



**KNORR-BREMSE**

# STRATEGY UPDATE 2023

## Next Level Knorr-Bremse

Strategy Update July 18, 2023 | Marc Llistosella (CEO) & Frank Weber (CFO)

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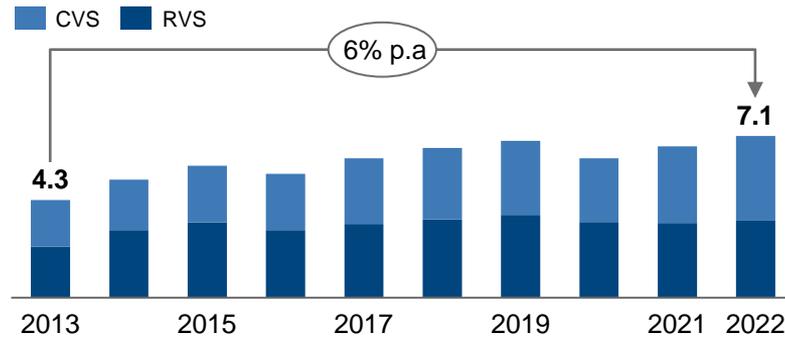
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# Over the past 10 years, KB with strong performance

## Growth drivers

-  Technology leadership
-  Attractive niche markets
-  Long-term contracts
-  High AM exposure
-  Strong installed base

## KB Group revenue (€bn)



**Consolidated** markets



**38%** aftermarket share in revenues



**Stable** anchor shareholder



**Brake systems**



# KB faced challenging market conditions in the recent past

## External challenges



De-globalization



Russian war in Ukraine



Inflationary pressure



Slower econom. growth China



Softer market growth



Supply chain instability

## KB challenges



### Growth

- COVID impacted growth
- RVS: "China party" is over
- Closure of Russian markets



### Profitability

- Partly under-performing businesses
- Complex legal entity structure (120+)
- Inflation: Customer price increases with a time lag



### Cash conversion

- Supply chain issues cause higher inventory
- Customers' payment behavior leads to higher accounts receivables

# CEO view: Identified KB challenges are being addressed

## Identified KB challenges ...



**Profitability** contracting



New **areas of growth** missing



Unclear **M&A strategy**



**Rail business in China** declining



**Competition for CVS** increasing



Low **cash conversion rate**



**Compensation** of Russia business

## ... are being addressed

Strong **focus on EBIT margin** improvement

Group-wide **optimization program** (PCPP)

