

MOTION AND MOBILITY



Introduction of ZF-Hungary Ltd.

T-Eger

ZF Hungária Kft.



Company History, ZF Group



Milestones

1915	Foundation of Zahnradfabrik GmbH in Friedrichshafen by the Luftschiffbau Zeppelin GmbH
1919	Market introduction of passenger car and commercial vehicle transmissions
1932	Start of steering system production on license base, since 1999 ZF Lenksysteme GmbH
1984	Majority participation in Lemförder Metallwaren AG, Chassis Technology
2001	Acquisition of Mannesmann Sachs AG, Powertrain and Suspension Components
2008	Acquisition of Cherry GmbH, Electronic Components
2011	Merger of the major German ZF companies, all united under the designation of ZF Friedrichshafen AG Acquisition of Hansen Transmissions Int. NV, Wind Turbine Gearboxes



ZF Group

Key Figures 2013



The ZF Group – An Overview

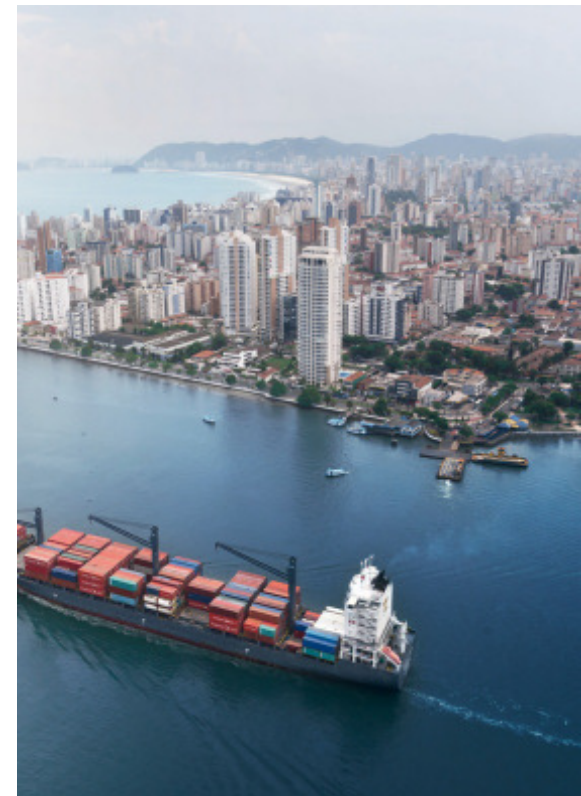
	2013	2013 / 2012*
Sales	16,837 Mio. €	+ 8 %
Employees (end of year)	72,643	+ 6 %
Capital expenditure	954 Mio. €	- 7 %
R&D expenditure	836 Mio. €	+ 9 %

122 production companies in 26 countries

8 main development locations in 4 countries

33 service companies and more than 650 service partners

*As of 2012 excluding ZF Lenksysteme.



