



ZF and Partners – Creating the Future Together



Core Purchasing Strategy
2012 Issue



To Our Suppliers

Our vision: ZF Purchasing is a global benchmark due to its strategy and international orientation. An international network of expert and highly motivated employees and the most efficient suppliers ensure an outstanding and continuous contribution to the success of the company.

Dear Madam/Sir,

Today, material costs account for more than 50 percent of our turnover, which makes them the largest group of costs and demonstrates the importance of materials management for the success of ZF. The technological leadership of our products, the expansion of the systems business and the potential for global, on-site production are the criteria that have an impact on our supplier structure. Therefore, ZF will continue to focus on its need for efficient suppliers.

The collaboration between ZF and its suppliers is based on partnership. Our "Core Purchasing Strategy" brochure lays out the basic principles. The goals of our customers are extremely challenging. To achieve these goals and attain sustainable competitiveness, our motto is tough but fair collaboration. ZF supports international efforts to combat corruption.

The suppliers need to align strategy and management style with the long-term demands of ZF. Through excellence in quality, logistics, and cost-cutting, suppliers recommend themselves for new orders within new product programs.

As a global technology company, ZF needs an innovation-driven supplier base that, just like ZF, is based on an international, financially sound production structure. To ensure this, risk management has become a fundamental part of our purchasing strategy. It is important to have prices that reflect the best possible cost situation, including profit. For optimal cost

structures in terms of parts, our basic procurement method is single sourcing. However, this does not exclude the possibility of switching to a two-supplier strategy from case to case.

Waste in the supply chain incurs costs and slows us down. Therefore, our collaboration is characterized by the continuous improvement of processes. With supplier development programs and electronic management of administrative processes, the quality of the work performed will improve continuously.

We want to work with you to develop strategies that will support our vision. To ensure a systematic approach to the use of energy and resources, we will discuss our objectives with you and determine the appropriate measures to meet them. In doing so, we want to move progressively closer to fulfilling our vision.

ZF and Partners – Creating the Future Together. We would like to invite you to join us!



Dr. Stefan Sommer
Member of the Board of Management ZF Group,
Chief Supply Chain Officer ZF Group



Horst Wiedmann
Vice President
Corporate Purchasing and Logistics

Code of Conduct

Purchasing Non-Production Materials and Investment Goods

The collaboration principles described in this brochure are to be taken as general rules for all areas: when purchasing parts, assembly groups or systems, or when procuring non-production materials or investment goods. We classify our suppliers, and only those we consider to be of strategic value for certain categories of goods are included in the Strategic Supplier List.

Our aim is to concentrate on a few suppliers to ensure the most profitable conditions. Order processing is handled electronically and the deliveries are made directly to the customer. In this way, we hope to drastically reduce inventory costs and administration activities for purchasing non-production materials.

The ZF Group is aware of its social responsibility and acts accordingly. The corporate reputation and the confidence which customers, suppliers, business partners, shareholders, and the general public have in the ZF Group essentially depend on the personal integrity and responsible attitude displayed by all employees. ZF has therefore always been committed to a fair, correct, and transparent business management policy. All actions are based on the laws of the individual countries in which ZF operates.

By appointing a member of the Board of Management of the ZF Group as Chief Compliance Officer, and through the introduction of a compliance organization in May 2008, ZF clearly expressed the importance of its voluntary commitment and its strong implementation drive.

ZF's core values and a commitment to sustainable development can be found in our Code of Conduct, which is mandatory for ZF employees around the world. It spells out minimum standards of business conduct as well as appropriate, universal, and consistent basic rules.

These basic rules of the Code of Conduct are specified in detail in the ZF Group directives. Thus, ZF has created an orientation framework for compliant behavior for its employees.

The "Avoiding Corruption During the Course of Business" directive addresses each and every ZF employee, but especially the members working directly with business partners. This directive is proof that the management of ZF Friedrichshafen AG aims to put an end to corrupt practices, irrespective of whether they are committed by business partners and/or administrative bodies or ZF employees.

ZF has zero tolerance for illegal and unethical behavior. Suppliers are expected to uphold the same standards of conduct.



