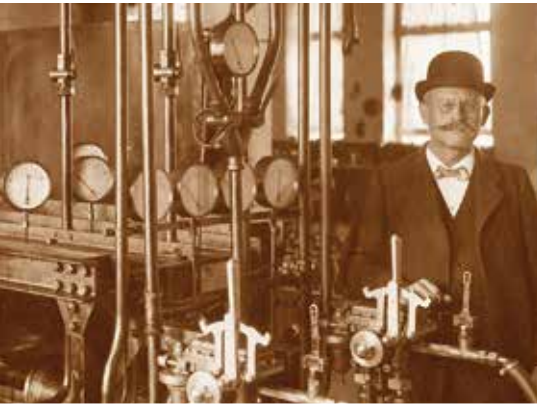


Facts & Figures  
**2015**



# At a Glance

KNORR-BREMSE GROUP		2011	2012	2013	2014	2015
Sales	EUR mill.	4,241	4,300	4,303	5,206	5,831
Net income	EUR mill.	329	295	367	560	645
Employees (as per Dec. 31)*	Number	20,050	19,120	20,833	23,916	24,275
Personnel costs	EUR mill.	805	861	907	1,038	1,213
Balance-sheet total	EUR mill.	2,530	2,615	2,869	3,543	4,002
Equity	EUR mill.	902	995	1,107	1,443	1,736
Capital expenditure **	EUR mill.	159	166	159	161	210
Depreciation **	EUR mill.	165	160	125	169	199
Incoming orders	EUR mill.	4,073	3,948	4,752	5,510	5,668
Research and development expenditure	EUR mill.	209	250	253	296	347

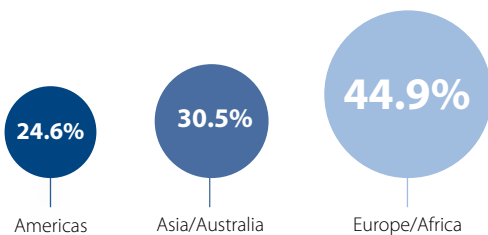
\* including HR leasing.

\*\* not including investments in financial assets.



Sales and net income for Knorr-Bremse Group in EUR millions

■ Sales ■ Net income



Consolidated sales by region

# Contents

- 02 At a Glance
- 04 Company Profile
- 06 An Overview of 2015
- 07 Executive Board & Supervisory Board
- 08 People & Careers
- 10 Corporate Responsibility
- 11 Organizational Structure
- 12 Investments, Innovations, Excellence
- 14 Rail Vehicle Systems
- 16 Commercial Vehicle Systems
- 18 History



# Company Profile

Making mobility safe – Knorr-Bremse’s daily mission.

Every day, more than one billion people around the world put their trust in systems made by Knorr-Bremse. All over the globe, Knorr-Bremse products make a decisive contribution to safety on rail and road. The company maintains a presence at more than 100 locations in 30 countries.

Based in Munich, the Knorr-Bremse Group is the world’s leading manufacturer of braking systems for rail and commercial vehicles. For more than 110 years now the Company has pioneered the development, production, marketing, and servicing of state-of-the-art braking systems.

In the rail vehicle systems sector, the Company has a long tradition of supplying leading-edge products for local public transport vehicles such as metros and light rail vehicles as well as freight cars, locomotives, passenger trains, and high-speed trains. In addition to braking systems, the Company’s product portfolio includes intelligent entrance systems, HVAC systems, power supply systems, control components, and windscreen wiper systems, as well as platform screen doors, friction materials, driver advisory systems, and control technology. Knorr-Bremse also offers driving simulators and e-learning systems for optimum train crew training.

In the commercial vehicle sector, Knorr-Bremse’s groundbreaking solutions range from complete braking systems including driver assistance systems to torsional vibration dampers, powertrain-related solutions, and transmission control systems. The focus of the Company’s efforts is on developments that promote autonomous driving, as well as on boosting energy efficiency and reducing fuel consumption.

# An Overview of 2015

The Knorr-Bremse Group can look back at a successful year. At EUR 5.83 billion, sales were up 12% against the previous year. The value of incoming orders reached a new record level of EUR 5.67 billion (+3%).

