

Sustainability Report 2017



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About the Report

This is the sixth edition of the sustainability report published by ZF Friedrichshafen AG and it is based on the fiscal year 2017. Our sustainability report is published annually and was not submitted for an external assurance.

Following the integration of TRW Automotive as the Active & Passive Safety Technology Division, more processes and non-financial data have been successfully consolidated. There are still a few datapoints for which a complete integration could not yet be finalized. Wherever data or information provided in this report only represent ZF without the Active & Passive Safety Technology Division, this is marked accordingly.

The following GRI Bilanz is based on the Standards (2016) by the Global Reporting Initiative (GRI). The GRI Standards request companies to perform a materiality analysis which sets

priorities in reporting and focuses on central elements of the performance indicators in the fields of economy, environment and society. The process for determining the material issues is described on pages 15–17 of the report. The report was submitted for the GRI Materiality Disclosures Service, and GRI confirmed the correctness of the locations of the materiality disclosures (102-40 – 102-49).

The report is intended to offer transparency, with a particular focus on our sustainability activities and objectives. At the same time, the report represents our progress report to the United Nations Global Compact that we joined in May 2012. It addresses customers, employees, suppliers, politicians, authorities and all other target groups that are interested in our company and wish to know about our values and principles.



UN GLOBAL COMPACT

COMMUNICATION ON PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.



Empowering Sustainable Decisions

Materiality Disclosures
ZF Friedrichshafen

Feb 2018
Service

GRI Content Index

102 General Disclosures

ORGANIZATIONAL PROFILE

GRI 102-1

Name of the organization

ZF Friedrichshafen AG

GRI 102-2

Activities, brands, products, and services

ZF Group is a global leader in the field of driveline and chassis technology as well as active and passive safety technology. Its portfolio comprises systems, units and components. With a historically strong position, including premium customers and a broad volume customer base, ZF operates in particular in the passenger car and commercial vehicle industry. Activities also extend to other market segments, such as construction and agricultural machinery, wind power, marine propulsion, aviation technology, rail drives, special drives and test systems for industry, and transmissions for industrial applications. ZF also offers a wide range of services that are marketed mainly by the ZF Aftermarket organization. These services primarily involve the spare parts business for driveline and chassis technology as well as maintenance and repair services.

The most important ZF Aftermarket product brands include:

- SACHS: clutches, dual mass fly wheels, torque converters and shock absorbers for passenger cars and commercial vehicles
- LEMFÖRDER: steering and suspension systems, rubber-to-metal components for passenger cars and commercial vehicles
- TRW: braking systems, steering and suspension systems and shock absorbers for passenger cars and commercial vehicles. Brakes, clutches, handle bars, pretensioners, radar, switches, accessories and footrest systems for motorcycles
- BOGE: shock absorbers for passenger cars and commercial vehicles
- OPENMATICS: connectivity solutions for passenger cars, trucks, industrial applications, manufacturers, fleets and end consumers.

GRI 102-3

Location of headquarters

Friedrichshafen, Germany

GRI 102-4

Location of operations

As of 2017, ZF has 20 main development locations and operates at 230 locations in 40 countries. The Group has an international service network of about 120 service locations and 650 service points that offer ZF customers an extensive range of services worldwide.

GRI 102-5

Ownership and legal form

ZF Friedrichshafen AG is a non-listed corporation in accordance with German law. The shareholders of ZF are the Zeppelin Foundation, which is administered by the City of Friedrichshafen and holds 93.8 percent of the company's shares, and the Dr. Jürgen and Irmgard Ulderup Foundation, Lemförde (Germany), which holds 6.2 percent of the company's shares. Employee stocks are not issued.

GRI 102-6

Markets served

The main sales markets of the Group are Europe (48%), North America (27%) and the Asia-Pacific region (21%), with China as the core market.

Cars and light commercial vehicles make up the major share (81%) of the sales distribution by sectors, whereas construction and agricultural machinery, marine craft, aircraft, special and rail vehicles, wind power (8%) and commercial vehicles over six tons (11%) account for the minor shares.

GRI 102-7

Scale of the organization

At the end of 2017, ZF had a workforce of 146,148 employees at approximately 230 locations and 20 main development locations. ZF has a portfolio of several thousand products, over 6,400 single brands and generated sales of €36,444 million in 2017. For detailed liabilities and equity, please see the Consolidated statement of financial position, p. 61 in the 2017 Annual Report.

GRI 102-8

Information on employees and other workers

On December 31, 2017, ZF employees worldwide numbered 146,148. This represents a change of 6.8 percent compared to the previous year.

Almost two-thirds of the Group's employees work in Europe, most of them in Germany, and 97.1 percent of employees have permanent contracts with the ZF Group. The percentage of women employed by the ZF Group is 15.7, with the North America region showing the highest proportion with 26.6 percent. The Active & Passive Safety Technology Division is not included in this data, as gender is currently not being reported in regards to region or contract type. In 2017, ZF had a total of 15,195 temporary workers, most of whom (90.7% or 13,780) worked abroad.

