**  
**Cost-efficient** operations

1) In 2023

# Knorr-Bremse is ideally positioned to shape the trends of the future



Urbanization



Sustainability



Digitalization



Mobility

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**Industry trends:** addressing industry trends with superior technological solutions

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Transport Capacity  
Availability  
Eco Friendliness  
Life Cycle Management

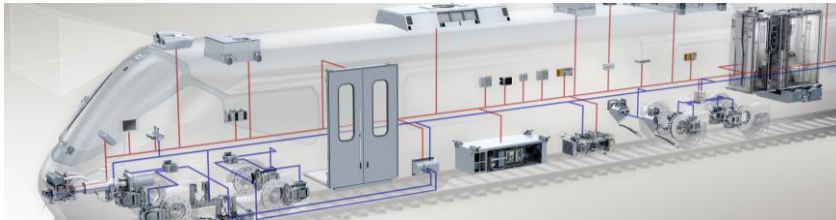


Traffic Safety  
Emission Reduction & E-Mobility  
Automated Driving  
Connectivity

# Global #1 – Leading supplier of safety-critical rail and commercial vehicle systems

## RVS offering (2023: 47% of sales, 60% of EBIT)

Brake systems	Entrance systems	HVAC <sup>1)</sup>	RCC <sup>2)</sup>	Couplers
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Power electrics	Sanitary systems	Signaling systems
Modernisation and support	Aftermarket business	

## CVS offering (2023: 53% of sales, 40% of EBIT)

Fuel efficiency <ul style="list-style-type: none"> <li>Engine components</li> <li>Transmission</li> </ul>	Brake systems, steering & vehicle dynamics <ul style="list-style-type: none"> <li>Brake control</li> <li>Automated driving</li> <li>Brake systems</li> <li>Steering systems</li> </ul>
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Energy supply & distribution	Connectivity	Electrification
Aftermarket services including Alltrucks network <sup>3)</sup> <b>ALLTRUCKS</b>		

## Our customers

### Example car builders



### Example operators



Notes: 21) HVAC – Heating, ventilation and air conditioning; 2) RCC – Rail Computing & Communication; 3) Joint Venture between Bosch, Knorr-Bremse and ZF providing a range of workshop services relating to the repair and maintenance of commercial vehicles across all brands; 4) OEM – Original Equipment Manufacturer

# BOOST<sup>1</sup> program with clear responsibilities to reach the next level

## BOOST 2026

### Strategic initiatives

#### Products

#### People

#### Processes






#### Brownfield (Housekeeping)

2	Revitalizing the core 	1	Culture development 	3	Efficiency programs (PCPP) 
4	Portfolio right-sizing 	Organizational transformation			
4	Fix-it program 	Talent mgmt. (HR Connect) 		NWC optim. (Project Collect)	
5	Renewal of innovation power	SG&A, legal entity reduction 			
	Expansion of aftermarket	IT excellence (S4Hana) 			



#### Greenfield (Expansion)

6	Driving digitalization (growth)	Strong EVP <sup>2</sup>			Driving digitalization (efficien.)
7	Enabling ESG for our customers (incl. CO <sub>2</sub> emission reduction)				
8	Selective M&A				

1. Knorr-Bremse Operational Optimization Strategy and Transformation 2. Employer value proposition  Initiative started   Deep dives in the following

