Industrial

Dr. Stefan Spindler
CEO Industrial
1 Overview

2 Program CORE

3 Flagship initiative "Industry 4.0"

4 Summary and key statements
1 Overview

Schaeffler Industrial – Bearing solutions for 8 sector clusters and distribution

Sales development 2012 – 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (€M)</td>
<td>3,406</td>
<td>3,041</td>
<td>3,138</td>
<td>3,233</td>
</tr>
<tr>
<td>Growth rate (y-o-y)</td>
<td>-1.6%</td>
<td>-10.7%</td>
<td>+3.2%</td>
<td>+3.0%</td>
</tr>
<tr>
<td>EBIT-margin(^1)</td>
<td>12.7%</td>
<td>10.7%</td>
<td>9.6%</td>
<td>9.7%</td>
</tr>
</tbody>
</table>

\(^1\) Before one-off effects

Sales split by region 2015

- Americas: 56%
- Greater China: 19%
- Europe: 15%
- Asia/Pacific: 10%

Sales split by sector cluster & distribution channel 2015

- **Wind**: 33% (Industrial Distribution), 13% (Industrial Automation), 10% (Raw Materials), 8% (Aerospace), 7% (Rail), 7% (Offroad), 5% (Two-Wheelers)
- **Power Transmission**: 14% (Industrial Automation), 14% (Raw Materials)
- **Raw Materials**: 10% (Industrial Distribution), 8% (Industrial Automation), 7% (Aerospace), 7% (Rail), 5% (Offroad), 4% (Two-Wheelers)

Sales split by business model 2015\(^1\)

- Standard product: 35%
- Standard product distribution: 35%
- OEM and MRO: 30%

\(^1\) Including service business
1 Overview

Broad range of standard and customized products

Bearing sales split by types 2015

<table>
<thead>
<tr>
<th>Customized product business</th>
<th>Standard product business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball Bearings</td>
<td>Ball bearing (DGBB)</td>
</tr>
<tr>
<td>Cylindrical Roller Bearings</td>
<td>Cylindrical roller bearing (CRB)</td>
</tr>
<tr>
<td>Spherical Roller Bearings</td>
<td>Spherical roller bearing (SRB)</td>
</tr>
<tr>
<td>Tapered Roller Bearings</td>
<td>Tapered roller bearing (TRB)</td>
</tr>
<tr>
<td>Needle Roller Bearings</td>
<td>Needle roller bearing (NRB)</td>
</tr>
<tr>
<td>Linear Technology</td>
<td>Linear guides</td>
</tr>
<tr>
<td>Other Products &amp; Service</td>
<td>Plain bearings and SmartCheck</td>
</tr>
</tbody>
</table>

- Cronitect-hybrid bearing – Bicycle
- Heavy duty CRB – Construction Machin.
- Coated SRB – Windpower rotor bearing
- Wheelset bearing – Highspeed trains
- "Slimline" drawn cup NRB – Gearbox
- Sensorized linear guide RUE 4.0 – Machine Tool
- Sensorized rotary table bearing – Machine Tool
Overview

Schaeffler USPs – Strong manufacturing and systems expertise

3 Schaeffler USPs in Industrial

14,000 customers

40,000 catalogue products

Industry 4.0

Strong customer relationship

We serve clients in 8 sector clusters and 36 sectors which provides us with significant cross-selling opportunities going forward (e.g. GenC initiative, Service and Industry 4.0 business).

Manufacturing expertise

We have an integrated manufacturing system combining industrial and automotive production technologies. This enables us to produce at highest efficiency and to generate high level of internal value add.

Systems expertise

With around 600 engineers we are a solution provider for our customers. We understand systems and components down to the last detail.
### Key elements

<table>
<thead>
<tr>
<th>1</th>
<th>Cost savings and efficiency improvements</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>High delivery performance</td>
</tr>
<tr>
<td>3</td>
<td>Clear customer focus</td>
</tr>
<tr>
<td>4</td>
<td>Optimized product and service portfolio</td>
</tr>
</tbody>
</table>

### Key actions

- Reduce indirect workforce by 500 people
- Re-dimension central departments
- Drive cost saving program including material cost, efficiency gains and overhead reduction
- Establish European distribution centers (EDC) to ensure immediate product availability
- Increase level of standardization
- Implement high runner program with 24/48h delivery time
- Strengthen sales organizations in the regions
- Strengthen regional engineering / customer support centers
- Establish dedicated global key account management
- Strengthen standard product business
- Balance customized product business / engineering solutions
- Enforce market penetration of service / digitalization

### Strategic targets set in August 2015

- Industrial business contributes 25% to group sales by 2020
- 3% EBIT margin improvement by 2018
**Key aspects**

- From 2004 to 2014 global bearing market grew by CAGR of 2.9%
- When we initiated CORE in August 2015, we had expected bearing market growth of 1.5% in 2015 - 2018
- In Q1 2016, our Industrial sales was down 6.9% y-o-y

**Going forward**

- We expect bearing market growth of 0.5% CAGR in 2016 – 2020
- We expect volatility to continue in the coming years
**Ambition to bring EBIT margin back to 13% remains in place**

**Key aspects**

- EBIT margin improvement plan assumes stable market conditions\(^1\) with moderate growth

- 3 main profitability drivers (EBIT margin) remain in place (2018)
  - Growth: +0.25 – 0.5\%-pts.
  - Production cost: +0.75 – 1.25\%-pts.
  - Overhead cost: +1.0 – 1.25\%-pts.