Key Figures Locations



Worldwide Presence with Production, Development, Sales

122 Production companies

8 Main development locations

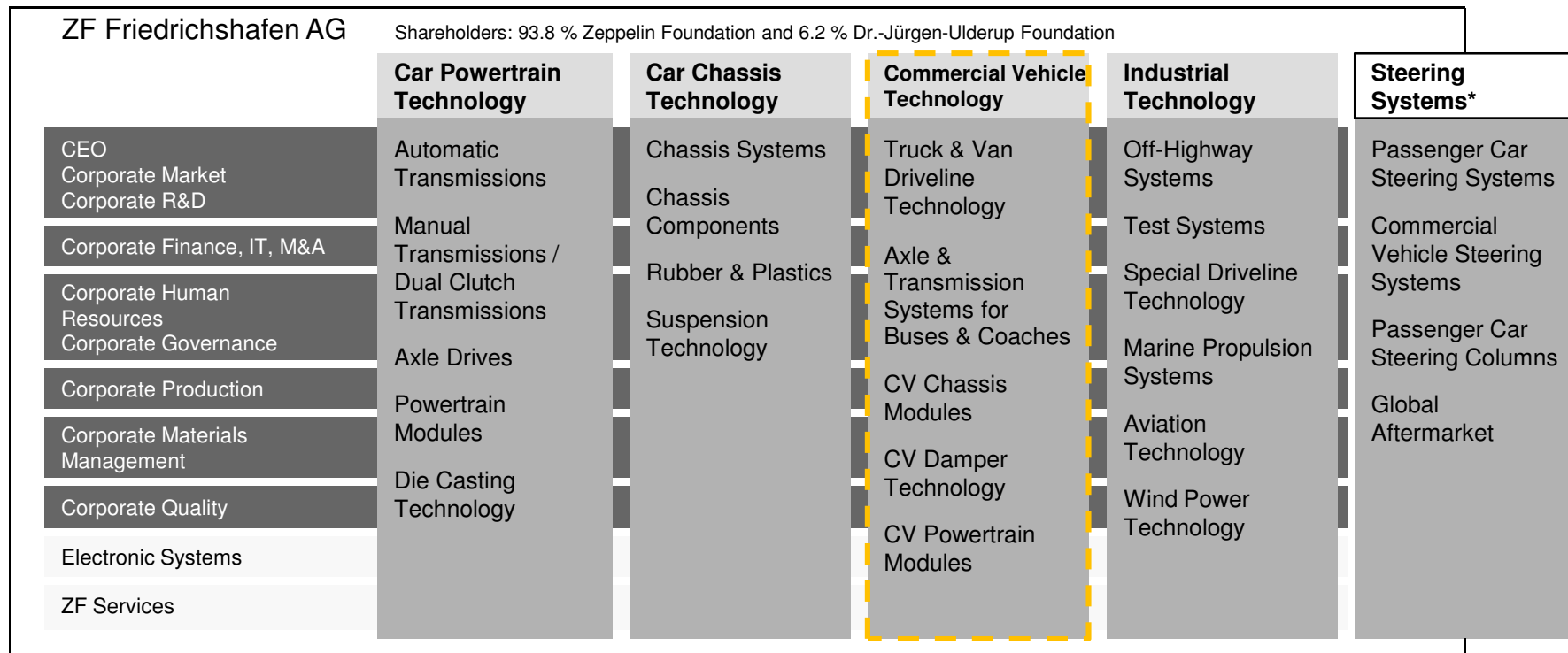
33 Service companies

More than **650** service partners worldwide



Corporate Structure

T - Commercial Vehicle Technology



* ZF Lenksysteme GmbH is a joint venture in which ZF Friedrichshafen AG and Robert Bosch GmbH each hold 50 % of the shares.

The location of ZF Hungary Ltd.