Substantial growth during fiscal 2015 was the result of huge successes in the Company's core business combined with its positioning in related and new business fields. Knorr-Bremse targets sustainable growth, a strategic course that once again proved highly successful in 2015. Net income rose to EUR 645 million, which equates to a net return on sales of 11.1%.

Along with growth opportunities in the core original equipment sector, expanded service offerings are also opening up new potential which Knorr-Bremse will leverage. The stage has already been set for this through a long-term strategic process. In addition, external growth opportunities through mergers and acquisitions will become more important for Knorr-Bremse.



# Executive Board & Supervisory Board

## Executive Board

<b>Klaus Deller</b> Member of the Executive Board since 2009, Chairman of the Executive Board since January 1, 2015.	<b>Dr. Peter Laier</b> Member of the Executive Board since January 1, 2016, responsible for the Commercial Vehicle Systems division.	<b>Dr. Dieter Wilhelm</b> Member of the Executive Board since 2003, responsible for the Rail Vehicle Systems division.	<b>Dr. Lorenz Zwingmann</b> Member of the Executive Board since 2008, responsible for Finance, Controlling, and IT.	<b>Hinrich J. Woebcken</b> Member of the Executive Board until June 30, 2015.
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## Supervisory Board

**Heinz Hermann Thiele** Munich  
Chairman,  
Entrepreneur

**Dr. Eduard Gerum\*** Rosenheim  
1<sup>st</sup> Deputy Chairman,  
Consultant to the Executive Board of  
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

**Manfred Wennemer** Bensheim  
2<sup>nd</sup> Deputy Chairman, former Chairman of the  
Executive Board of Continental AG

**Hans-Georg Härter** Salzweg  
Former Chairman of the Executive Board of  
ZF Friedrichshafen AG

**Michael Jell\*** Munich  
Deputy Chairman of the Works Council of  
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH,  
Knorr-Bremse AG, KB Media GmbH,  
Knorr-Bremse IT Services GmbH

**Dr. Wolfram Mörsdorf** Essen  
Retired Member of the Executive Board of  
ThyssenKrupp AG

**Werner Ratzisberger\*** Munich  
Project engineer, mechanical surface treatment,  
Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

**Sebastian Roloff\*** Munich  
Attorney at Law with IG Metall Trade Union,  
Munich office

**Erich Starkl\*** Passau  
Deputy representative of IG Metall Trade Union,  
Passau office

**Wolfgang Tölsner** Uetersen  
Management consultant

**Georg Weiberg** Stuttgart  
Retired head of development Daimler Trucks

**Günter Wiese\*** Berlin  
Chairman of the Works Council  
of Knorr-Bremse Systeme für Schienenfahrzeuge  
GmbH, Berlin plant

\* workforce representative.



# People & Careers

Knorr-Bremse opens up opportunities for individual development and generates a motivational atmosphere that fosters excellence. This is a matter of corporate responsibility, and Knorr-Bremse lives up to that responsibility by assigning social goals equal priority with economic and ecological ones.

Well-qualified, high-performing, dedicated employees are essential to the success of a technology group like Knorr-Bremse that is expanding around the globe. The basis is provided by the five corporate values of Entrepreneurship, Technical Excellence, Reliability, Passion, and Responsibility. Based on these values, Leadership Principles have been defined to guide managers in their daily leadership responsibilities. In 2015, Human Resources again used these as the starting point for developing management training and expanding our employee support services.

In 2015, Knorr-Bremse intensified its efforts to become a more attractive employer. In addition to fair and performance-related remuneration, this included improving opportunities for career advancement within the Group.

As the global market leader, Knorr-Bremse owes its success to its ability to attract the top talents and experts in our industry. Knorr-Bremse has – and seeks to recruit – performance-oriented and motivated employees who are out to make a difference and who, together, spare no effort to help write the next chapter in

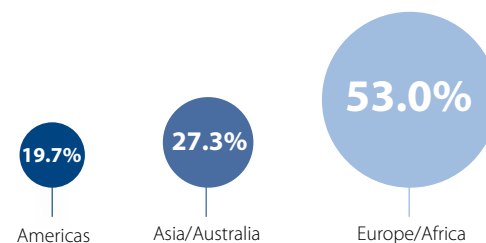
the Company's success story. At Knorr-Bremse these specialists find fascinating technology, state-of-the-art workplaces, and thrilling career and development opportunities at home and abroad.