# Clear vision for 2026: Become strong capital goods company by successfully managing portfolio of robust assets

## Strong capital goods company



**Culture development** – team, commitment, responsibility & execution



**Operational excellence** in everything we do → **BOOST**

# Targets 2026: Ambitious financial targets to drive value creation

## Strong capital goods company



**€ 8-9bn**  
revenues

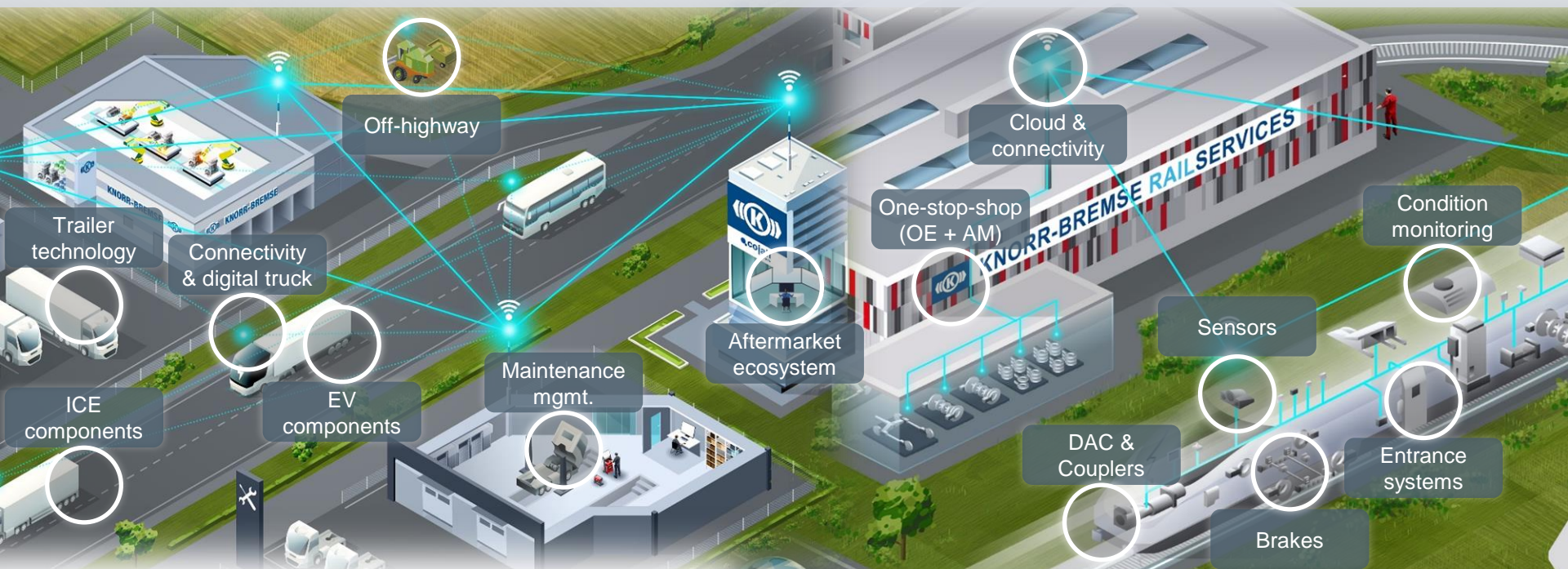


**> 14%**  
Op. EBIT margin



**80-90%** cash  
conversion

# Business scope of KB

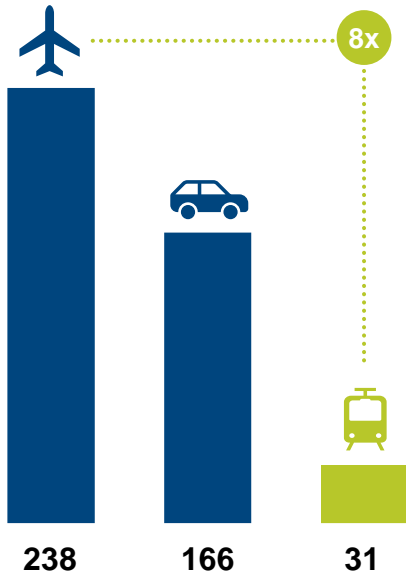


Shaping sustainable transportation of the future

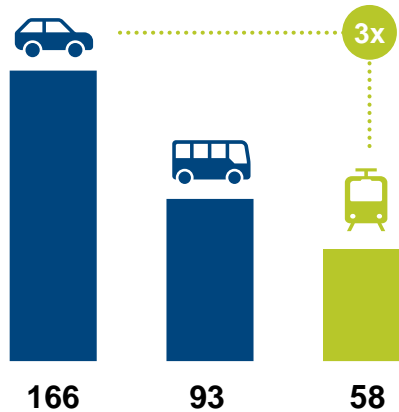
# CO<sub>2</sub> emission targets not achievable in transportation without rail

## Greenhouse gas emissions from transport<sup>1</sup>

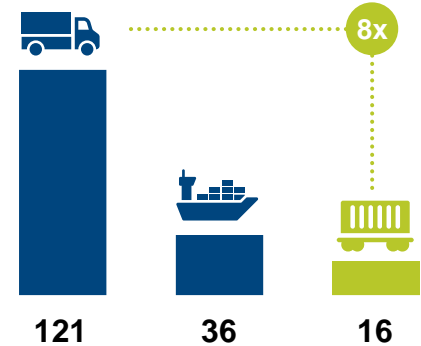
Passenger transport – long distance  
[in g/pkm]



