KNORR-BREMSE

IR Presentation

October 2018

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The Knorr-Bremse leadership team

Klaus Deller
CEO

- 2009-present: Knorr-Bremse *CEO, previously Head of RVS (3 years) and Head of CVS (6 years)*
- 2004-2009: Brose Fahrzeugteile *Deputy CEO*
- 1991-2003: Robert Bosch *Executive Vice President*
- Diploma in Mechanical Engineering, Applied Mathematics, Master of Business Administration (MBA)

Professional Experience	Years with Knorr-Bremse
27	9

Ralph Heuwing
CFO

- 2017-present: Knorr-Bremse *CFO*
- 2007-2017: Dürr (MDAX listed) *CFO*
- 1990-2007: The Boston Consulting Group *Partner and Managing Director*
- Diploma in Mechanical Engineering, Master of Business Administration (MBA)

Professional Experience	Years with Knorr-Bremse
28	1

Dr. Peter Laier
Head of CVS

- 2016-present: Knorr-Bremse *Head of CVS*
- 2014-2015: Benteler International *COO*
- 2013-2014: Osram Licht *CTO*
- 2000-2012: Continental *Executive Vice President*
- PhD and Diploma in Mechanical Engineering

Professional Experience	Years with Knorr-Bremse
22	2

Dr. Jürgen Wilder
Head of RVS

- 2018-present: Knorr-Bremse *Head of RVS*
- 2015-2017: DB Cargo AG *CEO*
- 2013-2015: Siemens AG *Mainline Transportation Global Business Unit CEO*
- 2011-2013: Siemens AG *Head of Strategy Infrastructure and Cities Sector*
- Doctorate in Physics

Professional Experience	Years with Knorr-Bremse
18	1

Notes: RVS - Rail Vehicle Systems; CVS - Commercial Vehicle Systems

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

KNORR-BREMSE

Family-Ownership, heritage and unique DNA

Global market leader for braking systems

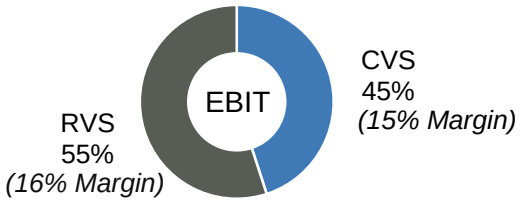
Shared pneumatics experience between RVS and CVS

Technology leadership

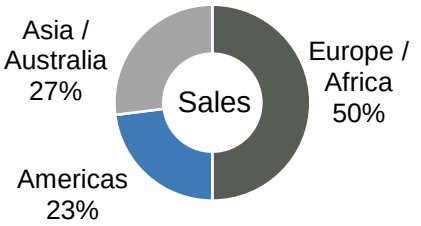
2017 key financials

Sales	EBITDA	EBITA	R&D	Aftermarket
€6.2bn *(>10% CAGR[1] since 1989)*	**€1.1bn** *(margin 18.1%)*	**€947m** *(margin 15.4%)*	**€359m** *(~6% of sales)*	**~35% of sales**

Balanced portfolio[2] …



… and diversified global footprint with high local content



30+ countries

100+ sites

c. 28k employees[3]

Notes: Sales, EBITDA, EBITA, and EBIT for 2017 based on financial statements prepared in accordance with IFRS, other financial figures for 2017 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 1989–2017 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

Over 30 years of consistent strong growth

1985

Management buyout by Mr. Thiele

2000

Bendix integrates Westinghouse Air Brake company

2015

Joint Venture with DongFeng Motor goes into operation

2010-2017

€1bn+ capex invested to future-proof manufacturing and production facilities

2017

"Currently Knorr-Bremse is considering different options to position the company for the future, including the **possibility of an IPO.**"

Bond prospectus, 21 September 2017

>10% sales CAGR

1989[1)]-2017

1985-1990

Successful strategy: Globalisation, focus on RVS and CVS, growth in connected systems

2002

100% acquisition of **Bendix** in the US

2015/16

7 acquisitions

2017

Acquisition of Vossloh Kiepe

1991

Dawn of the ICE era with **high-speed braking systems**

2006

4 Joint Ventures in Rail formed in China

2016

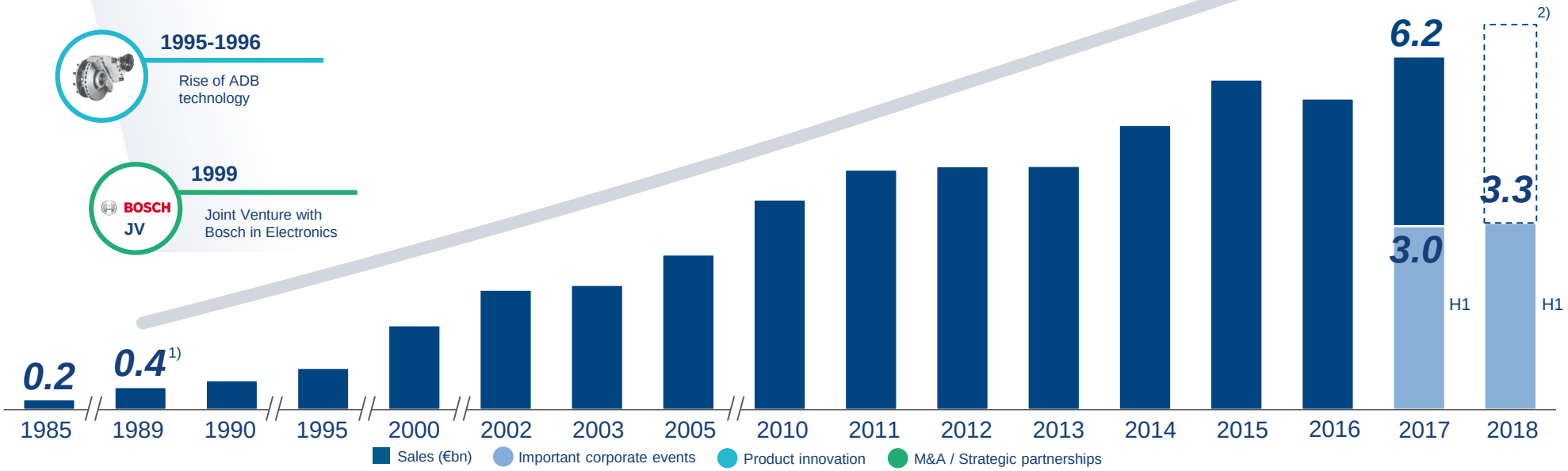
New state-of-the-art innovation and testing centre in Munich

1995-1996

Rise of ADB technology

1999

Joint Venture with Bosch in Electronics



Notes: 1986-2017 based on financial statements prepared in accordance with German GAAP (HGB) and H1 2017 and H1 2018 based on financial statements prepared in accordance with IFRS. [1)] 1989 – first year when consolidated accounts are available; [2)] Extrapolation of H1-2018 sales for full 2018; *Source: Knorr-Bremse information*

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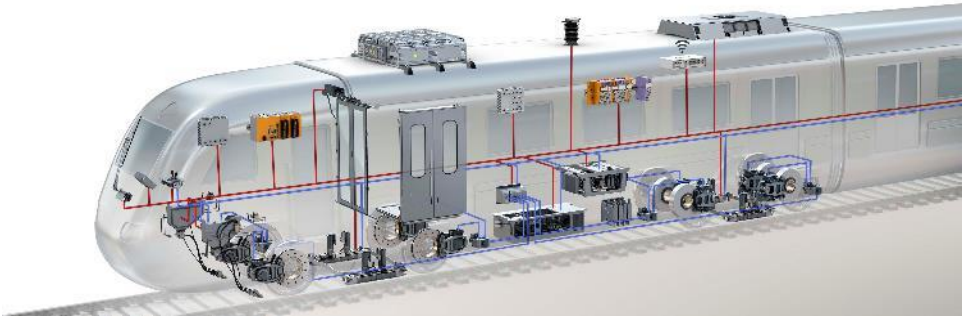
Knorr-Bremse – A best-in-class industrial company

1	**Global #1**	Number one supplier for braking systems and a leading supplier of other safety critical rail and commercial vehicle systems protected by high barriers to entry
2	**Synergistic business**	Technology and scale benefits between rail and commercial vehicles
3	**Market outperformance**	Consistent outperformance of attractive end-markets driven by megatrends and increasing content per vehicle
4	**The industry innovator**	Driving innovation in mobility and transportation technologies through R&D, quality excellence and edge in connected systems
5	**Resilience**	Resilient business model, supported by broad geographical and customer diversification, high aftermarket exposure and strong localisation
6	**Superior financial profile**	Strong growth, profitability, and cash generation with high earnings visibility
7	**Leadership excellence**	Highly experienced management team with strong track record and clear vision for future value creation

1 Global #1 – The world's leading supplier of safety critical rail and commercial vehicle systems

RVS offering (2017: 53% of sales, 55% of EBIT)

- Brake systems
- Entrance systems
- HVAC[1)]
- Train Control Management Systems
- LRV[2)] traction systems

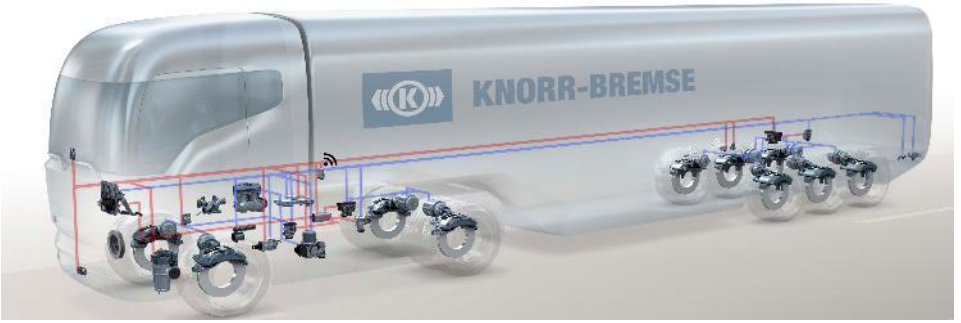


- Power electrics
- Auxiliary power supply
- Signaling systems
- Modernisation and support
- Aftermarket services

CVS offering (2017: 47% of sales, 45% of EBIT)

Fuel efficiency
- Engine components
- Transmission

Brake systems & vehicle dynamics
- Brake control
- Brake systems
- Automated driving
- Steering systems



- Energy supply & distribution
- Connectivity
- Electrification
- Aftermarket services including Alltrucks network[3)] ALLTRUCKS

Preferred partner for all major OEMs[4)] and operators across the globe

Example car builders: 中国中车 CRRC, BOMBARDIER, SIEMENS/ALSTOM, HITACHI Inspire the Next, STADLER, CAF, Kawasaki

Example operators: DB, 中国铁路总公司 CHINA RAILWAY, Indian Railways, Crossrail, MTA, ÖBB, TRENITALIA