Application of **best ownership principle**

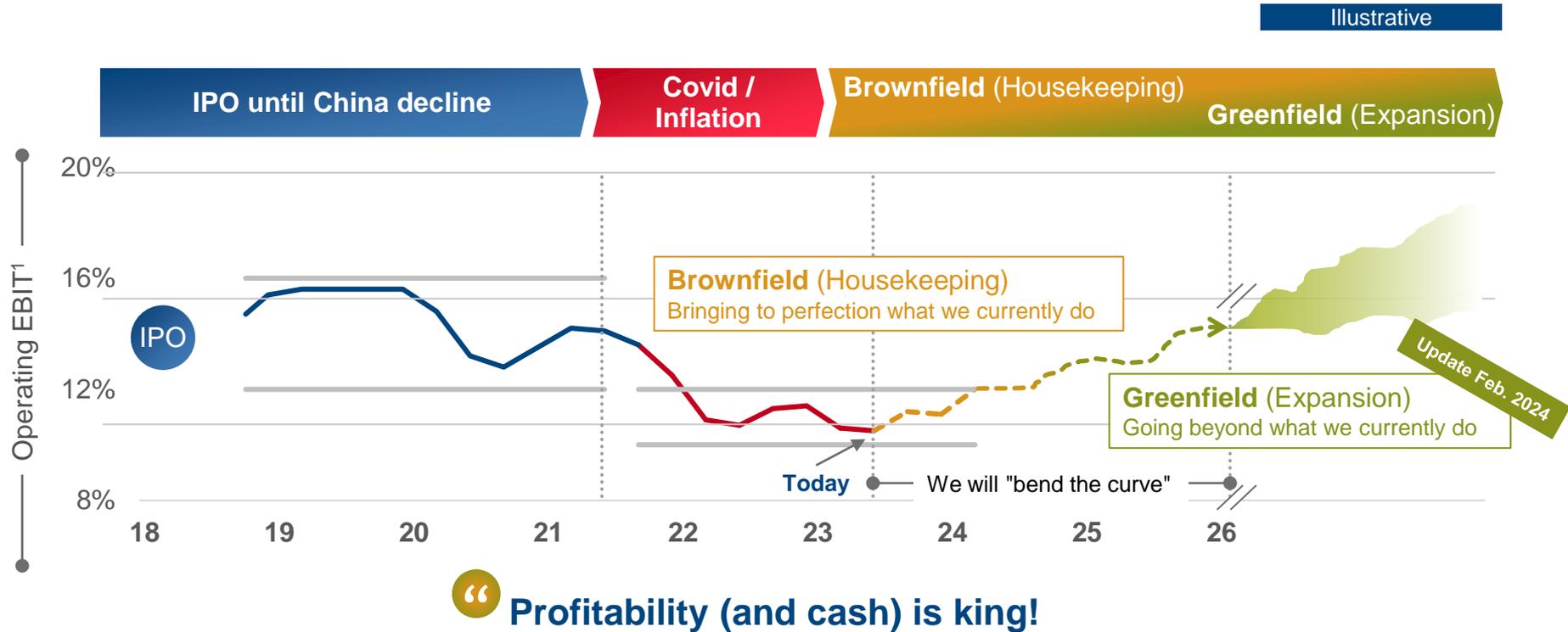
**Reduction of legal entities**

**Superior technology** sustains KB's  
36%<sup>1</sup> CVS & 52%<sup>1</sup> RVS market share

**Strategic & operational change** initiated,  
now focus on implementation

1. Market shares for brake system related product groups

# We will "bend the curve" to bring KB to the next level



1. Indicative reported EBIT; Note: All figures after today are illustrative only

# 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

# Cultural development is a MUST for our future success

## Key areas of culture...

**Fail fast – fail early**

**No shopping** when hungry

**Walk the talk**

**One company – one team**

Be in the **driver's seat**

Get **down to business**

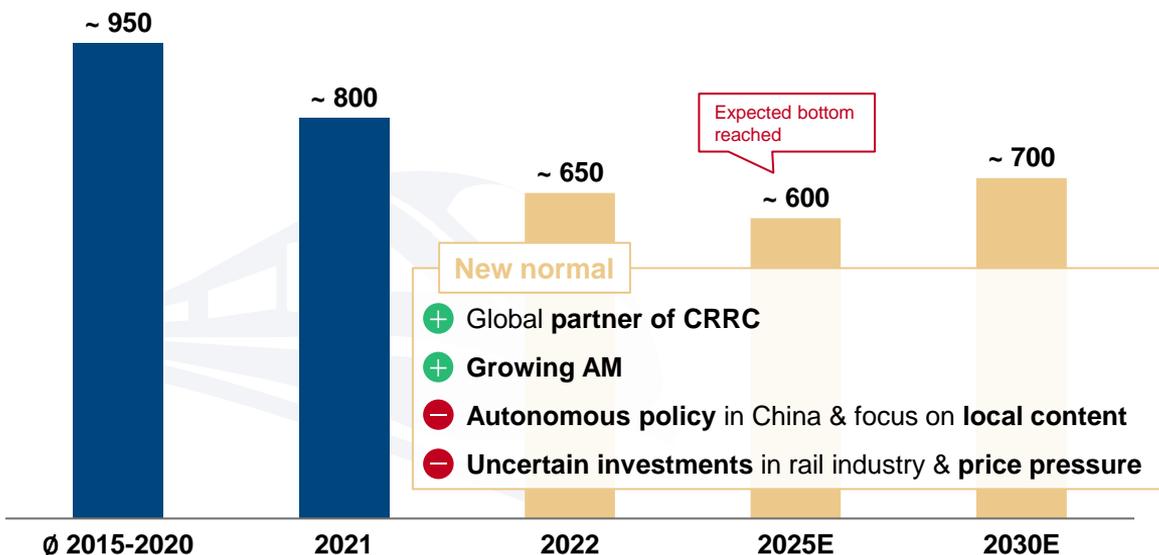
## ... and what they mean

- > **Accept failure** and **pull the plug early**
- > **Only good M&A with holistic set of clear** criteria
- > Use **tracking and reviews** to keep everyone on their toes
- > **More collaboration**, whenever it makes sense
- > **Manage proactively** and **take challenges head on**
- > Last but not least: **Execution, execution, execution!**

## 2 Revitalizing the core

# RVS China: Confirming business outlook from Q2'22; strategic priorities and AM business recovery help to sustain market position

## Total RVS revenues in China (in €m)



+ Tailwinds - Headwinds

## Strategic priorities



De-risk business systems



Increase **supply chain resilience** through localization and **adaptation**



Defend **market share** (customer relationships/superior technology/strong AM)



Reduce **vulnerability** by shifting growth focus to other regions

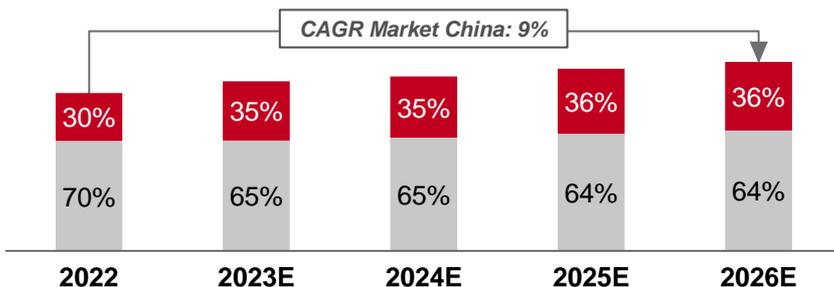


Improve **cost base** through **higher efficiency** and **lean management**

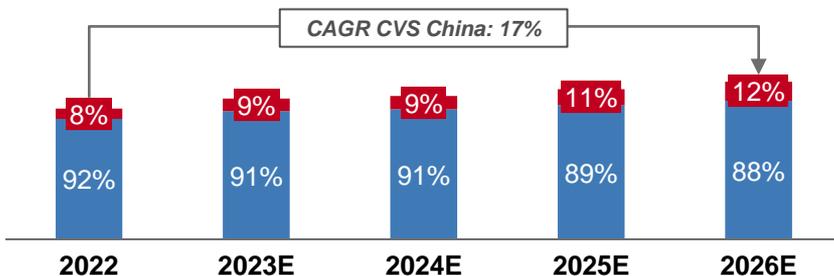
## 2 Revitalizing the core

# CVS China: Attractive outlook of Chinese truck market as tailwind for CVS

## Regional market<sup>1</sup> breakdown (TPR)



## CVS revenue breakdown (in €bn)



## Key insights

- **Chinese market shows the highest global share** with 30% in 2022, but is characterized by high volatility
- **CVS expected to outperform the market** despite high volatility and will expand on current strategy:

 **Focus on market-leading OEMs** and the strengthening of long-term strategic cooperations

 **Utilize higher CpV<sup>2</sup>** by focusing on technology adoptions and monitoring governmental regulations

 **Build on lean management team** and take advantage of market experience and scale effects

1. Incl. global heavy-duty & medium-duty trucks & buses produced (≥ 6 tons) 2. Content per vehicle; Differences may occur due to rounding

## Higher Content per Vehicle (CpV) will fuel CVS's growth in the future

2023-2028E

  
CVS CpV  
growth

Global

~ 4%  
(average)

North America

Below average

Western Europe

On average

Asia

Above average

- E-mobility and autonomous driving to fuel CpV growth
- Advancement in safety features is a growth catalyst in Asia
- Especially, **China market growth** driven by **increases in Air Supply and Drivetrain**
- In North America, **KB CpV is already at high levels** – technological adaptations and enhancements prevail

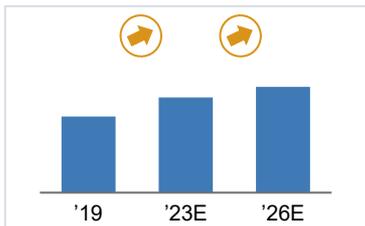
### 3 Efficiency program

## Measures identified to reduce cost base and increase efficiency

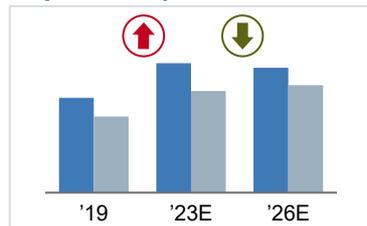
### Major KB efficiency indicators

(indicative)

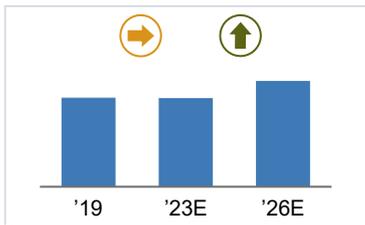
#### R&D spend



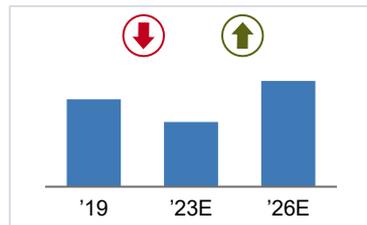
#### CapEx & Depreciation



#### Revenue / HC



#### EBIT / HC



Indicators show room for EBIT margin improvement

↑ Positive impact   → Stable impact   ↓ Negative impact

### Measures identified (selection)

- CapEx & R&D investment prioritization & right-sizing
- Technical & commercial efficiency enhancement (VA/VE<sup>1</sup>)
- GBS (Global Business Services) service enhancement
- Relocation of engineering to best cost countries
- Process harmonization (Celonis data mining & process improv.)
- Restricted hirings
- Complexity reduction & footprint optimization

Stringent & proven PCPP implementation methodology  
(incl. monthly measures review, implementation tracking)



