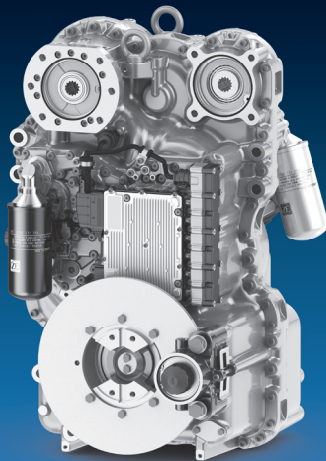


# see. think. act.

ZF cPOWER





The business unit “Off-Highway Systems” with its headquarters in Passau, Germany, offers its customers individual, tailor-made integrated solutions for construction machinery, agricultural machinery and material handling applications.

## ZF cPOWER – Tailor-made for the markets

The fully powersplit, continuously variable technology benefits from the long-term experience gained in the agricultural machinery sector and offers significant consumption benefits as well as productivity increases for the vehicle owner.

The cPOWER transmission series deploys well-known and -proven construction kit modules and benefits from ZF competence in transmission and vehicle system engineering.

High loads at low speeds in combination with high dynamic are the outstanding requirements for off-highway machinery. These criteria are met optimally by the new ZF CVT transmission technology with a degree of efficiency that was inconceivable up to now.

# ZF Drive Systems for Off-Highway Applications

## cPOWER – CVT technology

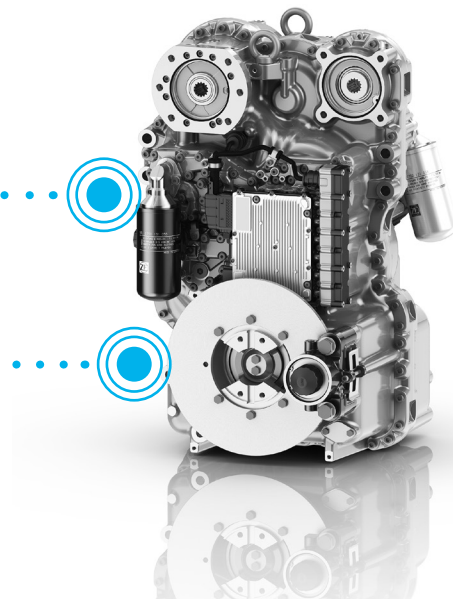
### Technical information

- Continuously variable drive over the whole forward and reverse driving range
- Hydrostatic-mechanical power splitting in all driving ranges
- Reduction of diesel motor speed independent of driving speed
- Significant consumption benefits and productivity increases for lift-trucks and container transport-vehicles
- High hydrostatic efficiency through wide-angle-bent-axis units in dual-yoke housing
- 2 PTO available as standard

# CVT Technology – Stepless into the future

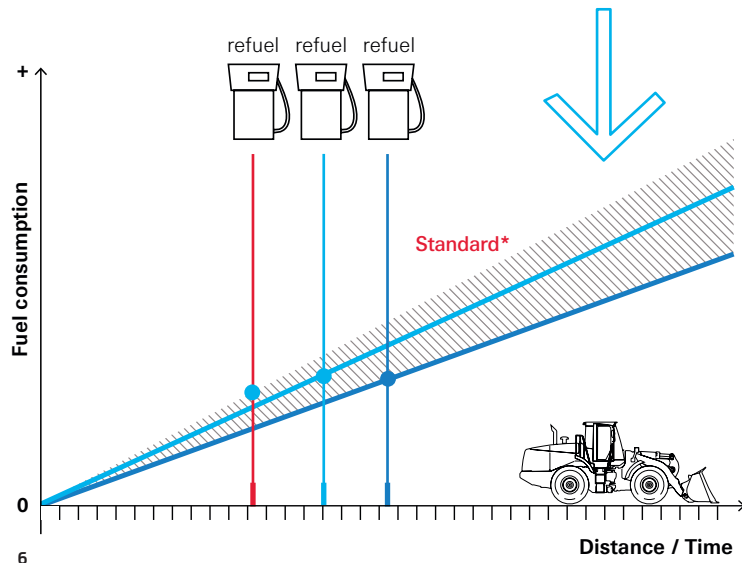
Up to **35%**  
less consumption . . . . .

Up to **20%**  
higher efficiency . . . . .