Employee structure worldwide

Number of people¹

	2017	2016	2015
ZF Group (total)	146,148	136,820	138,269
Europe	85,294	81,667	82,789
of which Germany	50,618	49,094	50,131
North America	35,885	31,900	31,550
South America	5,470	5,118	5,428
Asia-Pacific	18,367	16,974	17,327
Africa	1,133	1,161	1,176
Employee category²			
Direct	77,797	72,109	73,371
Indirect	68,352	64,711	64,898
Work contracts			
Permanent	141,954	133,802	135,600
Temporary	4,194	3,018	2,669
Full-time	143,513	134,339	135,962
Part-time ³	2,635	2,481	2,307
Apprentices and temporary workers			
Apprentices	2,856 ⁴	2,800 ⁴	2,300
Temporary workers	15,195	14,137	14,224

1 Number of employees by contracts in accordance with IFRS regulations until the end of the year

2 Direct and indirect participation in value creation processes

3 Data of the Active & Passive Safety Technology Division were not collected because of the low numbers of part-time contracts

4 Including students of the Active & Passive Safety Technology Division outside Germany

GRI 102-9

Supply chain

Solely for the procurement of production materials, ZF maintains a global network consisting of approximately 6500 suppliers, ranging from small family businesses through to large groups.

The purchasing volume for production materials totaled €19.8 billion in 2017 and includes directed buy volumes. The value of non-production materials amounted to some €5.5 billion.

Since ZF manufactures products at 230 locations in 40 countries worldwide, a major part of value creation in production lies in the supply of components. The costs for materials purchased from suppliers account for some 69 percent of sales. ZF suppliers are normally contractors who procure the raw materials or basic components for the products ordered, manufacture the products and, in some cases, also design products.

GRI 102-10

Significant changes to the organization and its supply chain

It was decided by the Board of Management to complement the engaged global divisional and business unit management with a strong matrixed regional management in China. Beside other functions, the Regional Materials Management Organization was redefined, effective since January 2018 to drive operational synergies and strengthen local supply.

GRI 102-11

Precautionary principle or approach

A core element of ZF's environmental management system is the evaluation of environmental risks. In the operation of facilities, the precautionary principle based on the result of the risk evaluation is an essential part of the Environment, Health and Safety (EHS) management system. All locations conduct environmental aspect assessments and risk assessments for their respective facilities and processes in a local context on a regular basis. Furthermore, internal and external audits are conducted. All locations follow the principle "prevention before reaction" and therefore use processes to minimize risks. Before the introduction of procedures and substances, a risk assessment and evaluation is carried out.

In preparation for emergencies, every location has an emergency organization in place. Emergency response teams are provided with adequate equipment and procedures. Mock emergency drills are carried out on a regular basis. Technical installations (e.g. flood or fire protection, collection trays, redundant installations), as well as behavior-based measures to raise awareness about the prevention of environmental damage, are company standard.

Environmental due diligence is conducted as part of the acquisition process to minimize liability and financial risks.

GRI 102-12

External initiatives

The ZF Group observes the core labor standards of the International Labour Organization (ILO), the content of the German Corporate Governance Code and the OECD Guidelines for Multinational Enterprises.

ZF signed the United Nations Global Compact on May 1, 2012, thus committing the Group to observe and promote its ten principles. Since joining, ZF has also become a member of the German Global Compact Network and participates in exchanges between the member companies.

GRI 102-13

Membership of associations

The ZF Group and its companies are committed to a wide range of associations and interest groups. The following list provides a representative selection:

- Association of German Engineers e.V. (VDI) – Lake Constance regional association (as a supporting member)
- Automotive Industry Action Group (AIAG)
- Carbon Composites e.V.
- Chamber of Industry and Commerce Hochrhein Bodensee
- Chamber of Industry and Commerce Oberschwaben, Weingarten
- Compliance Network e.V.
- Employers' Association Südwestmetall
- European Association of Automotive Suppliers (CLEPA)
- Foundation of German Business – Remembrance, Responsibility, and Future (as a donor)
- German Aerospace Industries Association (BDLI) (ZF Luftfahrttechnik GmbH, Kassel-Calden is a member)
- German Association of Materials Management, Purchasing, and Logistics e.V. (BME)
- German Global Compact Network
- German Association of the Automotive Industry e.V. (VDA)
- German Association of Electrical Engineering and the Electronics Industry (ZVEI) (Member is the Auerbach plant, Electronic Systems business unit)
- German Engineering Federation e.V. (VDMA)
- German Federation for Motor Trades and Repairs
- German Diversity Charter (Charta der Vielfalt e.V.)
- Wissenswerkstatt Friedrichshafen e.V. (as a supporting organization)

STRATEGY

GRI 102-14

Statement from the senior decision-maker

Dear readers,

While ZF had another successful year in terms of business achievements, strategic investments and attracting new employees, we also progressed as one company in terms of sustainability. As the integration of TRW goes beyond matching technology and markets, the complementing sustainability activities also strengthen our company to be ready for the future. Global megatrends such as soaring urbanization, advancing climate change or an increasing scarcity of resources are for ZF both a challenge and an opportunity. As a signatory of the United Nations Global Compact, we are committed to address these challenges and work on sustainable solutions.

