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Industrial

Dr. Stefan Spindler
CEO Industrial

July 20, 2017
Capital Markets Day 2017
Bühl

Stefan Spindler – Today's Industrial speaker

Dr. Stefan Spindler (56)

CEO Industrial

- 1986: Mechanical Engineer and Doctorate (1992) at the **Technical University** in **Munich**
- 1986 – 2002: Various positions at **MTU** and **Liebherr** in the industrial engine and power train business
- 2002 – 2010: Member of the Executive Board of **MAN Diesel SE**
- 2010 – 2014: Member of the Executive Board of **Bosch Rexroth AG**
- Since 2015: CEO Industrial and Member of the Executive Board of **Schaeffler AG**

2 years with Schaeffler

Industrial division – At a glance

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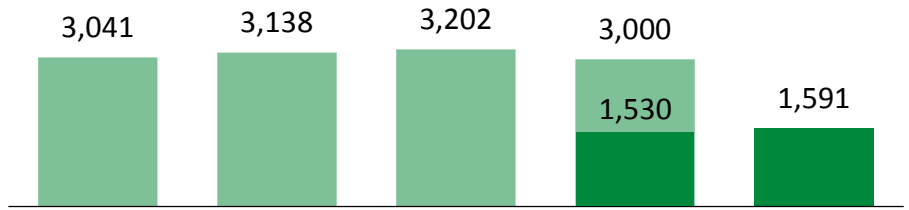
Sales development 2013 – H1 2017

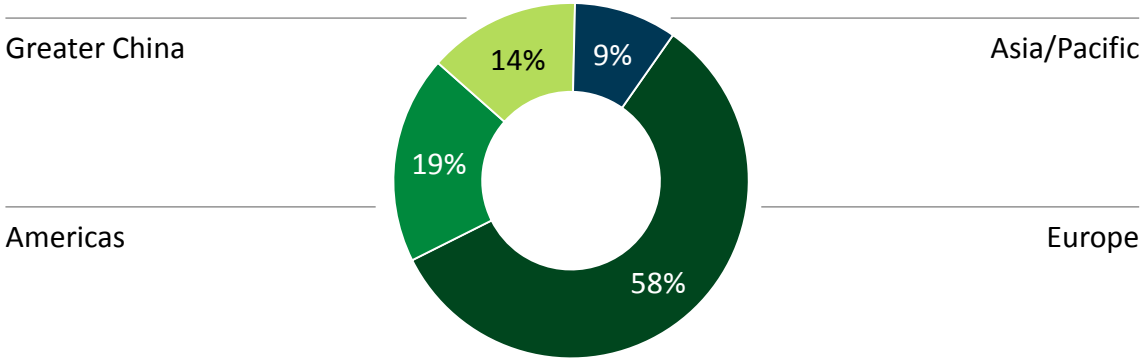


	2013	2014	2015	2016	H1 2017
Growth rate (y-o-y) [2]	-8.1%	+4.2%	-3.2%	-4.8%	+2.3%
EBIT-margin[1]	11.8%	9.6%	9.5%	7.3%	8.5%

[1] Before one-off effects; [2] FX-adjusted

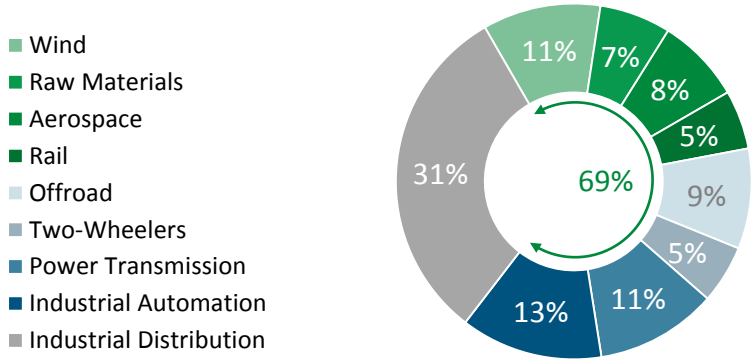
Industrial sales by region H1 2017

Preliminary figures



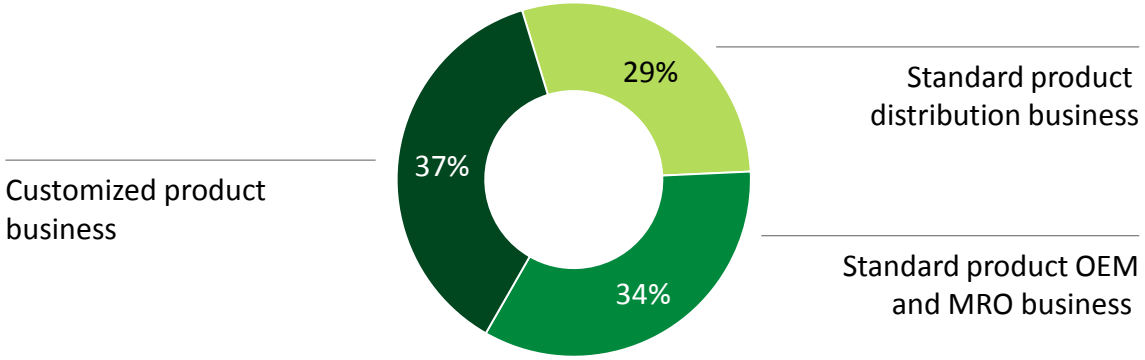
Sales H1 2017: EUR 1,591 mn

Industrial sales by sector cluster H1 2017



Sales H1 2017: EUR 1,591 mn

Sales split by product type H1 2017[1]



[1] Including service business

Industrial division – Broad range of standard and customized products

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Standard product business

Ball Bearings	Cylindrical Roller Bearings	Spherical Roller Bearings	Tapered Roller Bearings	Needle Roller Bearings	Linear Technology	Plain bearings	Mechatronics	Systems
								
Ball bearing (DGBB)	Cylindrical roller bearing (CRB)	Spherical roller bearing (SRB)	Tapered roller bearing (TRB)	Needle roller bearing (NRB)	Linear guides	Plain bearing	VarioSense and SmartCheck	Housing
								
Cronitect-hybrid bearing – Bicycle	Heavy duty CRB – Construction Machin.	Coated SRB – Windpower rotor bearing	Wheelset bearing – Highspeed trains	"Slimline" drawn cup NRB – Gearbox	Six-row linear recirculating ball bearing – Machine Tool	Spherical plain bearing with special coating - Marine	Sensorized rotary table bearing & sensorized linear guide RUE 4.0 – Machine Tool	Linear System – Industrial Automation

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Customized product business

Key challenges and conclusions

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Key challenges

- **Standard and customized bearing market** grows by **1 to 2 %** in the long-term, after price effects.
- **Extensive competition** with constant **high pressure** on the price.
- Increasing **commoditization** of the bearing business leads to a higher share of standard products.
- Increasing demand for **localized** products and services.
- Growth opportunities beyond the bearing portfolio with **systems, mechatronics and digital services**.