Passenger transport – local transport  
[in g/pkm]



Freight transport  
[in g/tkm]



1) 2024, reference for Germany, Sources: <https://www.allianz-pro-schiene.de/themen/umwelt/daten-fakten/> (accessed on October, 2024), based on Umweltbundesamt

# Focused R&D investments define product roadmap for KB

## Strong R&D base...



**5**  
Global R&D  
centers



**6-7%**  
Long-term  
R&D ratio



**~ € 490m**  
R&D expenses  
(FY22)



**> 12k**  
Patents  
worldwide

## ...to shape product innovation<sup>1</sup>...

### Roll-over products:

**Electric Power Steering**

### Product upgrades:

**Condition monitoring**

### New products:

**Digital automatic coupler**

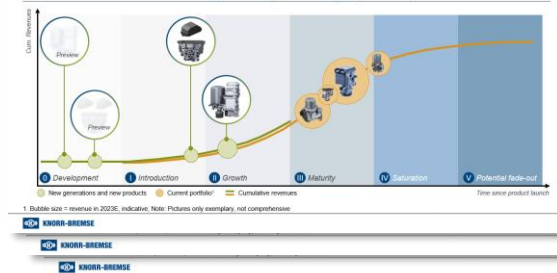
### Scope increases:

**Aftermarket ecosystem**

## ...with effective tracking in place

CVS brake control and air treatment systems – safeguarding long term technology leadership

CVS brake control and air treatment systems in product lifecycle (indicative)

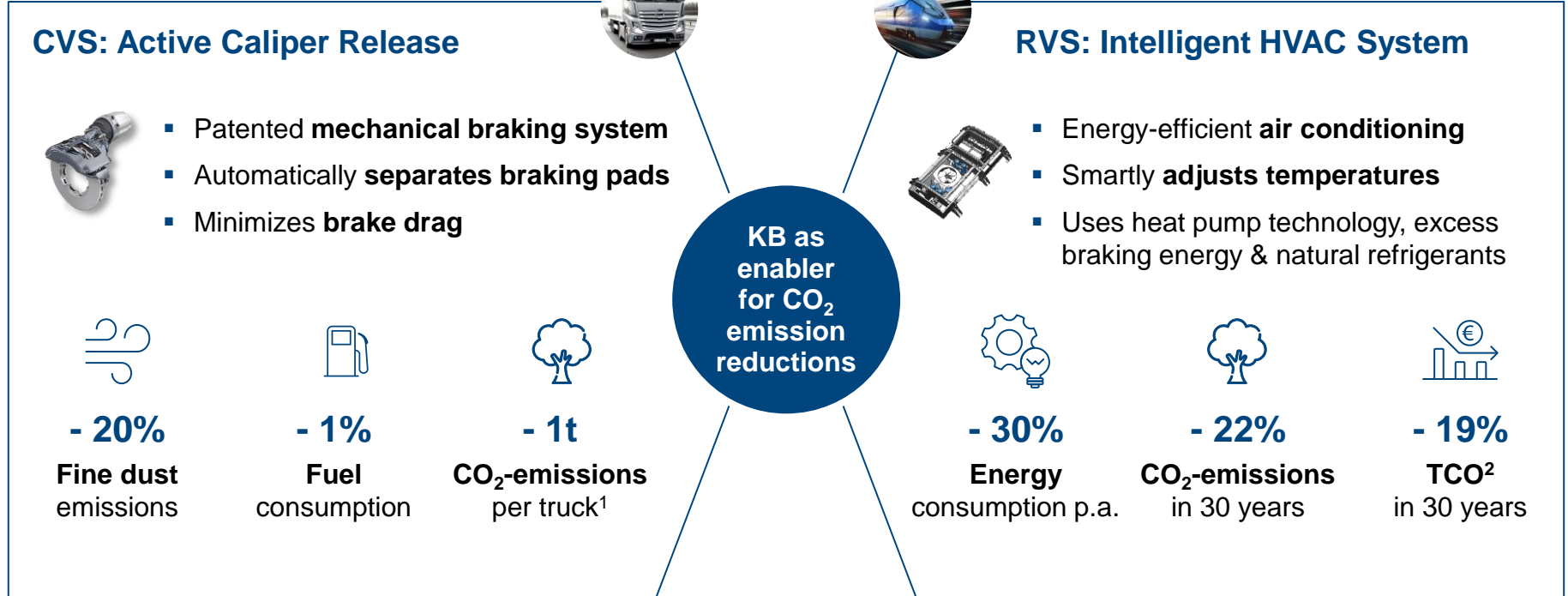


- R&D project tracking
- Rigorous monitoring of S-curves along maturity stages
- Analysis of roll-over products / substitution and new products