At year-end 2015, the Knorr-Bremse Group employed a total of 24,275 persons (21,783 excluding HR leasing). This equates to a year-on-year increase of 1.5% (4.3% excluding HR leasing).

At the same time, Knorr-Bremse is committed to help its employees improve their work-life balance through a variety of initiatives and measures. Be it highly qualified women who want to pursue their careers while also raising a family, fathers who want to be more involved in bringing up their children or families who need to care for a relative more intensively for a certain period, Knorr-Bremse responds to the needs of its employees with options such as flexible working hours or teleworking.



Group workforce on Dec. 31, 2015



Group workforce by region on Dec. 31, 2015

# Corporate Responsibility

Sustainability represents an important component of Knorr-Bremse's business model. The Company combines the creation of long-term economic value with ecological and social responsibility. To live up to this responsibility, Knorr-Bremse has defined its principles of sustainable development in a Corporate Responsibility Policy and sets annual priorities.

## Employees and Leadership

Knorr-Bremse is determined to offer an attractive and safe working environment in which trust, teamwork, equal opportunities, and fair and respectful treatment of one another are both valued and realized.

## Environment and Climate

Knorr-Bremse endeavors to make responsible use of resources, minimizing negative effects on nature and the environment as far as possible and actively taking advantage of opportunities to protect the environment.

## Products and Partners

Knorr-Bremse purposefully develops solutions that combine maximum customer benefit with sustainable value creation.

The Company cooperates closely with customers and suppliers to jointly improve the safety and quality – as well as the environmental and social compatibility – of its products.

## Commitment and Society

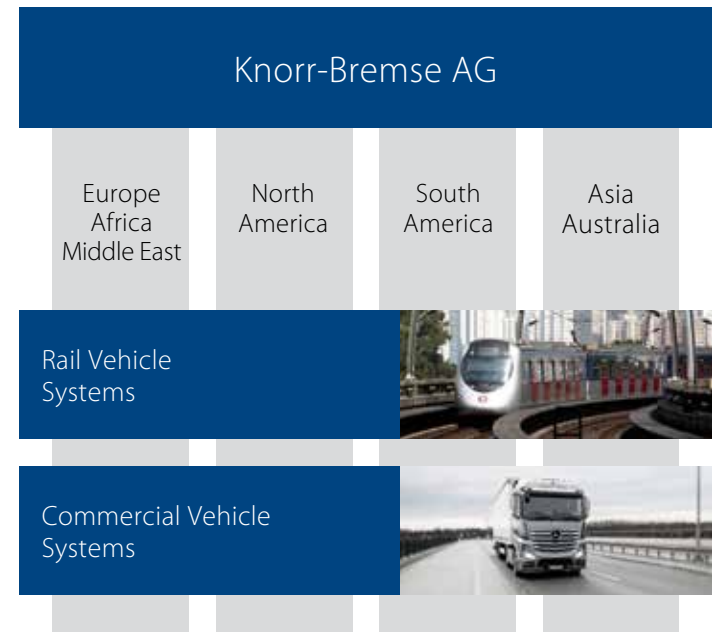
Knorr-Bremse supports social and societal concerns and is committed to being a good corporate citizen on a global scale. Consequently, the Company sees its role as participating actively in the life of the community, having a positive impact, and helping shape its social environment in the social, cultural, and sporting fields. This involves two initiatives: Local Care and the charitable organization Knorr-Bremse Global Care, which is funded by the Group.



# Organizational Structure

The Knorr-Bremse Group is structured by both division and by region. Under the umbrella of Knorr-Bremse AG on the one hand there are the cross-regional Rail Vehicle Systems and Commercial Vehicle Systems divisions and on the other hand the regional companies in Europe/Africa, North America and South America as well as the Asia-Pacific region.

This structure allows Knorr-Bremse to meet the specific requirements of the markets in these regions while at the same time leveraging cross-locational and cross-regional synergy effects.