Conclusions

- Extend **scale and scope** of the business.
- **Cut cost** and optimize business portfolio.
- **Streamline processes** and **organization**. Differentiate between business models.
- Adapt **footprint**.
- Build-up and bundle **competencies and resources** for Industry 4.0.

Industrial market – Moderate growth expected until 2022

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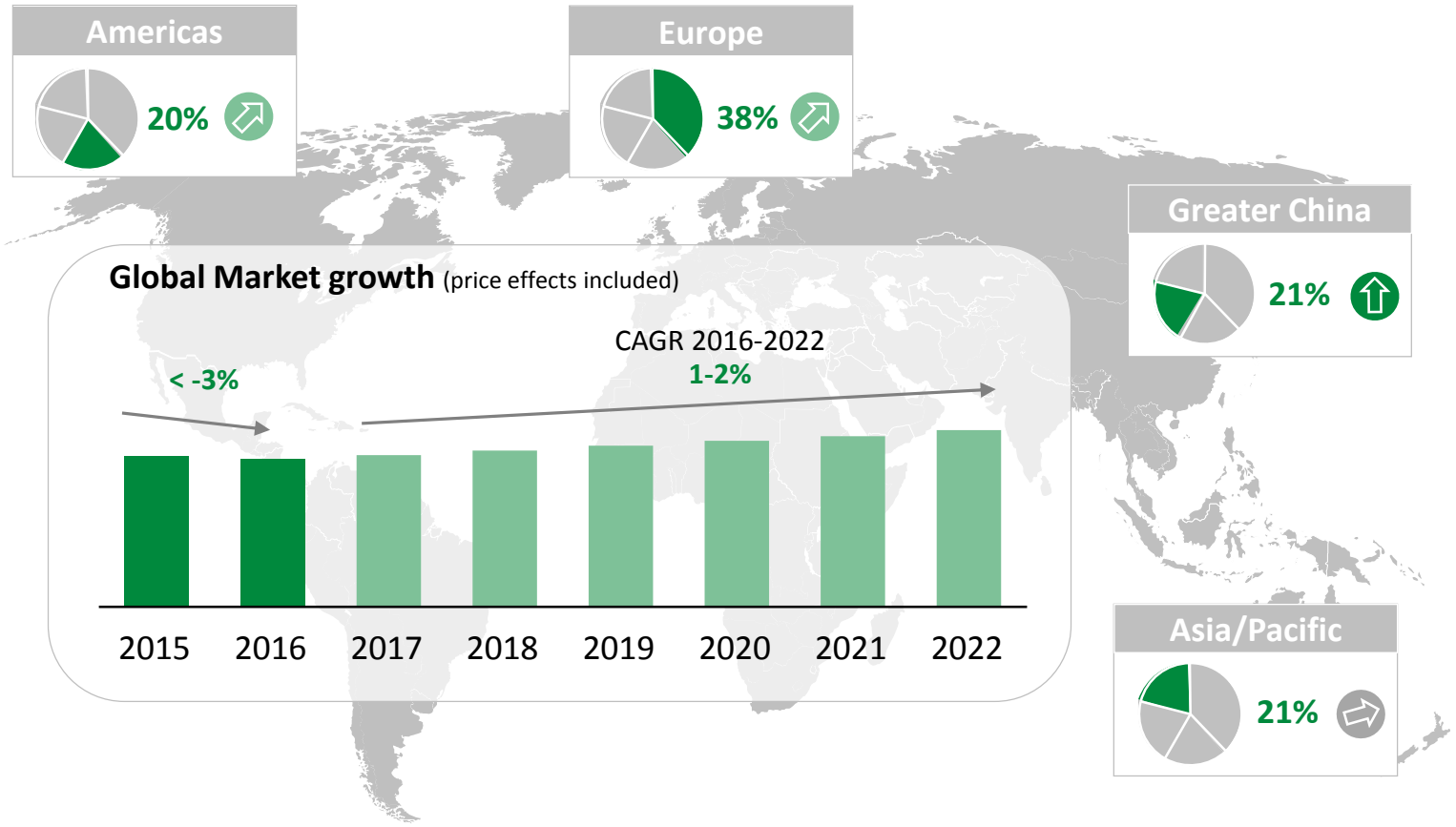
Bearing Market



x% Share of global market volume 2016 and long-term volume growth trend

Key aspects

- Significant decline of the bearing market in 2016, recovery in 2017.
- Market is expected to grow by a moderate average level of 1 to 2 % p.a. between 2016 and 2022, including price effects.
- Market growth is mainly driven by Greater China, CEEMEA and India.

Business Portfolio – From components to Industry 4.0

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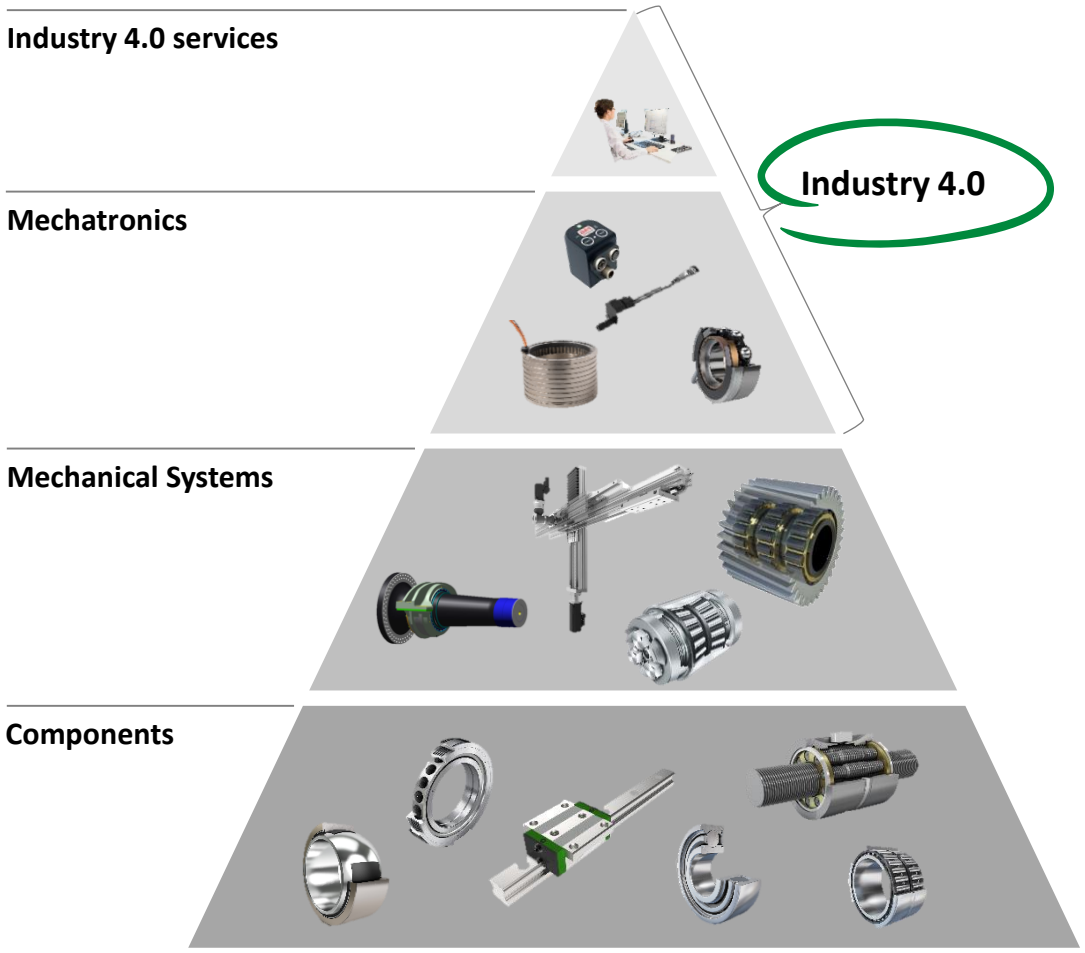
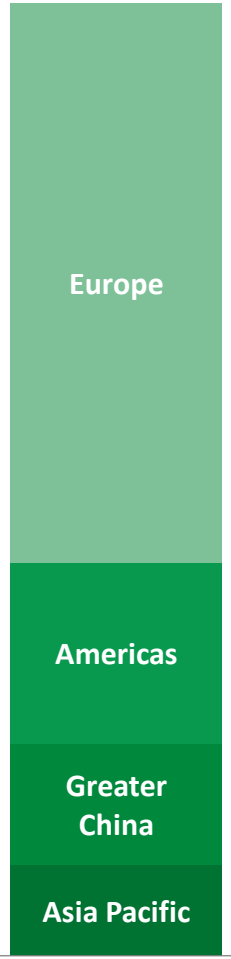
Portfolio