1. Including examples

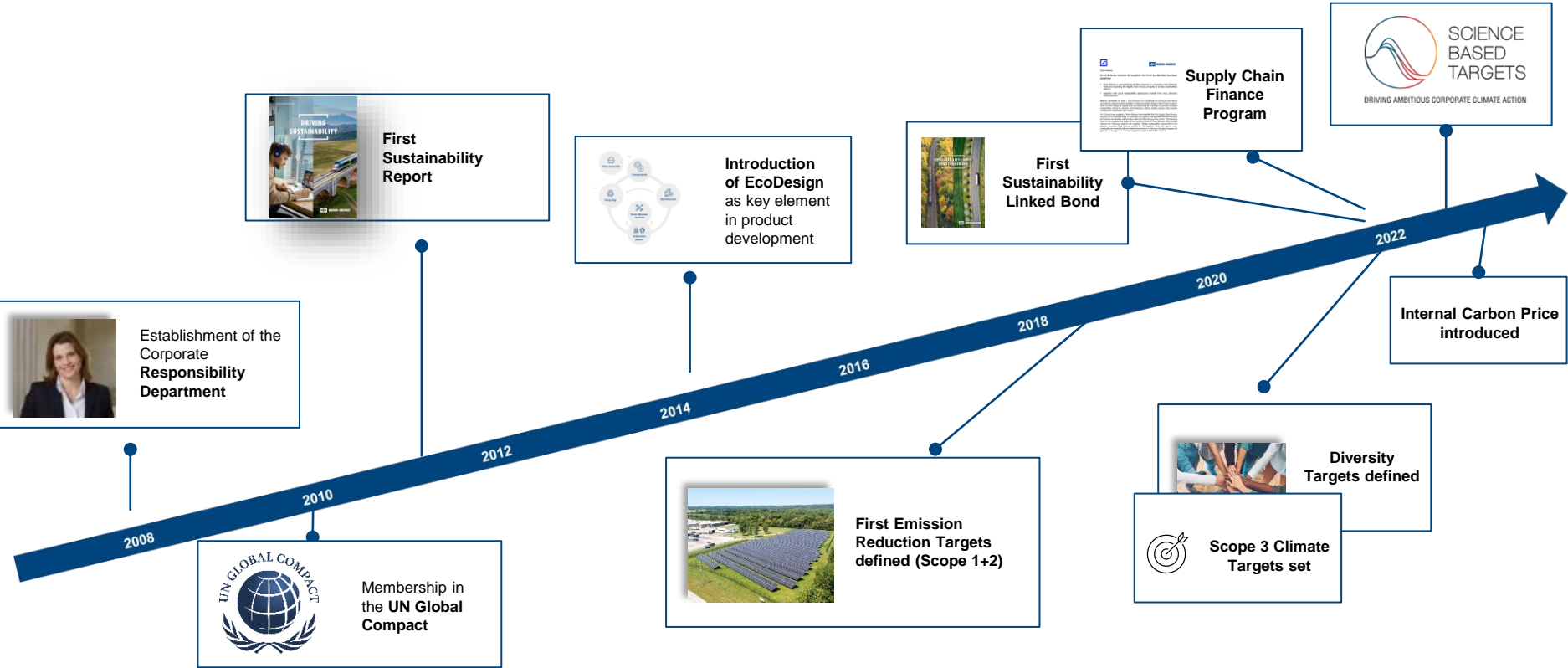
# KB with range of tailored solutions to support customers' green transition

Exemplary case studies



1. For average five-axle truck-trailer rig on long-distance service covering 100,000 km per year 2. Total cost of ownership; Note: Numbers are rounded