# ZF Drive Systems for Off-Highway Applications

Continuously variable drive with high efficiency



with **ZF EFFICIENCY PACKAGE**

Fuel savings  
up to 15 %

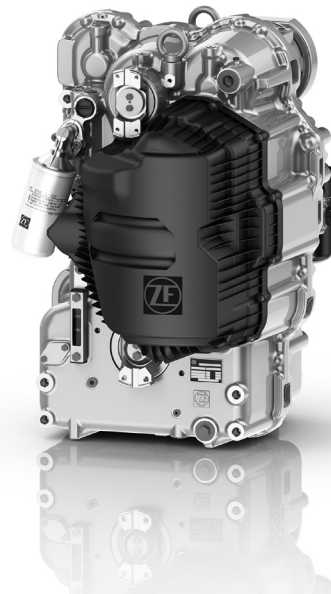
with **ZF cPower**

Fuel savings  
up to 35 %

# CVT Technology – Stepless into the future

Not only in wheel loaders does ZF's cPOWER transmission help reduce fuel consumption and increase productivity. In the diesel-engine-powered lift truck market a trend towards lower engine speeds and the demand for engine stabilization by a constant speed concept are the future challenges.

The continuously variable cPOWER meets both requirements. As for forestry equipment, ZF is already supplying the cPOWER transmission design for the skidder and forwarder applications.



# ZF Drive Systems for Off-Highway Applications

## cPOWER – CVT technology

cPOWER	CP 190/210/230	CP 260/290	CP 310/330
Engine power max. (kW) up to	190	250	284
Engine torque max. (Nm) up to	1,035	1,430	1,555
Engine speed (governed) 1/min	1,800	1,800	1,800
Empty vehicle weight (wheel loader) tons	20	27	35







## Company profile

**ZF is a global leader in driveline and chassis technology as well as active and passive safety technology.**

The company has a global workforce of around 146,000 with approximately 230 locations in some 40 countries. In 2017, ZF achieved sales of approximately €36.4 billion. ZF annually invests more than 6 percent of its sales in research and development – ensuring continued success through the design and engineering of innovative technologies. ZF is one of the largest automotive suppliers worldwide.

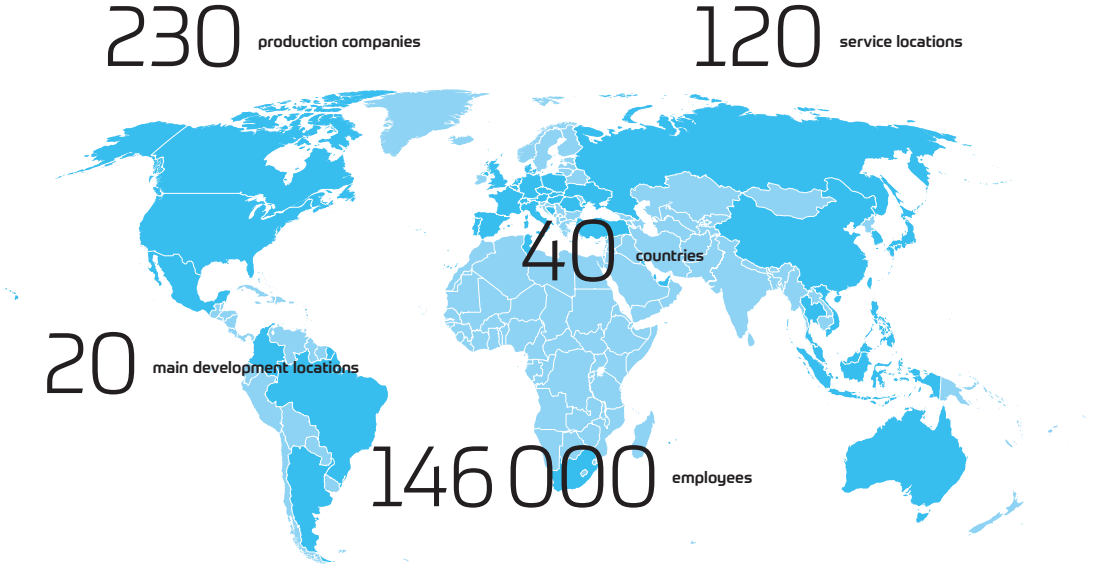
**ZF allows vehicles to see, think and act.**

With its technologies, the company is striving for Vision Zero – a world of mobility without accidents and emissions. With its broad portfolio, ZF is advancing mobility and services in the automobile, truck and industrial technology sectors.