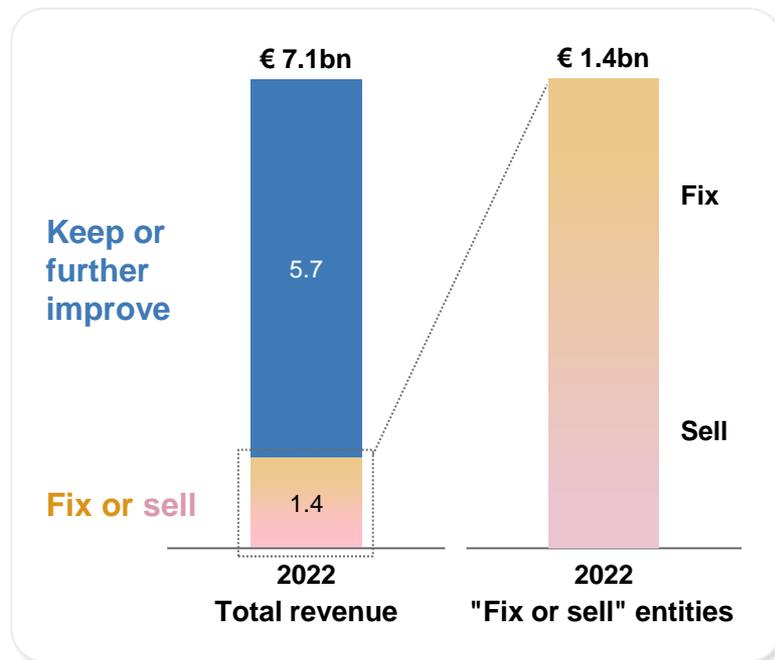
1. VA/VE = Value Analysis and Value Engineering

# Turning KB into a strong portfolio manager

## Assessment criteria

-  **Best owner principle**
-  **Profitability / EBIT margin**
-  **Positioning on S-curve / life cycle**
-  **Technological differentiation**
-  **Global reach**
-  **Market leadership**

## KB's tech and product portfolio

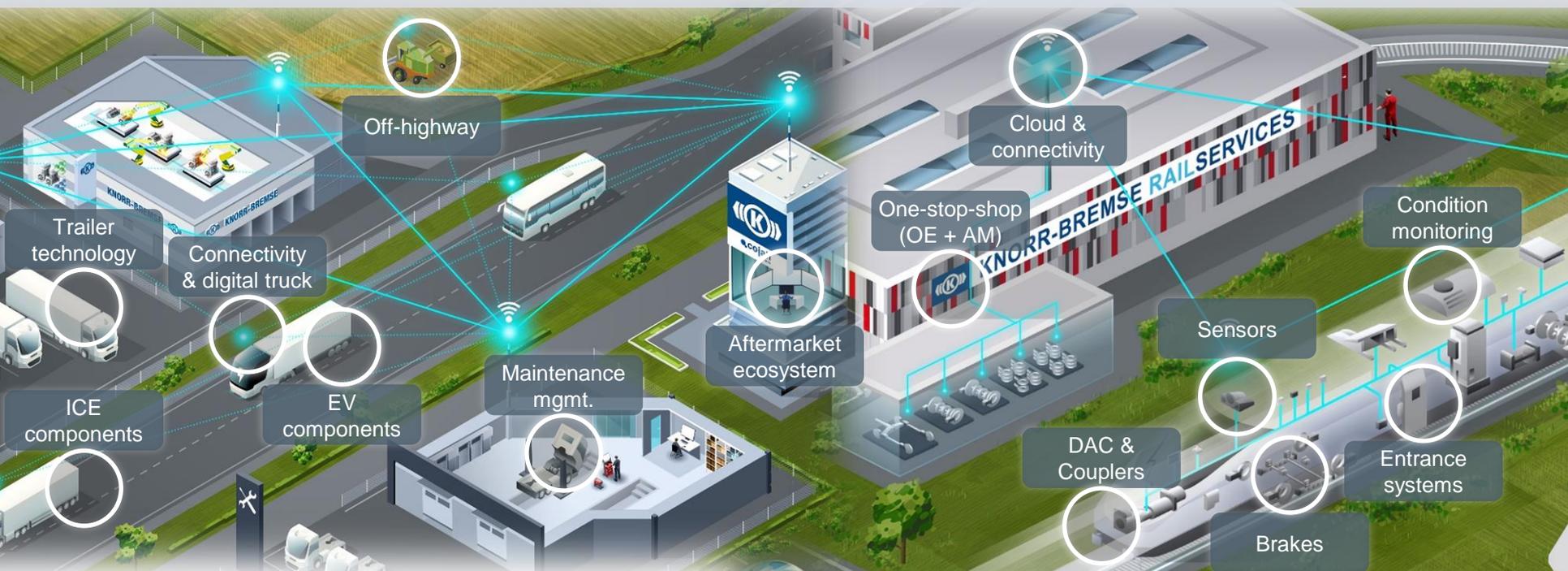


## Findings

- € 1.4bn** revenue under strict review
- First** assets identified
- ~ 200bps** potential op. EBIT uplift<sup>1</sup>

1. Until 2026E and vs. 2022 reported EBIT; Note: Differences may occur due to rounding

## Existing and potential business scope of KB



Shaping sustainable transportation of the future

# 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**

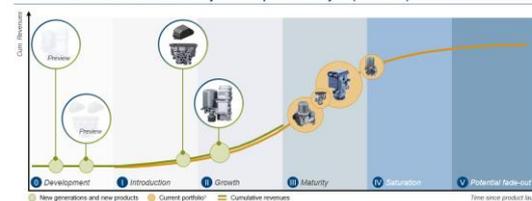
### Scope increases:

**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

# Digitalization empowers KB's growth engine

Capabilities

Applications

Impact



Majority investment



- ✓ All-Makes workshop diagnostics
- ✓ Telematics incl. remote vehicle diagnostics
- ✓ Data analytics & big data

Aftermarket ecosystem



Predictive maintenance



Data monetization



€ Strong growth & profitability



~ 15% revenue CAGR until 2026



Strategic partnership & minority investment



- ✓ Specialist in IoT-technologies
- ✓ Diagnostics & telematics
- ✓ Cloud-based ecosystem

Multiple transport segments<sup>1</sup>



Condition monitoring



Predictive maintenance



€ € 50-70m new dig. KB rev. in 2026<sup>2</sup>



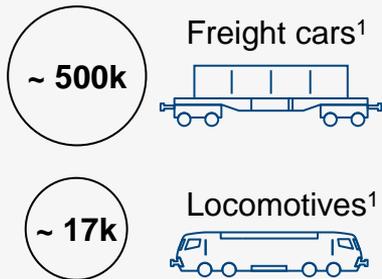
~ 1.5m installations until 2024<sup>3</sup>

1. Segments include rail freight, maritime freight and rail non-freight & DAC 2. Digitally-enabled revenue by Nexxiot 3. In connected wagons & intermodal containers