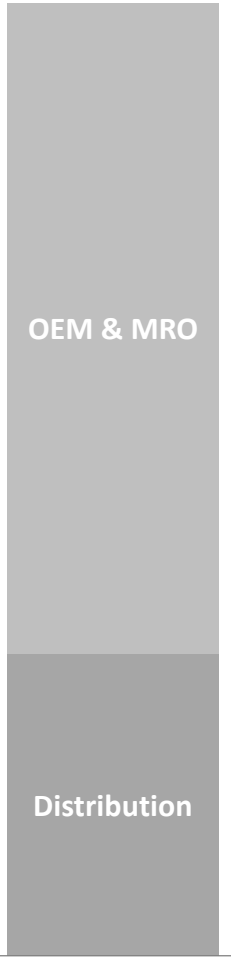


Region



Sector split

Channel



Business Portfolio – From components to Industry 4.0

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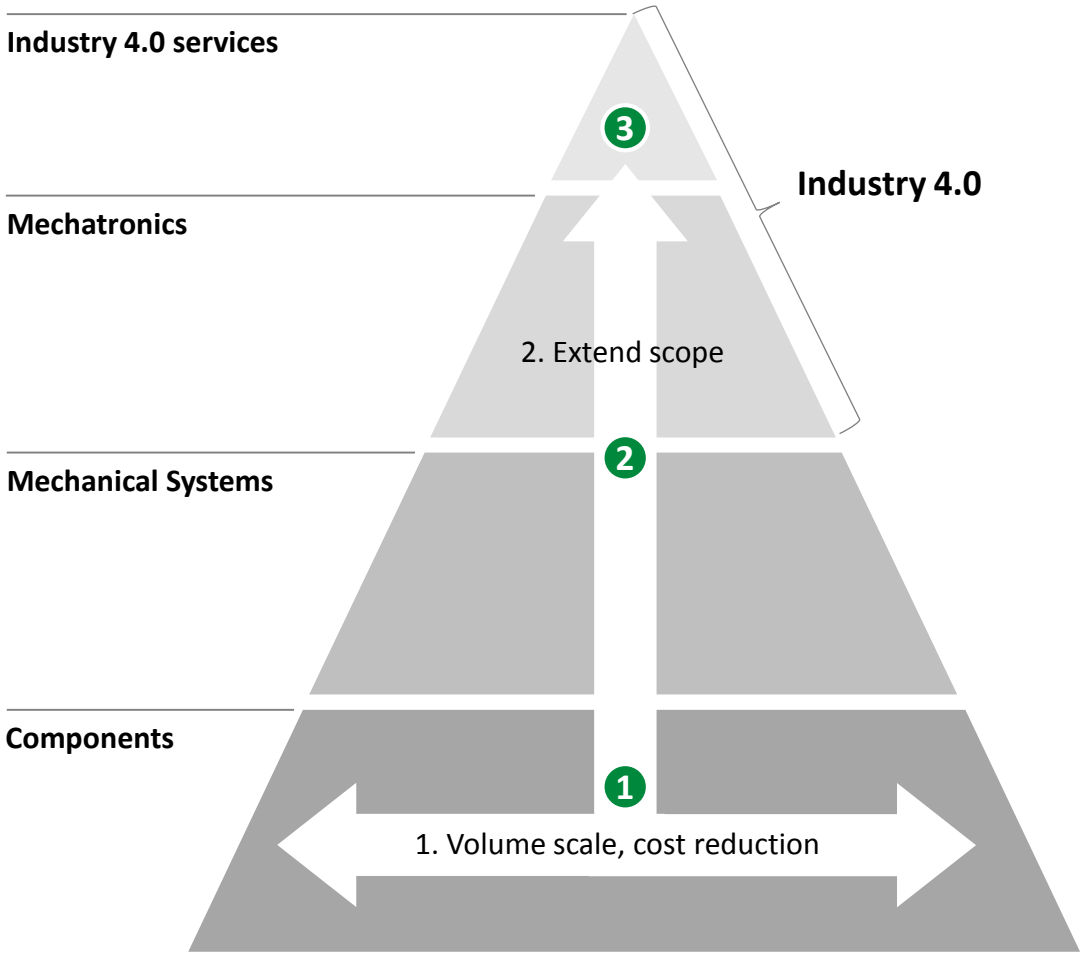
Portfolio



Our value proposition

Innovative Solution Partner

Efficient Bearing Expert

Our strategy

1. Expand market position for the **standard bearing business** and reduce **COGS and Overhead costs (driven by Program CORE)**.
2. Grow with customized value-add solutions including packages to **increase content per application**.
3. Be an innovation leader for **Industry 4.0 solutions** in combination with extended service offerings.