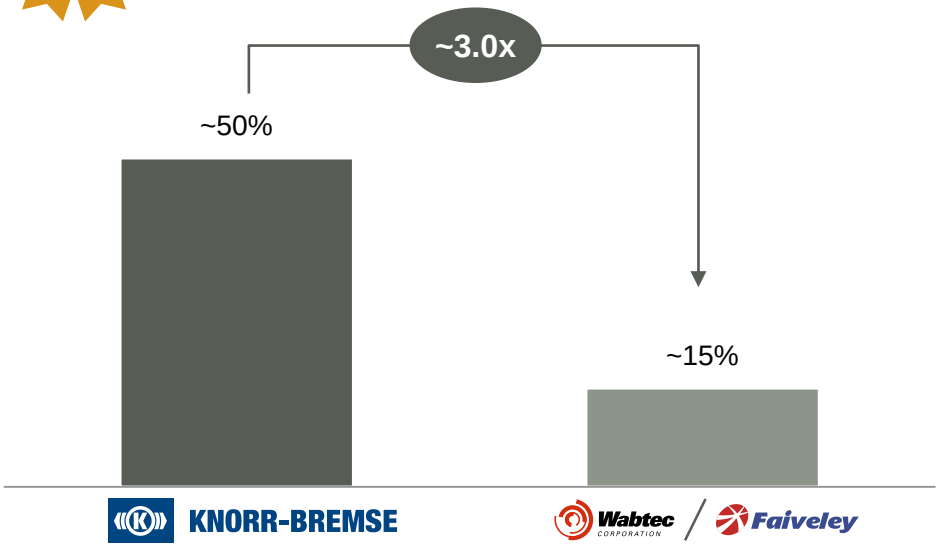
DAIMLER TRUCKS, PACCAR, VOLKSWAGEN TRUCK & BUS, VOLVO, NAVISTAR, IVECO, Ford, ZF, ISUZU, DONGFENG MOTOR CORPORATION, FAW, KAMAZ

Notes: 2017 financials based on IFRS excluding consolidation/other; [1)] HVAC – Heating, ventilation and air conditioning; [2)] LRV – Light rail vehicle; [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; *Source: Knorr-Bremse information*

1 Global #1 – Number one supplier for braking systems and a leading supplier of other safety critical rail and commercial vehicle systems …

RVS

#1 *Global brakes market share 2017[1)]*

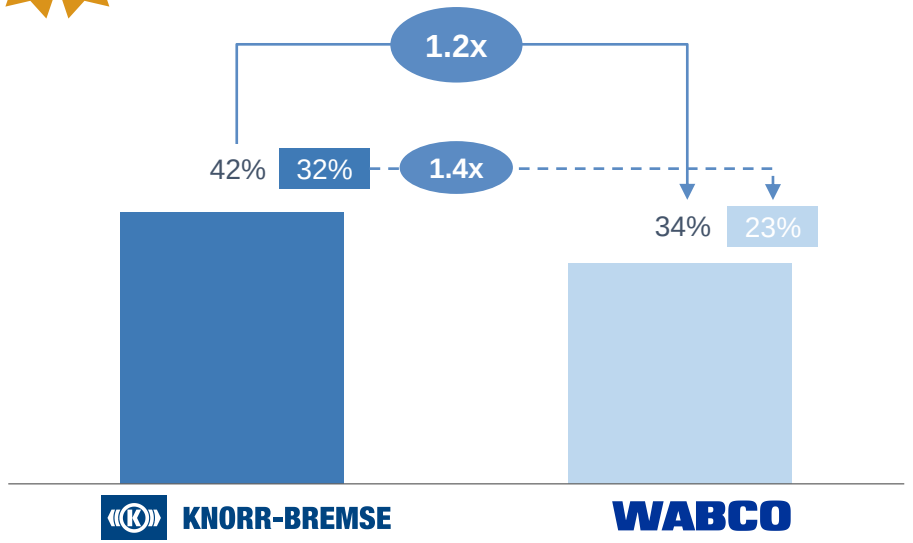


Market positions in key product groups (2017)

- #1 Brake Systems[1)]
- #1 Entrance Systems[1)]
- #2 HVAC[1)]

CVS

#1 *Global pneumatic brake system market share 2017[2)]*



% Including Drum Brakes and Brake Rotors

Market positions in key product groups (2017)[3)]

- #1 Brake Systems & Vehicle Dynamics (incl. Automated Driving)
- #1 Energy Supply & Distribution
- #1 Fuel Efficiency (Joint)

Notes: [1)] 2017 RVS market share estimates for OE and aftersales without labour; Wabtec includes Faiveley; For the competitor an estimate was used; Market shares rounded to the nearest multiple of 5%; [2)] 2017 Market share estimates for Truck and Bus OEM sales only including Air Disc Brake, Brake Control and Air Supply (excluding Drum Brakes and Brake Rotors; Drum Brakes are mainly produced by the OEMs and Brake Rotors are mainly sourced separately), excluding aftermarket and Trailer; Knorr-Bremse data based on market intelligence and experts estimate in 2017; [3)] For 2017 global addressable Truck, Bus and Trailer OE, excluding aftermarket; *Source: Knorr-Bremse information and internal market research*

1 Global #1 – … protected by high barriers to entry

Barriers to entry for RVS and CVS markets

- ✓ **Regulation / homologation**
- ✓ **Low volumes, high number of variants with high level of customisation**
- ✓ **High initial capital requirements, highly protected IP landscape and economies of scale**
- ✓ **Highest quality and safety requirements**
- ✓ **Long lifecycle with resulting customer loyalty, long gestation period for aftermarket**
- ✓ **Same industry leaders since creation of the industry over 100 years ago**

Market specifics

RVS

Only supplier worldwide
certified for all global and local standards and norms (GOST, UIC, AAR, ARA)

Vast array of product variants to homologate
(e.g. >100k active brake articles by Knorr-Bremse)

Homologation time typically 4-8 years
for recent Knorr-Bremse products

CVS

One of only two suppliers *able to offer harmonised products globally*

Continuously increasing *safety and emission standards requirements*

Source: Knorr-Bremse information

2 Synergistic business – Technology and scale benefits between Rail and Commercial Vehicles

Interdependence of RVS and CVS today

- ✓ Same core technologies
- ✓ Shared components and materials
- ✓ Comprehensive research and IP base

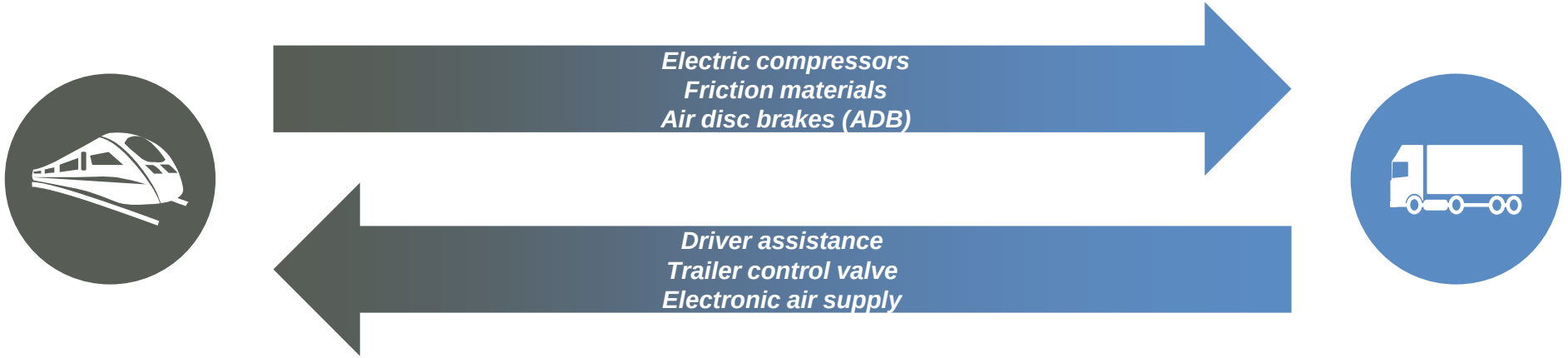
Future technology development

- ✓ Shared research centres
- ✓ ADAS[1] / HAD[2] technology transfer
- ✓ Condition monitoring, condition-based and predictive maintenance
- ✓ Electrification and connectivity
- ✓ Electromechanical brake systems

Unique scale benefits

- ✓ ~2x size of main competitors[3]
- ✓ Balance sheet strength for M&A
- ✓ Global footprint

RVS CVS

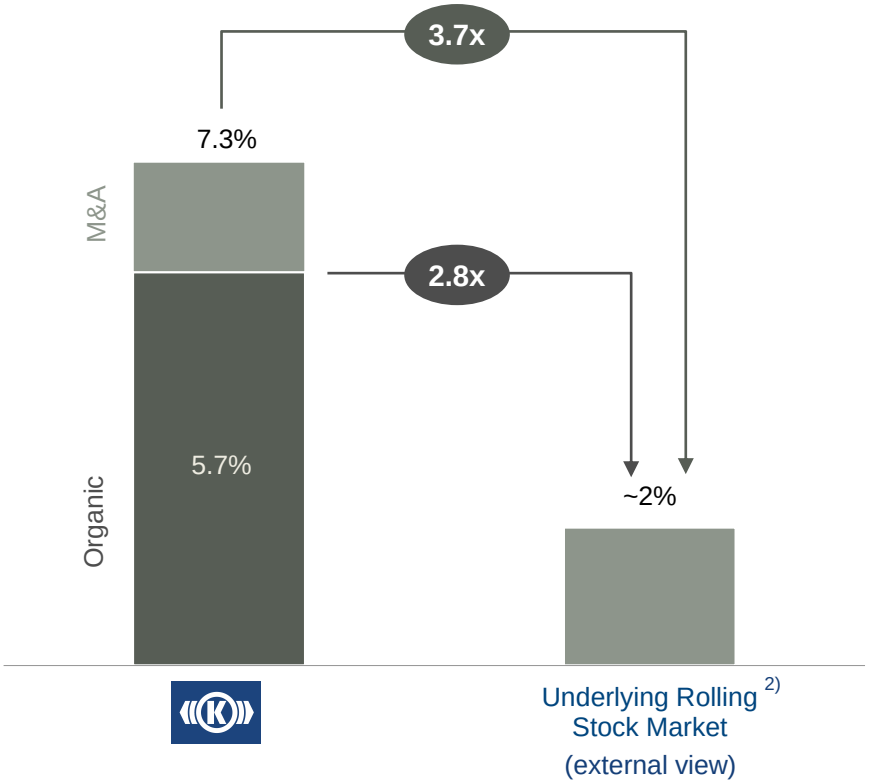


Notes: [1] ADAS – Advanced driver assistance system; [2] HAD – Highly automated driving; [3] Based on 2017 sales and status quo pre-Wabtec merger with GE Transportation; 2017 €/USD FX: 0.83346 used as of 31 December 2017; *Source: Knorr-Bremse information; WABCO and Wabtec / Faiveley information based on Annual Report 2017*