While we continue to implement our proven strategy, our Vision Zero shows a clear roadmap for a world with zero accidents and zero emissions. ZF's unique answer to these global challenges is summarized in the concept: see. think. act. But our solutions with intelligent interaction of all components and systems do not only help vehicles to increase their safety. ZF's technological profile also offers the right tools to help make driving more sustainable in the future. In 2017, we took a big leap in building our Vision Zero Ecosystem: a close network of strategic cooperations. Together with strong partners we are able to increase the speed of research and development as well as seizing market opportunities.

Nevertheless, we must continue to review tried and tested standards and processes for sustainability. Last year, we focused on aligning key figures, targets and management approaches throughout the Group, following the "best of both" approach. Building on a comprehensive validation of our materiality analysis in 2018, we will review our action areas and set ourselves ambitious and measurable targets. To think the future today and at the same time assume responsibility for the environment and society – that is what acting sustainably means for us.

Yours sincerely,

Wolf-Henning Scheider
Chief Executive Officer of ZF Friedrichshafen AG

GRI 102-15

Key impacts, risks, and opportunities

The context for our sustainability considerations is to a large extent shaped by global megatrends. For instance, progressive globalization has a major impact on ZF's sales and sourcing markets and therefore requires stronger international focus in regard to structures and competencies. In addition, demographic change and increasing urbanization are leading to changes in consumer behavior – with a fundamentally growing demand in finite resources, which is leading to increased conflict. Several trends require a technology shift toward efficiency and resource conservation, which ZF is pushing for by continually reducing CO₂ and noise emissions, for example. Megatrends also play a central role when setting targets for innovation. ZF identifies a need for action, principally in the areas of efficiency, advanced driver assistance systems, autonomous driving and integrated safety.

Innovative solutions in these areas are directed towards our Vision Zero: Zero accidents. Zero emissions. ZF therefore offers solutions for almost all vehicle segments which are showcased for example by the Vision Zero Vehicle, the ZF Tractor, the ZF Innovation Truck or the ZF Advanced Urban Vehicle. In order to take full advantage of these opportunities, ZF has invested in companies, creating a close network of strategic cooperation. We call this the ZF Vision Zero Eco System.

With strong partners and wide-ranging expertise, ZF can make this vision real one day: Driver assistance systems and the continuous development of automated and autonomous driving can drastically reduce the number of accidents. At the same time highly efficient hybrid drives and locally completely emission-free electric drives are contributing to emission reduction.

This societal long-term goal of Vision Zero complements the Group strategy: balanced market penetration, innovation and cost leadership, and a diversified product portfolio with financial independence and a strong position as an attractive employer. Through Vision Zero these strategic priorities are geared towards a specific objective.

ZF Group Sustainability Program

The strategic framework of our sustainability program is determined to a large extent by the global megatrends which are continuously altering our business sphere. Taking this into account, our sustainability management in 2017 was characterized by the implementation and further development of the sustainability program first published in 2014. As part of this program, the company committed to meeting nonfinancial targets such as reducing specific greenhouse gas emissions in production, mitigating the environmental impact in logistics and continuously improving occupational health and safety, diversity and ZF's appeal as an employer.

During the process of integrating TRW's approach into ZF Group's sustainability program, it was determined that the sustainability program required further development, which will be fully completed during the course of 2018. The development involves harmonizing targets, management approaches, definitions of nonfinancial key figures as well as consolidating data and integrating the corresponding internal reporting processes. A comprehensively updated program will be published in 2019.

Strategic Target	Actions	Status 2017	Date
Functional safety			
Continued commitment to functional safety	External appraisal and certification of processes relating to product safety	<ul style="list-style-type: none"> Examination of the software and electronic processes to ascertain compliance with ISO 26262 and IEC 61508 by TÜV Süd (Technical Monitoring Association) Internal appraisals were conducted 	Ongoing
	Cooperation in national and international bodies dealing with functional safety, safety of the intended function (SoTIF) and Cybersecurity	Cooperation in working groups dealing with functional safety at ISO, VDA and ZVEI	Ongoing
	Align functional safety strategy of the Active & Passive Safety Technology Division with ZF's strategy	Integration of Directive DG 06-16 and Functional Safety Team	Completed
Environmental protection in production			
20 percent reduction in specific CO ₂ emissions relating to sales by 2020, compared to the average for the years 2006 to 2010	Annual review of the key figures and actions for target achievement – corrective actions by corporate in case of huge deviations, control through the environmental management system	<ul style="list-style-type: none"> Compared to the previous year specific CO₂ emissions kept stable Target achieved: Reduction by 20 percent by the end of 2015 The achieved reduction reached 32 percent in 2017 compared to the average of the years 2006 to 2010 	Completed
	Installation of CO ₂ improved machinery for our own production	Construction of combined heat and power (CHP) plants started in Passau, Germany	Ongoing
Reduction of specific energy consumption in relation to sales, compared to the previous year	Annual review of the key figures and actions for target achievement – corrective actions by corporate in case of huge deviations, control through the environmental management system	<ul style="list-style-type: none"> Target achieved: Compared to the previous year the specific energy consumption in relation to sales reduced by 3 percent Since 2015 the specific energy consumption decreased by 10 percent 	Ongoing
	Increase in energy efficiency within the framework of the environmental management system and energy management system through a broad range of actions at the individual locations	Several energy efficiency projects worldwide, see GRI 302-4 for further details	Ongoing