# RVS in strong position to tap into digital automatic couplers

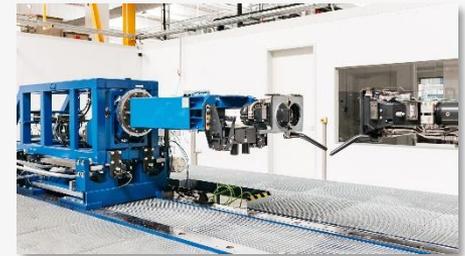


## Digital Automatic Couplers | Enabling faster processing and enhanced safety



Vast untapped future market in 2030+

RVS at the forefront of innovation

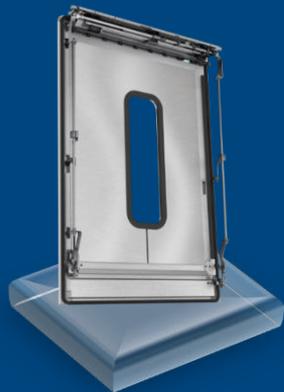


DAC prototypes in testing

1. Current numbers for EU market only, representing potential future market in Europe

# Condition monitoring to become a major source of digital offering

Key performance of door systems defined by:



**Availability**  
All doors in service



**Reliability**  
Highest MTBF<sup>1</sup>



**Passenger safety**  
Safety functions fully operational

RVS helps customers to efficiently monitor and measure KPIs:



Condition monitoring @ IFE

> 5,000

Doors connected in 245 trains

~ € 33m

RS contract value<sup>2</sup>

> 15,000

Future potential for connected doors

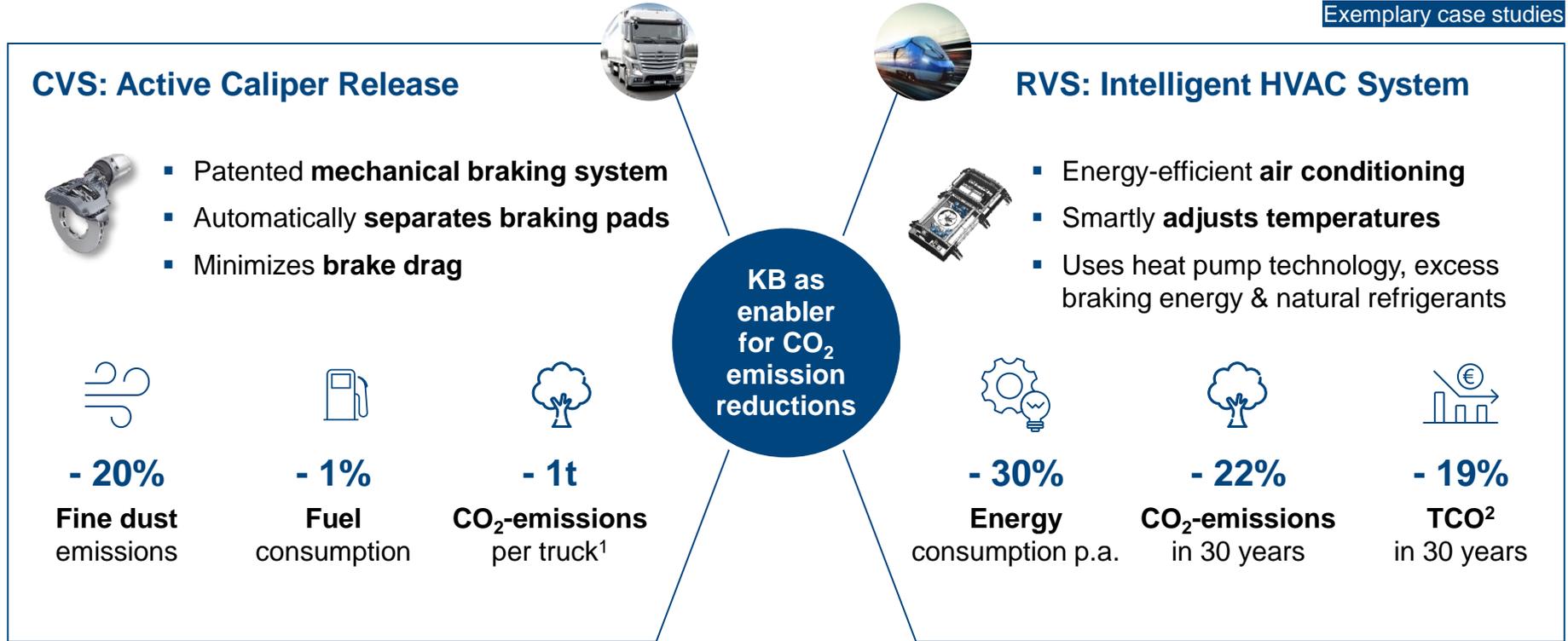


... Predictive maintenance to come next

1. MTBF: Mean Time Between Failures 2. Monitoring offered as part of long-term supply agreements (LTSA) only; includes active and ordered volume

# 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

# Disciplined approach based on a holistic set of updated M&A criteria will guide future acquisitions as add-on to organic growth