3 Market outperformance – Knorr-Bremse is well positioned to deliver continued growth above rail industry levels

Knorr-Bremse with strong track record of industry outperformance

CAGR (2010-2017) RVS sales[1] (HGB) and market



Key future growth drivers

Asia Growth
- Chinese high-speed
- Mass urban transport in APAC
- Expansion and upgrade of Indian rail rolling stock
- CRRC international expansion

Outsourcing
- Outsourcing from rail OEM's (trend towards de-verticalisation)

Digitisation
- Increasing demand for connected systems and other digital solutions

Aftermarket
- Global rail services and aftermarket for rolling stock

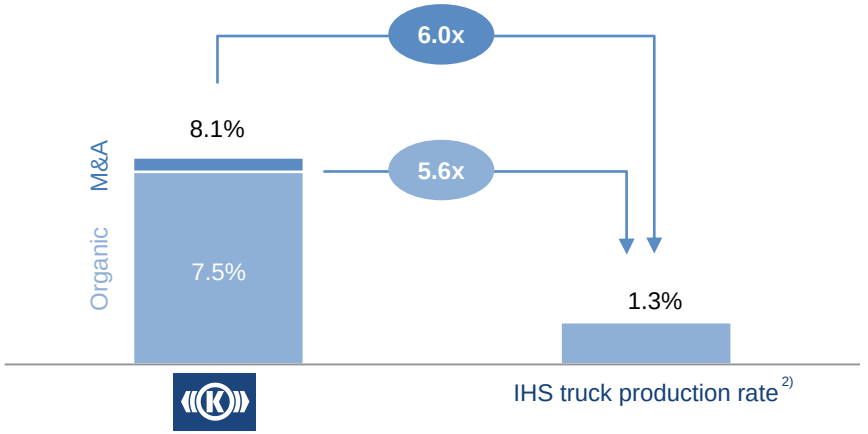
- ✓ Certification capability for all global core markets
- ✓ Partner of many Chinese OEMs and large installed base
- ✓ Leading control and monitoring technology
- ✓ Excellent engineering and R&D system and a connected systems innovation leader

Notes: [1] Based on German GAAP (HGB); [2] Underlying OE rolling stock and aftermarket volume as defined by Roland Berger (July 2018). Market CAGR based on 2010 to 2016 market volumes; *Source: Knorr-Bremse information, Roland Berger - Analysis of rail vehicle market report (July 2018) for growth rate of underlying rolling stock market*

3 Market outperformance – Strong growth in content per vehicle expected to result in continued outperformance of global commercial vehicle market

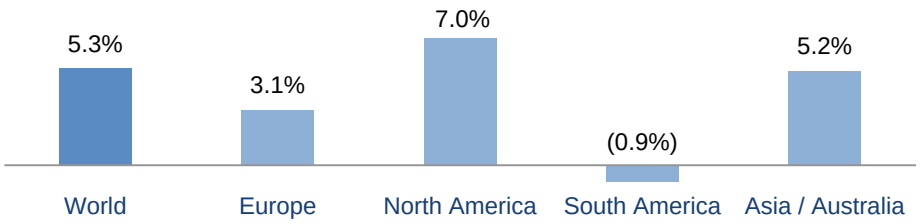
Knorr-Bremse with strong track record of industry outperformance

CAGR (2010-2017) CVS sales[1] (HGB) and market



Significant market content per vehicle (CPV) growth

Market CPV CAGR[3] (%, 2010-2017)



Key future growth drivers

Megatrends and conversion of regulatory standards

- Global megatrends provide attractive growth opportunities
- Convergence of regulatory standards drives global adoption of technologies
- Disc brakes replacing drum brakes

Content increase

- Traffic Safety
- Fuel efficiency

Market share gains

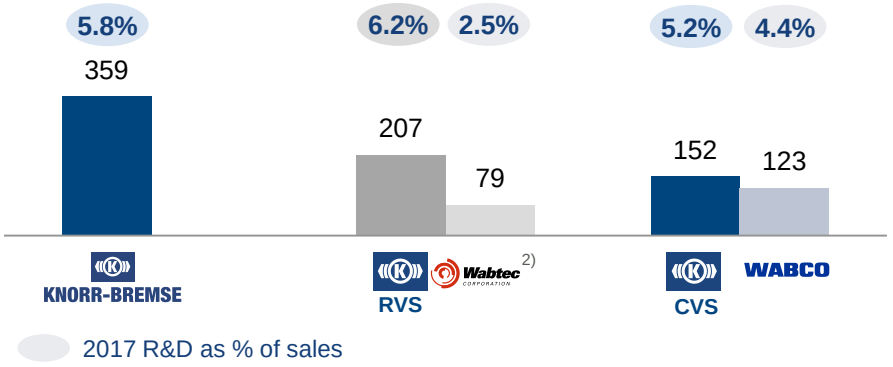
- Product upgrading
- Regional expansion strategy

- ✓ Market leader in a consolidated industry with only 2 global players
- ✓ A strong technology innovator shaping the industry
- ✓ Multiple trends driving growth independent of underlying market dynamics
- ✓ Ideally positioned to win in market defining trend towards ADAS/HAD[4]

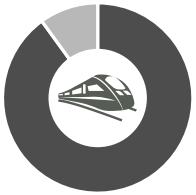
Notes: [1] Based on German GAAP (HGB); [2] Global Truck and Bus market excluding aftermarket and Trailer; [3] Addressable Truck, Bus and Trailer OE market for "Brake Systems & Vehicle Dynamics (incl. Automated Driving)", "Energy Supply & Distribution" and "Fuel Efficiency"; [4] Advanced Driver Assistance Systems/Highly Automated Driving; *Source: Knorr-Bremse information; IHS for truck production rate*

4 The industry innovator – Driving innovation in mobility and transportation technologies through R&D leadership and edge in connected systems

Knorr-Bremse invests more in R&D[1)]



Consistently pioneering "first to market" innovations…

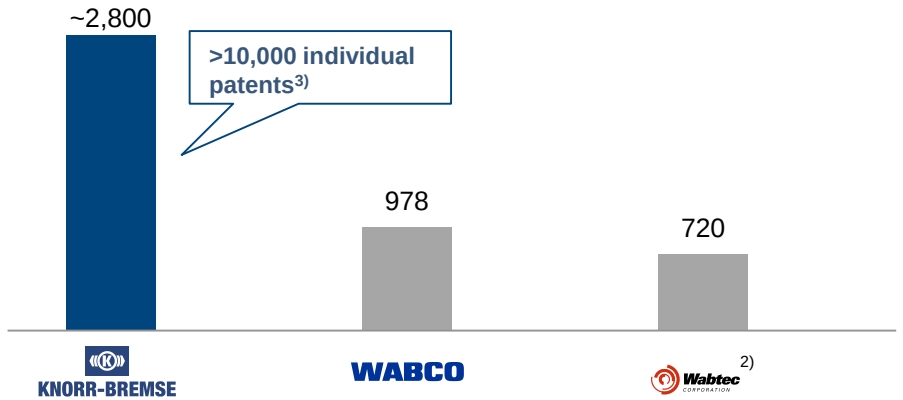


9 out of 10
of most industry-defining innovations[4)] come from Knorr-Bremse

8 out of 10
of most industry-defining innovations[4)] come from Knorr-Bremse

Knorr-Bremse has a larger patent portfolio than its peers

Portfolio size based on patent families (public)



… supported by focused M&A and partnerships

Autonomous	Safe	Connected
tedrive Steering (Steering, 2016); Selectron (TCMS, 2015)	IcerRail COSID RAIL FRICTION; 东风汽车公司 DONGFENG MOTOR CORPORATION (Braking, 2016); (Braking, 2015)	microlise (Telematics, 2016)

Efficient			
vossloh KIEPE (Electrics, 2017)	BOSCH TRS Japan (Transmission, 2016)	PCS Power Converter Solutions; TRANSTECHNIK (Converters, 2014)	GT Group (Engine air, 2016)

Notes: €/USD conversion 0.83; [1)] Knorr-Bremse R&D financial information based on German GAAP (HGB), R&D ratio as reported in annual reports; [2)] PF Faiveley and excl. GE Transportation acquisition; [3)] Granted and applied patents; [4)] Information as per Knorr-Bremse management view; Industry defining are considered to be the top 10 innovations in the past 30 years in the rail and commercial vehicle industry; *Source: Knorr-Bremse information; 2017 annual reports of Wabtec / Faiveley and WABCO; PatentSight*

5 Resilience – Business model supported by high aftermarket exposure, broad geographical and customer diversification and strong localisation

Strong resilience of growth and profitability

Different economic cycles

- **~50/50** split RVS and CVS (by sales)
- **Different** market drivers
  - short vs. long cycle
  - private vs. public investment
- **High sales visibility** in RVS

High aftermarket share

- **~35%** total sales[1)] – and growing
  - **42%** of RVS sales[1)]
  - **28%** of CVS sales[1)]
- **Large installed base**

KNORR-BREMSE

Diversified customer base

- Partner to **all** major local and **global players**
- Top-5 customers only account for **28% of sales**[2)]

Global footprint and local content

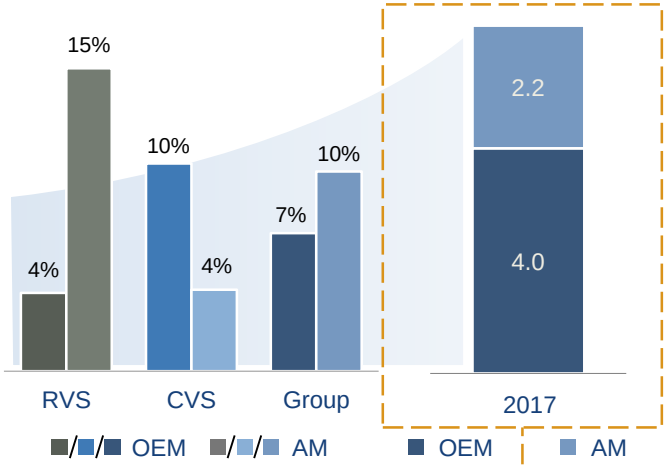
- High level of **local content** in manufacturing, purchasing and R&D
- Presence in **30+** countries with **100+** sites
- **~80%** of employees **outside Germany**
- **~15%** of employees in **China,** catering to local market

Notes: [1)] Based on German GAAP (HGB) for 2017; BilRUG sales allocated proportionally between OE and aftermarket; [2)] Based on German GAAP (HGB) for 2017; *Source: Knorr-Bremse information*