1 Components – High volume deep groove ball bearings

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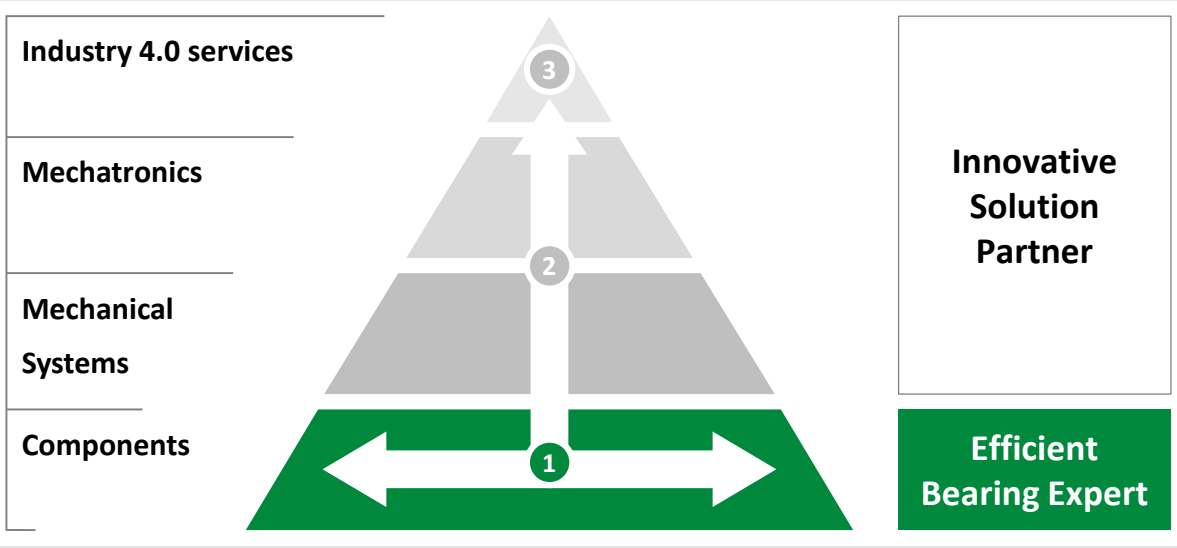
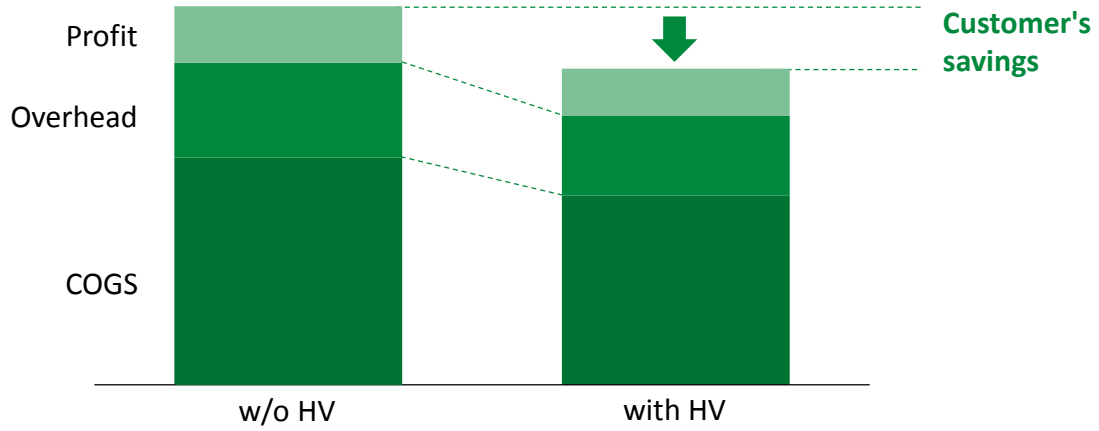


Application	▶ Broad industry scope ▶ Various applications throughout all sectors
Product	▶ Deep groove ball bearing
Customer benefit	▶ Low noise, special sealings available, high reliability ▶ Best-in-class price-performance ratio
Market[1)]	▶ Ball bearing market growth: 5.9 % (2016 – 2020)

[1)] Source: Research and Markets, incl. Automotive (2017)

Business model GenC (illustrative)



❷ Mechanical Systems – Planetary Roller Screw (PWG)

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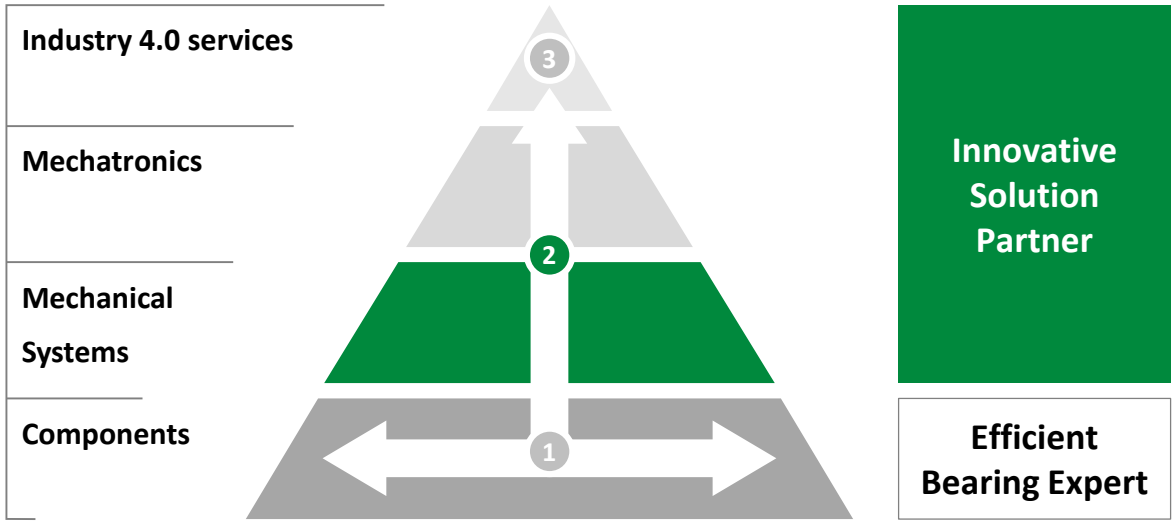
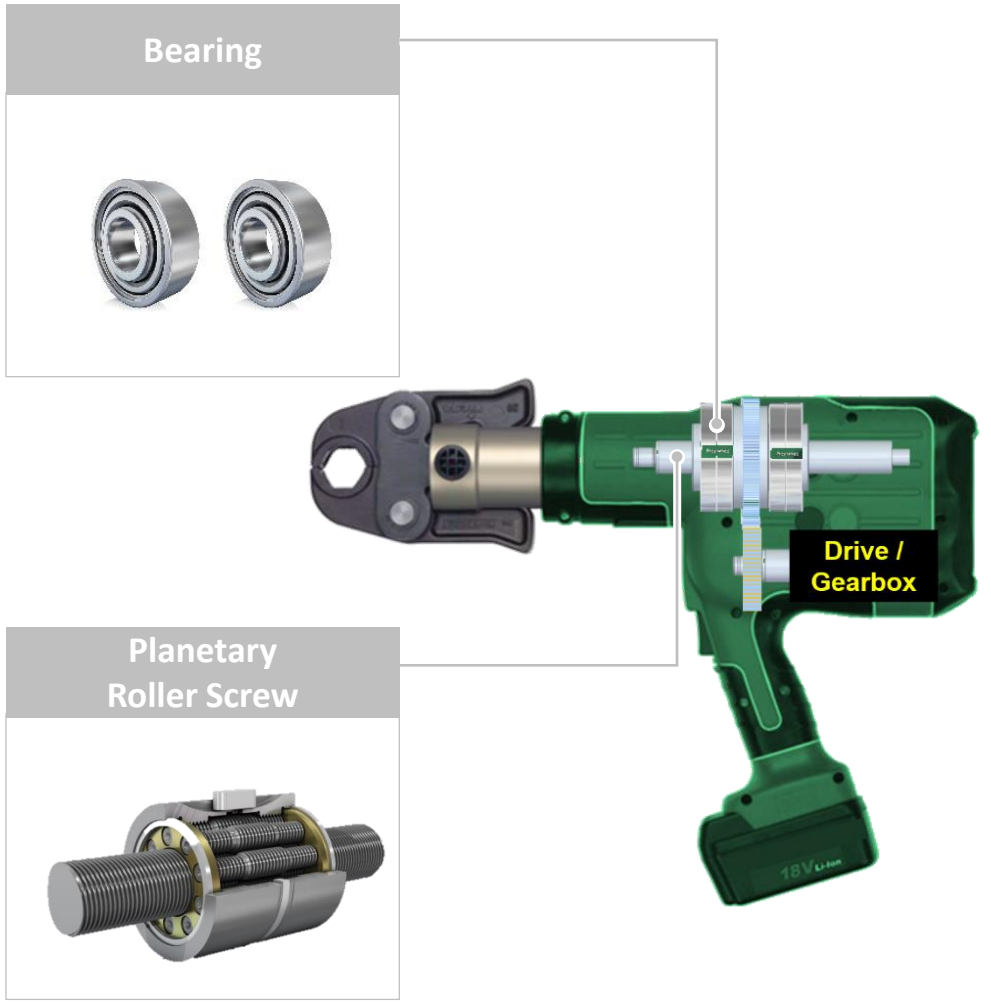