## Strategic focus

 **Capital goods** (no automotive)

and

 **Soft / hard synergies** and / or  
KB as **best owner**

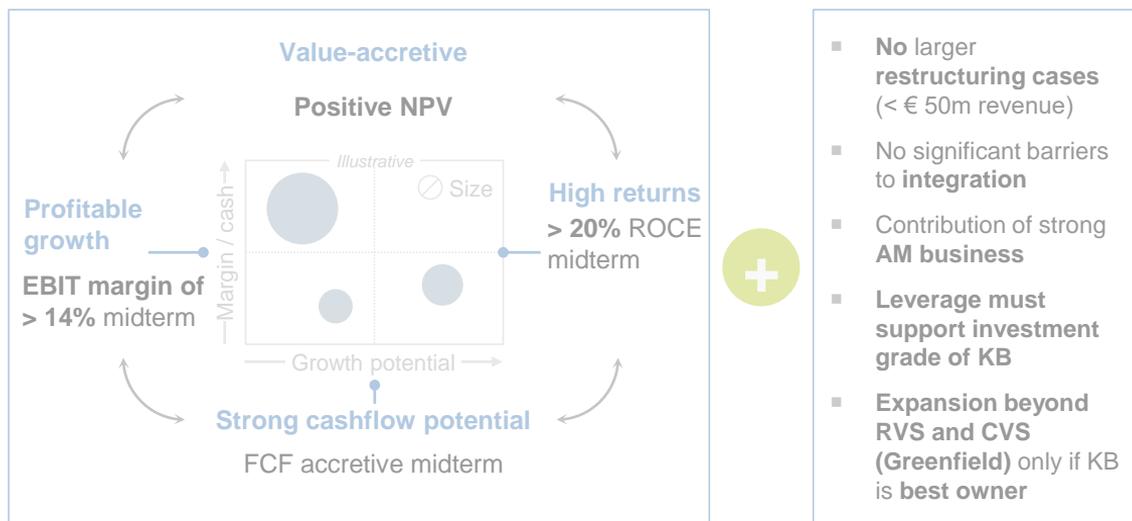
and

 **OE, aftermarket** and / or  
**services**

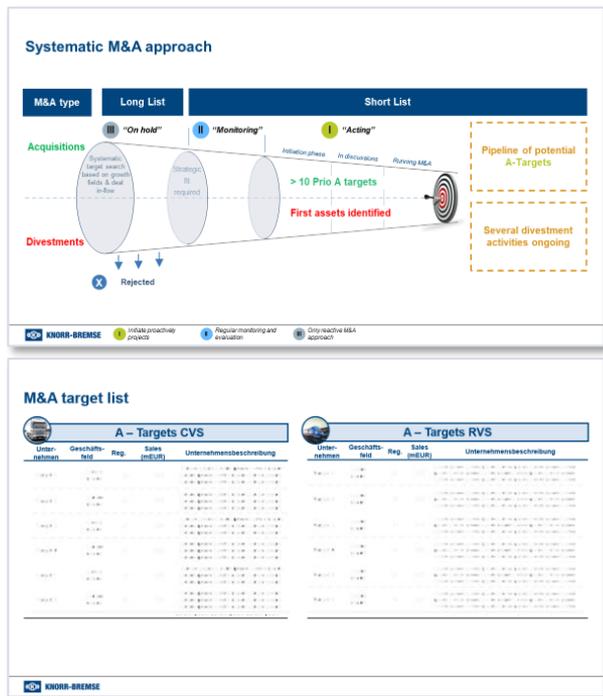
and / or

 **Digital capabilities** and / or  
**solutions**

## Financial guardrails for larger transactions



# More than 10 Prio A M&A targets with total of € 1.2bn revenues identified



## Status Quo

- Clear set of guardrails and M&A criteria defined
- Classification for RVS and CVS conducted, and Prio A and B targets defined to derive M&A shortlist
- Prio A targets with focus on timely execution
- Some targets additionally identified outside current scope
- Current pipeline:

€ 1.2bn > 10 Prio A targets

# 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

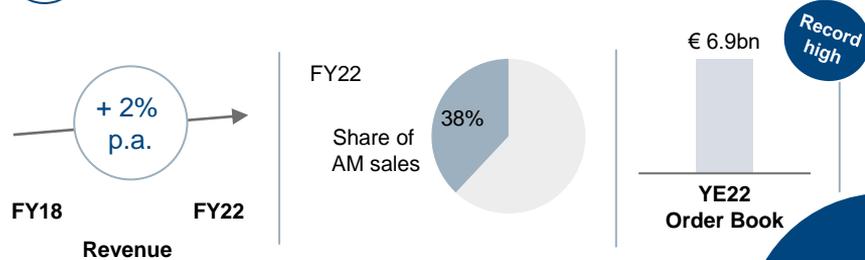


**80-90%** cash  
conversion

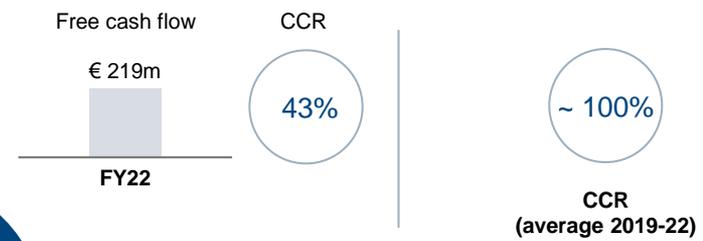
# Status Quo | Despite a challenging environment, KB's very solid financials are a strong foundation for the transformation



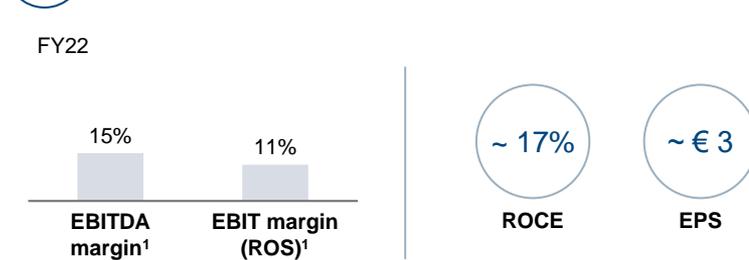
## Robust topline growth & high AM share