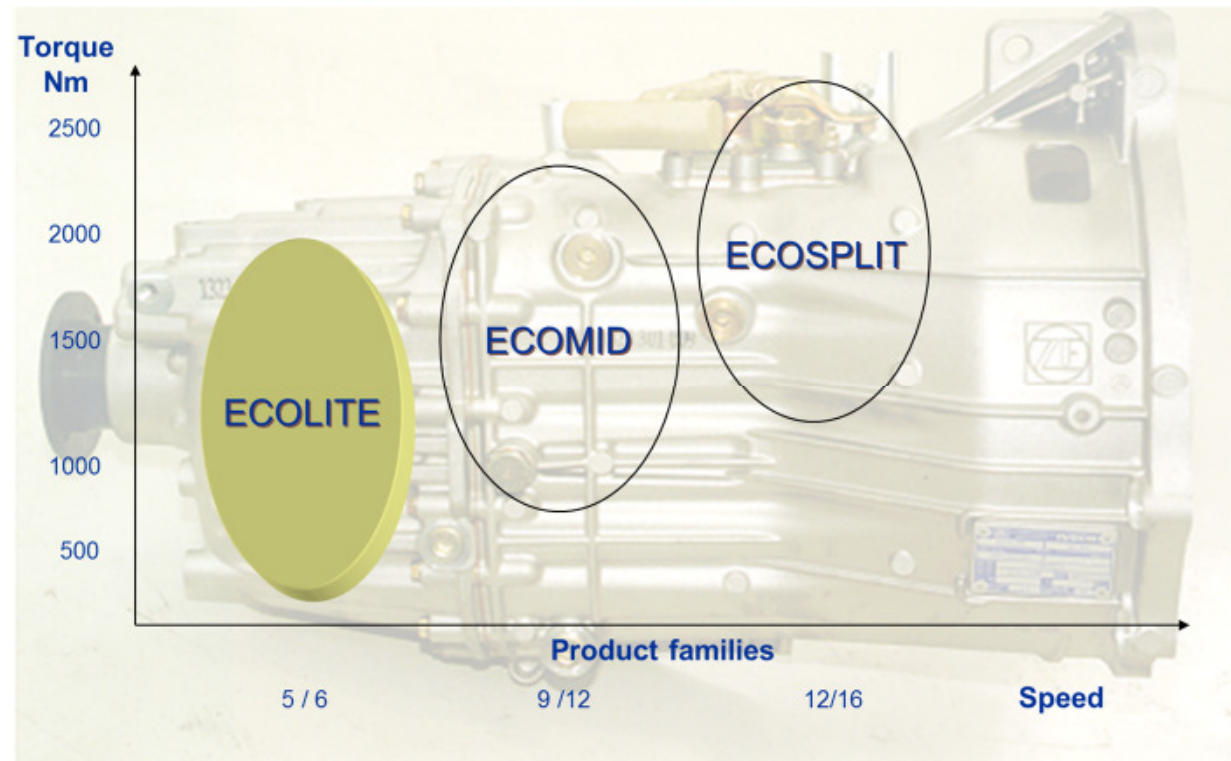
Brief history of ZF Hungary Ltd.



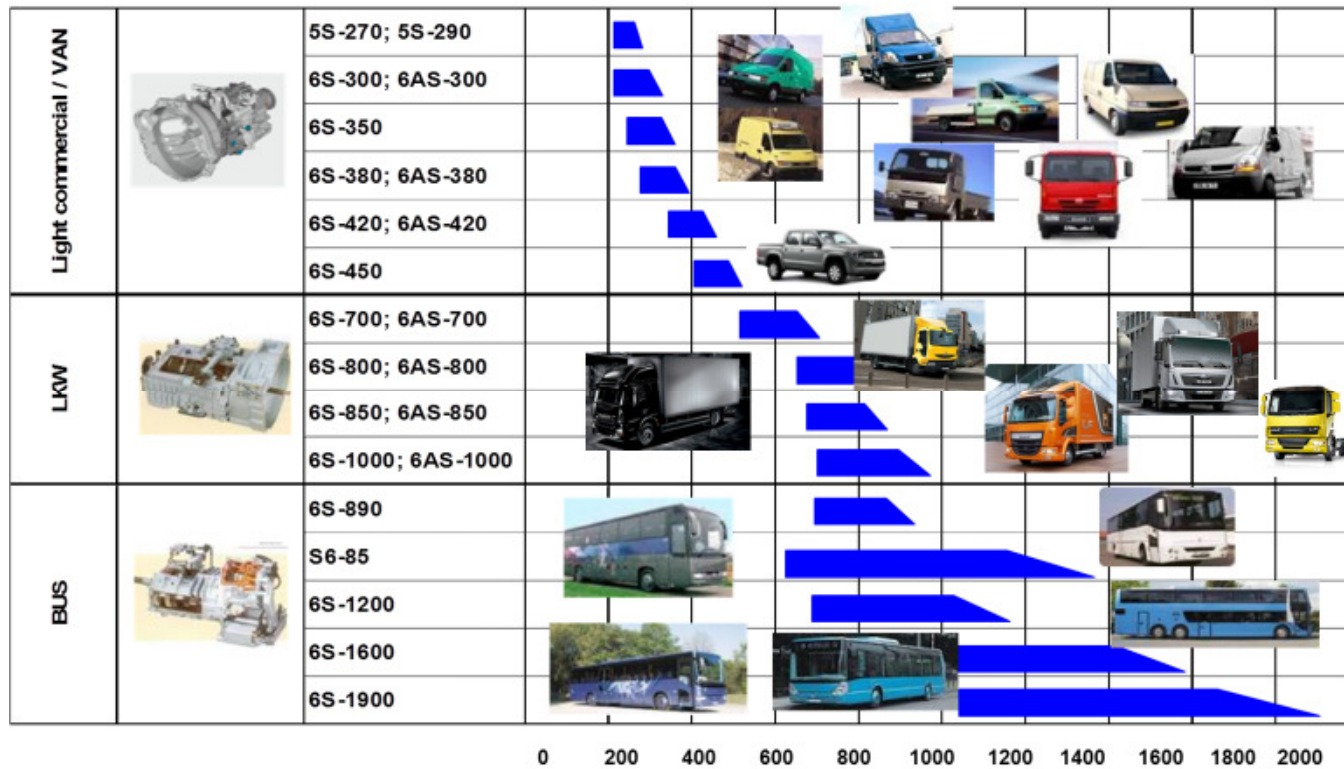
Milestones	
1950	Establishment of the factory.
1950-55	Repairing of agricultural machines
1955-60	Production of vehicle components
1960-70	Production of transmissions and axles for tractors
From 1974	Production of transmissions for trucks and buses (light, medium, heavy)
From 1975	Planning and technical support by ZF (1975-1980)
1995	ZF-Audit September 1995, establishment of ZF Hungária Kft
1996	Start of operation of ZF Hungária Kft. on 01.01.1996