Application	▶ Powertools industry, domestic sanitary installation ▶ Electro-mechanical press fitting machine (radial press)
Product	▶ Part of electro-mechanical system to replace hydraulics ▶ Precise control of the crimping cycle with autom. adaptation
Customer benefit	▶ Eliminate hydraulic fluid, no leakage of oil, green & clean ▶ Increased maintenance intervals, lower weight, ergonomic use
Market[1)]	▶ Electric powertools market growth: 5.6 % (2016 – 2018)

[1)] Source: Statista (2017)

Scope of delivery



❷ Mechanical Systems & Mechatronics combined – Sliding gantry

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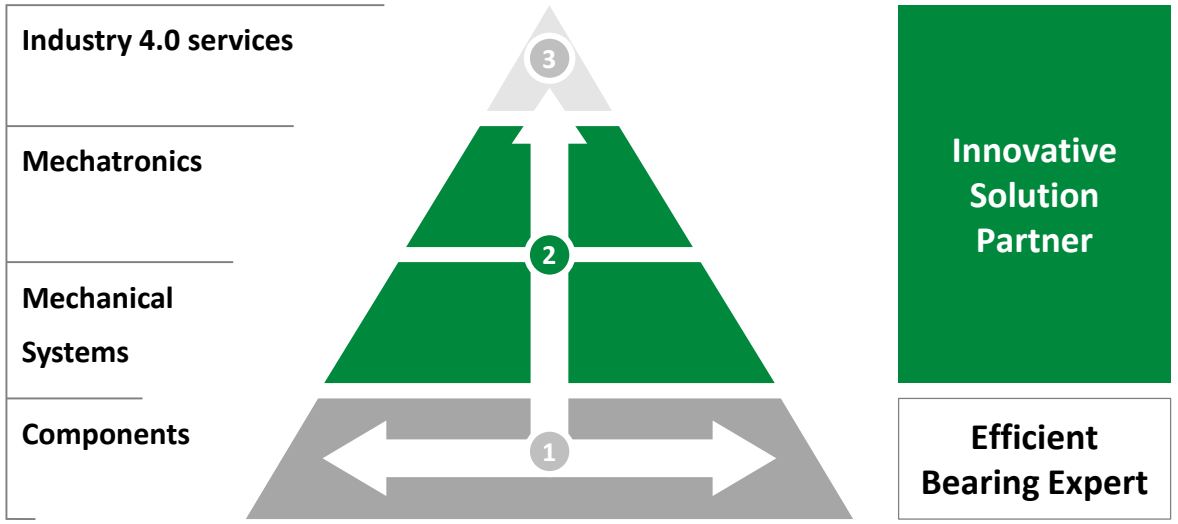

Application	▶ Medical industry ▶ Computer Tomographics (CT)
Product	▶ Complete kinematic as mechatronical system ▶ Broad portfolio of Schaeffler components and subsystems
Customer benefit	▶ Plug-and-play system solution, multi-room usability ▶ Recessed in the floor to increase flexibility
Market[1)]	▶ Medical industry growth: 3.4 % (2016 – 2020)

[1)] Source: IHS (2017)