ZF develops and manufactures high-quality products that improve the mobility of people and goods and all related technologies. The technological leadership is based on a great tradition of inspiring technical innovations in driveline and chassis technology. ZF is passionately committed to achieving greater efficiency and resource conservation and is a pacesetter in new markets.

Development

The supplier is an integral part of ZF's development teams. Early Supplier Involvement will help ZF shorten development times and reduce costs. A further goal is the development of system suppliers.



ZF products are in demand worldwide and must therefore meet the requirements of the respective regions. ZF's "design-to-market" approach takes market and supplier conditions into account to ensure that products are designed which facilitate procurement and production.

Within the framework of Early Supplier Involvement, our suppliers are involved in the collaborative development of our products as early as the design phase. Simultaneous Engineering is geared towards making development a team effort, which prevents work redundancies and preserves valuable capacities.

Suppliers are expected to bring their expertise to the table and take charge of detailed design and engineering

work. This will help shorten development times and significantly reduce the costs for development, modeling, tools, and materials. Through long-term or even life cycle contracts, ZF intends to ensure that the development supplier also supplies the volume production so that full know-how exchange is achieved.

This type of collaboration requires procurement from a single source. For the parts families, ZF will define on a global basis the strategic suppliers that will help shape our common future. However, favorable cost structures will not be the only important consideration; suppliers will have to prove quality assurance, development, and logistics capabilities as well as management skills and financial strength, which are equally important.

About 80 percent of the costs are determined by the product design. Establishing optimum cost structures to achieve the target prices determined by the global market must be a common objective.

Strategic Cost Management

Cost transparency is necessary to identify cost-driving factors and optimize cost structures.

ZF's global purchasing network allows for involvement in procurement marketing on an international scale. Taking total cost considerations into account, the global market cost level is the target price benchmark.

To choose the right Early Supplier Involvement members, it is important to understand supplier cost structures and, as far as possible, have an overview over the entire supply chain. Sufficient cost transparency is a prerequisite for determining which suppliers will be able to achieve the target costs.

For existing products, ZF will work with the suppliers in interdisciplinary value analysis teams. Changing from annual price negotiations to ongoing, open cost discussions is the target. In doing this, the object is not to challenge the suppliers' profits, but to identify and eliminate the cost-driving factors caused by both sides and therefore jointly achieve the best cost level. This requires a team environment with a readiness and an

ability to openly discuss existing and possible cost structures while also creating new ones. ZF is willing to further bundle requirements and make long-term commitments, where possible, to a single source supplier for each parts family.

The suppliers are to achieve a profitability level in proportion with the global market cost level.



Quality Management

ZF defines quality as a combination of product quality and business process quality. The common objective is zero error tolerance.



ZF's requirements regarding quality management are described in the current QR83/QR83B Quality Assurance directive for component supplies. This directive is part of ZF's General Terms and Conditions of Purchase.

To ZF, quality means not only delivery quality but also the quality of business activities throughout the entire collaboration. Within the framework of this partnership, suppliers have the opportunity to actively lay the foundations for quality assurance. Suppliers are responsible to ZF for the quality of their services and those of their subcontractors. An effective quality management system based on the guidelines of ISO/TS 16949 [19] is a prerequisite for a supply relationship with ZF. The Minimum requirement is proof of certification in accordance with ISO 9001. For those suppliers working for ZF in the fields of passenger and commercial motor vehicles, certification in accordance with ISO/TS 16949 will be required in the medium term. A certification in accordance with ISO/TS 16949 is a prerequisite for strategic suppliers.

This quality management system is intended to prevent errors, detect variations from specifications from the outset, and eliminate the cause of errors quickly and decisively. To enable this, the supplier must ascertain the appropriate measures, monitor their implementation, and then document them. ZF is in a position to provide support through quality assistance programs. The common objective is zero error tolerance. To achieve this, quality and process planning and regular project assessments are necessary.

As a rule, ZF will be waiving the incoming goods inspections. This will reduce throughput times and reduce costs by eliminating redundancies. The demands made by ZF's customers regarding warranty periods and the content of warranties continue to gain importance. Together with the suppliers, which we classify as either development suppliers or blueprint suppliers, we must take these demands into account in the warranty agreements which, among other things, govern the acceptance of any consequential costs.

