

MOTION AND MOBILITY



# Introduction of ZF-Hungary Ltd.

T-Eger

ZF Hungária Kft.



# Company History, ZF Group



Milestones	
<b>1915</b>	Foundation of Zahnradfabrik GmbH in Friedrichshafen by the Luftschiffbau Zeppelin GmbH
<b>1919</b>	Market introduction of passenger car and commercial vehicle transmissions
<b>1932</b>	Start of steering system production on license base, since 1999 ZF Lenksysteme GmbH
<b>1984</b>	Majority participation in Lemförder Metallwaren AG, Chassis Technology
<b>2001</b>	Acquisition of Mannesmann Sachs AG, Powertrain and Suspension Components
<b>2008</b>	Acquisition of Cherry GmbH, Electronic Components
<b>2011</b>	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*
<b>Sales</b>	16,837 Mio. €	+ 8 %
<b>Employees (end of year)</b>	72,643	+ 6 %
<b>Capital expenditure</b>	954 Mio. €	- 7 %
<b>R&amp;D expenditure</b>	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

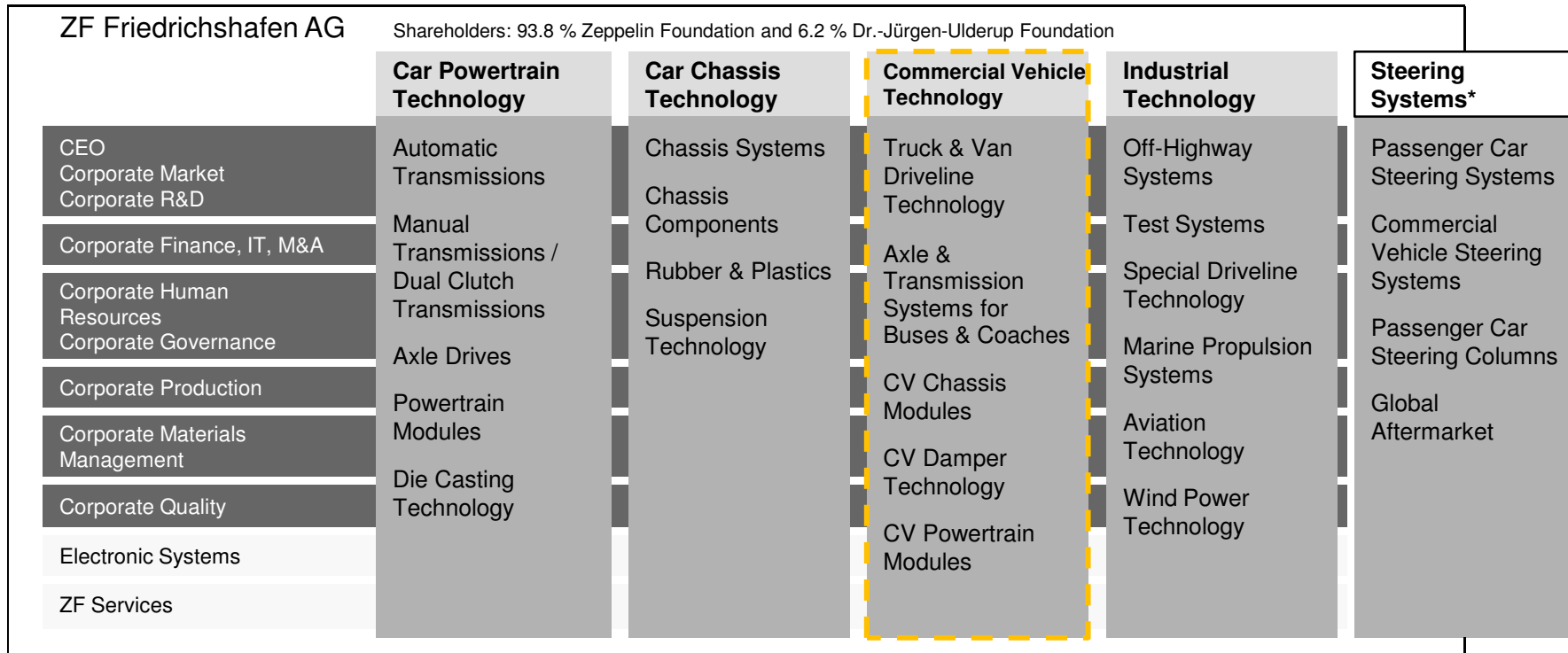
**33** Service companies

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.