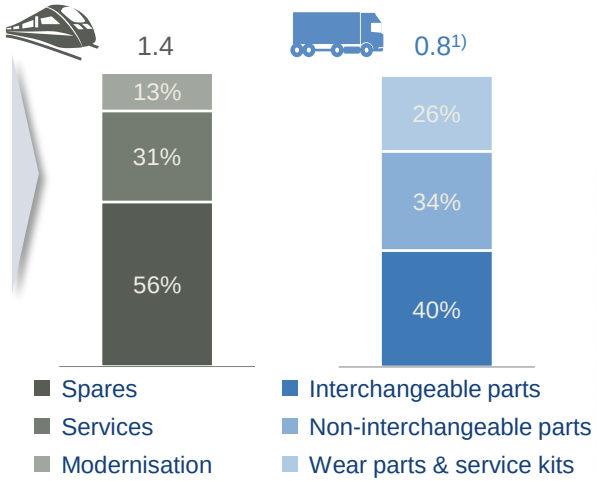
5 Resilience – Attractive aftermarket business with comprehensive service offering drives profitability and contains high future potential

Aftermarket is the growth and resilience backbone

Sales CAGR (2010-2017) HGB (€bn)



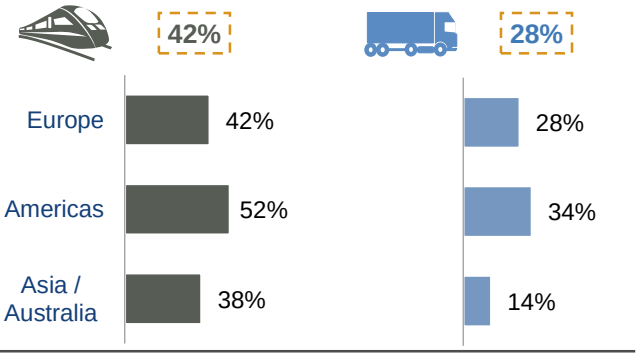
Aftermarket sales 2017 (€bn)



35%

share of aftermarket as % of sales 2017

Share of aftermarket 2017 (%)



Key features

Annuity-like

- Regulated maintenance intervals
- Leverages high installed base
- 20-30 year long relationships

Close to the customer

- RVS:
  - 36 service centres[2)]
  - 20 service locations at customers' premises
- CVS:
  - >1,600 certified service partners
  - >500 Alltrucks workshops

Strong customer retention

- High switching costs
- Focus on safety and quality
- IP protection

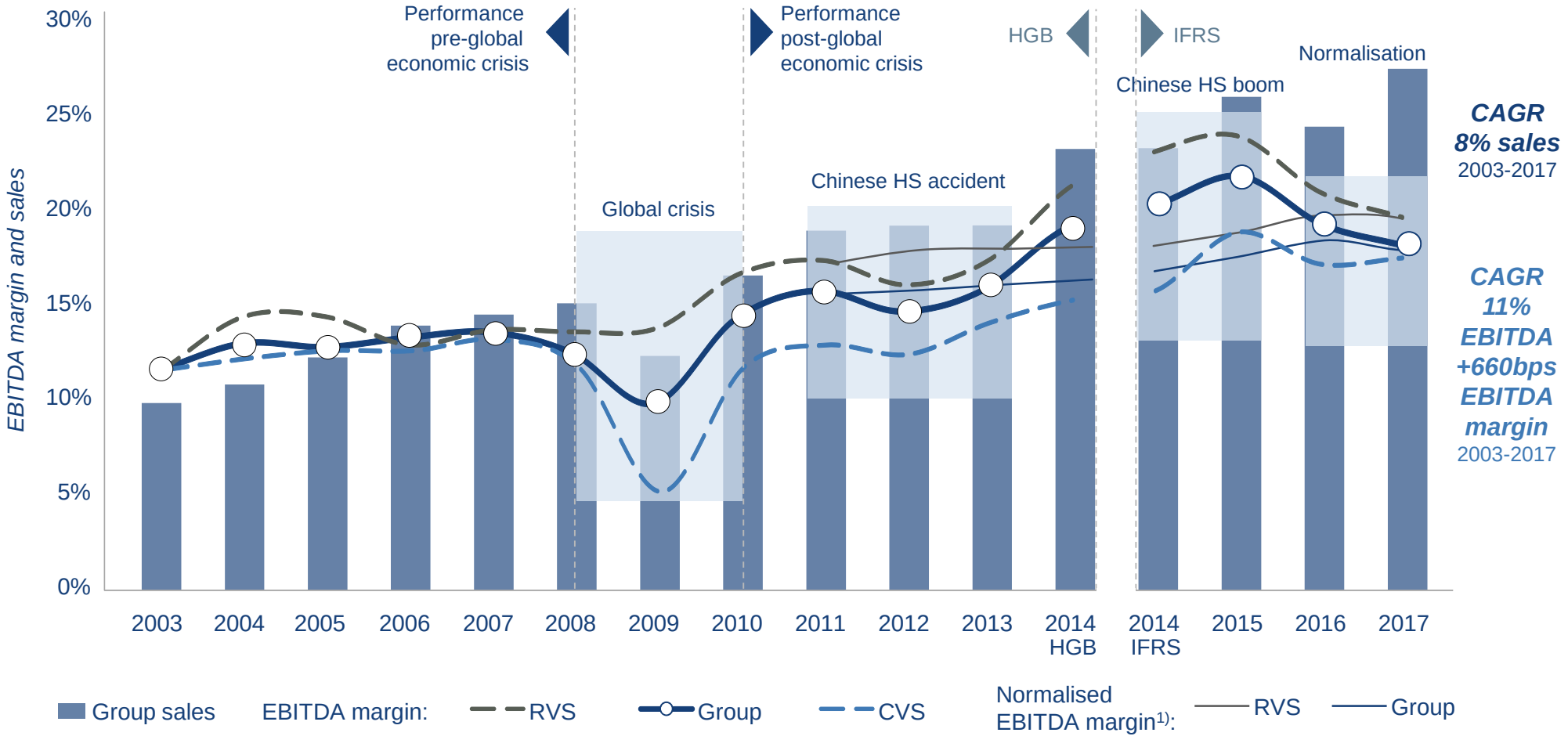
Innovative business model

- New connectivity-based business models
- Preventive
- Predictive

Notes: Based on German GAAP (HGB); BilRUG sales allocated proportionally between OE and aftermarket; [1)] Total CVS aftermarket sales and independent aftermarket sales EMEA (excl. South Africa & Skach) as proxy for the global split; [2)] Does not include service locations at customers' premises; *Source: Knorr-Bremse information*

6 Superior financial profile – Outstanding track record of growth and profitability improvement

Strong track record of resilient and profitable growth



Notes: Financials based on German GAAP (HGB) prior to 2014 and IFRS 2014-2017; Data presented in accordance with German GAAP (HGB) may not be comparable to data prepared in accordance with IFRS; 1) Normalised margin estimate for China accident impact and recovery; Estimate based on Knorr-Bremse assumptions; *Source: Knorr-Bremse information*

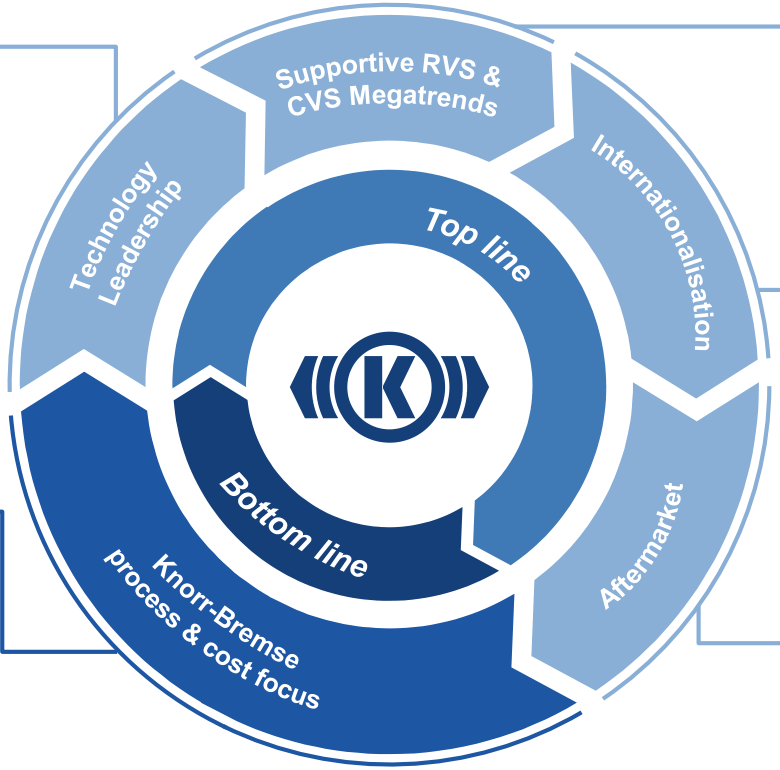
7 Leadership excellence – Clear vision for future value creation

1 Expand technology leadership position

- Growth potential from new technologies
- Introduction of ADAS[1], HAD[2] and connected systems
- Focus on digitisation and connectivity
- Significant profitability improvement in non-braking technology products

2 Capture opportunities from megatrends

- RVS as natural outsourcing partner for OEMs
- Win in RVS de-regulated markets
- Continued market outperformance in CVS through ADAS, connectivity and e-mobility
- Megatrends drive continued content growth



3 Drive internationalisation strategy

- Leverage profitable mass urban transport opportunities, in particular in China and India
- Benefit from Belt and Road Initiative (BRI)
- Increase exposure to high margin countries

4 Grow profitable aftermarket

- Leverage large installed base
- Apply new business models (digital & data based)
- Close to customer

5 Continued cost focus

- Set of initiatives to drive up the margins
- Global supply chain & unified purchasing
- Global process standards (KPS)[3]
- Permanent cost discipline
- PMI in newly acquired companies
- Operating leverage

Consistent M&A and integration strategy

Medium-term target organic growth of 4.5-5.5% p.a. complemented by value-add M&A

Target medium-term EBITDA margin expansion of +150bps

Notes: [1] ADAS – Advanced driver assistance system; [2] HAD – Highly automated driving; [3] KPS – Knorr-Bremse production system; *Source: Knorr-Bremse information*