# Investments, Innovations, Excellence

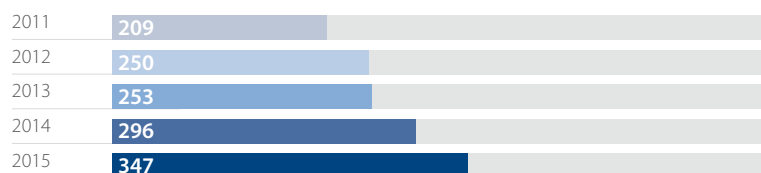
Knorr-Bremse continued to drive forward its research and development efforts in the year under review in close collaboration with its customers. Total expenditure on research and development and customer-specific development modifications amounted to EUR 347.3 million in 2015 (2014: EUR 295.5 million), which equates to 6.0% (2014: 5.7%) of consolidated sales. Capital expenditure totaled EUR 210 million.

To safeguard its future, taking account of all models of financing, since 2010 the Group has invested more than EUR 1.3 billion in the expansion, modernization, and maintenance of its production and development facilities.

The construction of a new Test and Development Center at the Munich site represents the next step in the Company's extensive worldwide program of investment in the modernization of its production equipment and facilities, as well as in the expansion of its benchmark research and development capacities. With more than 100 different test rigs and dynamometers, the new Test and Development Center offers unparalleled

conditions for the development and testing of innovative braking systems for the rail and commercial vehicle markets. From 2016 onward, 350 engineers and technicians from both divisions will be able to pursue interdisciplinary development work here on future technologies that will bring a further increase in customer benefits and strengthen the Company's competitiveness.

Knorr-Bremse sets itself apart from the competition by offering needs-driven and sustainable innovations. As the global technology leader in the fields of braking systems for rail and commercial vehicles, Knorr-Bremse develops innovative products distinguished by their safety, high

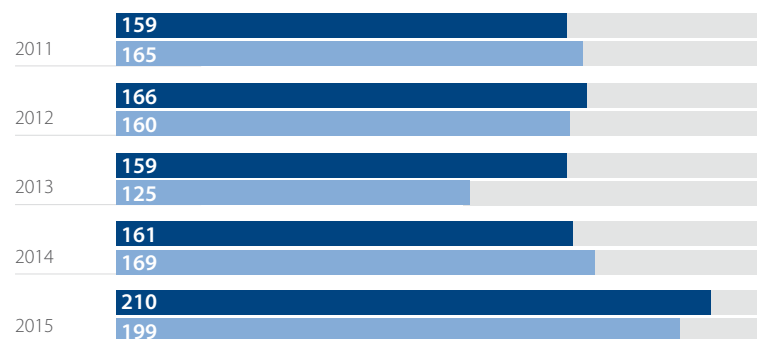


Consolidated research and development expenditure in EUR millions



quality, reliability, and customer benefits. The Company's position as technology leader is reinforced by its innovation management, based on cross-divisional R&D activities.

In the "Knorr Excellence" management system that has been rolled out worldwide, Knorr-Bremse has concentrated its initiatives targeting the continuous improvement of its business processes. The focus here is increasingly on digitization, in the shape of IT-assisted process organization and execution.



Consolidated capital expenditure and depreciation in EUR millions

■ Capital expenditure ■ Depreciation

# Rail Vehicle Systems

Knorr-Bremse Rail Vehicle Systems is the world's leading manufacturer of braking systems for mass transit systems and mainline trains. The Company's systems are installed in high-speed trains, multiple units, metros, light rail vehicles, locomotives, and freight cars. At the end of 2015 the Rail Vehicle Systems division employed 14,502 people and posted sales of EUR 3.34 billion.

## Safety, innovation, customer benefits

Knorr-Bremse systems are in operation all over the globe, ensuring greater safety and comfort in rail vehicle transportation. The Company offers individual solutions for all types of vehicle and operating conditions worldwide. For example, Knorr-Bremse rail vehicle braking systems are capable of withstanding extreme temperatures ranging from -50 °C to +80 °C.

In 2015, Knorr-Bremse integrated the train control management specialist Selectron Systems AG into the Group. The leading-edge Train Control Management System (TCMS) enables Knorr-Bremse to integrate all of its braking, entrance, and HVAC systems, for example, into a single shared platform and harmonize them, creating a basis for the overarching control, diagnostics, and maintenance of all the systems involved, and thereby offering added value for customers.