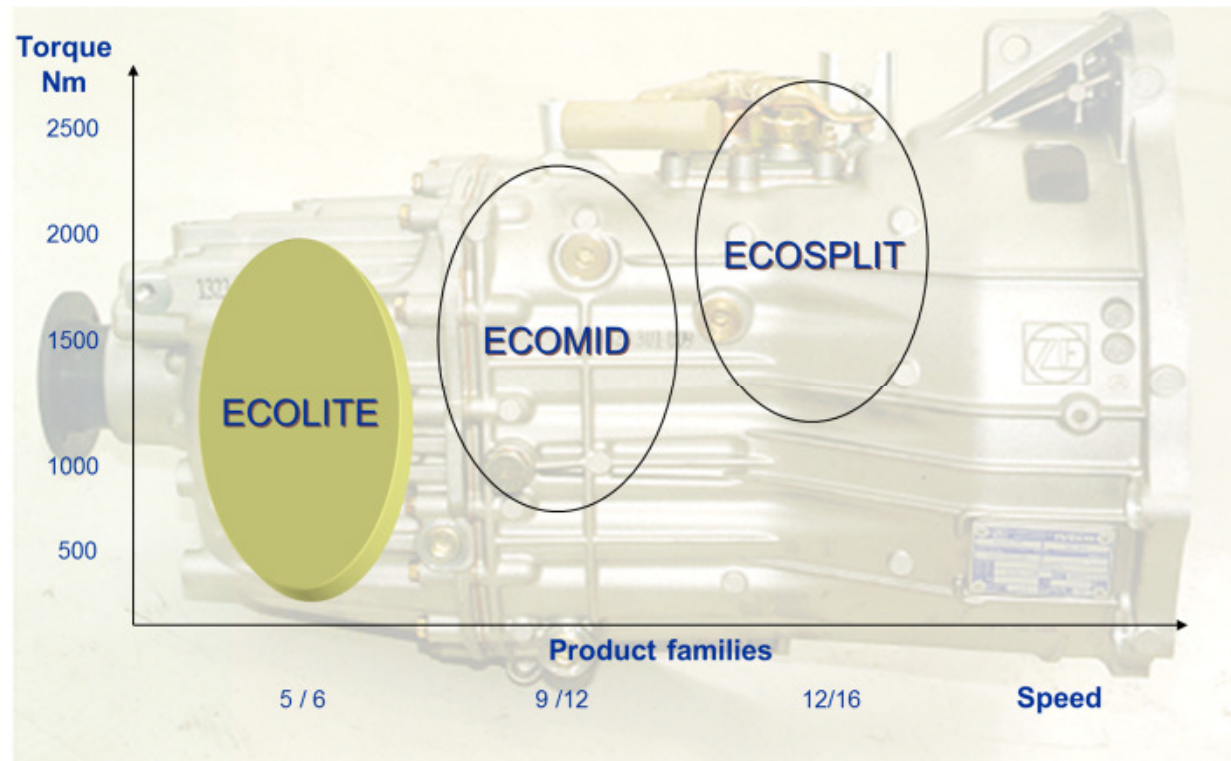
# Brief history of ZF Hungary Ltd.