ZF is committed to the protection of the environment. All plants are certified in accordance with ISO 14001. ZF therefore expects a voluntary commitment to environmental protection from its suppliers.

Supply Chain Management

Extremely short delivery times with increased delivery flexibility and adherence to deadlines are criteria that ZF can meet with transparent information processes.

In addition to innovative, high-quality products, supply chain efficiency is becoming a unique selling point in international competition. This can be described using attributes such as high delivery reliability, very short response times to changing demand conditions, and a high degree of process stability at competitive total costs.

Increased demands on delivery capabilities and flexibility can be realized with minimal inventories in the supply chain. Realization depends on close networking between ZF and its supply chain partners, particularly by providing and transforming all management-relevant data and information to all parties involved in good time. In addition, production-critical supply chains need to be able to continuously monitor supply availability in the face of short-term fluctuations in demand. Here, modern digital communication technologies provide the answer. In its global supply chain network, ZF and corresponding supply chain partners play an active part in shaping the future. For example, supply chain design

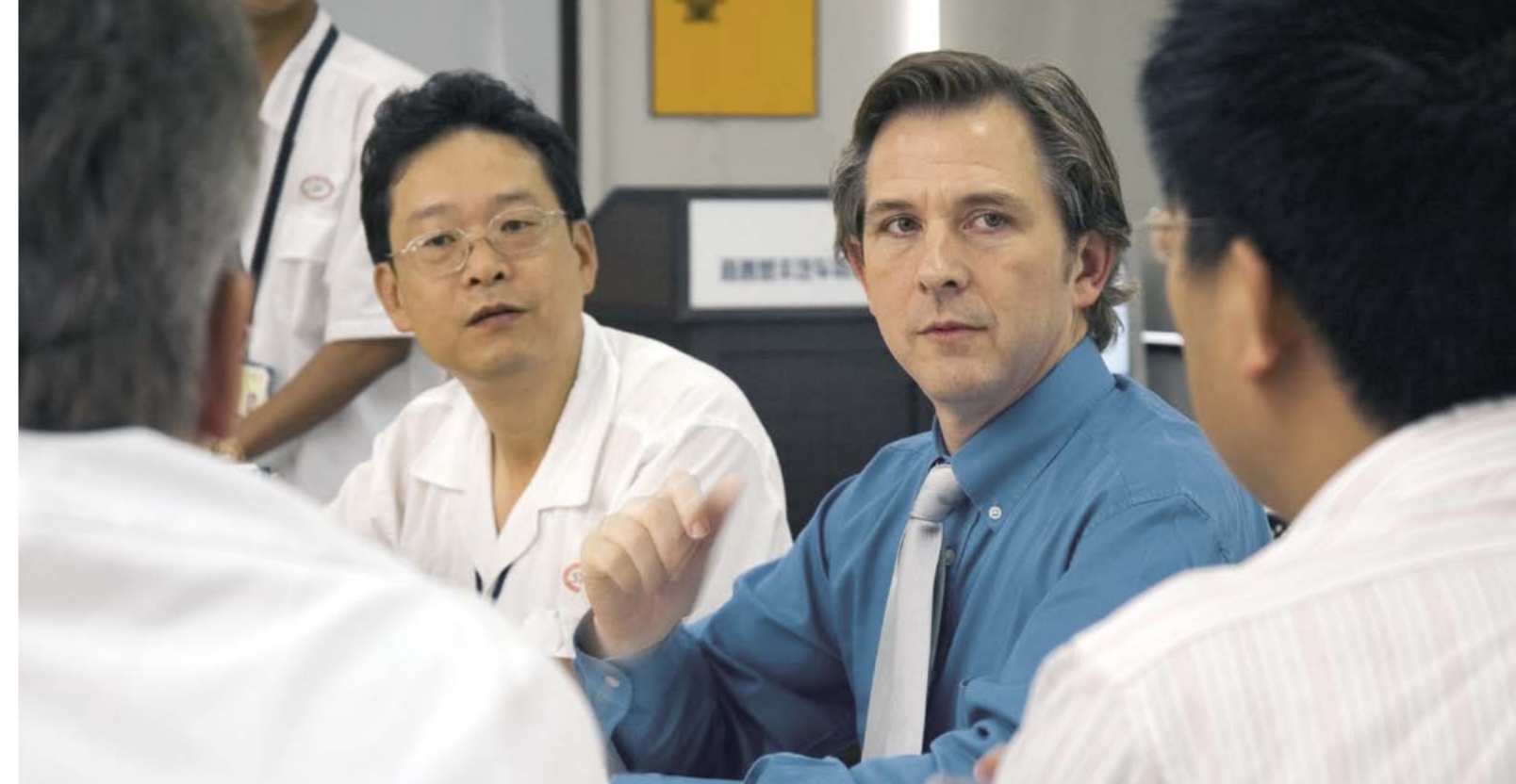
and simulations are used to determine the volume and location of unavoidable buffer stocks and joint FMEA processes help devise contingency strategies for unforeseen events and disturbances.