Strategic Target	Actions	Status 2017	Date
Reduction of specific energy consumption in relation to sales, compared to the previous year	All European locations are to be certified according to the energy management standard ISO 50001 or conduct audits according to EN 16247	All European locations apply the Energy Efficiency Directive (EED) and fulfill national requirements	Completed
	Large complex locations outside Europe with energy consumption of 10 GWh and higher conduct workshops to analyze potential savings	An international workshop was held with many participants and experiences were shared for further actions	2018
Reduce or stabilize specific water consumption in relation to sales, compared to the previous year	Annual review of the key figures and actions for target achievement – corrective actions by corporate in case of huge deviations, control through the environmental management system	<ul style="list-style-type: none"> Target not achieved: Specific water consumption increased by 1 percent compared to previous year Absolute amount of water increased (by approx. 389,094 m³) compared to previous year 	Ongoing
	Appropriate planning of water-saving projects (depending on relevance)	Several water-saving projects worldwide, see GRI 303-1 for further details	Ongoing
Reduce or stabilize specific wastewater generation in relation to sales, compared to the previous year	Annual review of the key figures and actions for target achievement – corrective actions by corporate in case of huge deviations, control through the environmental management system	<ul style="list-style-type: none"> Target not achieved: Specific wastewater generation increased by 0.7 percent compared to previous year Absolute amount of wastewater increased (by approx. 329,415 m³) compared to previous year 	Ongoing
	Resource-efficient design of operational processes	Several water-saving projects worldwide, see GRI 303-1 for further details	Ongoing
Reduce or stabilize specific waste generation in relation to sales, compared to the previous year	Annual review of the key figures and actions for target achievement – corrective actions by corporate in case of huge deviations, control through the environmental management system	Target not achieved: Specific waste generation increased by 0.6 percent compared to previous year	Ongoing
	Resource-efficient design of operational processes	Several waste-saving projects worldwide, see GRI 305-5 for further details	Ongoing
Evaluation of hazardous substances and substitution as far as possible	Hazardous substances management at the locations	Several waste reduction projects worldwide, see GRI 305-5 for further details	Ongoing
	Report substitutions according to ZF Work Standard ZFN 9003	The ZF substance management standard ZFN 9003 has been updated and Group-wide implementation is ongoing. Further substance regulations have been included	Ongoing
Environmental impact of products			
Product related environmental protection	Increase product related environmental protection compared to previous generations	<ul style="list-style-type: none"> Modular mSTARS axle system provides greater flexibility for hybrid, fuel-cell and battery-powered vehicles, and with conventional all-wheel modules ZF-EcoLife provides city buses with engine stop/start function which significantly reduces fuel consumption in city traffic 	Ongoing
	Further strengthen the electronics fields of competence and their integration into ZF products and systems, as well as the field of lightweight design to achieve fuel efficiency as well as reduced CO ₂ and noise emissions during the utilization phase	Car eWallet – APCOA, IBM and ChargePoint join as new service providers Electrification of agricultural tractors with: <ul style="list-style-type: none"> High- and low-voltage generator TERRA+ Electric single-wheel drive ZF eTRAC Electric drive systems for Zero Emission tractors Continuously variable front axle drive ZF eFAD 	Ongoing

Strategic Target	Actions	Status 2017	Date
Environmentally compatible product development	Further development of hybrid technology and e-mobility	Vision Zero Vehicle unifies latest technology developments like: <ul style="list-style-type: none"> electric axle drive system with an output of 150 kW Driver Distraction Assist Wrong-way Inhibitor 	Ongoing
Unified targets for the Active & Passive Safety Technology Division and ZF	In-depth analysis and common workshops	Targets for 2018-2020 were set	2018
Ensuring eco friendly product design over entire life cycle	Life Cycle Assessments (LCAs) for fiber-based products	LCAs for six variants of two products were successfully calculated and compared	Completed
Environmental impact of transport			
Create transparency about environmental impacts of transport	Calculate and take account of emissions in transport projects (apart from pure cost analysis of internal projects in overland freight)	<ul style="list-style-type: none"> Postponed due to integration process of the Active & Passive Safety Technology Division Recommencement once common freight cost reporting is in place 	2020
	Introduce a tool to increase transparency within the supply chain (ATM – Active Transport Management)	Rollout ongoing. Implementation at ZF plants Saarbrücken and Passau in 2018	Ongoing
Ecologically efficient design of transport networks	Pool and consolidate inbound freight transport	Extension of transport consolidation via the European Consolidation Center (ECC) in Bremen	Ongoing
	Increase full truck load (FTL) share	Ongoing identification and implementation of FTL lanes	Ongoing
	Efficient empties management	Improved container cleaning processes implemented in some plants	Ongoing
Shift to alternative modes of transport	Use alternative, environmentally friendly modes of transport	Ongoing identification of rail options for pre-carriage in overseas flows	Ongoing
	Avoid and reduce air freight	Air freight approval process to be extended to the entire company	Ongoing
Use sustainable logistics providers	Include emission valuation in the tender process for land freight (Germany)	Postponed due to integration process of the Active & Passive Safety Technology Division	Ongoing
	Inquire about sustainability aspects of service providers (fleet, workload, emissions, empty journeys etc.)	Postponed due to integration process of the Active & Passive Safety Technology Division	Ongoing
Employer attractiveness			
Positioning as a globally attractive employer	Intensify cooperation with international universities	<ul style="list-style-type: none"> ZF expanded its network of strategic target universities by including TU Darmstadt and ETH Zurich ZF opened its first innovation hub in California's Silicon Valley and announced its research partnership with the University of California, Berkeley 	Ongoing
	Internationalize the trainee program further	Regional emphasis was strengthened: trainees now take part in three projects in their home country and one project abroad	Ongoing
	Attractive qualification and personal development opportunities: establish and expand technical academies, global training, promotion programs, LiN (Learning on the Web), vocational training initiative, university student support programs, work-study degree models	<ul style="list-style-type: none"> The Project "Apprenticeship 4.0" integrated new content specifically focused on electronics and IT Launch of the eCampus as a new, virtual learning environment and central component of the ZF Campus concept 	Ongoing