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

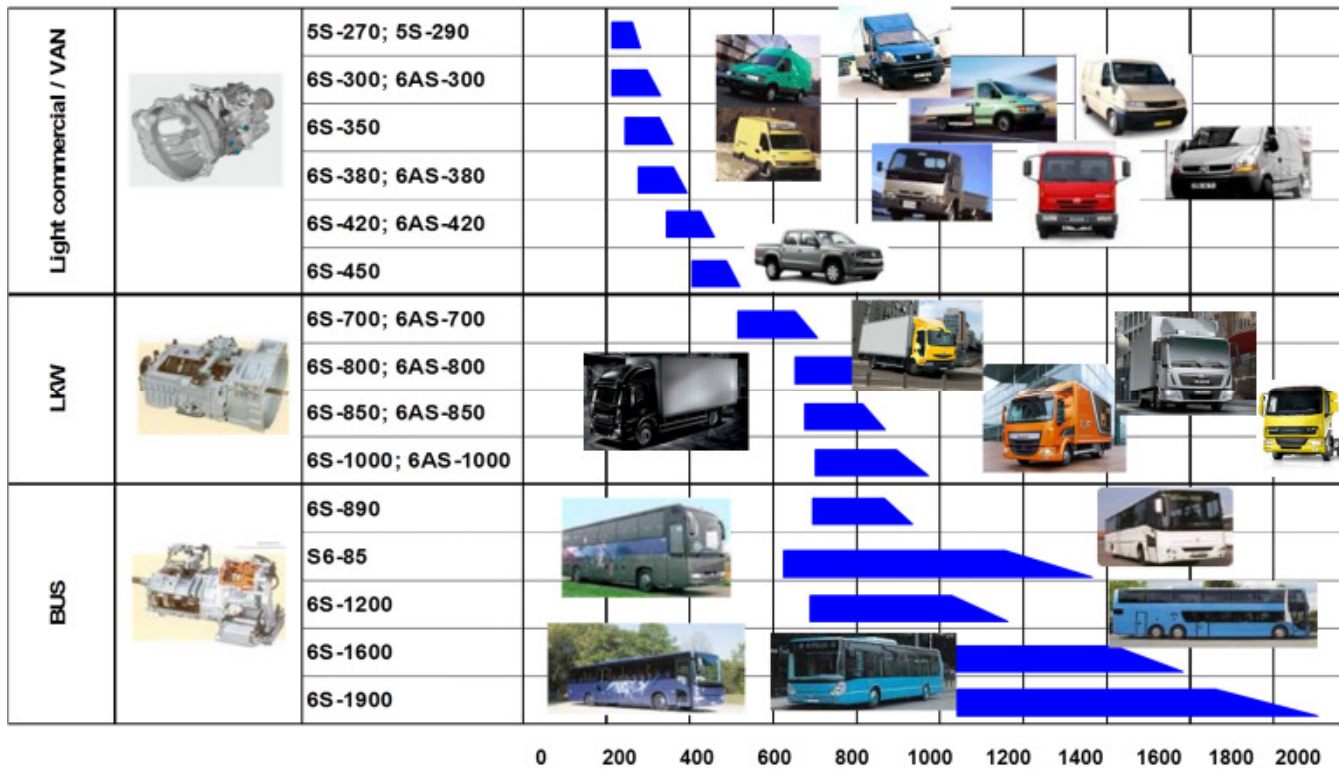


# Main product families - Ecolite





# Ecolite Products



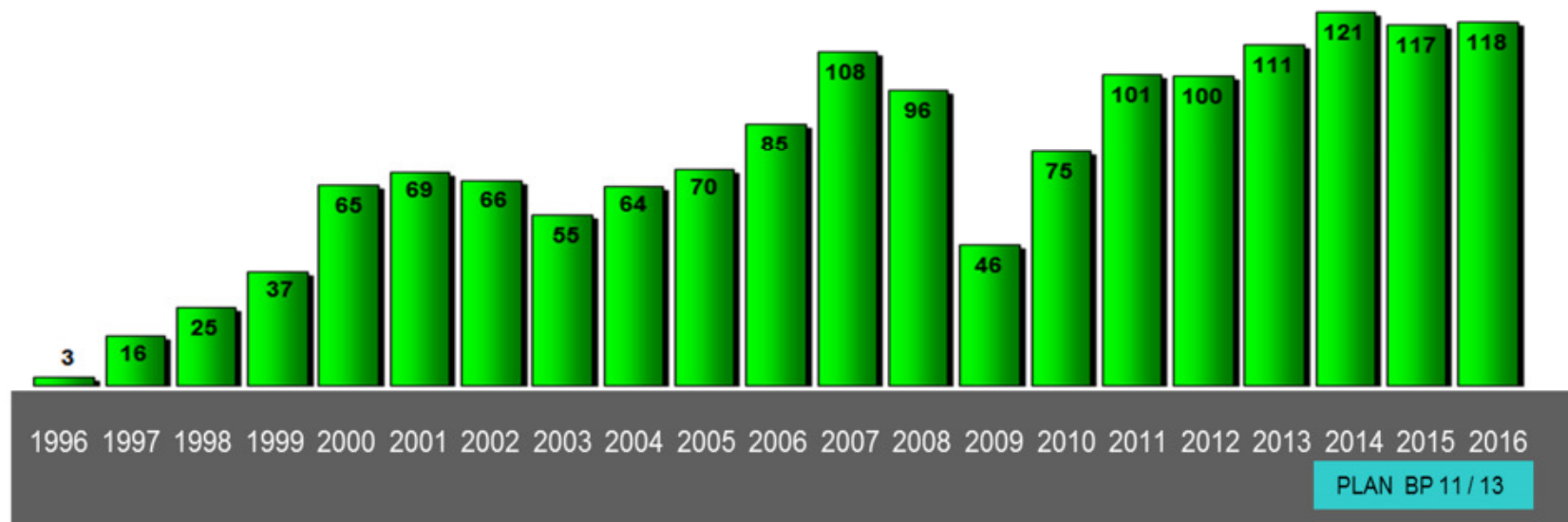