The standardization and harmonization of supply chain processes are an important step towards achieving the above-mentioned objectives. In this context, ZF is committed to adhering to common automotive industry standards. If new standards are needed to meet the requirements, they will be presented to the standardization bodies of the automotive industry, jointly developed and duly adopted.



Supplier Management

Supplier development for the systematic optimization of technology, quality, costs, and logistics.



ZF has a systematic and repetitive supplier assessment and risk management system. The combination of capability, proven performance, and risk potential serves as the basis for supplier selection and the commissioning process.

The SAZUG* supplier classification system is an important element in the supplier management cycle. To be included in the Strategic Supplier List, suppliers need an S classification based on strategic importance and the evaluation of the services they provide. This is a mandatory, Group-wide policy; in principle, only properly classified suppliers may receive orders.

To be a strategic supplier, the following ten entry-level criteria must be met:

1. Adherence to quality objectives
2. Adherence to logistics objectives
3. Adherence to cost objectives
4. Acknowledgement of ZF's General Terms and Conditions of Purchase
5. Acceptance of QR83 and/or QR83B
6. Risk assessment without objection
7. Collaboration via SupplyOn
8. Willingness to go along with process cost transparency
9. Willingness to go along with product cost optimization
10. Supplier assessment is A or AB

Suppliers classified with a G (blocked suppliers) are not permitted to receive new orders. The supplier cannot stay at this level permanently, but must quickly return

to an S or A classification. If this does not happen, the supplier is then removed from the list. On a monthly basis, ZF records and communicates the hard facts relating to the services provided. Target deviations in quality (ppm) and delivery and quantity reliability will be evaluated. In addition, ZF will evaluate the soft facts once or twice a year depending on importance. The supplier qualification test is a significant management tool used in feedback discussions geared towards identifying improvement potential.

ZF will work towards improvements for suppliers with large deviations and specifically with those processes that cause the greatest problems.

The supplier development program ZF League** was created to exploit the optimization potential throughout the entire process chain. It contains a systematic method for the integrated optimization of technology, quality, costs, and logistics. ZF League** provides benefits for both sides, as long as there is a commitment to discuss all process-related subjects openly. A win-win situation is important. For this reason, the rules and expectations, particularly the distribution of revenues and expenses, will be negotiated with the supplier before the project begins.

* SAZUG:

S = strategic supplier
A = approved supplier
Z = phase-out supplier
U = unwanted supplier
G = blocked supplier

** ZF League:

Supplier integration as a common business success factor



Electronic Transaction Processes with Suppliers

The goal is to use the SupplyOn marketplace to handle supplier transactions better, faster, and with more ease.