## High cash conversion potential

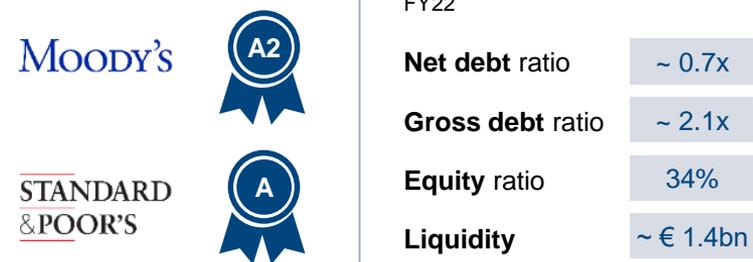


## Strong profitability potential



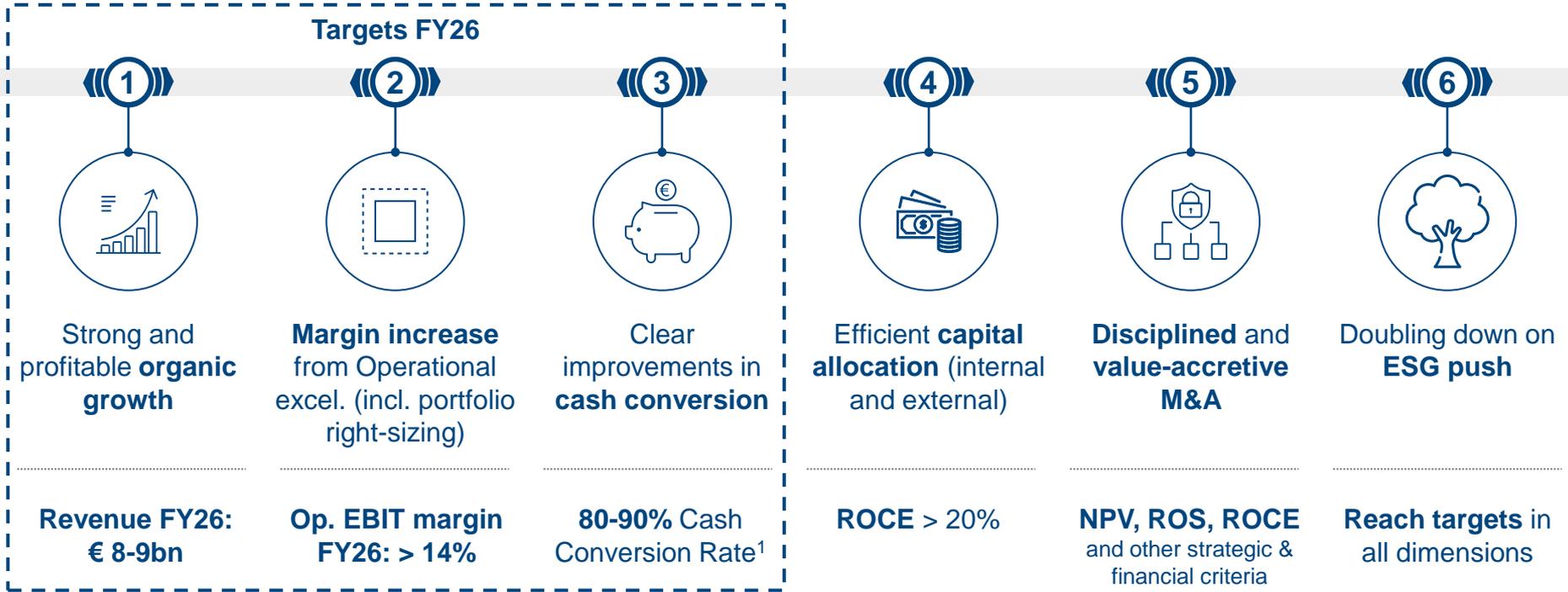
**Financial position**

## Highly resilient balance sheet



1. Operating EBITDA and EBIT

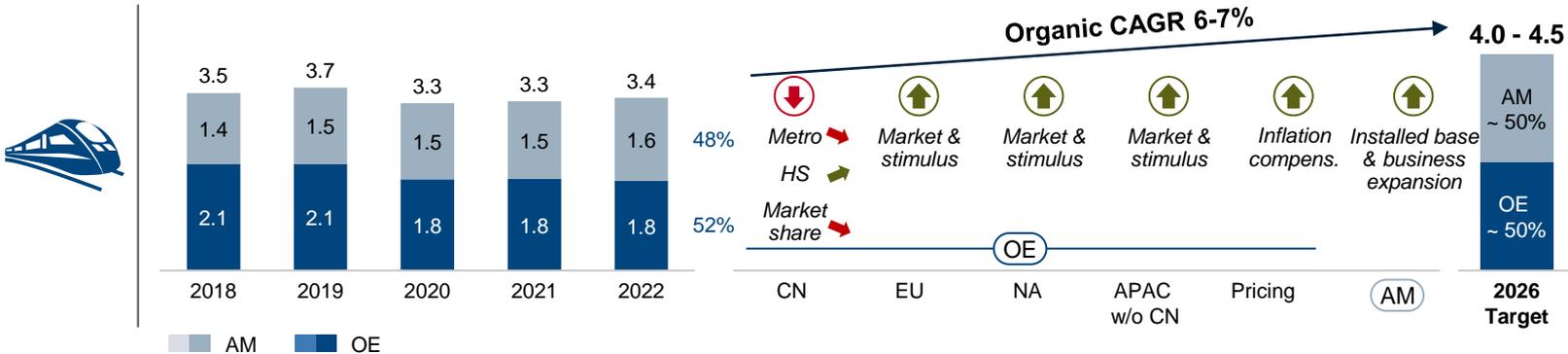
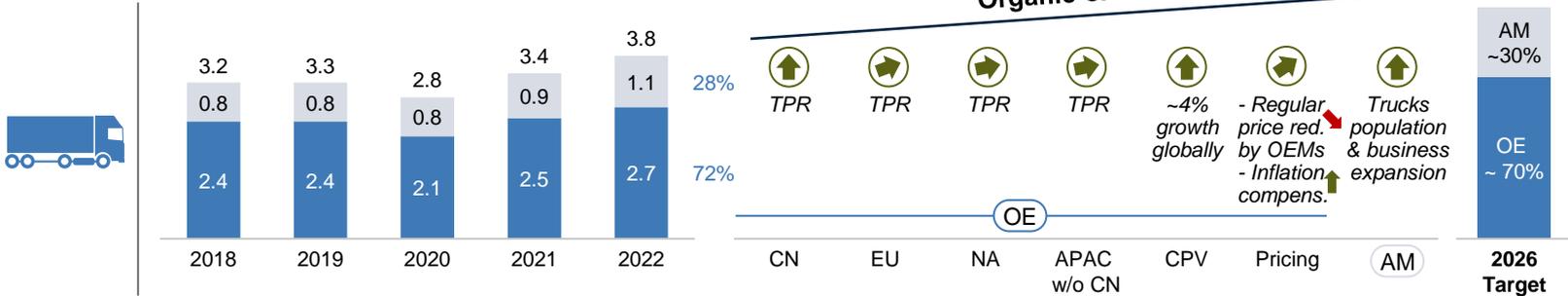
# Financial Strategy | KB target picture translates into clear financial targets supporting profitability growth



1. CCR: Cash Conversion Rate = FCF / Net Income

# Organic Growth | Strong megatrends and product focus support organic growth path of RVS and CVS and result in an organic CAGR of 5-6%

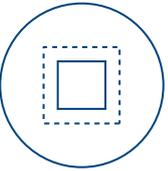
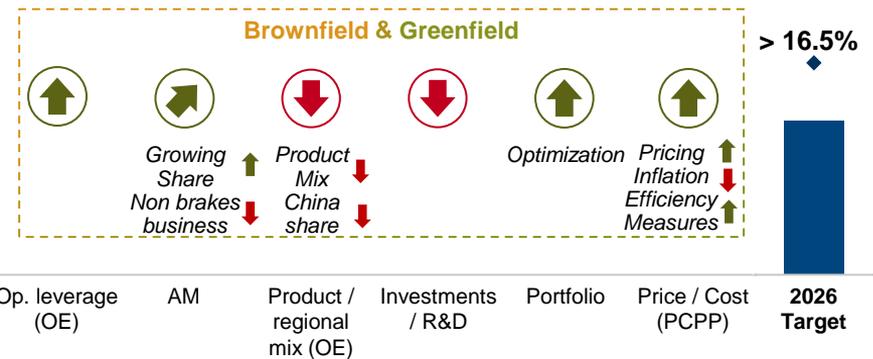
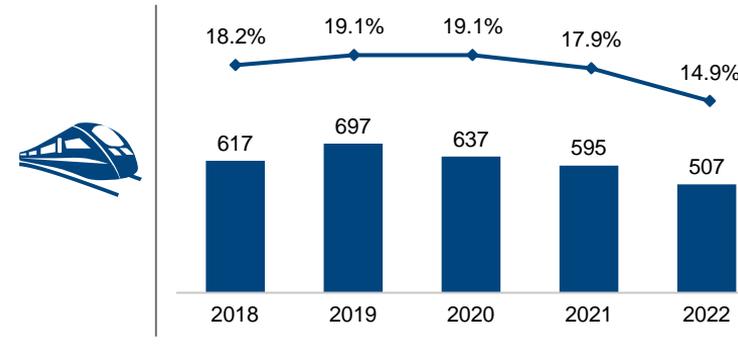
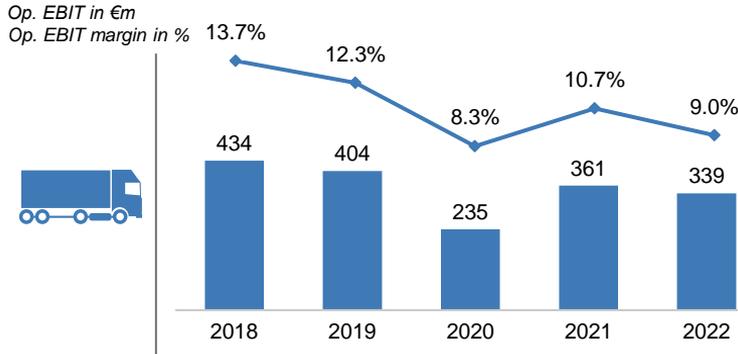
Revenues in €bn