## Wide-ranging product portfolio

In addition to braking systems, the range of products on offer from the Knorr-Bremse Group includes entrance systems from IFE, platform screen doors from Westinghouse Platform Screen Doors, HVAC systems from subsidiaries Merak and Sigma, and driving simulators from Sydac. The product portfolio is rounded off by the iCOM family, with monitoring, driver assistance systems, and energy metering, as well as power supply systems, sanding systems, and additional equipment such as derailment detectors.

## Reliable service partner

With increased competition, pressure on prices, and growing passenger demand for a modern, comfortable rail experience, the changes taking place in the rail transportation sector are increasingly impacting on maintenance, repair, and overhaul operations. Under the RailServices brand Knorr-Bremse bundles its global service activities, offering optimized, tailored service packages with a focus on flexibility and maximum customer benefit throughout.



## Products

### BRAKING SYSTEMS

- Air supply
- Bogie equipment
- Brake control

### RAILSERVICES

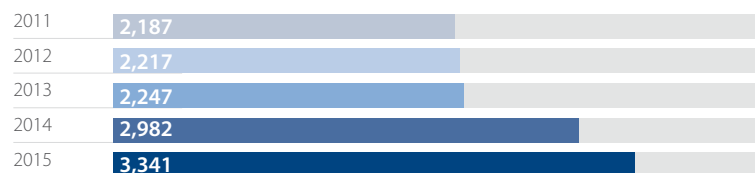
- Maintenance
- On-site service
- Customer training
- Modernization and engineering
- Spare parts and logistics

### ON-BOARD SYSTEMS

- Entrance systems
- HVAC systems
- Power electronics
- Power supply systems
- Train control management systems (TCMS)
- iCOM product family

### OFF-BOARD SYSTEMS

- Platform screen doors
- Drive simulators
- Signaling systems for grade crossings



Development of global sales in the Rail Vehicle Systems division in EUR millions



# Commercial Vehicle Systems

Knorr-Bremse Commercial Vehicle Systems supplies braking systems for trucks, buses, trailers, and agricultural vehicles. In the field of chassis systems the Company is a leading supplier of electronic control, driver assistance, and air treatment systems and makes an important contribution towards road safety. Other product areas are powertrain-related solutions and torsional vibration dampers for diesel engines. In 2015 the division employed some 9,320 people and posted sales of EUR 2.49 billion.



## Safety, innovation, customer benefits

The name Knorr-Bremse stands for innovative solutions that make for safe and efficient truck-trailer combinations in an increasingly mobile society both now and in the future. The focus here is not only on the Company's contribution to the advancement of autonomous driving but also on resource-friendly production processes and the continuous improvement of the components employed. By combining the advantages of lighter weight, lower fuel consumption, and a longer service life, Knorr-Bremse is constantly boosting the sustainability and economy of its products. With its modular brake control systems well established in the marketplace, Knorr-Bremse has for many years been progressively adding functionalities to its commercial vehicle braking systems, as well as adding scalable solutions to its portfolio for markets worldwide. Customers benefit from enhanced system architecture and a reduced number of variants.

## Steadily growing service offering

Producing safety-critical products for commercial vehicles is a heavy responsibility – and not just for the original equipment sector. It also implies a continued aftermarket responsibility for the entire life cycle of a vehicle. Knorr-Bremse scores with customized, economical service solutions and products, combined with a strong regional presence.

In addition to expanding its Alltrucks Truck & Trailer Service in conjunction with leading suppliers Bosch und ZF, Knorr-Bremse also launched new, modular product service concepts for workshops. The Company also greatly expanded its range of remanufactured products, as market demand shifted toward alternative, resource-friendly approaches in the replacement segment and value-based repairs.

## Products

### BRAKING SYSTEMS

- Electronic brake control
- Air treatment
- Disc brakes
- Drum brakes
- Actuators
- Valves
- Slack adjusters
- Driver assistance systems

### POWERTRAIN-RELATED SYSTEMS

- Transmission control for automatic shifting
- Clutch actuators
- Torsional vibration dampers
- Engine flap valves

### CHASSIS SYSTEMS

- Compressors
- Air treatment
- Electronic air suspension

### SERVICES

- Customer training
- Customer hotline
- Technical documentation
- Electronic product catalog
- Diagnostics system
- Product service concepts



Development of global sales in the Commercial Vehicle Systems division in EUR millions

# History

## 1905

Georg Knorr founds Knorr-Bremse GmbH in Berlin.