- Execution of Program CORE on track

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\(^1\) Regarding pricing, material prices and FX

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- Project CORE to revitalize Industrial division further strengthened and enforced

- EBIT margin target 13\% not achievable until 2018 due to further market decline in 2016
Current implementation level of headcount reduction (July 15, 2016)

<table>
<thead>
<tr>
<th>Level</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>0</td>
<td>in planning</td>
</tr>
<tr>
<td>1</td>
<td>identified</td>
</tr>
<tr>
<td>2</td>
<td>addressed</td>
</tr>
<tr>
<td>3</td>
<td>agreed</td>
</tr>
<tr>
<td>4</td>
<td>signed</td>
</tr>
<tr>
<td>5</td>
<td>left payroll</td>
</tr>
</tbody>
</table>

Start: Indirect HCO Europe (06/2015)
Implementation level 5
Implementation level 4
Ongoing: Implementation level 1–3
Target: Indirect HCO Europe (12/2017)
Key aspects

- Ramp-up of European Distribution Centers helps to secure availability and delivery performance
- EDC North live since 03/15
- EDC South live since 10/15
- In both regions our delivery performance has increased significantly since then
- EDC Central planned to go live in 07/18
**Phase 1** from January 1st, 2016

- 4 Regions become primary steering dimension
- 8 Sector clusters defined plus Industrial Distribution

**Phase 2** from July 15th, 2016

- 3 types of business (standard / customized / service)
- Focused GKAM approach with 12 selected GKAMs
- Global network of sector clusters (SC) with clearly defined "global leads"
- Sector Management and Application Engineering integrated on a regional basis
Market penetration with high-volume standard ball bearings

- Serving demand of local customers for standard types via dedicated sales force and 4,000 authorized distributors
- GenC as platform to enter high-volume business with lean overhead cost structure
  - Standard (deep groove) ball bearing in 12 different diameters for high-volume customer applications
  - Ramp-up DGBB starts from Q2 2017 (12 production lines, production in China, continue sales from Portugal and India)

Production capacities 2016 – 2020
(indexed 2016 = 100)

- Yinchuan
- Caldas/Savli

Market supply concept GenC high volume products

Key targets
Regain market share and penetrate growing markets with standard ball bearings GenC
**Business model Wind**

- Tailor-made engineering solutions
- High level of system understanding and high level of application engineering expertise
- Comprehensive material-, surface technology- and tribology know how
- R&D simulation and testing facilities
- Wind Power Standard "WPOS" established in the market by Schaeffler
- Partner of leading wind turbine and gearbox manufacturers
- Proven service solutions
- Trend towards higher MW classes and repowering offers additional market potential

**Key targets**

Increase sales with customized solutions for OEM and MRO business
FAG Smart Check
Condition monitoring plug & play product FAG Smart Check successfully introduced for broad range of aggregates and production processes.

Challenge
Bearing damage and gear failures in propulsion of oil platform (thrusters) are extremely costly as oil production may have to be stopped completely for repair work.

Solution
- Additional sensor at each bearing location as well as special seals for sensors and sensor cables
- Recorded data are analyzed via remote access (Online Condition Monitoring)

Benefits
- Thanks to the permanent monitoring of the thrusters, emerging damage can be detected at an early stage
3 Flagship initiative "Industry 4.0"

Digitalization in operations

### Key aspects

- **Machine 4.0** combines existing technology with new digital components from sensor to cloud.
- Almost all bearings are equipped with sensors for measurement of vibrations, temperature, pressure and power – bearings become data suppliers.
- Partner innovation project started with DMG Mori in 2015.

**More than 60 further sensors are integrated**

![Diagram of Machine 4.0](Image)

**Force sensors**
- Calculation services
- Process monitoring

**Vibration sensors**
- Lubricant requirements

**Pressure sensors**
- Load model
- Suspension model

**Vibration sensors**
- Condition monitoring
- Collision detection

**Improvement of technological still-stand periods**
- ~40%

**Improvement of organizational still-stand periods**
- ~60%
Key messages

1. **We accelerate program CORE to stabilize our business** in a weak environment – Ambition to bring division back to 13% remains in place, achievable 2020

2. We optimize our portfolio with **customized products, standard products** as well as **service products** and solutions

3. Our **manufacturing and systems expertise** enables us to develop superior products and new business within Industry 4.0

4. **Industrial business contributes 20% to group sales** by 2020