Scope of delivery

❷ Mechanical Systems & Mechatronics combined – Rotary table kit

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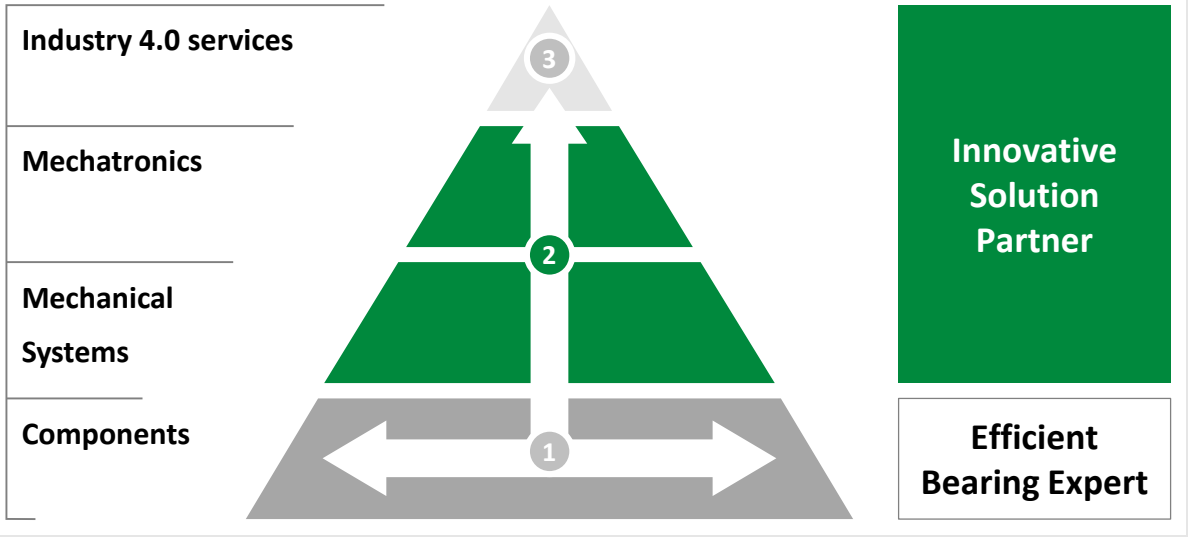
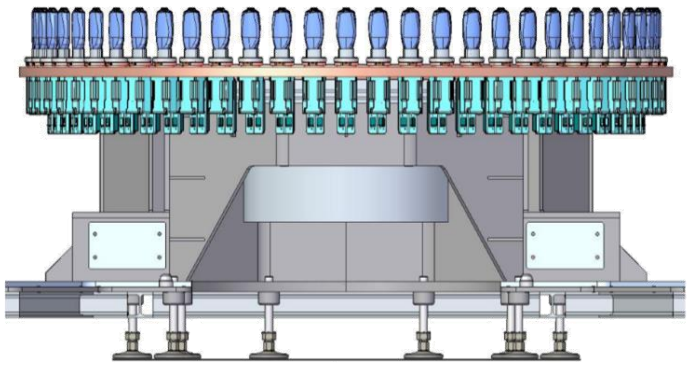
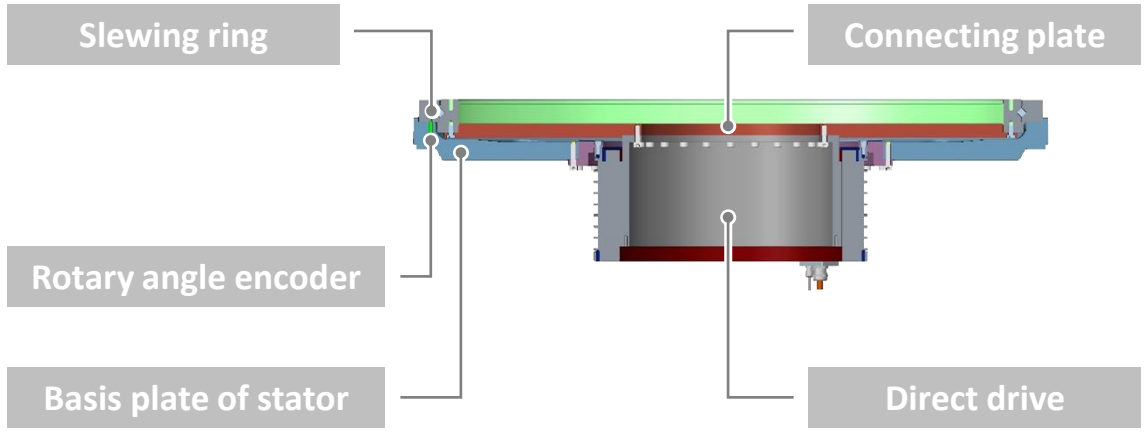




Application	▶ Food and packaging ▶ Bottling machinery
Product	▶ Complete rotary table kit for direct printing of containers
Customer benefit	▶ Plug-and-play system solution, easy installation ▶ Quick implementation of new prints, small batches cost efficient
Market[1)]	▶ Food, beverage & tobacco industry growth: 5.6 % (2016 – 2020)

[1)] Source: IHS (2017)

Scope of delivery



❷ ❸ Mechatronics & Industry 4.0 Services – Smart linear guidance

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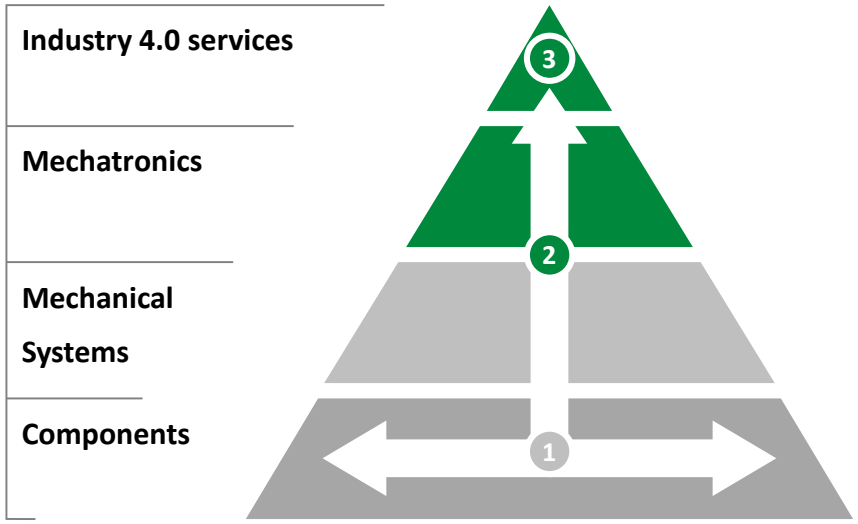

Innovative Solution Partner

Efficient Bearing Expert

Application	▶ Industrial Automation ▶ Handling equipment
Product	▶ Guidance with integrated sensor ▶ Integrated evaluation algorithm defines the lube intervals
Customer benefit	▶ Total Cost of Ownership reduction through failure avoidance and increased availability of the framer unit
Market[1)]	▶ Industrial Automation equipment market growth: 3.7 % (2016 – 2020)

[1)] Source: IHS (2017)