5-6% organic CAGR Group

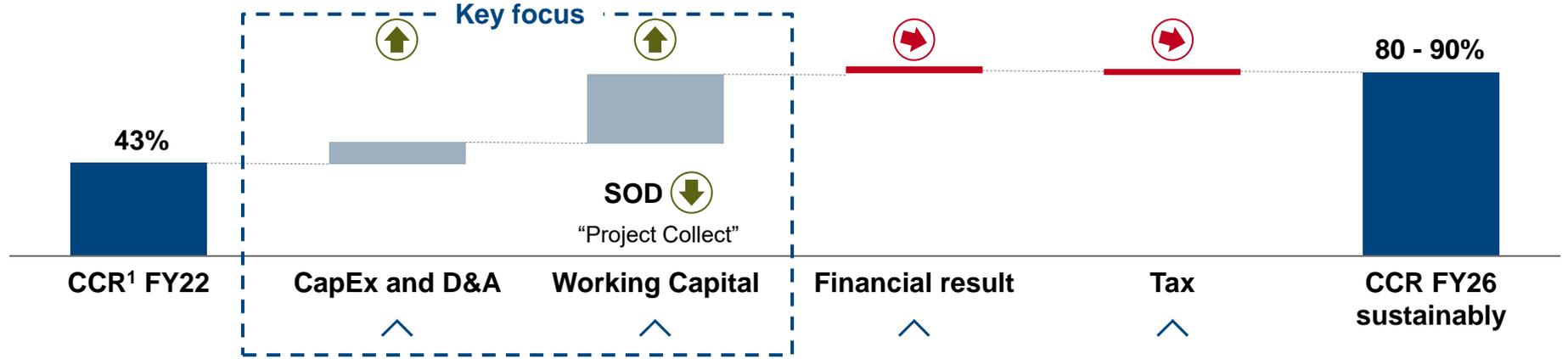
# Profitability | Operating leverage, cost measures and portfolio optimization to increase op. EBIT margins by ~ 300bps

## BOOST 2026



> 14%  
op. EBIT margin

# Cash Flow | We expect to lift our Cash Conversion Rate sustainably by optimizing working capital & managing CapEx



**Levers**  
(examples)

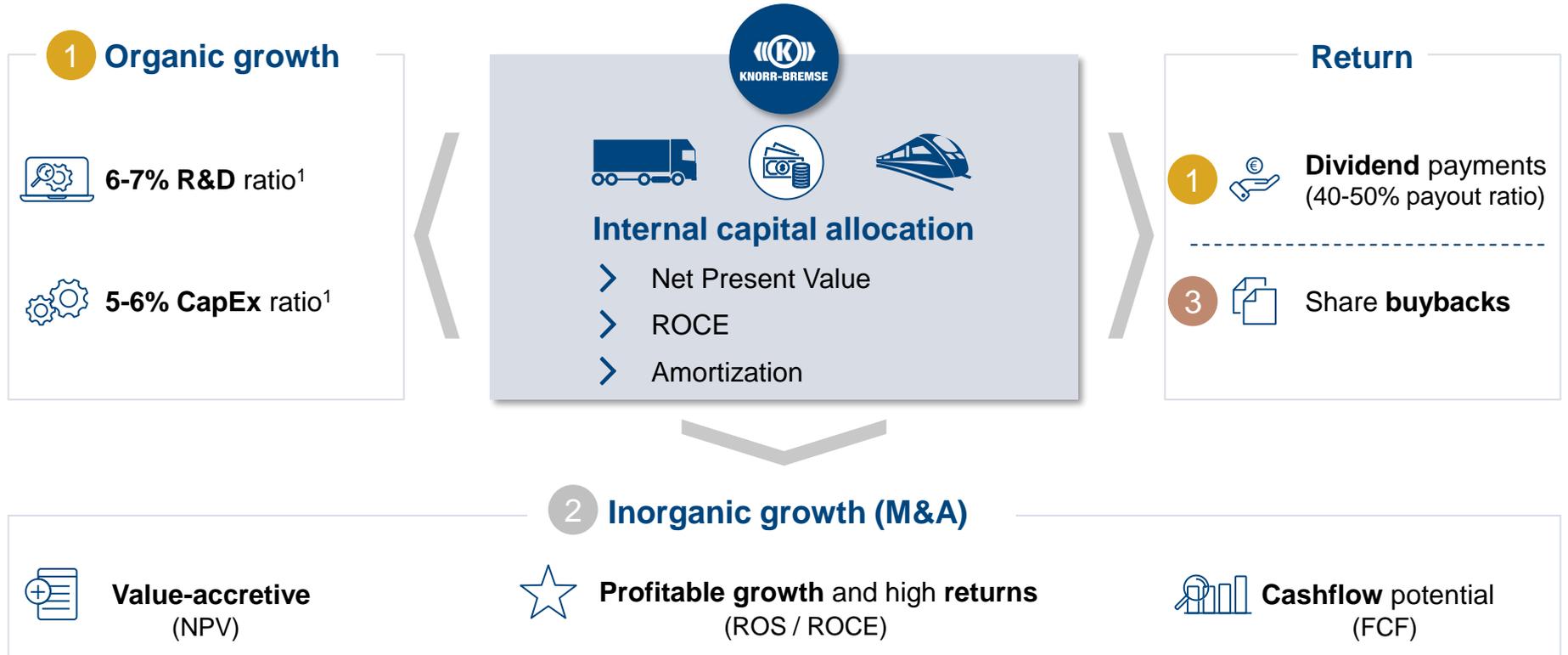
Prioritization	Close regional monitoring	Optimization and flexibility	Optimization
<ul style="list-style-type: none"> <li>■ Project review</li> <li>■ Limit R&amp;D capitalization</li> <li>■ Expansion of business / growth</li> </ul>	<ul style="list-style-type: none"> <li>■ Inventory optimization</li> <li>■ Reduction of overdues</li> <li>■ Improvement of payment terms</li> </ul>	<ul style="list-style-type: none"> <li>■ Hedging policy</li> <li>■ Secure and optimize cashflows</li> <li>■ Financing conditions</li> </ul>	<ul style="list-style-type: none"> <li>■ Tax optimization</li> <li>■ Potential regulatory changes (e.g. Pillar 2)</li> </ul>



1. CCR: Cash Conversion Rate = FCF / Net Income

↑ Positive impact   ↓ Negative impact

# Capital Allocation | Our clear priorities 1 - 3 to safeguard efficient capital allocation



1. In % of revenues      1 2 3 Level of priority

# M&A | Disciplined approach based on a holistic set of updated M&A criteria will guide future acquisitions as add-on to organic growth