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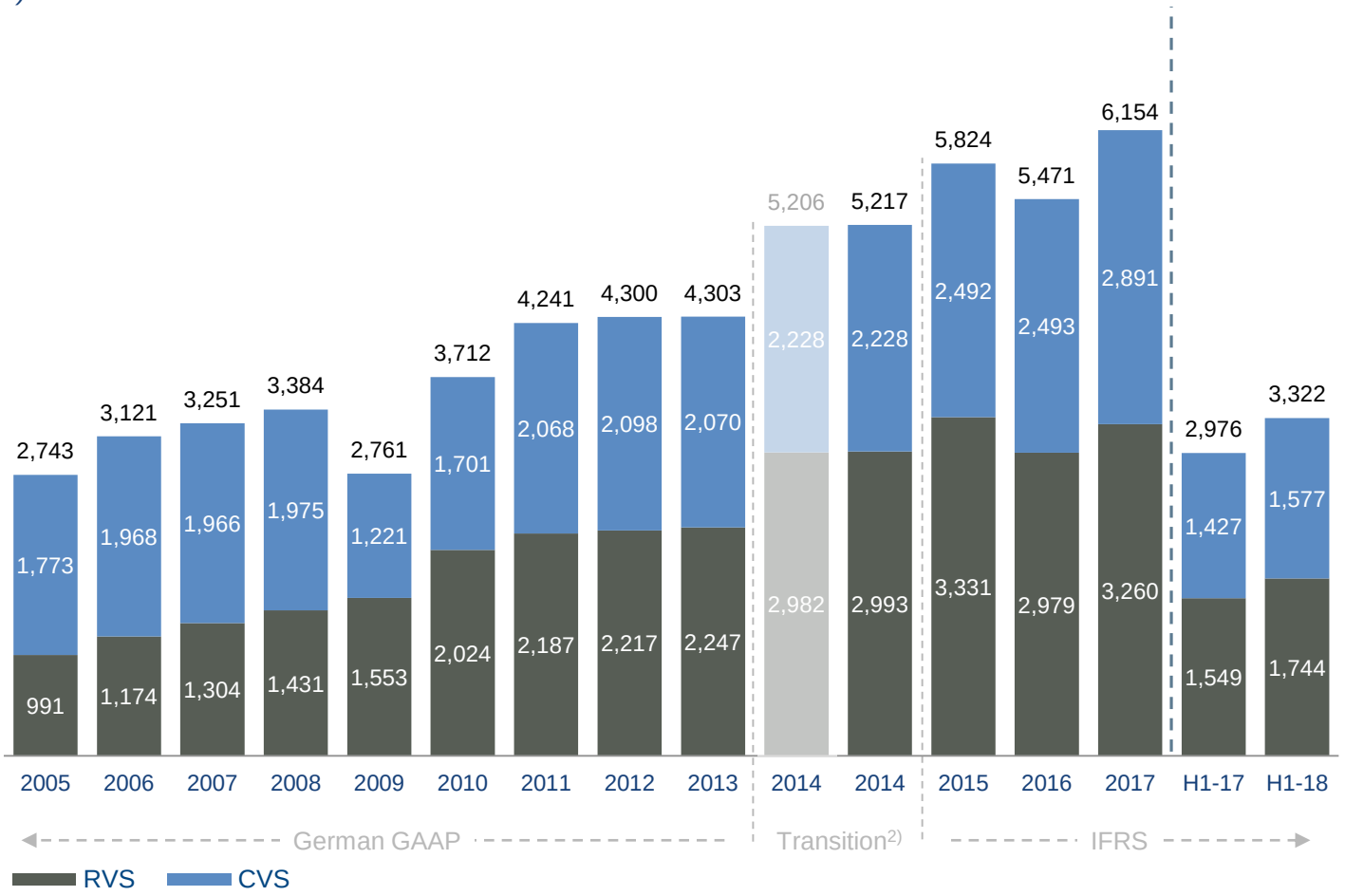
Track record of strong and sustainable top-line growth …

Historical sales[1)2)] by division

(€m)

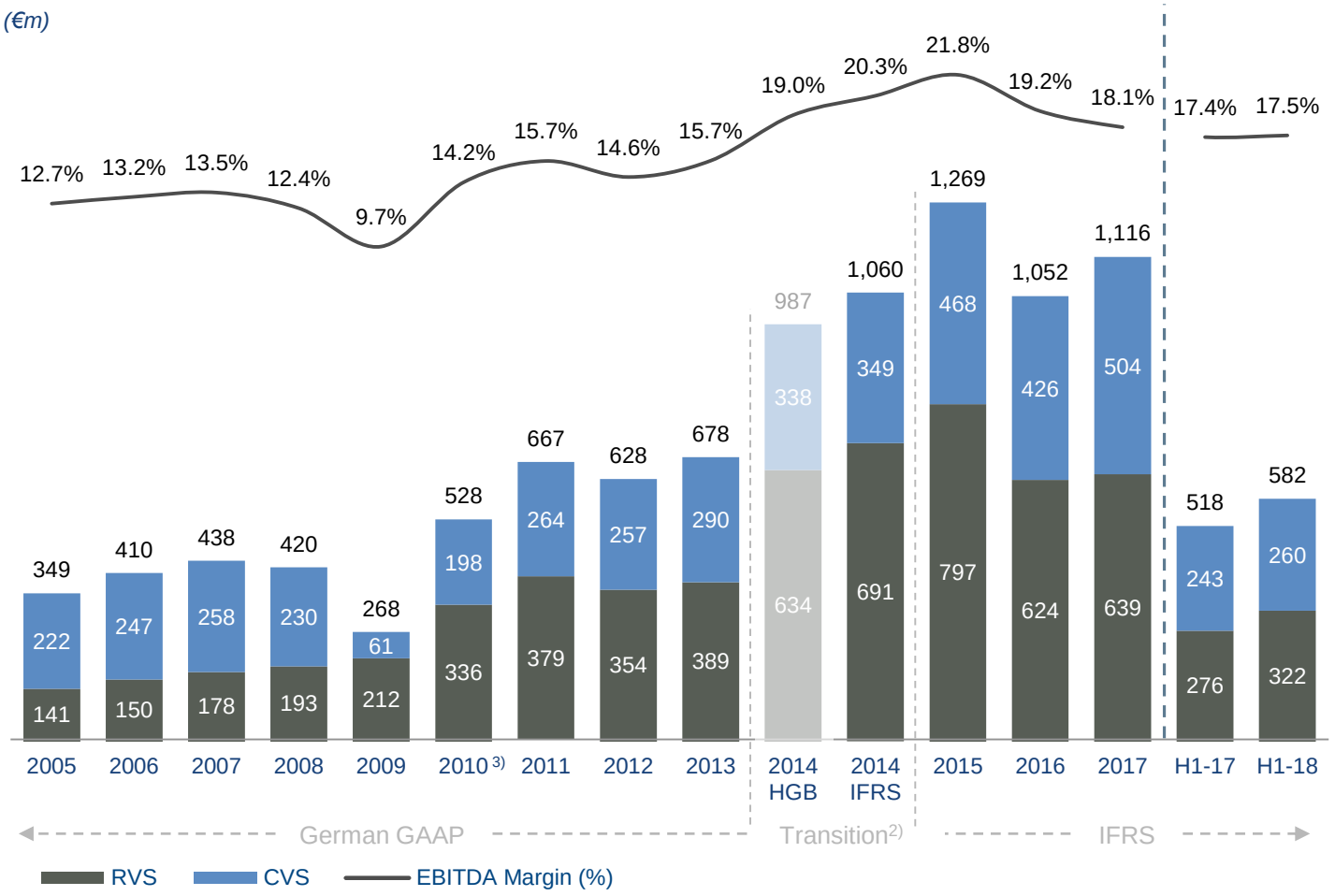


CAGR[2)]	2005-17	2010-17	2016-17	H1-17/ H1-18
Group	**7.0%**	**7.5%**	**12.5%**	**11.6%**
	4.2%	**7.9%**	**16.0%**	**10.5%**
	10.4%	**7.0%**	**9.4%**	**12.6%**

Notes: [1)] Divisional historic figures do not add up to group sales excluding consolidations/other; [2)] 2014 represents the first year that Knorr-Bremse prepared its financial statements in accordance with IFRS. Prior to 2014, financial statements were only prepared in accordance with German GAAP (HGB). IFRS differs in certain aspects from German GAAP (HGB), and accordingly data presented in accordance with German GAAP (HGB) may not be comparable to data prepared in accordance with IFRS; *Source: Knorr-Bremse information*

… combined with disproportionate EBITDA growth

Historical EBITDA[1)2)] profitability



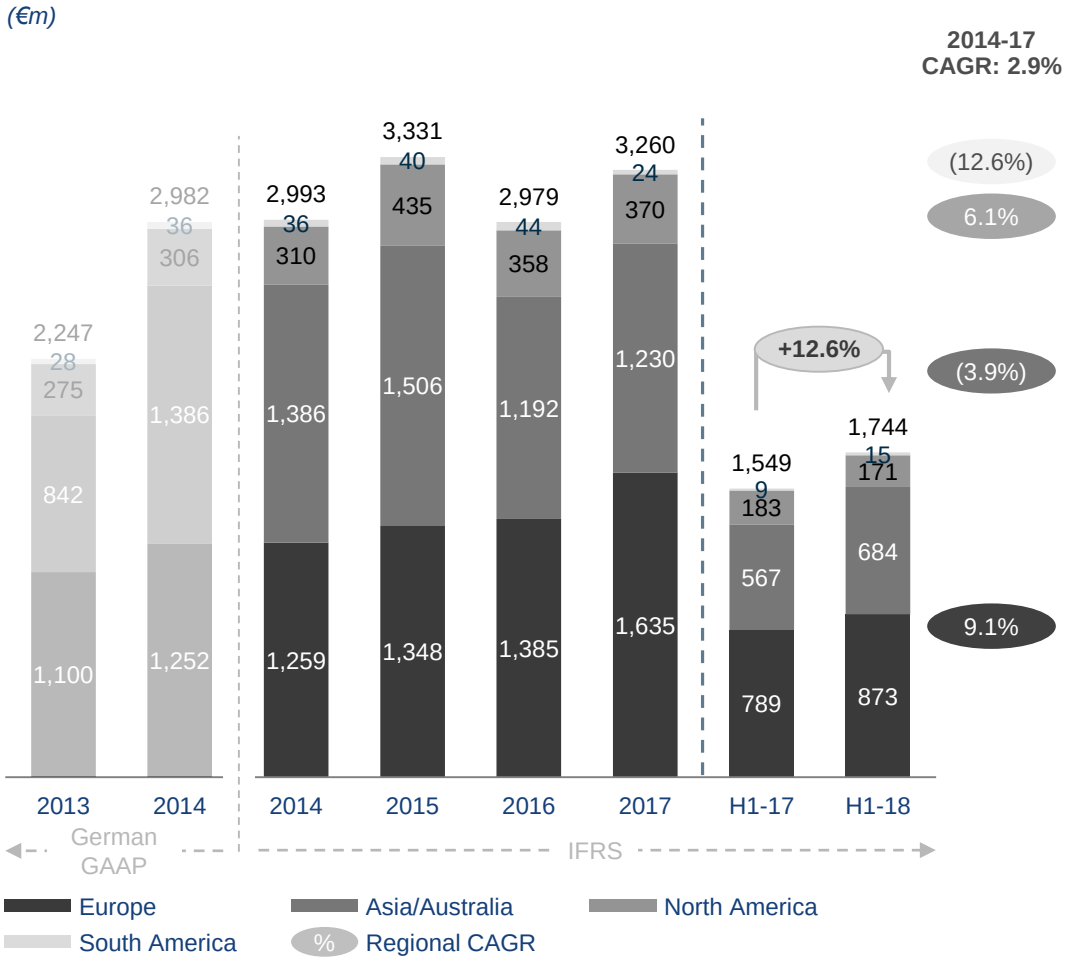
CAGR[2)]	2005-17	2010-17	2016-17	H1-17/ H1-18
Group	**10.2%**	**11.3%**	**6.0%**	**12.4%**
	7.1%	**14.3%**	**18.3%**	**6.9%**
	13.4%	**9.6%**	**2.5%**	**16.7%**