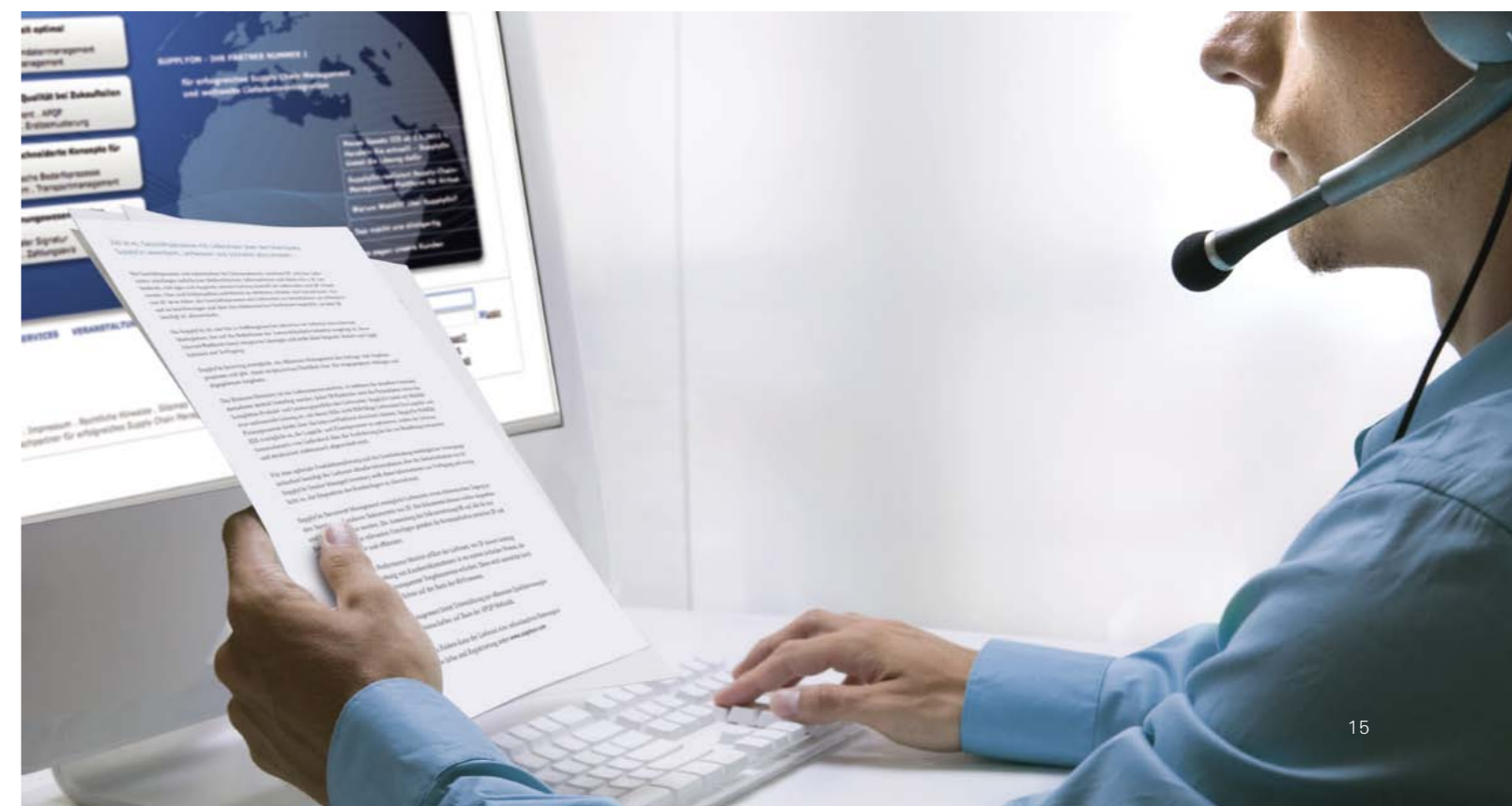
Go to www.supplyon.com for more information and registration.

The transactions and in particular the data exchange with suppliers are subject to multiple media breaks. To date, ZF and the suppliers manually record information and data, such as calls for delivery, queries, and offers. This is a source of error which causes extra work and is also time-consuming. The goal, therefore, is to simplify, improve, and accelerate the transactions with suppliers and to use the electronic SupplyOn marketplace, in which ZF has a share.