Strategic Target	Actions	Status 2017	Date
Positioning as a globally attractive employer	Maintain the good positions we achieved in rankings and be among the top 20 employers for young engineers in Germany	<ul style="list-style-type: none"> The trendence Graduate Barometer survey places ZF at Rank 17 in Engineering Edition (Rank 16 in 2016) With its "What's next?" HR image campaign, ZF won the first prize in the trendence Employer Branding Awards in the category "Best Career Advertisement" The Universum engineering student Survey ranked ZF at 24 (as in 2016) 	Ongoing
	Family-friendly work structures to reconcile work and family	Additional family-friendly minimum standards were defined and implemented Childcare places and options for short-term care were expanded throughout the Group	Ongoing
	Flexible working time models (e.g. sabbaticals)	A career component was introduced in the form of a social module to cover parental leave, leave to care for relatives and other types of community and family commitments	Ongoing
	Global Employee Survey (GES)	A joint survey for the combined company is being planned for 2019	2019
	360° feedback	<ul style="list-style-type: none"> Implementation was postponed due to the integration process of the Active & Passive Safety Technology Division Decision on further actions to be made in 2018 	2018
Increasing the number of women in executive management positions by 2017	Increase the proportion of women from 6.3 percent to 8.4 percent at the first managerial level below the Board of Management	<ul style="list-style-type: none"> The targets set for June 30, 2017 (8.4% and 8.1%, respectively) have been met The percentage of women in leadership positions in the Group increased from 11.7 to 11.9 	2017
	Increase the proportion of women from 6.1 percent to 8.1 percent at the second managerial level		
Occupational health and safety			
Preserve and promote our employees' health	Preventive actions	<ul style="list-style-type: none"> Focus in 2017: prevention of heart and circulatory diseases Focus in 2018: skin protection 	Ongoing
	Foundation of the Occupational Medicine expert group for hazardous substances and the interdisciplinary Health Management expert group	<ul style="list-style-type: none"> Participants of the Active & Passive Safety Technology Division were nominated Full integration in 2018 	2018
	Define and implement minimum medical standards worldwide	Completed for ZF and the Active & Passive Safety Technology Division will be fully included in 2018	2018
	Training courses on leadership and health	Rollout completed and implemented for ZF with full adaption in the Active & Passive Safety Technology Division in 2018	Ongoing
	Active & Passive Safety Technology Division:	<ul style="list-style-type: none"> Nominate health expert to join the ZF interdisciplinary Health Management expert group Define health management structure Nominate Executive Medical Officer to join the ZF Health Committee 	<ul style="list-style-type: none"> Completed Ongoing Completed

Strategic Target	Actions	Status 2017	Date
OHSAS 18001 certification: Gradually increase the share of Group companies participating in the matrix	Include locations within a centrally managed project with voluntary participation by the locations	74 (in 2016: 54) locations are certified to OHSAS 18001	Ongoing
ZF: Global accident reduction Program: Reduction of the global accident rate to less than 5 work-related accidents resulting in one or more lost work days per one million working hours by 2025	Implementation of accident reduction programs at affected locations to achieve individual reduction targets (between 5 and 15 percent) at each location	Ten focus locations were identified and detailed Safety Improvement plans were developed by interdisciplinary teams	Ongoing
	Binding Group key figures and reporting standardized throughout the Group	Completed for Safety, with completion for Health in 2018	2017
	Accident management with monthly review of the KPIs as a management instrument at Group and location management level	Action completed, with ongoing monthly reviews	Ongoing
Active & Passive Safety Technology Division: Reduce the accident rate to 3 accidents resulting in one or more lost workdays per one million working hours Reduce the number of lost work days to 50 or less per one million working hours	Local actions	<ul style="list-style-type: none"> ▪ Implementation of the 5 Safety Basics completed ▪ Site specific programs ongoing 	Ongoing
	Regular safety inspections	<ul style="list-style-type: none"> ▪ Safety walks and inspections performed by management ▪ Employee behavior included in workplace inspections 	Ongoing
Safety leadership training for executive managers – was extended to: Safety Excellence Implementation	Safety Leadership (SL)	<ul style="list-style-type: none"> ▪ Roll-out of Module 1 is almost completed in Germany (225 workshops reached 91% of the management), roll-out in Europe and other Regions started ▪ Module 2 training for SL Coaches was held 	Ongoing
	Employee Involvement	<ul style="list-style-type: none"> ▪ Behavior Based Safety program continues at about 113 sites. Further sites will be added in 2018 ▪ Additional programs such as EHS Kaizen workshops are in place and will be extended in 2018 	Ongoing
	Continuous Improvement	Existing corporate and divisional procedures and specific requirements were evaluated and an integrated EHS management system will be launched for the combined company in 2018	Ongoing