- Significant YoY profitability growth with a ~12% growth in EBITDA at the group level (~17% for RVS and ~7% for CVS)

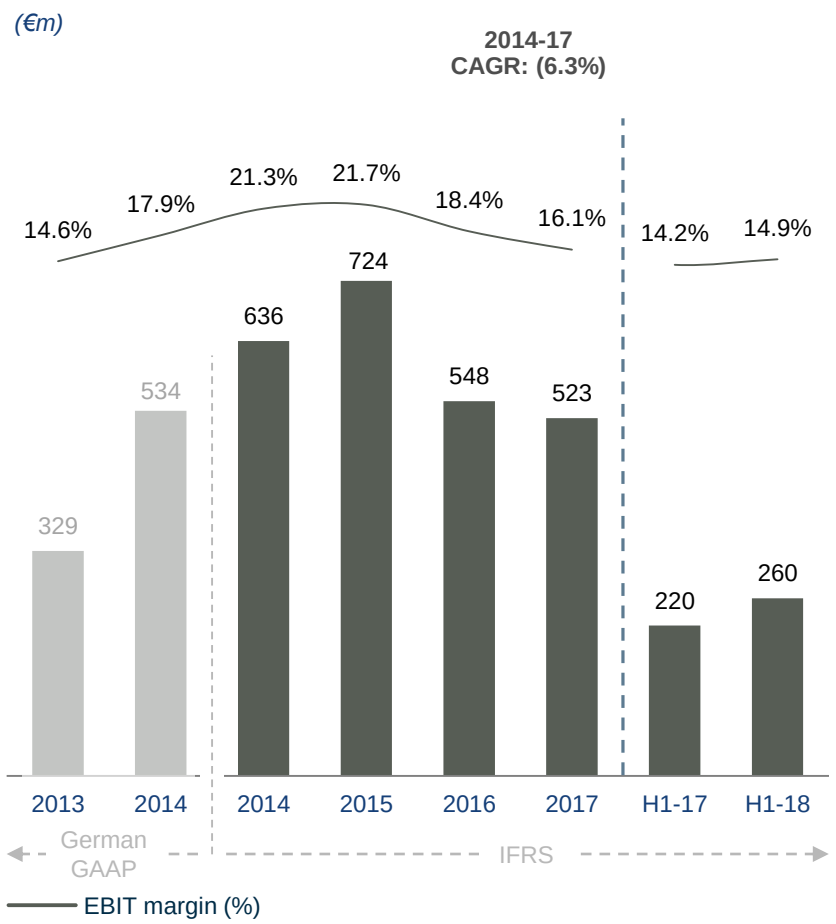
Notes: [1)] Divisional historic figures do not add up to group EBITDA excluding consolidations/other; [2)] 2014 represents the first year that Knorr-Bremse prepared its financial statements in accordance with IFRS. Prior to 2014, financial statements were only prepared in accordance with German GAAP (HGB). IFRS differs in certain aspects from German GAAP (HGB), and accordingly data presented in accordance with German GAAP (HGB) may not be comparable to data prepared in accordance with IFRS; [3)] EBITDA 2010 including extraordinary expenses due to BilMOG; *Source: Knorr-Bremse information*

RVS – Sales development driven primarily by Europe and China with profitability reflecting regional margin mix dynamics

Regional sales development[1)2)]



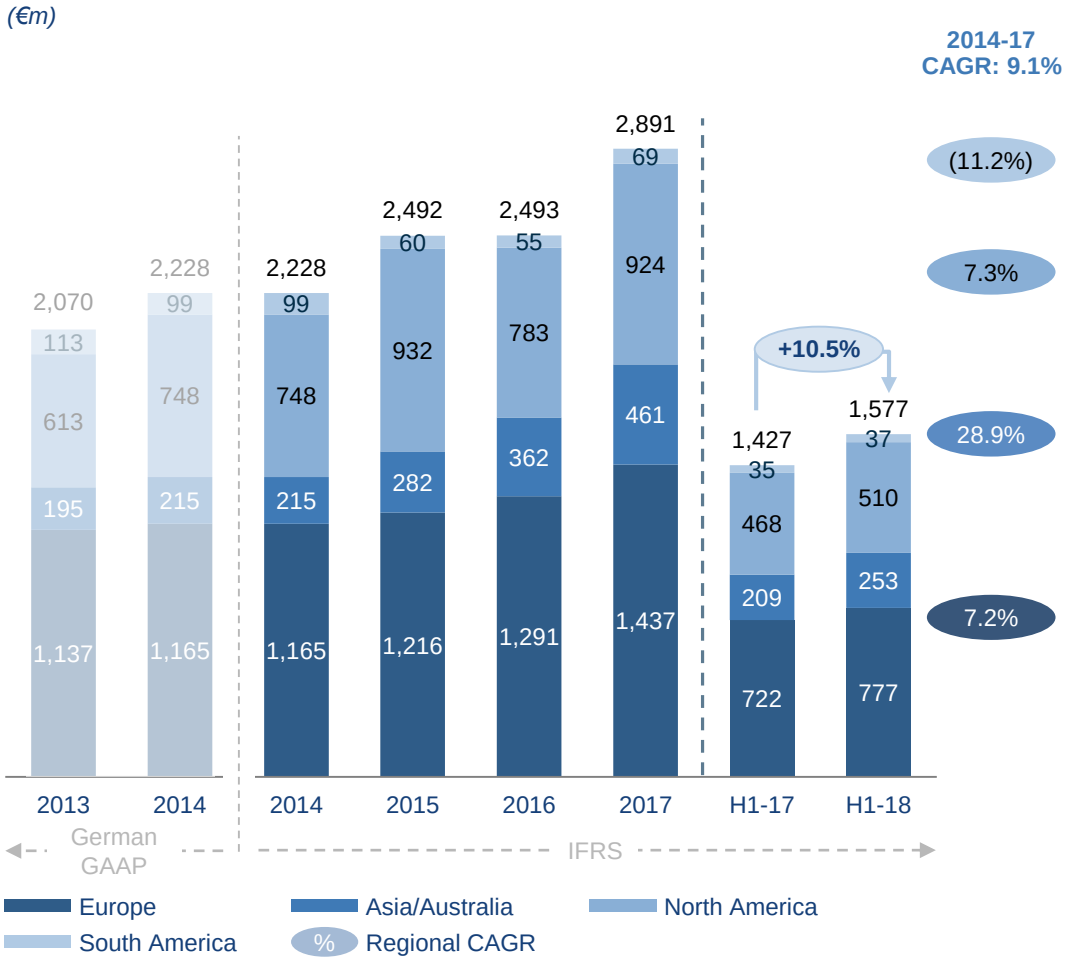
EBIT[2)]



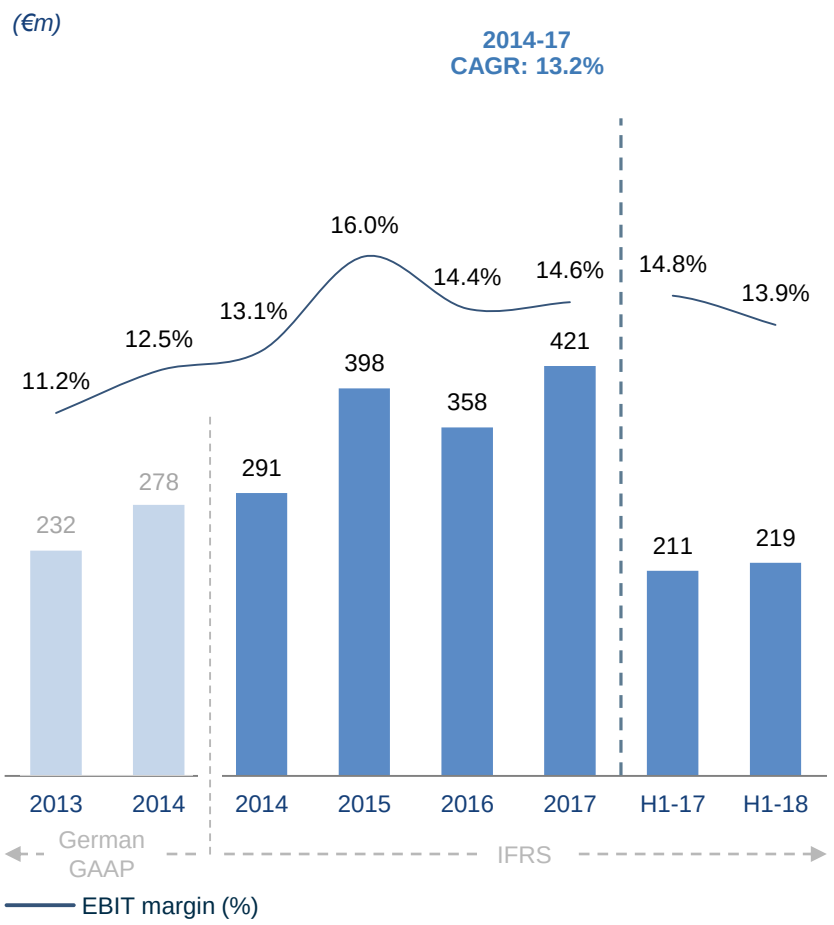
Notes: [1)] 3rd party historic regional sales figures do not add up to divisional sales excluding IC sales; [2)] 2014 represents the first year that Knorr-Bremse prepared its financial statements in accordance with IFRS. Prior to 2014, financial statements were only prepared in accordance with German GAAP (HGB). IFRS differs in certain aspects from German GAAP (HGB), and accordingly data presented in accordance with German GAAP (HGB) may not be comparable to data prepared in accordance with IFRS; *Source: Knorr-Bremse information*

CVS – Sales growth driven by strong momentum across key regions coupled with significant margin expansion

Regional sales development[1)2)]