## 1918 – 1926

Knorr-Bremse sets new technological standards for freight trains with its pneumatic brakes. Knorr-Bremse becomes Europe's biggest manufacturer of braking systems for rail vehicles.

## 1922

Development of the pneumatic braking system for commercial vehicles begins.

## 1931 – 1939

The Hildebrand-Knorr braking system for rail vehicles (HiK brake) sweeps the market and becomes the standard system in 17 different countries.

By 1939, some 90% of all German trucks from 7 t – 16 t are equipped with Knorr-Bremse brakes.

## 1945

The Knorr-Bremse plant in Berlin is expropriated and dismantled after the end of the Second World War.

## 1945 – 1953

Development and manufacture of braking equipment resume in the western part of Germany. Company headquarters move to Munich.

## 1960 – 1980

Knorr-Bremse plays a leading role in the development of braking technology for rail and commercial vehicles. Knorr-Bremse establishes the new UIC standard with its KE control valve.

## 1985

Heinz Hermann Thiele acquires the majority of the shares previously held by Dr. Jens von Bandemer and gradually becomes sole owner of Knorr-Bremse. As well as giving the Company an increasingly international orientation, he focuses it on the two divisions, Rail Vehicle Systems and Commercial Vehicle Systems.

## 1996

Volume production of pneumatic disc brakes for commercial vehicles begins.

## 1999

The commercial vehicle brakes division of Robert Bosch GmbH is integrated into Knorr-Bremse, complementing the Company's activities in the field of electronic brake control.

## 2002

Knorr-Bremse acquires Bendix Commercial Vehicle Systems, one of the leading U.S. manufacturers of air brakes and ABS anti-lock braking systems for commercial vehicles.

## 2005

Knorr-Bremse celebrates its centenary. In response to the tsunami disaster in South-east Asia, Knorr-Bremse sets up the charity Knorr-Bremse Global Care.

## 2009

The company celebrates the 150th anniversary of the birth of its founder Georg Knorr.

## 2010

Knorr-Bremse strengthens its HVAC systems business through the strategic acquisition of the Sigma Coachair Group. Knorr-Bremse opens new production plants in the Czech Republic and Hungary featuring state-of-the-art production and logistics concepts. Knorr-Bremse signs up to the UN Global Compact and adopts a Group-wide Corporate Responsibility Strategy.

## 2011

30 years of ABS and 10 years of ESP – Knorr-Bremse celebrates two important anniversaries. A control valve specially developed by Knorr-Bremse for freight transportation in Russia is released for field testing.

## 2012

Knorr-Bremse introduces new corporate values which describe what the Company is about: "Entrepreneurship," "Technological Excellence," "Reliability," "Passion," and "Responsibility."

Bendix celebrates 10 years of belonging to the Knorr-Bremse Group.

The Group-wide Value Stream Academy is opened at the Company's Czech location in Liberec.

## 2013

The Knorr-Bremse Group continues its extensive program of investment in state-of-the-art production plant and buildings by opening six new facilities.

## 2014

Knorr-Bremse introduces Knorr-Bremse PowerTech – the new brand for power supply systems.

For the commercial vehicle segment in China, Knorr-Bremse forms a joint venture with the Dongfeng Motor Group Co., Ltd.

## 2015

With the integration of Selectron the Company expands its expertise in train control management systems.

Knorr-Bremse celebrates its 110th anniversary and the 10th anniversary of the founding of the charitable organization Knorr-Bremse Global Care.

Further information on sustainability management at Knorr-Bremse can be found in the Communication on Progress Report 2015 published by Knorr-Bremse AG "Responsibility for sustainable success".

Details on the work of Knorr-Bremse Global Care can be found in the organization's annual report "New prospects for people in need".

Knorr-Bremse AG  
Moosacher Str. 80  
80809 Munich  
Germany  
[www.knorr-bremse.com](http://www.knorr-bremse.com)  
[public.relations@knorr-bremse.com](mailto:public.relations@knorr-bremse.com)



Knorr-Bremse Group