



Commodity Electronic Modules

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SPEM

ZF Friedrichshafen AG



History ZF



Company Development, ZF Group

1915	Foundation of Zahnradfabrik GmbH in Friedrichshafen by Luftschiffbau Zeppelin GmbH
1919	Market introduction of passenger car and commercial vehicle transmissions
1932	Start of steering system production under license, since 1999: ZF Lenksysteme GmbH
1984	Majority shareholding gained in Lemförder Metallwaren AG, Chassis Technology
2001	Acquisition of Mannesmann Sachs AG, Powertrain and Suspension Components
2008	Acquisition of Cherry GmbH, Electronic Components
2011	<p>Merger of the major German ZF companies, all united under the designation of ZF Friedrichshafen AG</p> <p>Acquisition of Hansen Transmissions Int. NV, Wind Turbine Gearboxes</p>
2015	<p>100 years of ZF Friedrichshafen AG</p> <p>Acquisition of TRW Automotive Holdings Corp.</p> <p>Acquisition of large gearbox segment from Bosch Rexroth AG</p>



ZF Group

Key Figures 2015



The ZF Group – An Overview

	2015
Sales	€ 29,154 million
Employees (end of the year)	138,269
Investments in property, plant and equipment	€ 1,290 million
Research and development	€ 1,390 million
230 locations in 40 countries	

77 service companies and more than 650 service partners



Key Figures Locations



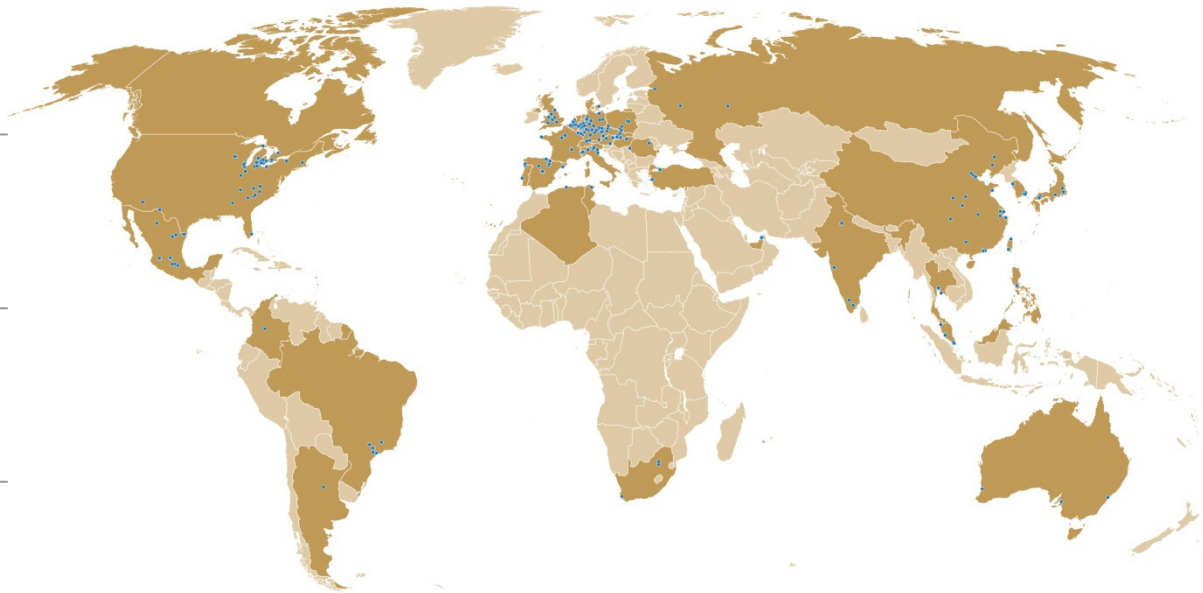
Worldwide Presence – Production, Development, Sales and Service*