Main product families - Ecolite



Ecolite Products



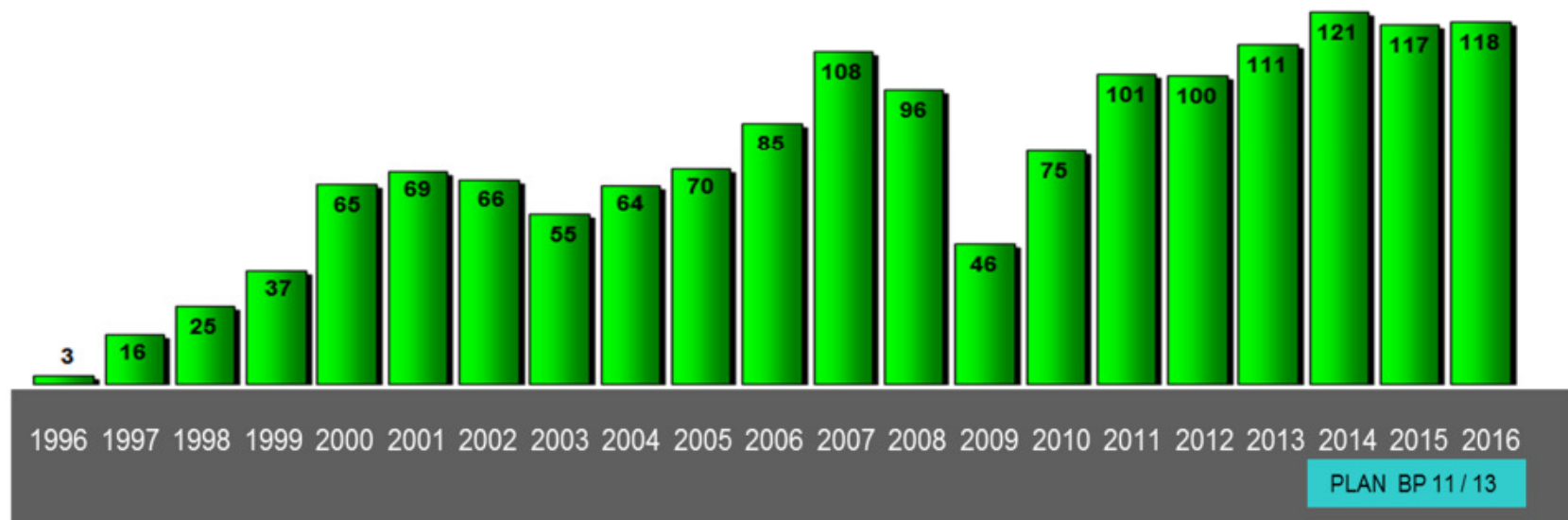
Main customers



T-EGER (H) DEVELOPMENT OF VOLUME OF PIECES 1996-2017



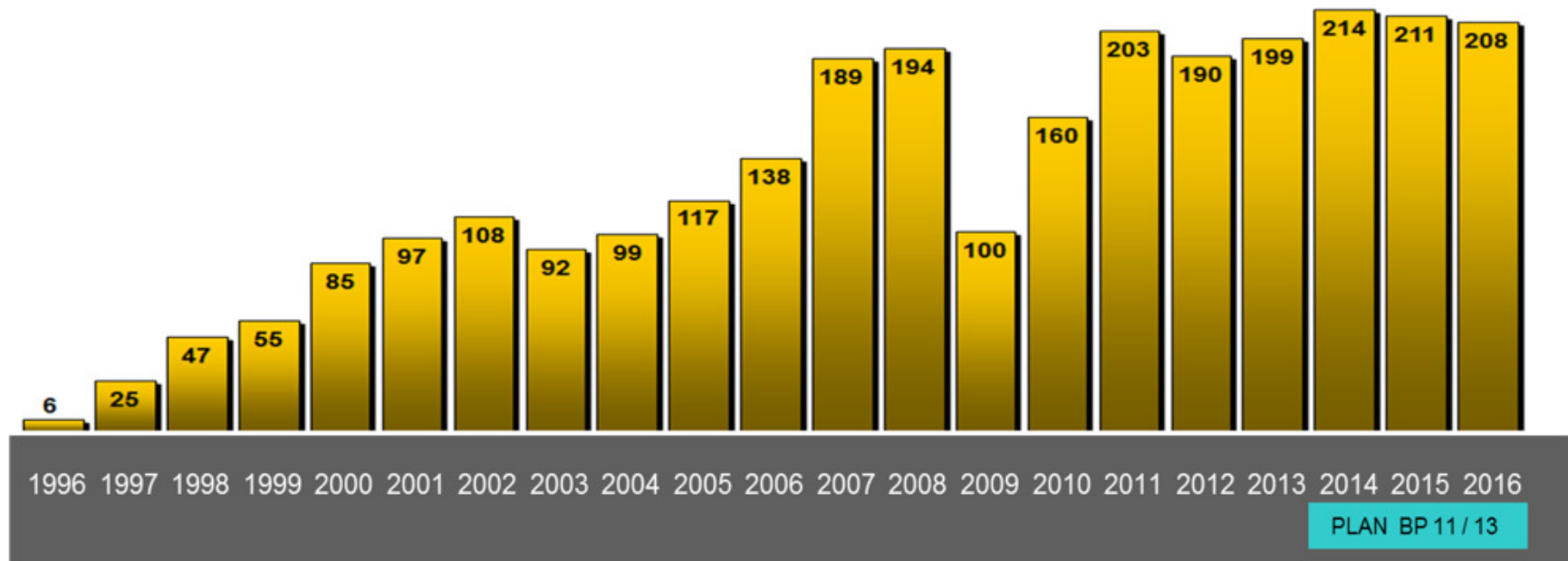
DEVELOPMENT OF VOLUME OF
PIECES GETRIEBE T Stk.