## Strategic focus



Capital goods (no automotive)

and



Soft / hard synergies and / or KB as best owner

and



OE, aftermarket and / or services

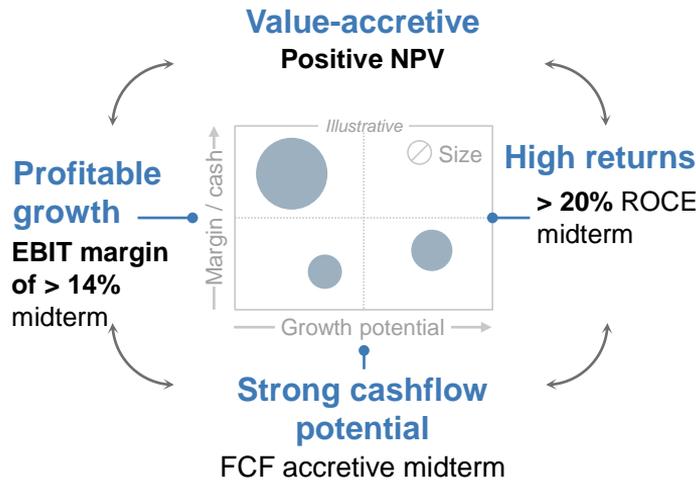
and / or



Digital capabilities and / or solutions



## Financial guardrails for larger transactions



- No larger restructuring cases (< € 50m revenue)
- No significant barriers to integration
- Contribution of strong AM business
- Leverage must support investment grade of KB
- Expansion beyond RVS and CVS (Greenfield) only if KB is best owner

# ESG | Clear measures and implementation timing defined to achieve ambitious and tangible targets

## Objectives

## Key targets (examples)

 <p>Environment</p>	<ul style="list-style-type: none"> <li>Enable <b>green &amp; safe mobility</b></li> <li>Significantly <b>reduce emissions from scope 1-3</b></li> </ul>	 <p>SCIENCE BASED TARGETS DRIVING AMBITIOUS CORPORATE CLIMATE ACTION Targets validated!</p>	<ul style="list-style-type: none"> <li>Reduction of <b>scope 1 and 2</b> emissions <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">- 75%</span> 2030</li> <li>Reduction of <b>scope 3</b> emissions <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">- 25%</span> 2030</li> </ul>
 <p>Social</p>	<ul style="list-style-type: none"> <li>Improve <b>diversity, equality and inclusion</b></li> <li>Increase <b>employee safety</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Women in overall workforce / managing positions</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">~ 25%</span> / <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">~ 20%</span> 2027</li> <li><b>Accidents per 200k</b> contracted working hours <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">&lt; 1</span> ≥ 2023</li> </ul>	
 <p>Governance</p>	<ul style="list-style-type: none"> <li>Fully <b>integrate ESG in business</b> decisions &amp; remuneration</li> <li>Assess &amp; safeguard <b>sustainability of suppliers</b></li> </ul>	<ul style="list-style-type: none"> <li>In <b>STI</b> &amp; addit. targeted for <b>LTI</b><sup>2</sup> ≥ 2024</li> <li>Of <b>purchasing vol. covered</b> by sustainability assessment <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">~ 75%</span> 2025</li> </ul>	



ESG Ratings 2022

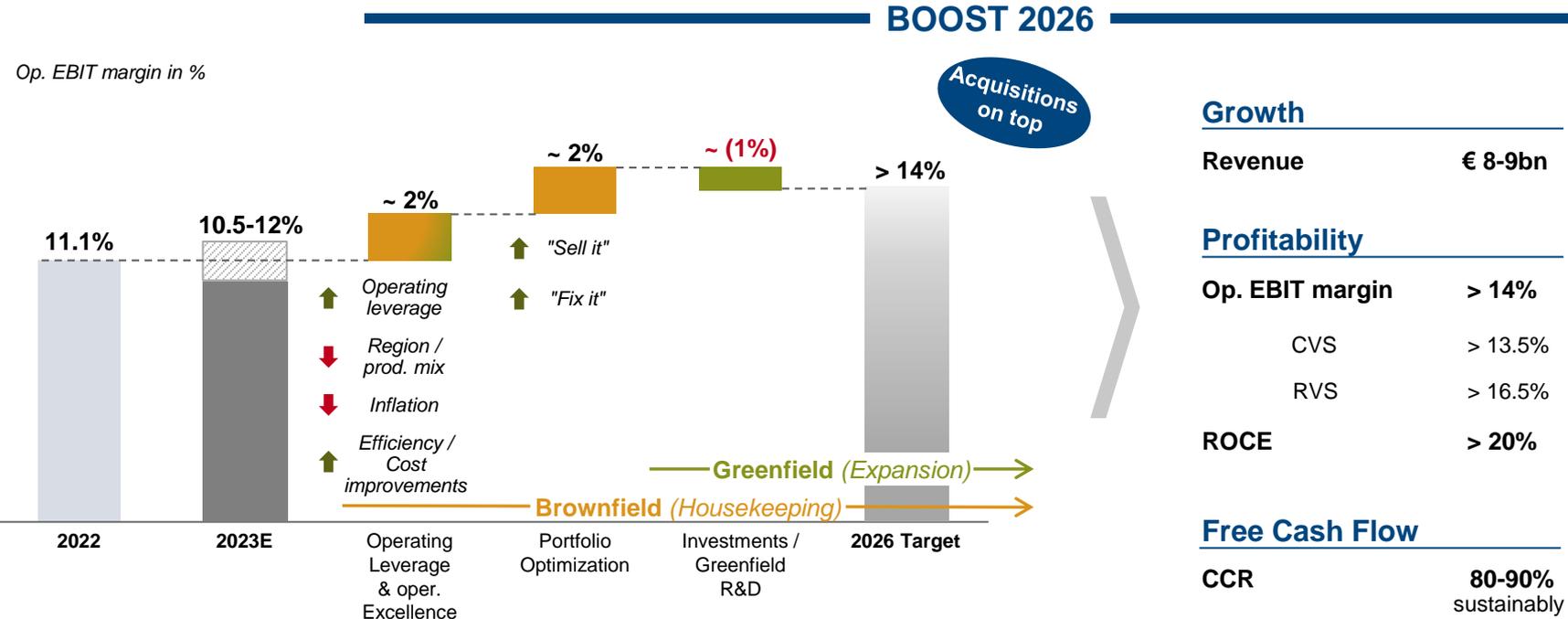
S&P Global 50/100

MSCI AA

ISS ESG C+ (Prime)

1. STI = Short Term Incentive, LTI = Long Term Incentive

# Targets 2026 | Above market growth and strong profitability improvements supported by BOOST program should lead KB to op. EBIT margin above 14%





## Key Takeaways



**Margin improvement** is key priority



**Highly resilient business** with growth potential in AM



**Long-term above market growth** fueled by mega trends



Improvement of **cash conversion** rate



**Solid balance sheet**



**Good & disciplined value-oriented M&A** strategy

## 2026 targets

**€ 8-9bn**  
revenues

**> 14%**  
op. EBIT margin

**80-90%**  
cash conversion



**KNORR-BREMSE**

# STRATEGY UPDATE 2023