ETHICS AND INTEGRITY

GRI 102-16

Values, principles, standards, and norms of behavior

A company can only achieve business success in an intact economic environment. A company's focus on success must match the development of the surrounding and dependent companies so that sustainable corporate governance is possible for all. This principle plays a major role in relationships with business partners, but also in investments in production materials and capacities. That is why the Group has firmly anchored sustainable corporate management factors in its Guiding Principles. They are seen not as individual actions, but as a central aspect of entrepreneurial activity in the daily decision-making processes.

ZF Charter

As an integral part of the ZF Management System, the ZF Charter defines aspects regarded as most important across all our divisions, functions and regions. The Guiding Principles of the ZF Charter are: Innovation Approach, Customer Focus, Result Orientation, and Commitment to People. The Guiding Principle "Commitment to People" helps us create a corporate culture that supports trusting collaboration and motivates top performance.

The ZF Management System with its focus on Speed, Simplicity, Target Focus and its four principles are at the core of all our activities and actions and represent everything that makes ZF special. By concentrating on them, we become stronger, and grow faster and more sustainably.

Code of Conduct

Our Code of Conduct explicitly states that we do not tolerate any discrimination, especially on the grounds of race, gender, religion, age, nationality, social or ethnic origin, pregnancy, disability, belief, sexual orientation, or political and trade union engagement. These principles apply to all new and existing employees and the collegial relationships between employees, our dealings with business partners and, lastly, how employees are promoted within the organization.

Correct, responsible and sustainable business management and accepting corporate social responsibility are fundamental components of our corporate policy. We reject all forms of human trafficking and support the abolition of slavery, forced labor and child labor.

Business Partner Principles

The ZF Business Partner Principles (BPP) and the Global Supplier Quality Manual of the Active & Passive Safety Technology Division require all suppliers and service providers to make a commitment to respect for national and international laws and regulations at their locations worldwide. They should ensure human rights are respected and human dignity is protected in all business processes. See ► GRI 204 for more information on the BPP.

GOVERNANCE

GRI 102-18

Governance structure

ZF Friedrichshafen AG and the ZF Group are led by the Board of Management, which manages the company, and by the Supervisory Board, which monitors the Board of Management. For the most part, the activities of the Board of Management are strategic in nature and comprise responsibility for the corporate functions, the divisions and the regions. In this context, particular importance is placed on close networking and cooperation within the Group. Operational topics are mainly addressed in the divisions and business units.

Dr. Stefan Sommer resigned as Chief Executive Officer of ZF Friedrichshafen AG as of December 7, 2017. CFO Dr. Konstantin Sauer, took interim charge of the company along with the R&D and Aftermarket Corporate Functions. The Board of Management thus comprised six members as of year-end 2017. On January 31, 2018, the Supervisory Board appointed Wolf-Henning Scheider as chief executive officer effective as of February 1, 2018.

The supervision of the Board of Management by the Supervisory Board, whose members are appointed with equal representation, is supported by an Executive Committee and an Audit Committee which are both composed of members of the Supervisory Board. Following the resignation of the chairman of the Supervisory Board of ZF Friedrichshafen AG, Prof. Dr. Giorgio Behr, on December 2, 2017, Dr.-Ing. Franz-Josef Paefgen was appointed as the new Chairman on December 4, 2017. Ms. Dagmar Steinert was elected as a Member of the Supervisory Board on December 15, 2017. The Supervisory Board comprised 20 members as of year-end 2017.

In light of German legislation governing equal representation of women and men in managerial positions in the private and public sectors, targets for the relevant managerial levels have been discussed and set for ZF Friedrichshafen AG to be achieved by June 30, 2022.

STAKEHOLDER ENGAGEMENT

GRI 102-40

List of stakeholder groups

There are many significant stakeholders at ZF, including employees, customers, suppliers, the company owners, authorities, trade unions, associations, the media and politicians as well as business partners and residents at company locations. An increasingly important group includes the next generation of employees, which is why schools, vocational schools, universities of applied sciences, universities and scientific institutes can be found at the top of the list of stakeholder groups to be involved. As a B2B company, ZF has rarely been in direct contact with national, non-governmental organizations (NGOs) that represent ecological and social issues. However, as is the case with local environmental initiatives that are often in direct communication with the location managements, these NGOs equally belong to the stakeholder groups that we consider important.

GRI 102-41

Collective bargaining agreements

The company values open communication among its employees and respects their right – as is consistent with applicable law – to join or assist a labor union or works council, or refrain from doing so. No employee or employee representative shall

be disadvantaged as a consequence of exercising his or her rights in this regard. Currently 98 percent of our total employees are covered by collective bargaining agreements.