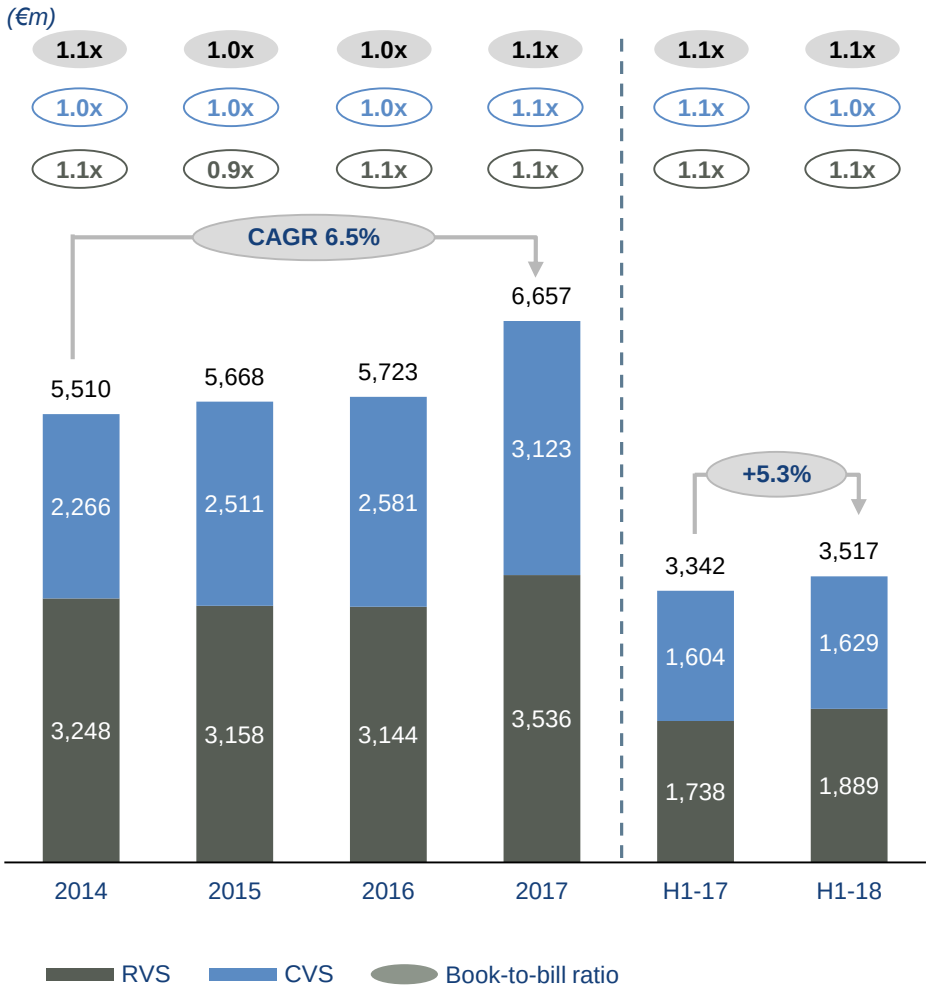
EBIT[2)]



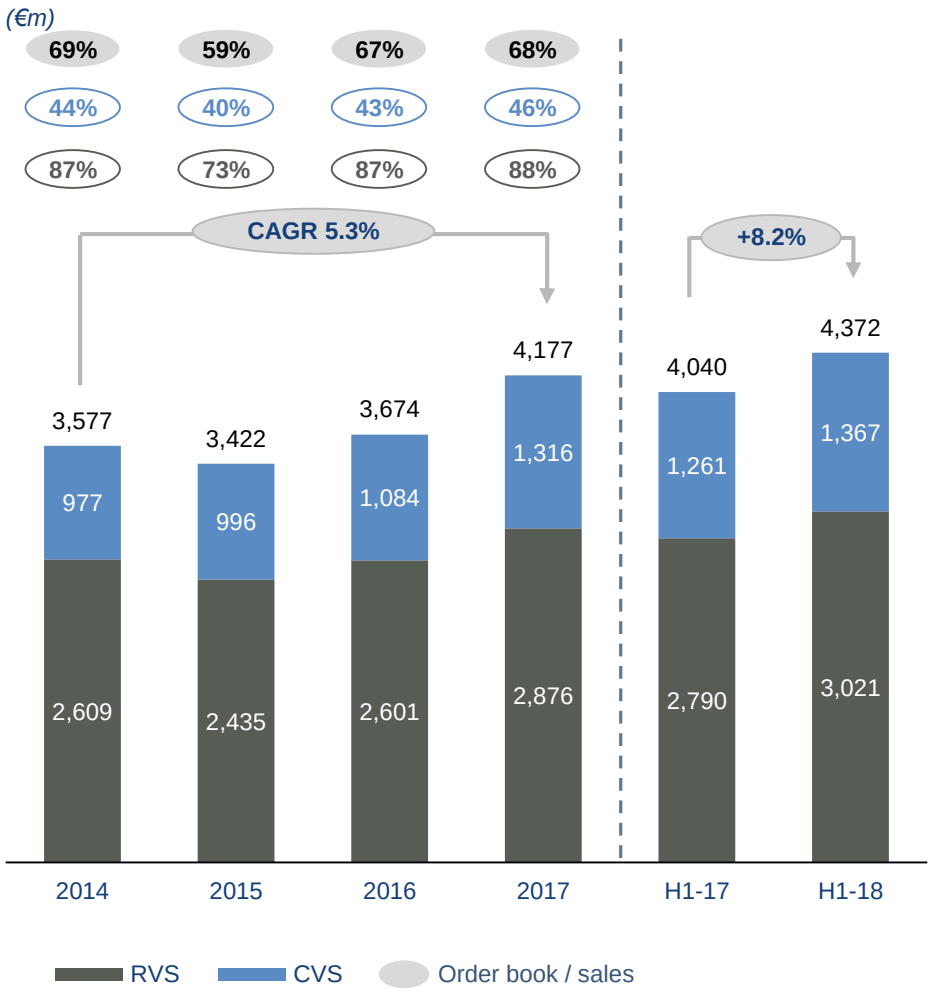
Notes: [1)] 3rd party historic regional sales figures do not add up to divisional sales excluding IC sales; [2)] 2014 represents the first year that Knorr-Bremse prepared its financial statements in accordance with IFRS. Prior to 2014, financial statements were only prepared in accordance with German GAAP (HGB). IFRS differs in certain aspects from German GAAP (HGB), and accordingly data presented in accordance with German GAAP (HGB) may not be comparable to data prepared in accordance with IFRS; *Source: Knorr-Bremse information*

Top-line visibility supported by high order intake and order book

Order intake 2014-17[1)2)]



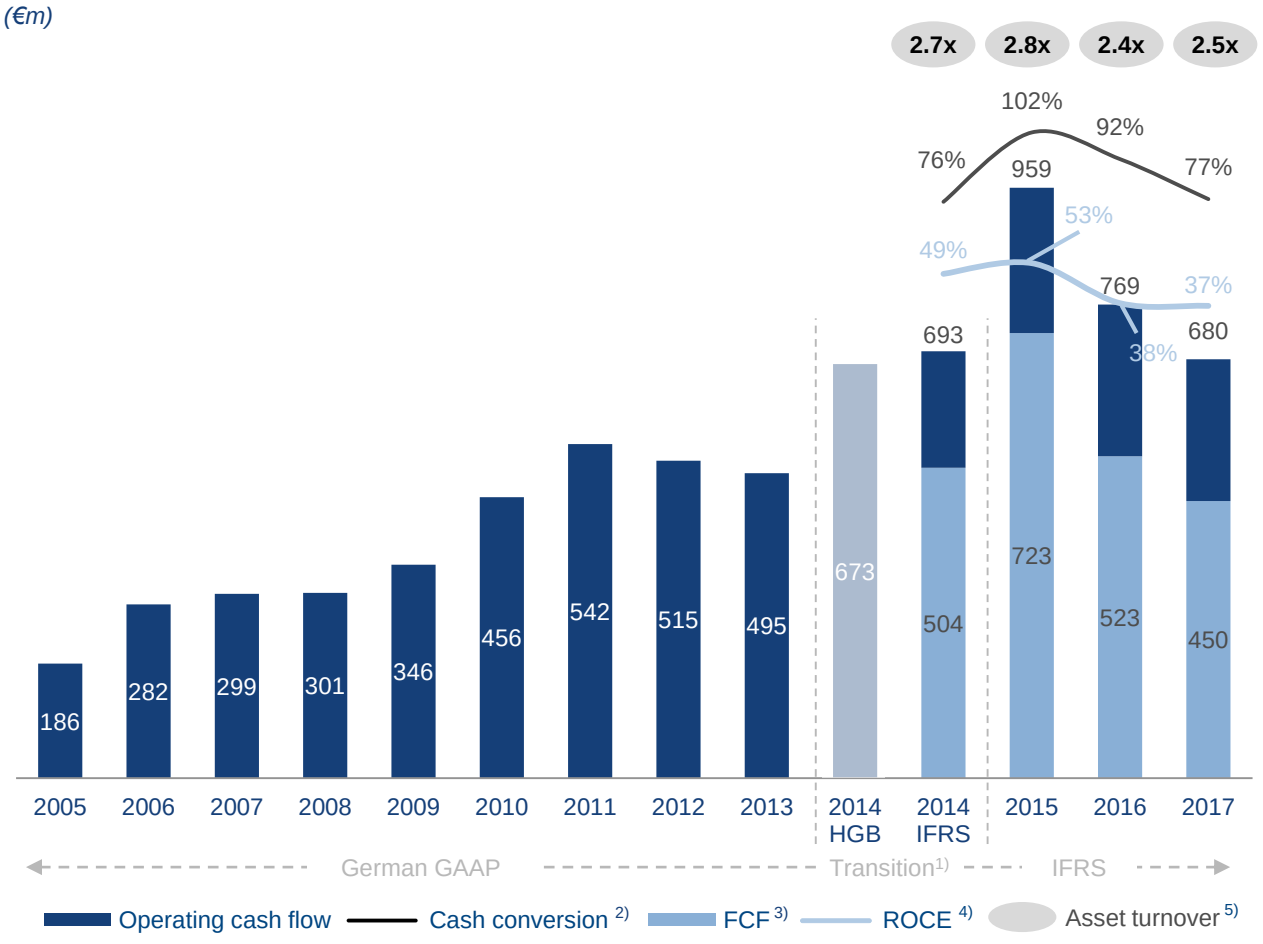
Order book 2014-17[2)3)]



Notes: [1)] Non-GAAP metric; [2)] Group figures include consolidations/other; [3)] Calculated based on financial statements prepared in accordance with IFRS; *Source: Knorr-Bremse information*

Knorr-Bremse is a high return and cash generative business

Strong cash generation abilities



Key drivers and factors

I EBIT margins

- ROCE normalisation along with EBIT in 2016 largely driven by China RVS HS
- Additional margin upside from historical acquisitions of low margin businesses with future turnaround potential

II Asset turnover

- Strong asset turnover above c.2.0x
- Consistent historical sales growth
- Moderate decrease due to capex and working capital growth