# Knorr-Bremse's longstanding commitment to sustainability



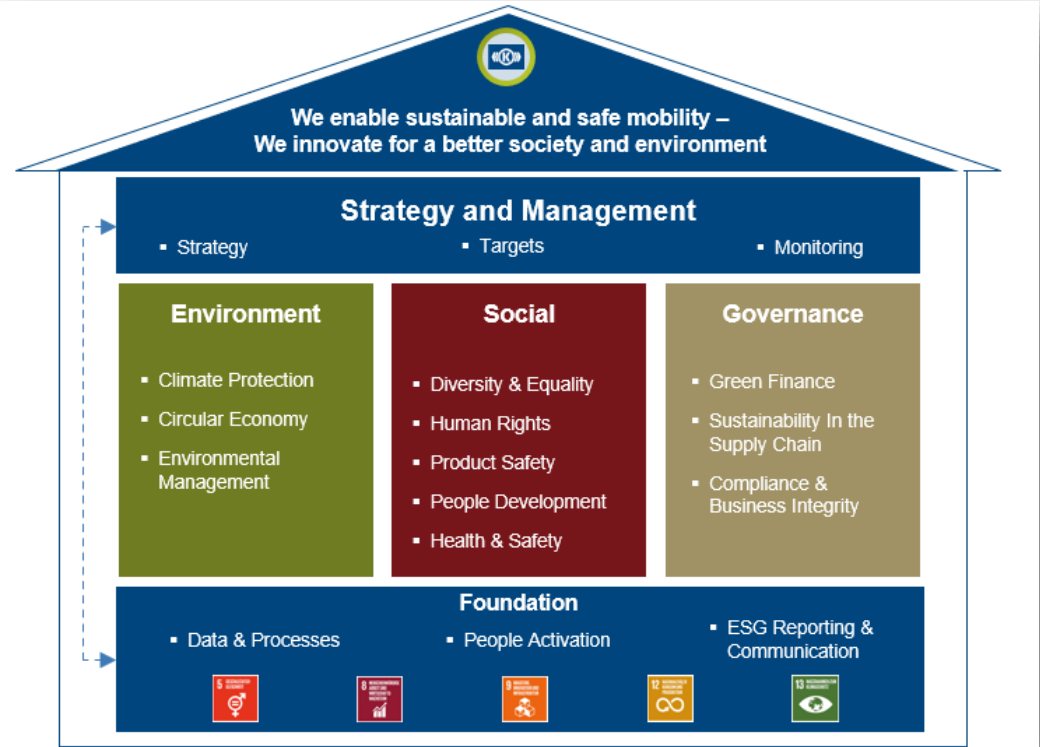
# Sustainability is a fundamental layer of Knorr-Bremse's corporate strategy

ESG: Anchored in our Vision for 2026...

... and managed within a clear framework.

Clear vision for 2026: Become strong capital goods company by successfully managing portfolio of robust assets

## Strong capital goods company



# ESG integration into our business activities and implementation of the measures



A selection

- **High-level ESG Board** as central sustainability steering body
- Sustainability targets part of **Top-Management Remuneration**
- **Internal Carbon Price** introduced to spur energy efficiency & emission mitigation

- **Expansion** of the global **DEI organization**
- Integration of sustainability aspects into **Leadership Principles**
- Knorr-Bremse **Global Care & Local Care** as driver for social engagement

- **Climate targets validated** by the **Science-Based Targets initiative (SBTi)**
- **>90% of externally supplied power** from renewable sources
- **Continuous extension** of own **production capacities of renewable power (PV)**

- Strong linkage of **sustainability & corporate financing** (e.g., sustainability linked-bond)
- Well-established **whistleblower and complaints system**
- **Comprehensive human rights risk analysis** carried out

# Knorr-Bremse has defined ambitious short- and mid-term ESG targets

	Topic	Description	Target	
Mid-term targets	Climate Change	Scope 1+2 reduction (baseline 2018)	2030	-75%
	Climate Change	Scope 3 reduction (baseline 2021)	2030	-25%
	Diversity	Women in management level	2027	20%
	Diversity	Women in overall workforce	2027	25%
	Sustainable Supply Chain	Sustainability Assessments of Knorr-Bremse supplier (coverage rate based on spend)	2025	75%
Short-term targets	Energy Efficiency	Approved Energy Efficiency Projects	2024	6.5 GWh
	Employee Safety	Workplace accidents / 200.000 contracted working hours (TCIR)	2024	0.8