Use case: Automotive Assembly line

❸ Industry 4.0 Services – Condition Monitoring

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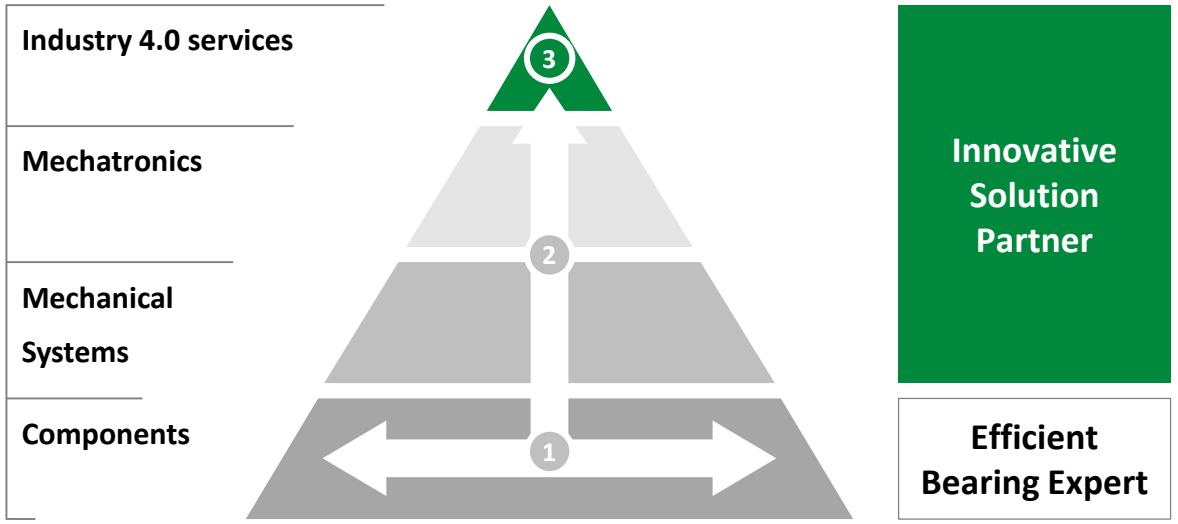
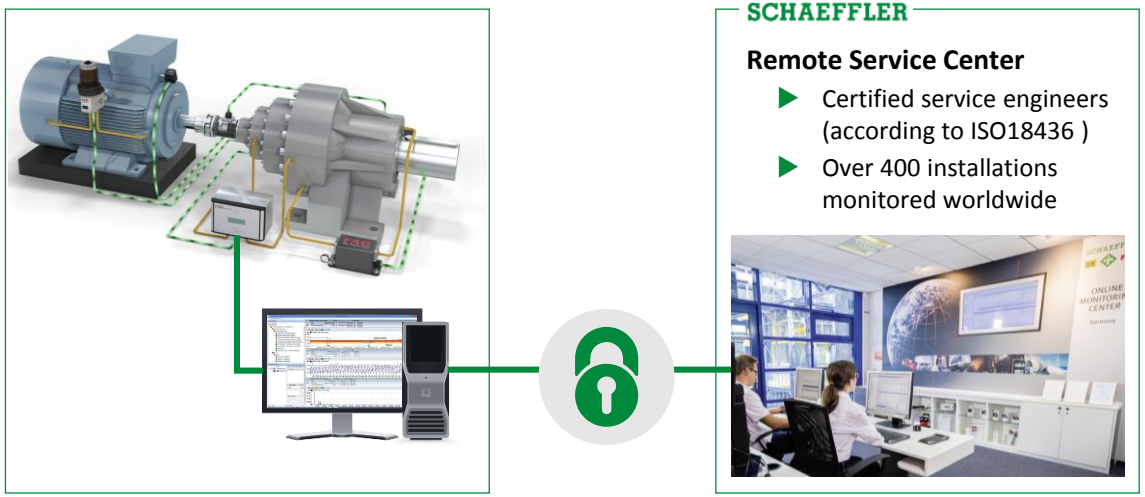
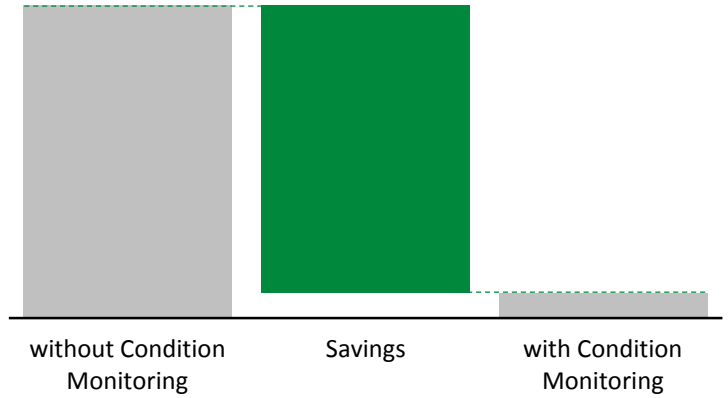




Application	▶ Broad industry scope ▶ Machinery & equipment in operation
Product	▶ Remote Condition Monitoring incl. automatic diagnosis ▶ Cloud-based Condition Monitoring Services
Customer benefit	▶ Total-Cost of Ownership reduction due to increase of availability and reduction of repair cost
Market[1)]	▶ Condition Monitoring equipment market growth: 5.0 % (2016 – 2020)

[1)] Source: Frost & Sullivan (2017)

Annual relative savings by Condition Monitoring (e.g. steel production)



Investment in Condition Monitoring and annual fees leads to …

- Lower repair cost
- Avoidance of unplanned downtimes

❷ ❸ Mechatronics & Industry 4.0 Services – Schaeffler Smart EcoSystem

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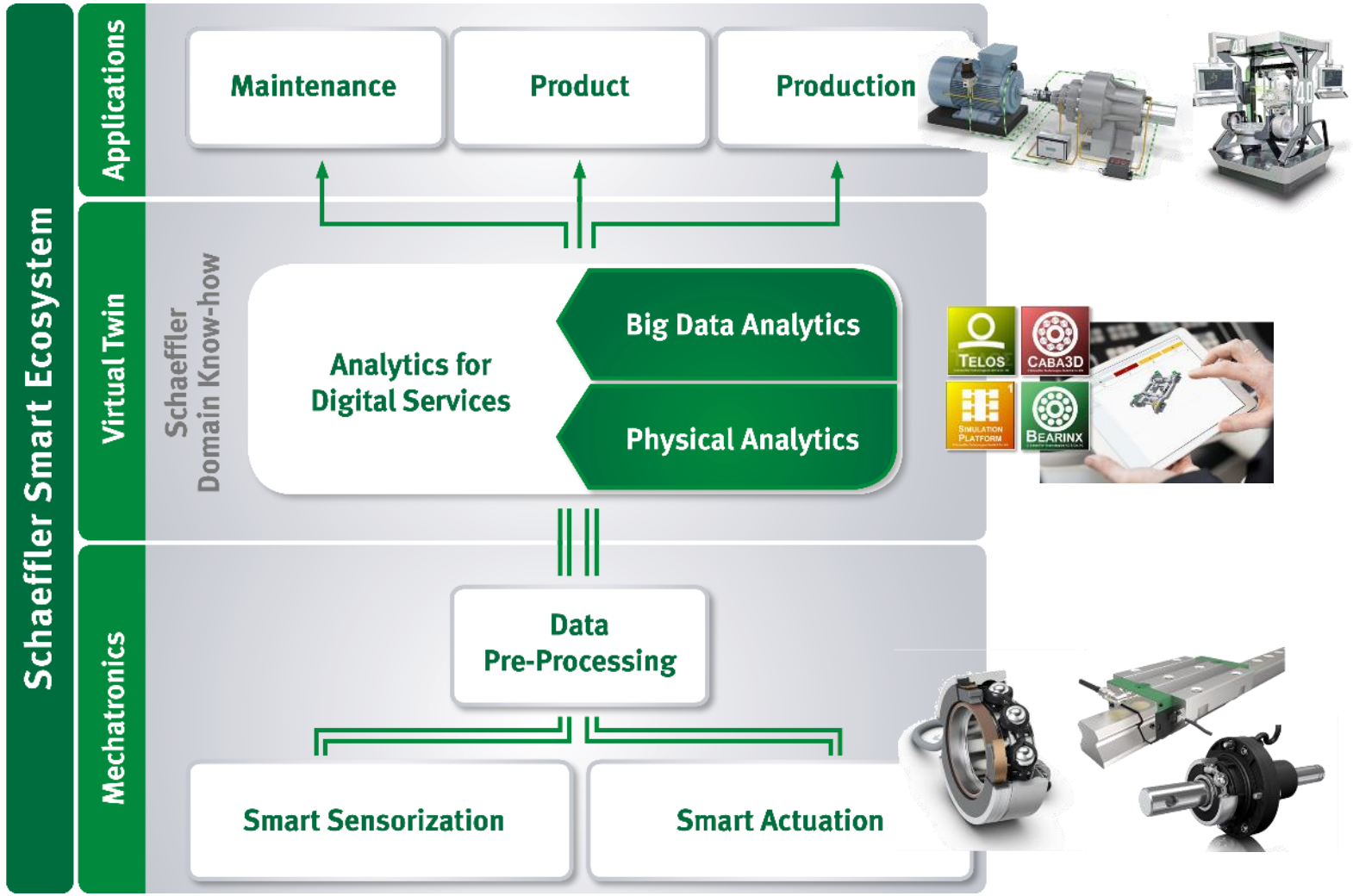