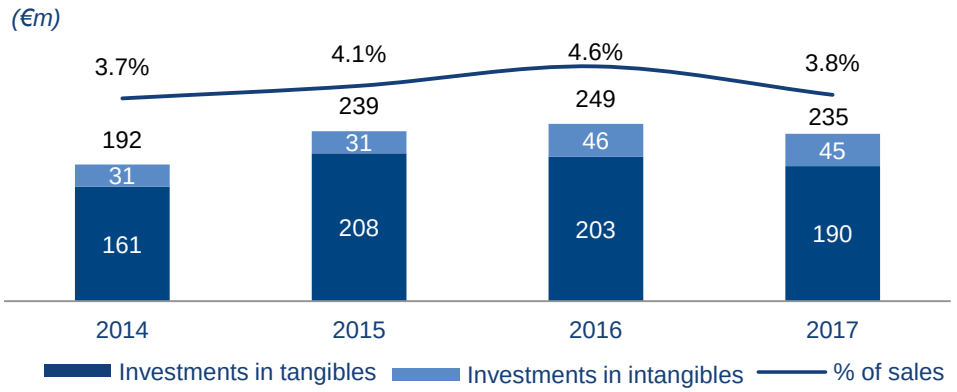
III FCF generation

- Recent normalisation mainly due capex program and changes in net working capital resulting from China pre-payments
- Cash flow mirrors EBITDA development in combination with low WC levels (pre-payments)
- 2017 impacted by extraordinary costs of attempted Haldex acquisition, IPO preparation and IFRS conversion (total ~€30m)

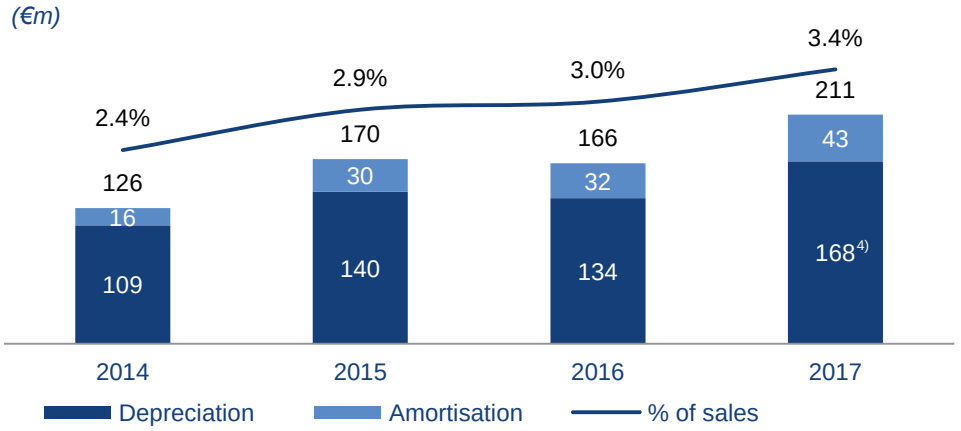
Notes: [1] 2014 represents the first year that Knorr-Bremse prepared its financial statements in accordance with IFRS. Prior to 2014, financial statements were only prepared in accordance with German GAAP (HGB). IFRS differs in certain aspects from German GAAP (HGB), and accordingly data presented in accordance with German GAAP (HGB) may not be comparable to data prepared in accordance with IFRS; [2] Cash conversion defined as: (OCF - investments in fixed assets - investments in intangible assets) / net income; [3] FCF (Free Cash Flow) defined as cash flow from operations minus cash-relevant capex; [4] ROCE defined as EBIT divided by capital employed (Fixed assets + Intangible assets + Net working capital); [5] Asset turnover defined as sales divided by capital employed; *Source: Knorr-Bremse information*

Fully invested asset base driving low capex requirements

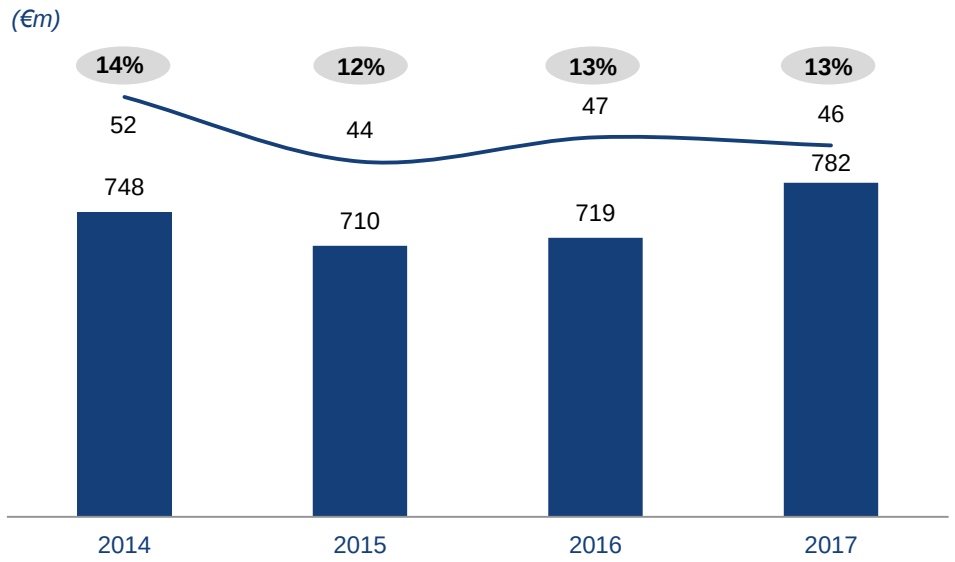
Capex[1)]



D&A



Net working capital[2)]



- Increase in D&A in 2017 mainly due to the difference in fair value and the proceeds from sale of assets held for sale resulting in additional €25m impairment
- Effect from step-ups[3)] included in amortisation are €9m in 2017, €8m in 2016 & 2015 and €1m in 2014

Notes: Based on financial statements prepared in accordance with IFRS; [1)] As per asset register, defined as investments in fixed and intangible assets incl. finance leasing; [2)] Net working capital defined as Inventory + Accounts receivables + Construction contracts with positive balances - Accounts payables - Construction contracts with negative balances - Prepayments received; [3)] Step-ups from key PPA's (Selectron, Powertech, GT & Kiepe Electric); [4)] Including €25m from impairment of assets held for sale; *Source: Knorr-Bremse information*

Knorr-Bremse medium term targets and dividend policy

		Medium term targets
P&L	Sales	■ Group organic CAGR of c. 4.5%-5.5% – RVS c. 5-6% – CVS c. 4-5% ■ Assuming constant currencies
	EBITDA Margin	■ Margin expansion c. 150 bps compared to 2017 – Driven by both divisions – RVS division slightly ahead vis-à-vis CVS division
Cash flow	Capex	■ Capex ratio in line with 2014-2017 average – RVS: c. 4% of sales – CVS: c. 4% of sales
	Working capital	■ DWC requirements expected to be in line with 2014-2017 average
Capital structure	Leverage	■ Maintain solid investment grade ■ Target leverage <1x Net debt/EBITDA, incl. post financing of acquisitions
	Dividend	■ Target payout ratio of 40-50% of IFRS net income
Other	Tax rate	■ IFRS tax rate @ ~30%

Source: Knorr-Bremse information

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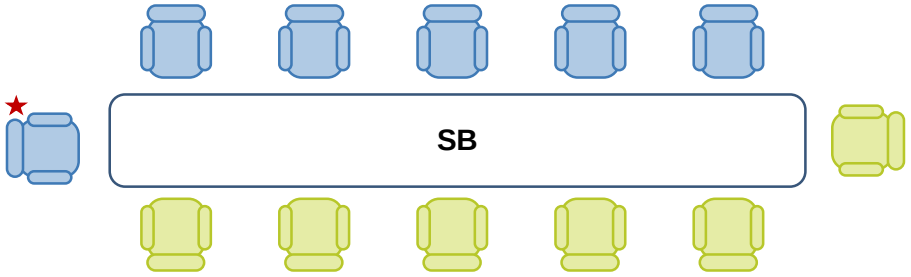
Effective corporate governance with clear accountabilities and aligned management incentives

Two-tier board clear accountabilities

Supervisory board

- **Members appointed**
  - Klaus Mangold (Chairman)
  - 6 Shareholder representatives
  - 6 Employee representatives
- **Heinz Hermann Thiele (Honorary Chairman)**
- **Actively provides strategic guidance**



Executive board

- **Runs the company with clear accountability**
- **Complementary broad experience**
- **Capital markets experience**

Executive board incentivised to create shareholder value[1)]

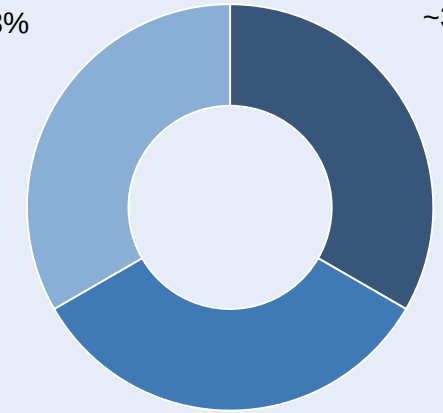
Proportion of individual remuneration components in case of 100% target achievement

Long-term incentive (EVA-based, ~3 year period)

~30.0%-33.3%

Base compensation

~33.3-40.0%



~28.6-33.3%

Short-term incentive
30% turnover growth
30% working capital
30% Profit before tax
10% quality

Notes: [1)] Data as per 1.1.2019; *Source: Knorr-Bremse information*

Closer look at key P&L items

Key items

€m	2015	2016	2017	H1-17	H1-18
Net sales	5,824	5,471	6,154	2,976	3,322
% growth	*11.6%*	*(6.0%)*	*12.5%*		*11.6%*
Changes in inventory of finished and unfinished goods	(7)	(11)	39	59	29
Own work capitalised	19	21	32	15	20
Total operating performance	**5,836**	**5,481**	**6,224**	**3,050**	**3,371**
Other operating income	89	83	81	41	48
Material expenses	(2,747)	(2,571)	(3,010)	(1,464)	(1,680)
Personnel costs[1)]	(1,272)	(1,272)	(1,439)	(708)	(746)
Other operating expenses	(636)	(669)	(741)	(401)	(410)
EBITDA	**1,269**	**1,052**	**1,116**	**518**	**582**
Margin, %	*21.8%*	*19.2%*	*18.1%*	*17.4%*	*17.5%*
Depreciation / Amortisation	(170)	(166)	(211)	(95)	(110)
EBIT	**1,099**	**886**	**904**	**423**	**472**
Margin, %	*18.9%*	*16.2%*	*14.7%*	*14.2%*	*14.2%*
Financial result	(51)	(45)	(52)	(34)	(42)
EBT	**1,048**	**841**	**852**	**389**	**430**
Margin, %	*18.0%*	*15.4%*	*13.9%*	*13.1%*	*13.0%*
Income tax	(337)	(274)	(265)	(119)	(124)
Effective tax rate	*32.2%*	*32.6%*	*31.1%*	*30.6%*	*28.7%*
Net income	**711**	**567**	**587**	**270**	**307**
Cash / (Net Debt)	1,094	969	836	457	(8)

Notes: Based on financial statements prepared in accordance with IFRS; [1)] Including leased personnel; *Source: Knorr-Bremse information*