230 Locations

17 Main development locations

77 Service companies

Over **650** service partners worldwide



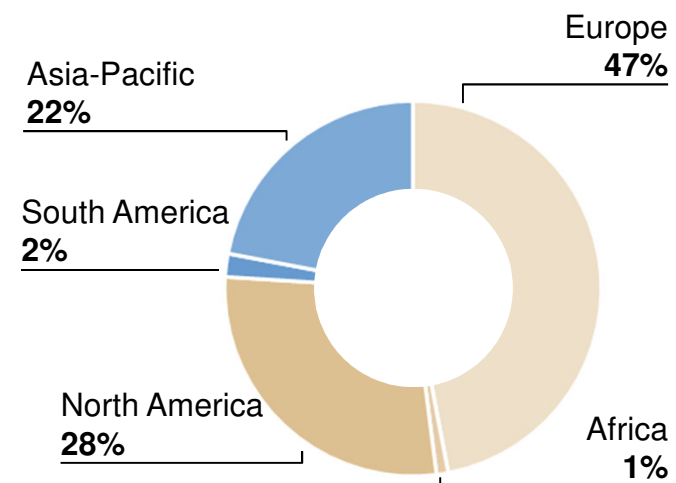
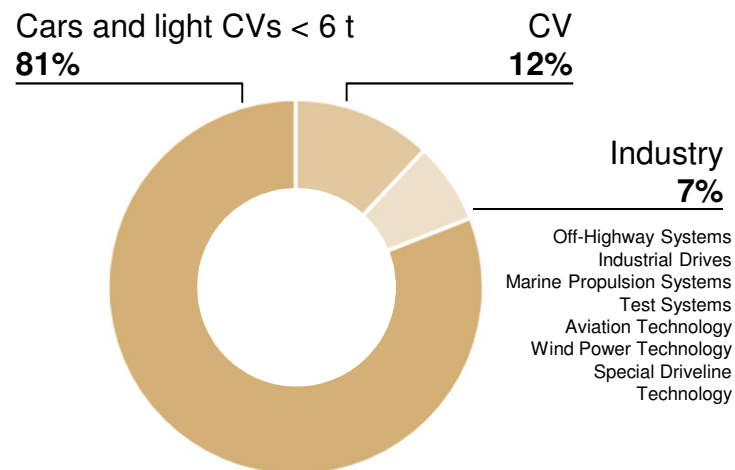
Countries with ZF Services locations are marked in a darker shade