GRI 102-42

Identifying and selecting stakeholders

To ensure that a broad and representative range of stakeholder groups are involved in the compilation of the materiality analysis, an international media analysis was performed in 2014. The objective of this analysis was to filter out the most important stakeholder interests and the main topics and concerns from global social media, trade publications and press reports on sustainability in the automotive industry. The findings of this analysis were directly applied to the materiality analysis.

GRI 102-43

Approach to stakeholder engagement

ZF is in regular contact with its stakeholders through the following channels: the German Global Compact Network, personal contact with residents at company locations, the media, direct discussions with customers and suppliers, as well as surveys on topics such as sustainability, and with employees via the works council as well as through internal events and Group media.

Customer satisfaction

Delivery reliability, the ability to innovate and increasing sustainability expectations are important criteria for customers. Since a large number of vehicle innovations originate from suppliers, R&D activities are crucial for long-term customer satisfaction and business success. Every new order should be perceived as an indicator of customer satisfaction.

In 2017 we continued our Voice of the Customer (VoC) Surveys with selected global OEMs. The VoC is an independent assessment of customer satisfaction carried out by an independent, external, global service provider. This is intended to ensure a systematic approach to information definition, collection, and analysis, and facilitate data comparability over time. The results have highlighted important areas for improvement that will allow for the development of precise improvement actions.

Employee survey

Since employees participate in every day collaboration, feedback and recognition are ever-present. Another element of employee engagement is the comprehensive Global Employee Survey (GES). The objective is to sustainably contribute to company goals through increased transparency and by involving employees on all levels. The first survey took place in 2015 and received over 15,000 suggestions for improvement. One-third of these were put into practice the same year. ZF is currently planning its second GES, to take place in 2019.

Types of stakeholder communication

Groups	Media
Employees	"we>move" employee magazine, Intranet, Internet, internal communication campaigns such as the "Year of Energy", ZF Family Day, ZF hilft, Agile@ZF, we>blog
Potential employees	Collaborations with universities, Annual Report, "vision" company magazine, ZF website, involvement in trade fairs, social media, advertisements
Former employees	"vision" company magazine, ZF Family Day, International Lake Constance Trade Fair, ZF website, ZF pensioner association, Senior Professionals Program
Customers	Annual Report, "vision" company magazine, ZF website, brochures, advertisements, customer days, involvement in trade fairs, key account management
End customers	Annual Report, involvement in trade fairs such as the International Motor Show, North American International Auto Show, CES, Tokyo Motor Show, Auto Shanghai, non-automotive trade fairs, "vision" company magazine, ZF website, brochures, advertisements, social media
Suppliers and partners	Annual Report, "vision" company magazine, ZF website, involvement in trade shows, advertisements, supplier days, brochures, key purchasing strategy, ZF Global Supplier Summit
Politics, associations, interest groups	Annual Report, ZF website, personal discussions, department "Associations & Politics"
Educational institutions	Collaborations with universities and schools, Annual Report, ZF website, involvement in trade fairs, advertisements
Press and the media	Annual Report, ZF website, "vision" company magazine, press releases, press conferences
Communities	ZF Family Day, press, ZF website, advertisements, sponsorship, regional trade shows such as the International Lake Constance Trade Fair (IBO)

GRI 102-44

Key topics and concerns raised

Companies that act in a sustainable manner should be aware of the interests of their stakeholders. As a first step, a discussion was initiated with relevant stakeholders in order to identify the significance of various sustainability issues from both an external and internal perspective. An analysis of the results from an initial stakeholder survey indicated which topics must be taken into account and what needs to be done in order to retain the lasting trust of customers, employees, suppliers and society as a whole. As part of the materiality analysis in 2014, the company also set out to systematically integrate stakeholder interests into defining priorities for the field of sustainability. In addition, talks were conducted with customer and association representatives, among others. Apart from product safety, these issues included the environmental impact of products, processes and employer attractiveness.

The other expectations and requirements presented to ZF are always broadly similar: They include acting in accordance with the law and regulations, developing excellent and efficient products for the customers and demonstrating responsibility towards employees, the environment and also, increasingly, in the supply chain. The requirements of the next generation of employees that are reflected in questions about values, future orientation, development opportunities and working conditions are also particularly important to the ZF Group. We wish to address them in this report.