# Main customers



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



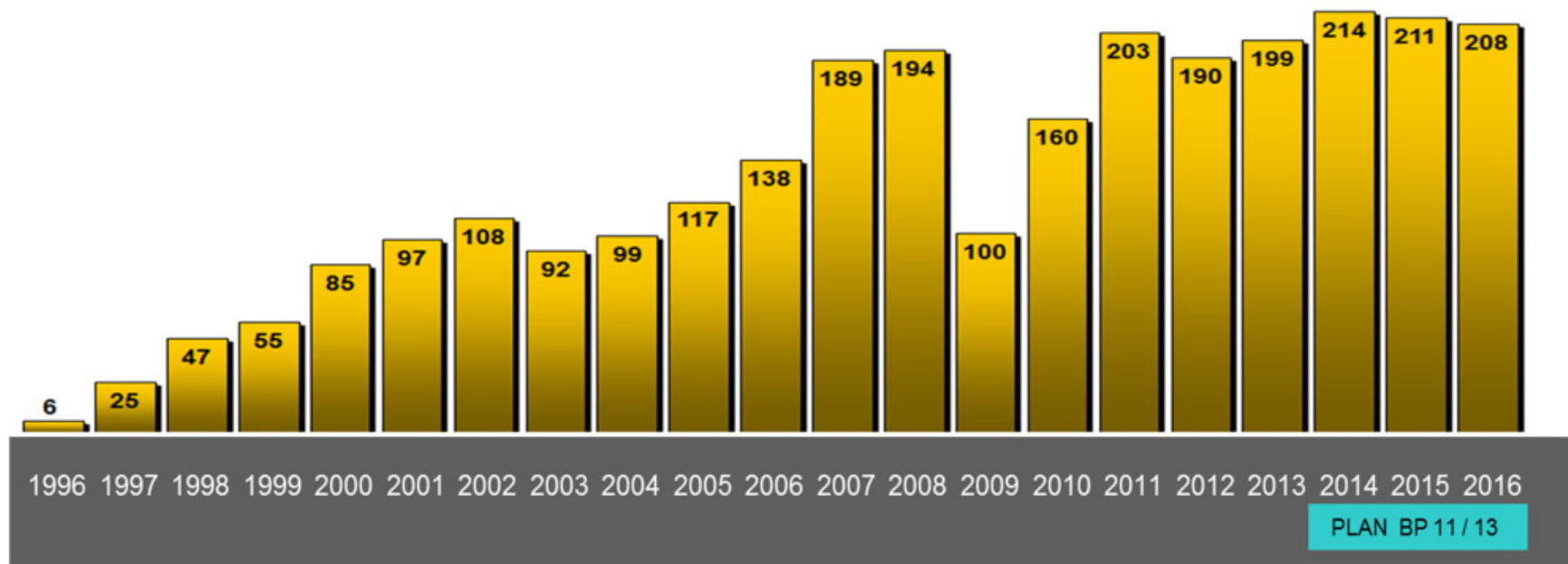
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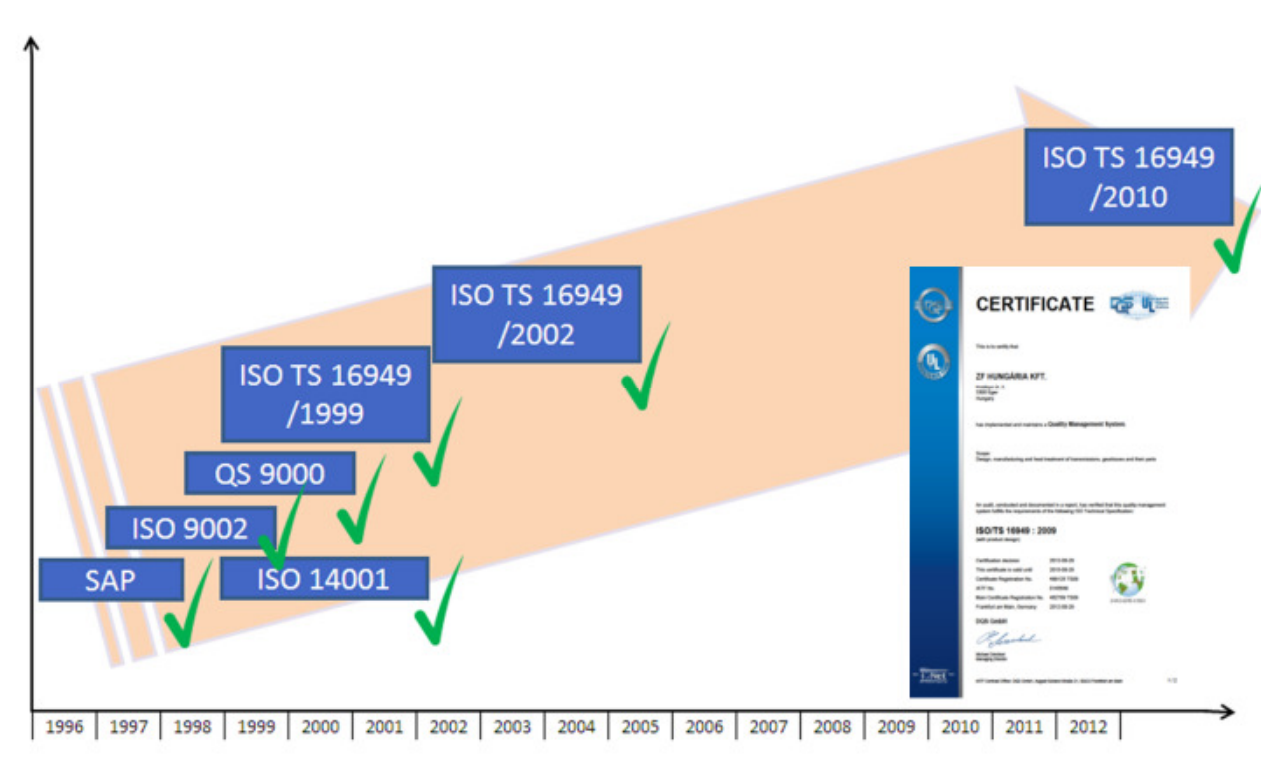
# T-EGER ( H ) DEVELOPMENT OF TURNOVER 1996-2017