Key aspects

Schaeffler's Smart EcoSystem offers an integrated hardware, software, and IT infrastructure:

- Offering of smart bearings as combination of standard bearings with sensor clusters (e.g. FAG VarioSense)
- Integration of sensorized components into overall systems and specific business models
- Digital infrastructure in collaboration with IBM
- Examples for digital solution application – Drivetrain 4.0:
  - Automatic bearing failure diagnosis
  - Calculation of service life

Order book 3M – Positive order book indicating further y-o-y growth in 2017

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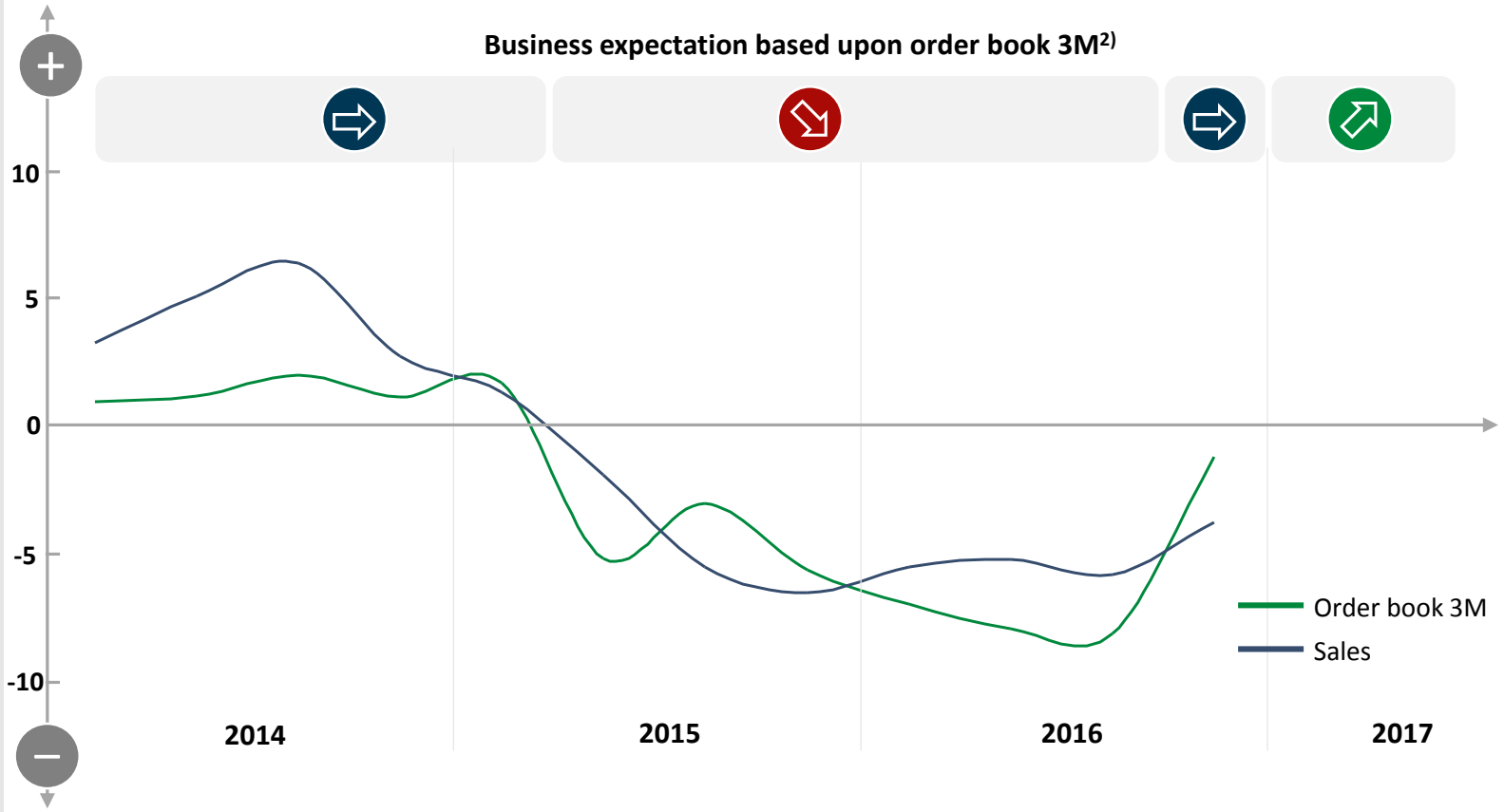
Order book 3M

y-o-y growth[1)]



[1)] FX-adjusted product sales

[2)] The order book 3M measures the amount of customer orders which are due in the next three months. It is presented as a relative, fx-adjusted year-over-year growth indicator which reflects the short-term business expectations. Developments in the distribution business have typically a shorter reach and are therefore only partially reflected by this indicator.

Preliminary figures

Key aspects

- Positive order book 3M development in H1 2017, after declines in several quarters before
- Major drivers of the order book 3M growth are Industrial Distribution and several sectors, including Offroad, Power Transmission, Raw Materials, Industrial Automation and Railway
- Order book 3M indicated positive sales outlook in 2017

Key messages

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1. **Industrial sales are picking up.** This is backed by good order intake in H1 2017.
2. Solid component business is supported by **Program CORE**.
3. **Systems and Industry 4.0** projects provide **attractive growth** opportunities.
4. We target to **achieve 10% of our sales in 2022 from Industry 4.0-related products and solutions.**

On track to achieve EBIT margin target of 10-11% in 2018