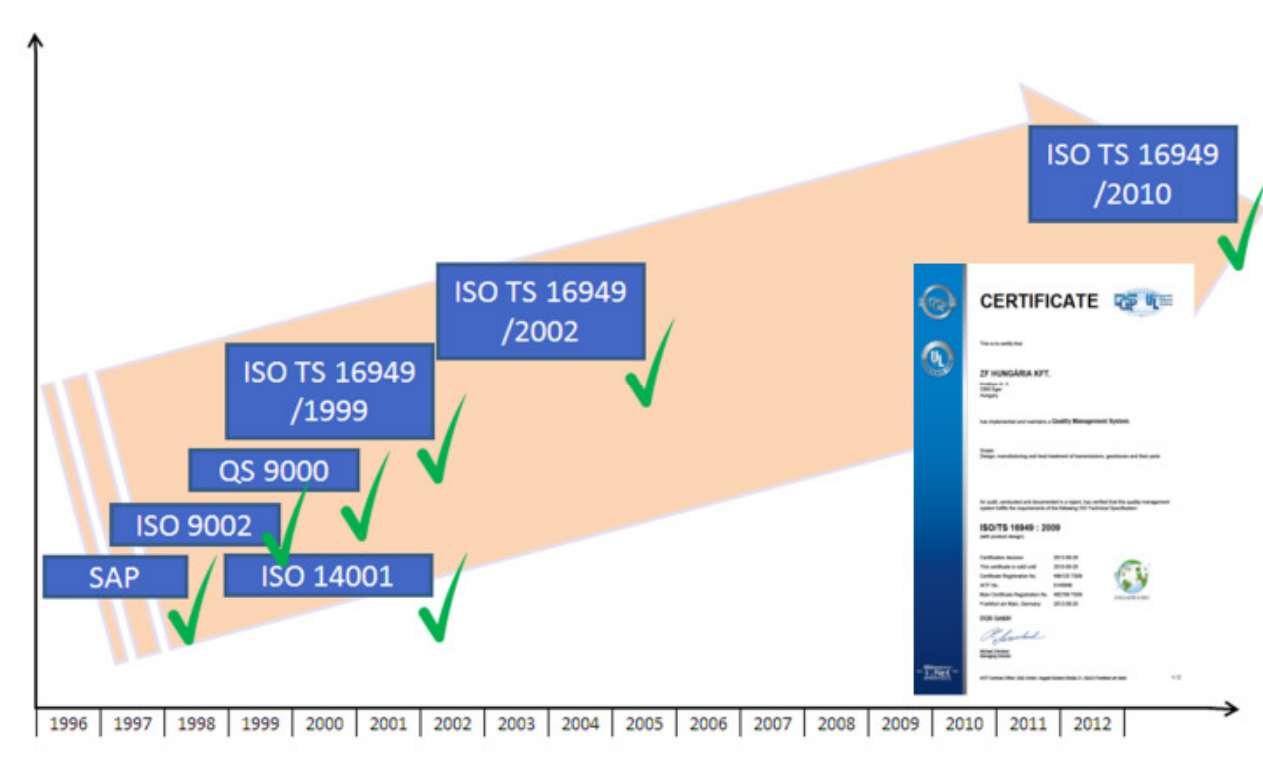
T-EGER (H) DEVELOPMENT OF TURNOVER 1996-2017



DEVELOPMENT OF TURNOVER
in Mio. €

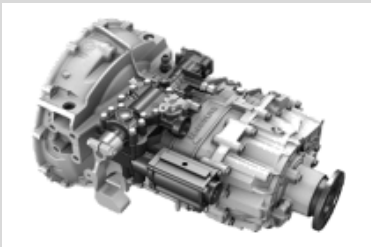
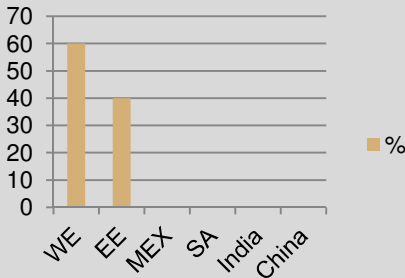
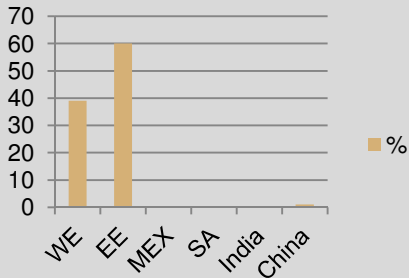
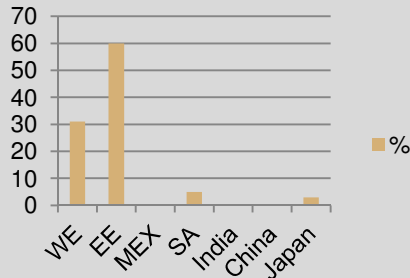


