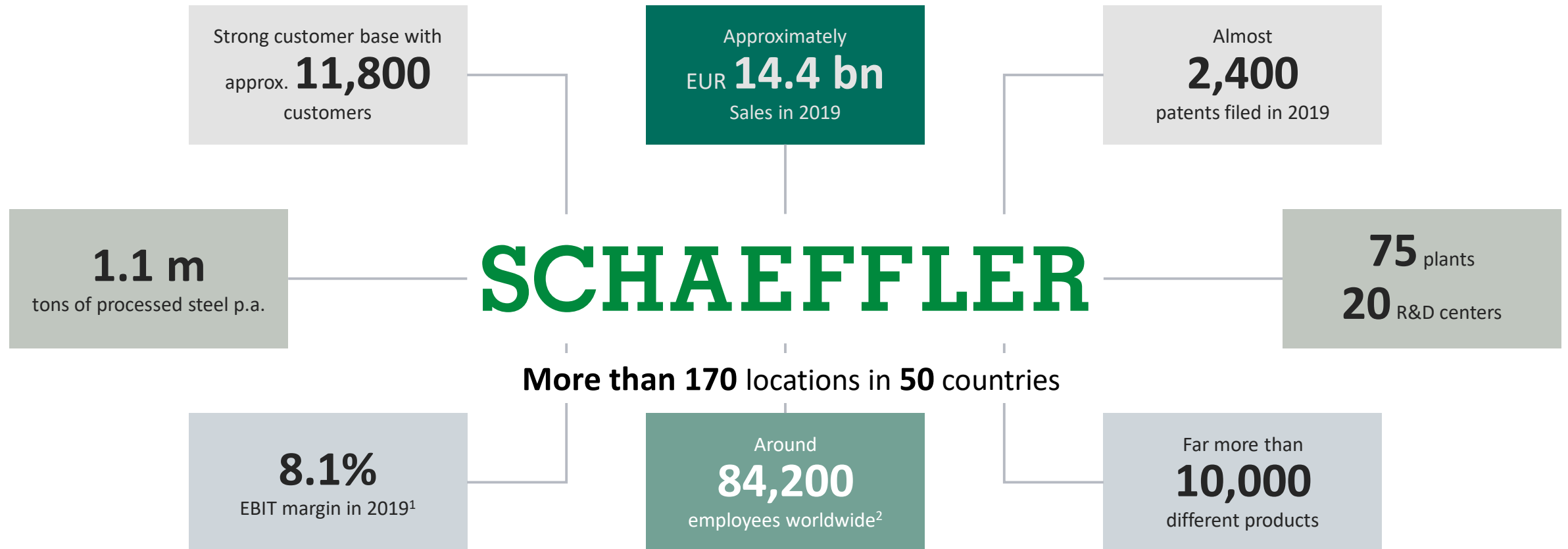




Challenges in industrial applications

Dr. Vasilios Bakolas
Schaeffler Technologies AG & Co. KG

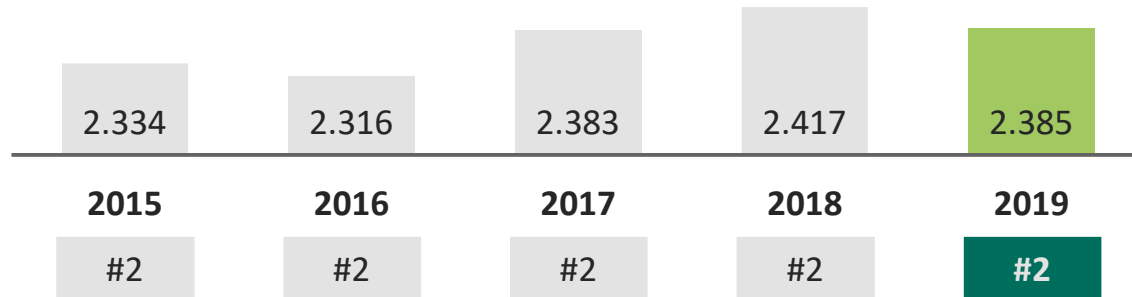
Schaeffler in facts – strong starting point



¹ Before one-off effects | ² As at June 30, 2020

Our success factors – quality, technology and innovation

Number of patent applications in Germany¹



¹ Source: Deutsches Patent- und Markenamt (DPMA)

Selected Innovation and Quality Awards

- German Mobility Prize by the Federal Ministry of Transport and Digital Infrastructure (Schaeffler Mover)
- „BEST OF mobility“ und „Red Dot“-Award (Bio-Hybrid)
- Fiat Chrysler Automobiles „Outstanding Quality Supplier Award“
- Honda „Excellence in Delivery and Quality Award“
- John Deere Supplier Innovation Award

First class manufacturing technology

- State-of-the-art plants and testing facilities
- Outstanding know-how in
 - Surface treatment
 - Raw material processing
 - Tool Management & Prototyping/Special machinery building
 - Precision manufacturing

Innovation Networks

- SHARE - Schaeffler Hubs for Advanced Research
 - SHARE at KIT (Karlsruhe Institute for Technology, Germany)
 - SHARE at FAU (Friedrich-Alexander University of Erlangen-Nuremberg, Germany)
 - SHARE at NTU (Nanyang Technological University, Singapore)
 - SHARE at SWJTU (Southwest Jiaotong University, Chengdu, China)
- Silicon Valley Office, U.S. (intensive exchange with start-ups)
- Cooperation with: Munich Network, Plug and Play, ZOLLHOF Tech Incubator Nuremberg

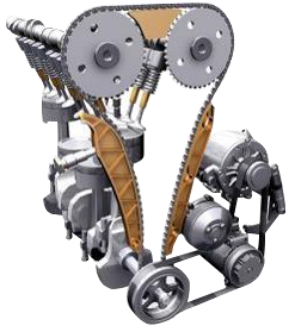
Schaeffler Group – Background

**“We are a precision
mechanic with
best-in-class
manufacturing and
system expertise.”**



Three divisions – automotive OEM, Automotive Aftermarket and Industrial

Automotive OEM | Systems



Engine Systems



Transmission Systems



Chassis Systems



Hybrid and Electrical Drive Systems

Automotive Aftermarket | Segments



Passenger Cars



Light Commercial Vehicles



Heavy Commercial Vehicles



Tractors & Agricultural Vehicles



Services

Industrial | Sector Clusters



Wind



Raw Materials



Aerospace



Railway



Offroad



Two Wheelers



Power Transmission



Industrial Automation

Industrial – Four growth drivers

Growth drivers



Energy efficiency

- Increasing importance of efficient drive technologies
- Conventional drivetrains (hydraulics, combustion engines) increasingly being replaced/ complemented by electric drives



Innovation

- Highly innovative technologies for continuous improvement of conventional products
- Surface coatings to improve machine “uptime” and minimize friction



Industry 4.0

- Usage opportunities Internet of Things, development of an Industry 4.0 series machine with focus on predictive maintenance
- Smart sensor technology to optimize maintenance intervals and setup times



Service business

- Services sector requires an optimized product portfolio
- Expansion of digital service solutions

Thank you for your attention