*Status: December 2015

Key Figures Sales

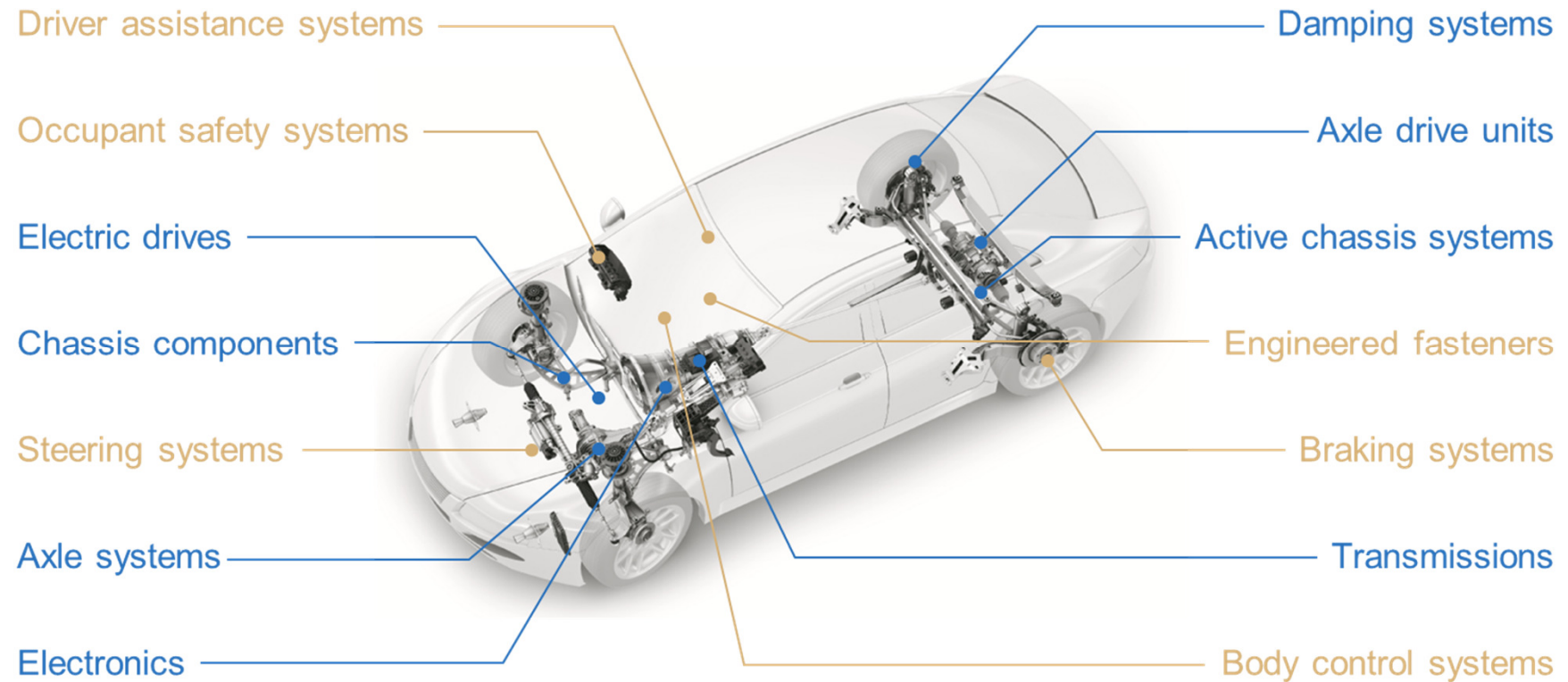


Sales distribution in 2015



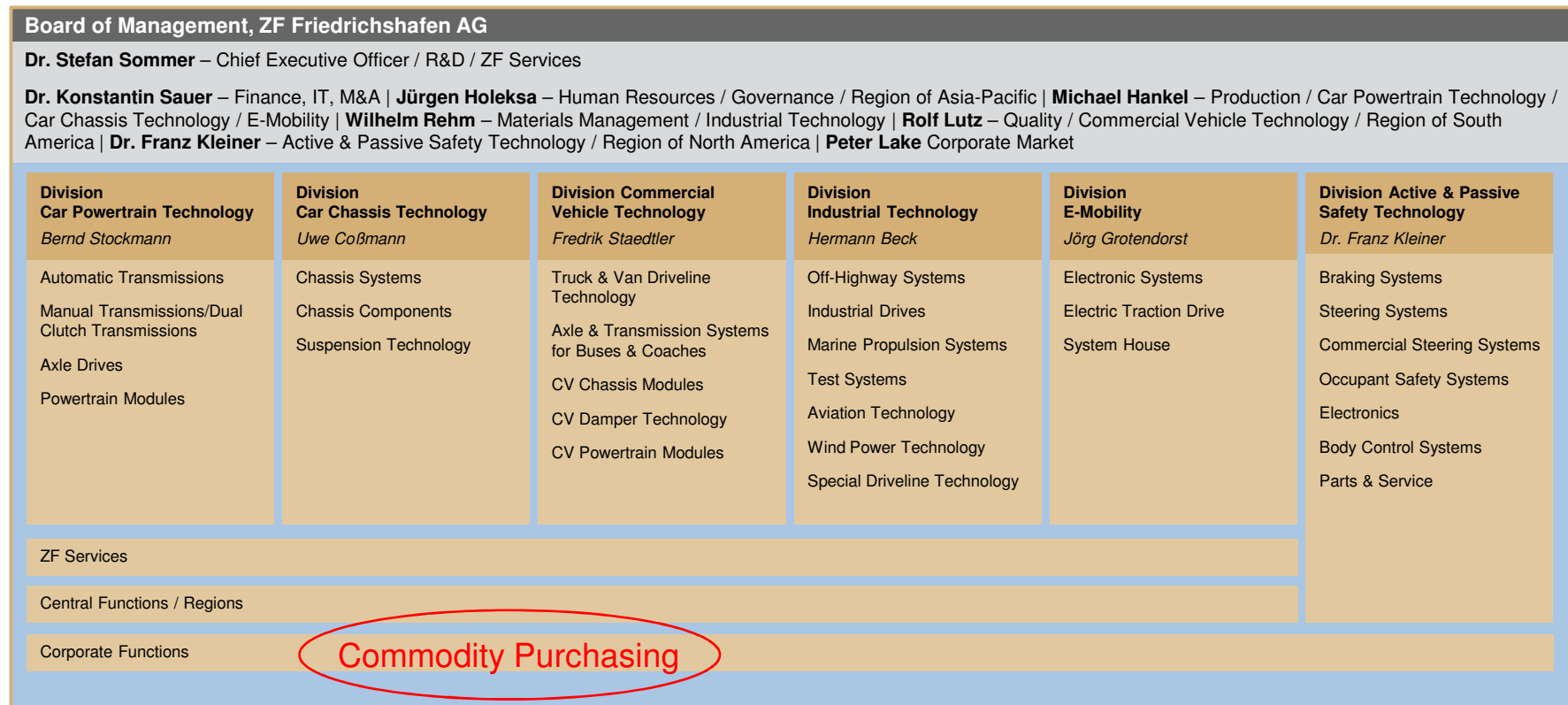
ZF Group: € 29,154 million

Broad and complementary technology and product portfolio



Corporate Structure ZF Friedrichshafen AG Shareholders: 93.8%

Zeppelin Foundation and 6.2% Dr. Jürgen and Irmgard Ulderup Foundation



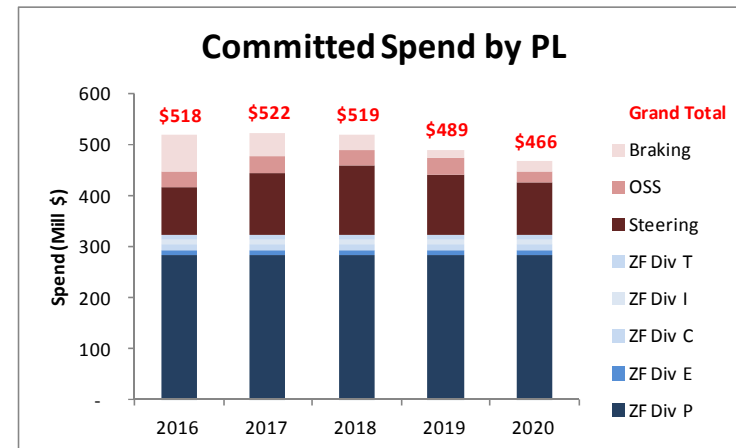
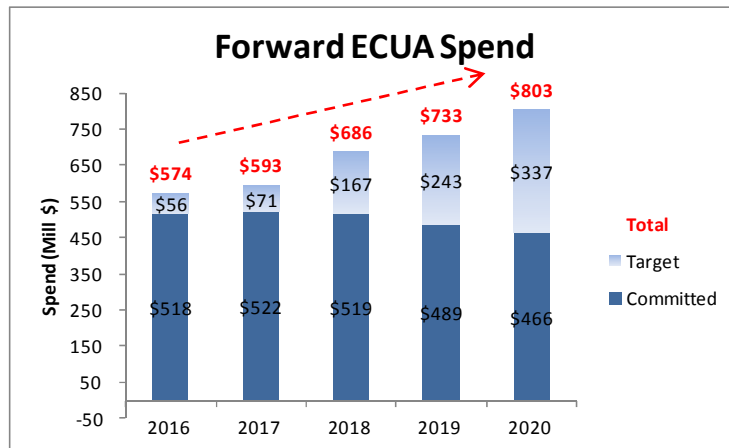
Commodity Purchasing



Responsibilities ECUA & PCBA

Nick Parker <i>Commodity Buyer</i>		(Birmingham)	Senior Commodity Manager ECUs
Product Line Responsibility			
Chris Wheeldon <i>Commodity Buyer</i>		(Birmingham)	Div-A: BU Braking Foundation (EPB) Slip Control Electronic Brake Booster
Katarzyna Wrobel <i>Commodity Buyer</i>		(Czestochowa)	Div-A: BU OSS Active Buckle Lifter Active Control Retractor PCBA
Jansen Coathup <i>Commodity Buyer</i>		(Birmingham)	Div-A: BU Steering Column Drive/ Belt Drive Commercial Steering PCBA
Roman Hepp <i>Commodity Buyer</i>		(Saarbrücken)	Div-P: All BU PT: Automatic Transmission PA: Axle Drives / PB: Clutch Transmissions / PC: Powertrain Modules
Frank Venner <i>Commodity Buyer</i>		(Friedrichshafen)	Div-I / Div-T: All BU IA: Off Highway Systems TT: Truck & Van Driveline Technology TU: Axle & Transmission Systems
Necdet Dolmis <i>Commodity Buyer</i>		(Saarbrücken)	Div-A: BU GE & BCS / Div-C / Div-E DAS Radar / DAS Camera / BCS CT: Suspension Technology / CY: Chassis Systems EE: Electronic Systems
Xingyu Jin		(Shanghai)	All Divisions BOM Management

Spend development ECUA



Key Points

- Total ECUA deck \$574 Million in 2016
 - Forecasted to grow to \$803 Million in 2020
 - Includes ~\$320 ZF spend
- Growth in business levels fuels the need for additional external partners

Thank you.



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