SupplyOn AG, with headquarters in Hallbergmoos (near Munich), provides an Internet marketplace that is designed to meet the needs of the automotive supplier industry. This Internet platform provides integrated solutions, offering the following modules and applications:

- SupplyOn Sourcing enables efficient management of the request and quotation process and provides a structured overview of all received requests and offers made.
- The business directory is a list of suppliers, in which the current corporate data is centrally stored. Every ZF buyer sees the company data and the entire product and service portfolio of the supplier. With WebEDI, SupplyOn offers a comprehensive solution which can help non-EDI-capable suppliers handle their logistics and financial processes directly via the Internet platform.
- SupplyOn WebEDI/EDI makes it possible to optimize the logistics and financial processes by enabling a transparent and structured electronic exchange of information on delivery requests, distribution, and payments.
- For optimal production planning and to ensure the best possible security of supply, the supplier needs information on ZF's current needs. SupplyOn Vendor Managed Inventory provides this information, making it possible to acquire details of stock levels at the customer warehouse.
- SupplyOn Document Management provides suppliers with electronic access to standards and other ZF documents. These documents can be viewed online and downloaded. All relevant procurement process documents are included in the pool of accessible documents, making communication with suppliers more efficient and secure.
- Suppliers can access ZF's evaluation of their performance via the SupplyOn Performance Monitor.

- Customer complaint handling is an extremely critical process which requires a structured and transparent approach. Based on the 8D method, the SupplyOn Problem Solver supports this process.
- Based on the APQP methodology, SupplyOn project management supports development partnerships with an efficient, advanced quality planning tool.
- SupplyOn collaboration folders allows the supplier to ensure redundancy-free data organization.



Product Portfolio

Driveline Technology

Transmissions

Manual and automatic transmissions ▪ Dual clutch transmissions ▪ Hybrid systems

Driveline Components

Gearshift systems ▪ Electronic components ▪ Clutch systems ▪ Torque converters ▪ Dual-mass flywheels ▪ Axle drives ▪ Bevel gear sets ▪ Differentials ▪ Powertrain suspension mounts

Chassis Technology

Axles

Front and rear axle systems ▪ Corner modules

Chassis Components

Damper modules and damping systems ▪ Tie rods ▪ Stabilizers ▪ Stabilizer links ▪ Control arms ▪ Suspension joints ▪ Leveling systems ▪ Crash-absorption elements ▪ Chassis mounts ▪ Precision plastics parts ▪ Electronic components

Steering Systems

Mechanical, hydraulic, and electric power steering systems ▪ Steering pumps ▪ Steering columns ▪ Steering accessories

Driveline Technology

Transmissions

Manual and automatic transmissions ▪ Hybrid systems

Driveline Components

Gearshift systems ▪ Electronic components ▪ Control systems ▪ Clutch system ▪ Torque converters ▪ Dual-mass flywheels ▪ PTOs ▪ Retarder systems ▪ Axle drives ▪ Bevel gear sets ▪ Differentials ▪ Suspension mounts

Chassis Technology

Axles

Front and rear axle systems

Chassis Components

Damper modules and damping systems ▪ 4-point links ▪ V-links ▪ Torque rods ▪ Tie rods ▪ Stabilizers ▪ Suspension joints ▪ Cabin suspensions ▪ Chassis mounts ▪ Precision plastics parts ▪ Electronic components

Steering Systems

Hydraulic power steering systems ▪ Rear axle steering systems ▪ Steering pumps ▪ Steering columns ▪ Steering accessories

Driveline Technology

Transmissions

Manual and automatic transmissions for special vehicles ▪ Automatic and synchromesh transmissions for tractors ▪ Automatic transmissions for construction machinery and lift trucks ▪ Surface drives and pod drives for boats ▪ Transmissions for boats and ships ▪ Drives for mixers, rail vehicles, aircraft, and industrial engineering ▪ Elevator gearboxes

Driveline Components

Steering systems for special vehicles, off-road machinery, boats, and ships ▪ Clutch systems, torque converters for off-road machinery and special vehicles ▪ PTOs and retarder systems for special vehicles ▪ Differentials for construction machinery ▪ Clutches and brakes for industrial engineering ▪ Propellers for boats and ships