Development of Quality System



Main products and EE localization rate



	6S1311 (EB5)	6S800 (E24)	6S-450 Amarok																																												
																																															
Procurement Structure by Purchasing Volume	%  <table><thead><tr><th>Region</th><th>%</th></tr></thead><tbody><tr><td>WE</td><td>60</td></tr><tr><td>EE</td><td>40</td></tr><tr><td>MEX</td><td>0</td></tr><tr><td>SA</td><td>0</td></tr><tr><td>India</td><td>0</td></tr><tr><td>China</td><td>0</td></tr></tbody></table>	Region	%	WE	60	EE	40	MEX	0	SA	0	India	0	China	0	%  <table><thead><tr><th>Region</th><th>%</th></tr></thead><tbody><tr><td>WE</td><td>40</td></tr><tr><td>EE</td><td>60</td></tr><tr><td>MEX</td><td>0</td></tr><tr><td>SA</td><td>0</td></tr><tr><td>India</td><td>0</td></tr><tr><td>China</td><td>0</td></tr></tbody></table>	Region	%	WE	40	EE	60	MEX	0	SA	0	India	0	China	0	%  <table><thead><tr><th>Region</th><th>%</th></tr></thead><tbody><tr><td>WE</td><td>30</td></tr><tr><td>EE</td><td>60</td></tr><tr><td>MEX</td><td>0</td></tr><tr><td>SA</td><td>0</td></tr><tr><td>India</td><td>0</td></tr><tr><td>China</td><td>0</td></tr><tr><td>Japan</td><td>10</td></tr></tbody></table>	Region	%	WE	30	EE	60	MEX	0	SA	0	India	0	China	0	Japan	10
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Purchasing requirements



- ❑ Competitive, splitted prices by profit (Quotation/Tool analisys Form)
- ❑ Continuous improvement, including cost reduction
- ❑ Longtime agreements, Partnership thinking
- ❑ Quality and logistic agreements including responsibility commitment
- ❑ Quality insurance system ISO TS 16949, but at least ISO 9001
- ❑ Practise of the QR83 ZF Quality Assurance Directive and LR10 ZF Logistics Directive
- ❑ On-line communication, usage of „Supply On”
- ❑ Acceptance of consequently supplier evaluation, with short time reaction of improvements