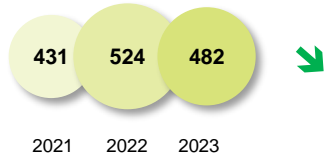


Remuneration of Top-Management (STI)

# Facts & Figures 2023 – positive development in all three ESG dimensions

## Environment

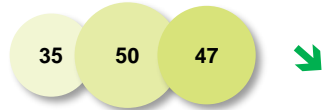
### 1) Total energy consumption (in GWh)



### 2) Energy efficiency in MWh / € 1m turnover



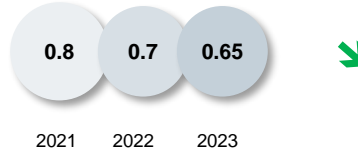
### 3) Scope 1+2 emissions (in thousand metric tons CO<sub>2</sub>e)



Background (1-3): The figures from 2022 and 2021 were not adjusted retroactively for M&A activities and divestments.

## Social

### 4) Accident Rate (TCIR)



### 5) Share of female employees (in %)

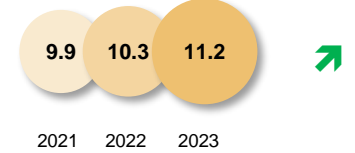


### 6) share of female employees in management levels 1 to 4 (in %)

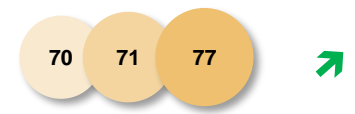


## Governance / Circularity

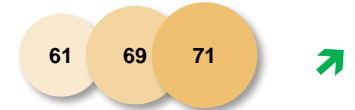
### 7) Revenue from refurbished/maintained products relative to total revenue (in %)



### 8) Sites covered with an environmental management system (ISO 14001)

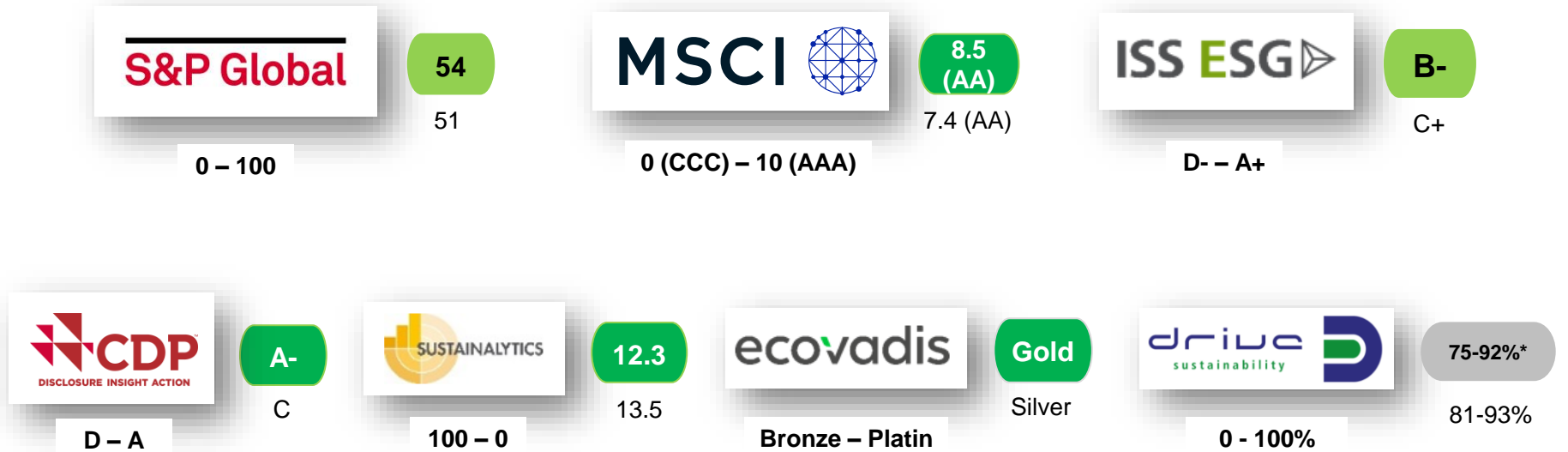


### 9) ESG supplier assessments (in % of total Purchasing Volume)



All relevant background information and further key figures can be found [here](#).

# ESG Ratings: Strong, continuously improved awareness of KB's ESG performance



\* New sites onboarded