Chassis Technology

Axles

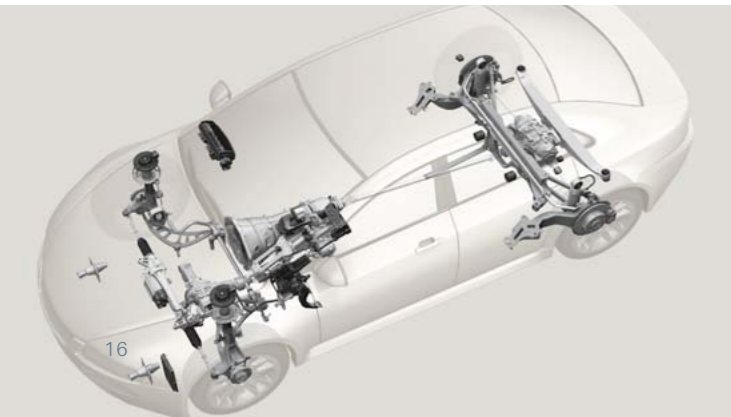
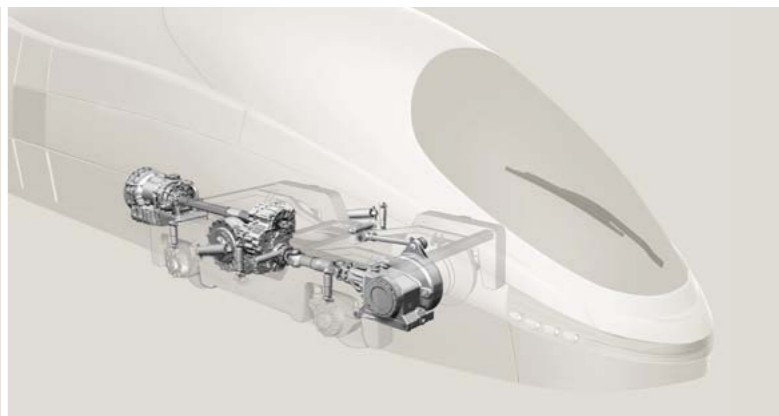
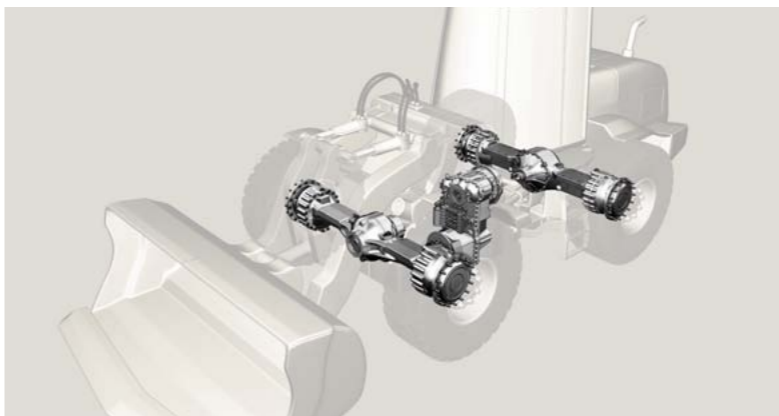
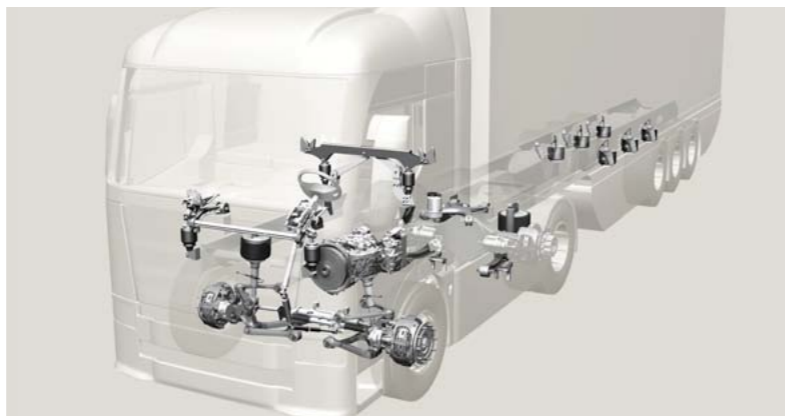
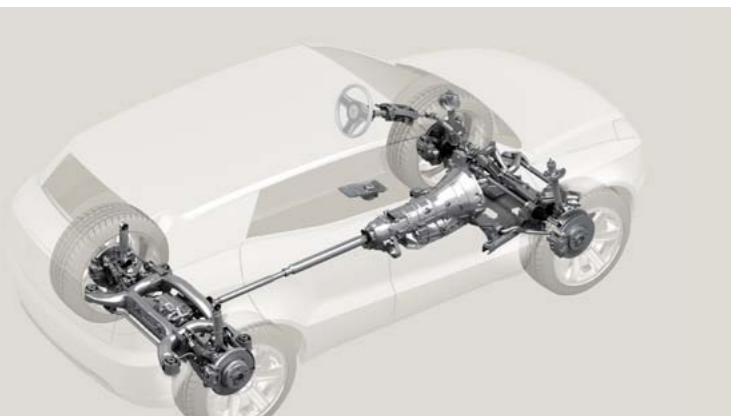
Axles and axle components for off-road machinery