Cooperation between ZFH and Suppliers

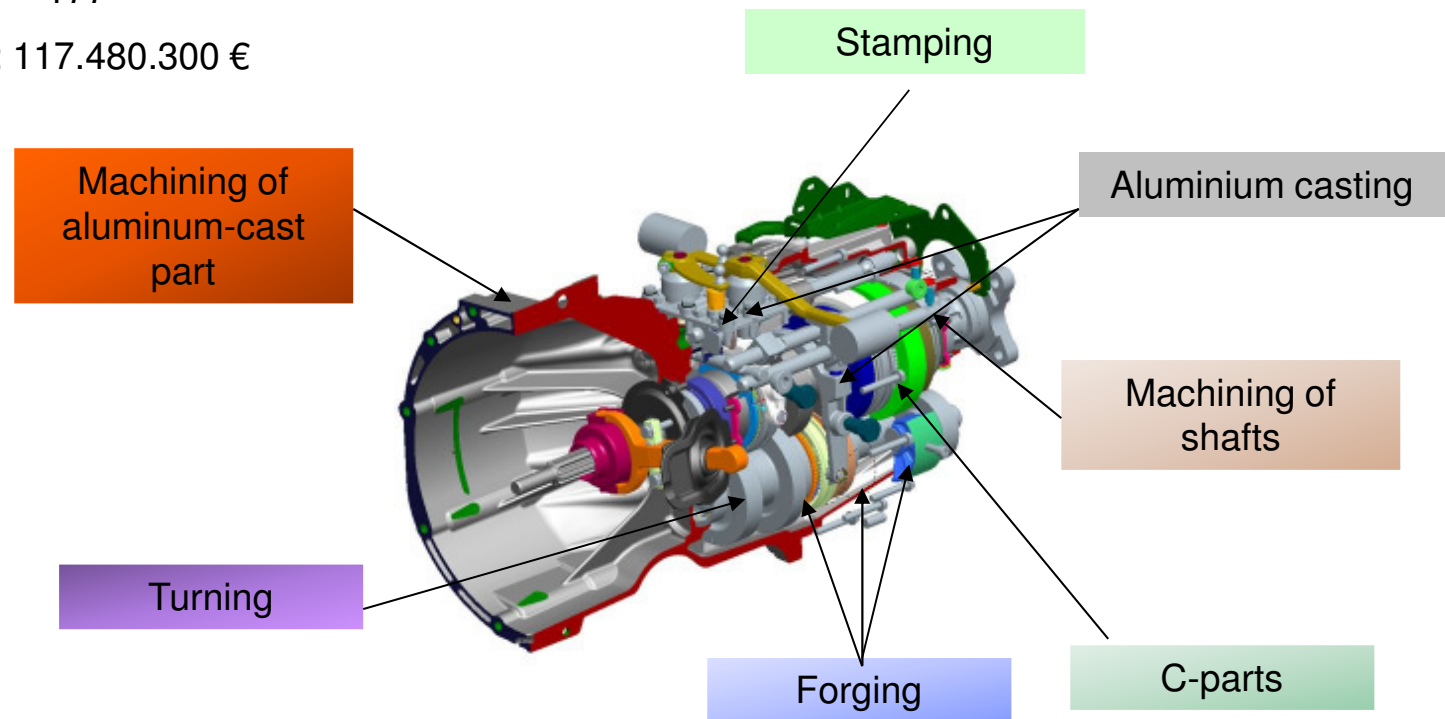


- ❑ Individual part Suppliers for Prototypes
- ❑ Supplier taking part in development with Simultaneous Engineering activity
- ❑ Supplier acting as Development Supplier
- ❑ Longtime cooperation / Agreements as a direct System Supplier
- ❑ Supplier background development in Quality and also Logistics
- ❑ Support in VSM Projects and also Technology Optimisations
- ❑ Deliver to different ZF locations all over the world -> Local to Global

Supplier Structure of ZFH



- Supplier number: 177
- Turnover in 2013: 117.480.300 €



Technologies what ZF looking for...



Technology	Size	Quantity
Machining of aluminum-cast part	0,5-32 kg	200-8.000 piece/year
Turning -revolution solid, -shaft	Ø110-240/2-15 kg 400-600 mm/15-25 kg	200-8.000 piece/year
Iron casting	1-6 kg	200-8.000 piece/year
Machining of iron-cast part	1-6 kg	200-8.000 piece/year
Fine casting	0,1-1 kg	1.000-60.000 piece/year
Machining of fine-cast part	0,1-1 kg	1.000-60.000 piece/year
Plastic injection moulding	1-10 dkg	1.000-400.000 piece/year
Stamping/deep drawing	10-60 dkg	5.000-40.000 piece/year
Forging	0,2-5 kg	500-15.000 piece/year
Small-series of fasteners	-	100-3.000 piece/year
Gaskets -flat, -sealing ring	Max. 600 mm Ø10-160 mm	1.000-40.000 piece/year
Powder metal	0,3-1 kg	5.000-15.000 piece/year

Thank you for your attention!



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