DEVELOPMENT OF TURNOVER  
in Mio. €


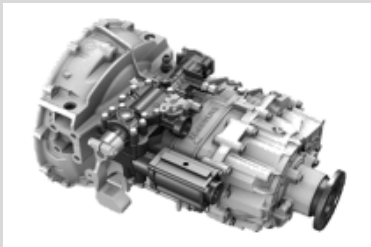

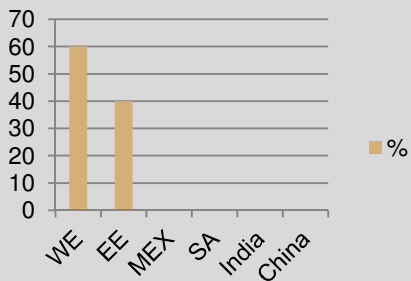
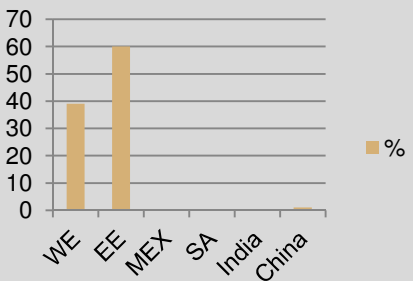
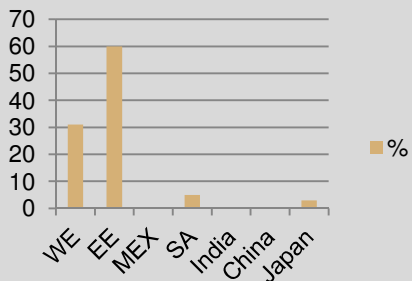