Chassis Components

Damper modules and damping systems for off-road machinery, rail vehicles, racing, and motorcycles

Steering Systems

Hydraulic power steering systems and rear axle steering systems for special vehicles



Foundations of Success

ZF is a leading worldwide automotive supplier for Driveline and Chassis Technology

We develop and manufacture innovative, high-quality products and related technologies that improve the mobility of people and goods. Our products and services offer our customers clear added value through leading technologies, quality, and service. Our passionate commitment to achieving greater efficiency and resource conservation has made us a trendsetter in new markets.

We believe in fair and reliable business practices everywhere we operate, and our global reach ensures our customers a tight-knit network of knowledgeable contact partners.

As a company owned by two foundations, we strive for sustainability and efficiency to ensure our economic and financial independence. An agile organizational structure, lean processes, and an enduring willingness to change are the basis for continuous improvement in the company's performance.

ZF is a decentralized company with divisions and business units that operate independently and respond flexibly to the needs of our customers. However, the Group sets the strategy of divisions and business units, and the Group's overall interests take priority over the individual interests of the divisions and business units.

A motivated and skilled workforce is our most important asset and a decisive success factor at ZF. We offer all of our employees outstanding opportunities for advancement with regard to their skills, performance,

commitment, and mobility. ZF maintains an open dialog with its employees and employee representatives. We proudly work together to make ZF a successful company and view our employees as team members who can be successful only if all work together toward the same goals, throughout all divisions, and across all borders.

We respect the business ethics and legal standards of the countries where we operate. Reliability and fairness are inherent principles of our corporate culture as are honesty and responsibility in all of our actions. We are active members in our communities and maintain a regular dialog with the public. As well, we view our responsibility to social causes, especially environmental protection, among our key corporate goals and seek ways to regularly engage our entire company in their pursuit.



Driveline and Chassis Technology

| Powertrain Technology | Chassis Technology | Commercial Vehicle Technology | Industrial Technology | Steering Systems |
|-----------------------|-----------------------|----------------------------------|--------------------------------|-------------------------------------|
| Transmissions | Chassis Systems | Truck & Van Driveline Technology | Construction Machinery Systems | Passenger Car Steering Systems |
| Axle Drives | Chassis Components | Bus Driveline Technology | Agricultural Machinery Systems | Commercial Vehicle Steering Systems |
| Powertrain Modules | Rubber & Plastics | CV Axle Systems | Material Handling Systems | Passenger Car Steering Columns |
| | Suspension Technology | CV Chassis Modules | Test Systems | Global Aftermarket |
| | | CV Damper Technology | Special Driveline Technology | |
| | | CV Powertrain Modules | Electronic Systems | |
| | | | Marine Propulsion Systems | |
| | | | Aviation Technology | |
| | | | Wind Power Technology | |



ZF Lenksysteme GmbH is a joint venture of ZF Friedrichshafen AG and Robert Bosch GmbH.

Brands of ZF



ZF Services