# Divisions and business units

Car Powertrain Technology	Car Chassis Technology	Commercial Vehicle Technology	Industrial Technology	E-Mobility	ZF Aftermarket	Active & Passive Safety Technology
Automatic Transmissions	Chassis Systems	Truck & Van Driveline Technology	Off-Highway Systems	Electronic Systems	Independent Aftermarket	Braking Systems
Manual Transmissions/Dual Clutch Transmissions	Chassis Components	Axle & Transmission Systems for Buses & Coaches	Industrial Drives	Electric Traction Drive	Original Equipment Service/Specific Original Equipment	Steering Systems
Powertrain Modules	Suspension Technology	CV Chassis Technology	Marine and Special Driveline Technology/Rail	Axle Drives	Manufacturing	Occupant Safety Systems
		CV Powertrain Modules	Test Systems	System House	Services	Electronics
		CV Steering Systems	Aviation Technology		Friction Materials Group	Body Control Systems
			Wind Power Technology			

# ZF worldwide





## Off-Road specialists

**Industrial Technology is the division where ZF bundles its activities for “Off-Road” applications.** It comprises the development and production of transmissions and axles for agricultural- and construction machinery as well as driveline technology for material handling systems, rail- and special vehicles. The division is also responsible for the worldwide business of marine propulsion systems, aviation technology as well as the development and production of gearboxes for wind turbines. Large industrial gearboxes and test systems for various kinds of applications in driveline and chassis technology are also included in the division’s portfolio.

The business units of the Industrial Technology Division thus cover a very wide range of products and markets. The division employs a total workforce of approx. 10,128 persons at 25 locations worldwide.



## Locations Division Industrial Technology

### Europe

**Germany:** Passau, Friedrichshafen, Kassel, Witten

**Italy:** Padua, Arco

**Belgium:** Lommel

**The Netherlands:** Krimpen

**Austria:** Steyr

**Czech Republic:** Stankov

### North America

**USA:** Gainesville, Vernon Hills, Miramar

### South America

**Brazil:** Sorocaba

### Middle East, Africa

**UAE:** Dubai

### Asia, Pacific, Australia

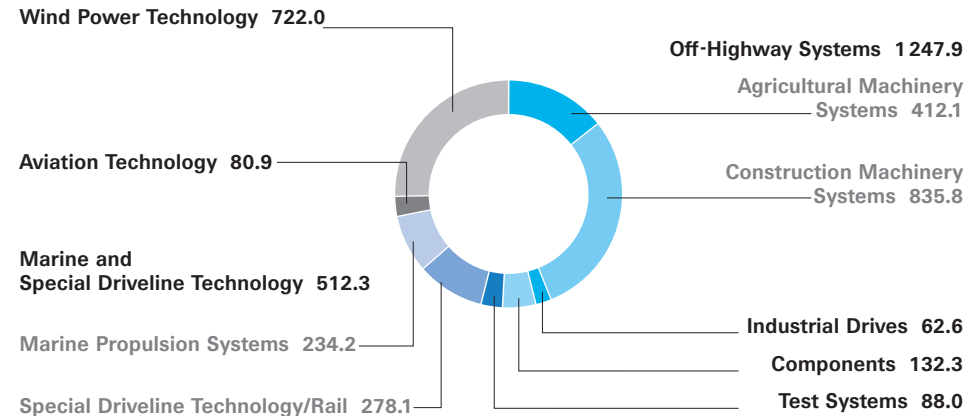
**China:** Shanghai, Hangzhou, Liuzhou, Tianjin, Luoyang, Beijing

**India:** Coimbatore, Pune

**Singapore:** Singapore

**Taiwan:** Kaohsiung

## Sales Division Industrial Technology 2017



All sales in million Euros, sales non consolidated



## Mobile worldwide with ZF Aftermarket

The division Aftermarket of ZF Group guarantees the performance and efficiency of vehicles throughout their life cycle, with integrated solutions and the entire ZF product portfolio. Its combination of the established product brands Lemförder, Sachs und TRW, digital innovation and technical information, customized products and services, and a worldwide service network has made ZF a sought-after partner and number two in the global automotive aftermarket.

With Openmatics, ZF Aftermarket sets new standards across the telematics market. The system is highly flexible, and suitable for professional fleet management as well as asset tracking, yard management, and vehicle diagnosis.

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