# Development of Quality System



# Main products and EE localization rate



	6S1311 (EB5)	6S800 (E24)	6S-450 Amarok																																												
																																															
Procurement Structure by Purchasing Volume	<p style="text-align: center;">%</p>  <table border="1"> <caption>Procurement Structure by Purchasing Volume - 6S1311 (EB5)</caption> <thead> <tr> <th>Region</th> <th>Percentage (%)</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	Percentage (%)	WE	60	EE	40	MEX	0	SA	0	India	0	China	0	<p style="text-align: center;">%</p>  <table border="1"> <caption>Procurement Structure by Purchasing Volume - 6S800 (E24)</caption> <thead> <tr> <th>Region</th> <th>Percentage (%)</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	Percentage (%)	WE	40	EE	60	MEX	0	SA	0	India	0	China	0	<p style="text-align: center;">%</p>  <table border="1"> <caption>Procurement Structure by Purchasing Volume - 6S-450 Amarok</caption> <thead> <tr> <th>Region</th> <th>Percentage (%)</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>5</td> </tr> <tr> <td>India</td> <td>0</td> </tr> <tr> <td>China</td> <td>0</td> </tr> <tr> <td>Japan</td> <td>5</td> </tr> </tbody> </table>	Region	Percentage (%)	WE	30	EE	60	MEX	0	SA	5	India	0	China	0	Japan	5
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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



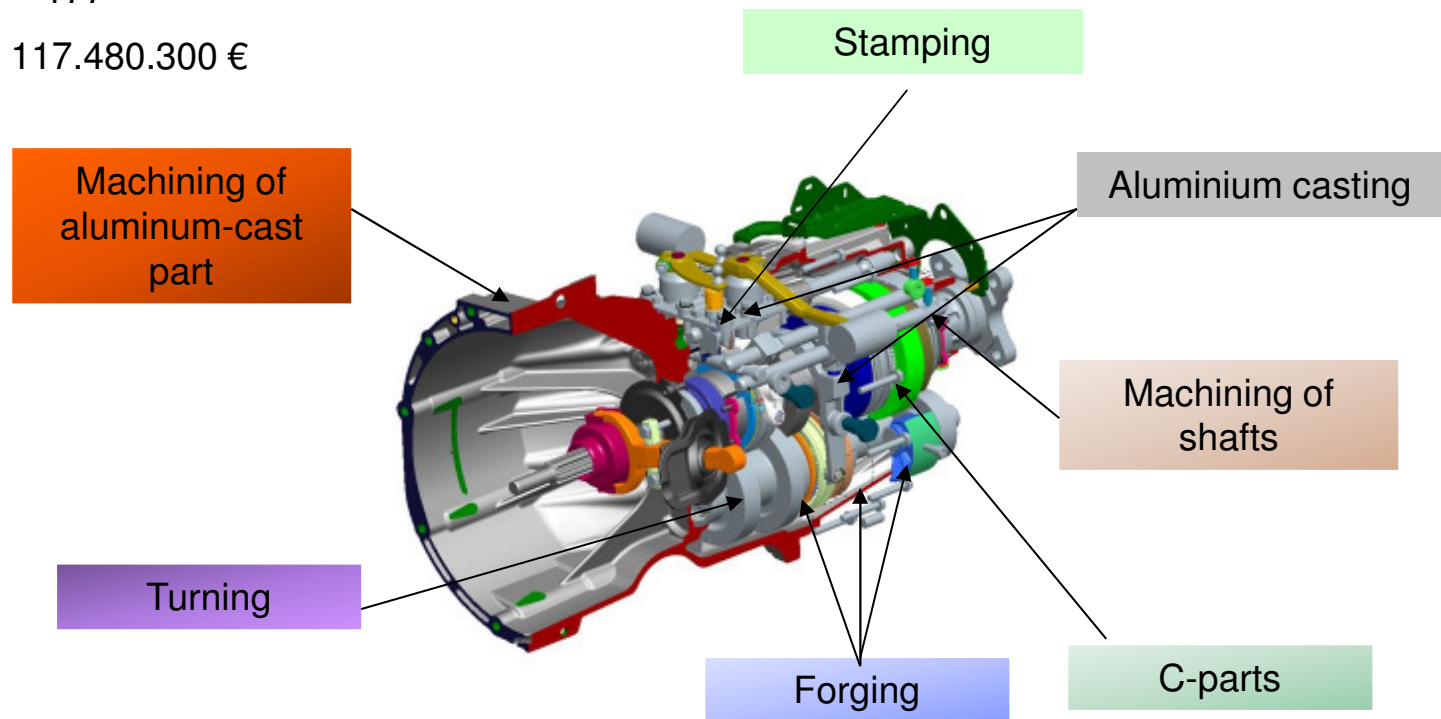
- ❑ Individual part Suppliers for Prototypes
- ❑ Supplier taking part in development with Simultaneous Engineering activity
- ❑ Supplier acting as Development Supplier
- ❑ Longtime cooperation / Agreements as a direct System Supplier
- ❑ Supplier background development in Quality and also Logistics
- ❑ 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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