REPORTING PRACTICE

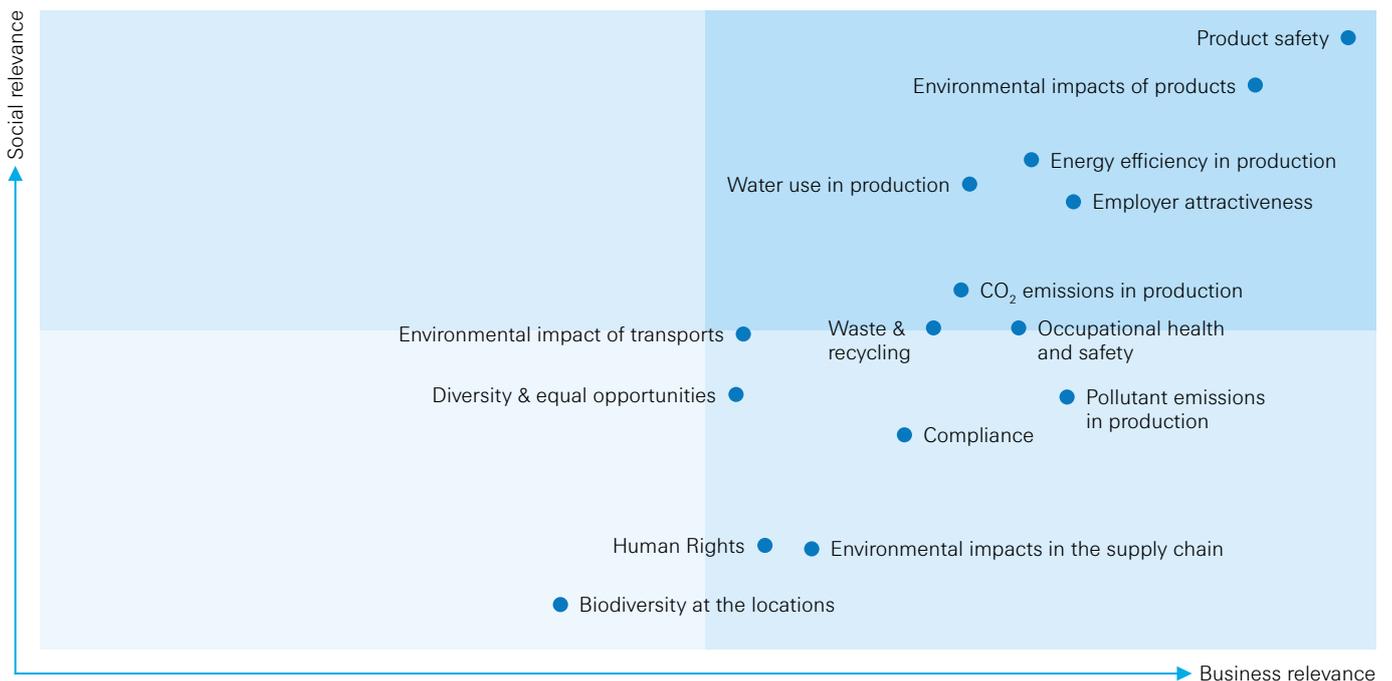
GRI 102-45

Entities included in the financial statement

In addition to ZF Friedrichshafen AG, 35 domestic and 254 foreign subsidiaries controlled by ZF Friedrichshafen AG are included in the consolidated financial statements.

More detailed information about entities belonging to the Group can be found in ZF's 2017 Annual Report, pages 73 and 128.

Prioritization of fields of action according to social and business relevance



GRI 102-46

Defining report content and topic boundaries

Due to the integration process of the Active & Passive Safety Technology Division, this year's materiality analysis remains unchanged compared to ZF's Sustainability Report 2014. To determine the report's content, a materiality analysis was performed which identified the sustainability topics important for the company, and assigned relevant GRI topics. The material topics were determined using an impact assessment, further backed up by a media analysis and assessed in terms of medium- and long-term relevance for ZF. Topics classified as relevant from both a social perspective as well as in respect to their importance for ZF's business success are reported on as fully as possible in regard to the GRI requirements. GRI topics assigned to further topics are only included in this report if they have a significant business relevance for ZF. We intend to review boundaries, topics and materiality together with our stakeholders in 2018.

GRI 102-47

List of material topics

- 201 Economic performance
- 202 Market presence
- 203 Indirect economic impacts
- 204 Procurement
- 205 Anti-corruption
- 301 Materials
- 302 Energy
- 303 Water
- 305 Emissions
- 306 Effluents and waste
- 307 Environmental compliance
- 308 Supplier environmental assessment
- 401 Employment
- 402 Labor/Management relations
- 403 Occupational health and safety
- 404 Training and education
- 405 Diversity and equal opportunity
- 406 Non-discrimination
- 414 Supplier social assessment
- 416 Customer health and safety

GRI 102-48

Restatements of information

A few figures were updated with explanatory footnotes under respective disclosures.

GRI 102-49

Changes in reporting

No changes

GRI 102-50

Reporting period

This is the sixth edition of the sustainability report published by ZF Friedrichshafen AG, and follows the 2016 sustainability report. It is based on the fiscal year 2017.

GRI 102-51

Date of most recent report

July 2017

GRI 102-52

Reporting cycle

Annual

GRI 102-53

Contact point for questions regarding the report

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88046 Friedrichshafen
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GRI 102-54

Claims of reporting in accordance with the GRI Standards

This report has been prepared in accordance with the GRI Standards: Core option.

GRI 102-55

GRI content index

This GRI table is the GRI content index.

GRI 102-56

External assurance

This report was not submitted for an external assurance.

Material Topics

Economic

GRI 201 ECONOMIC PERFORMANCE

GRI 103-1, 103-2, 103-3

Management approach – Economic performance

The integration of TRW Automotive Holdings Corp., acquired on May 15, 2015, was essentially complete by the end of fiscal year 2017, with merged corporate functions and a unified identity as regards customers and suppliers. The ZF and TRW service organizations were successfully launched as “One Aftermarket” in early 2017. ZF’s new, consolidated brand presence at the 2017 International Motor Show IAA gave a clear signal that the integration has been a success.

The acquisition of ZF TRW is part of the implementation of the ZF 2025 corporate strategy and represents a key milestone in securing ZF’s long-term future as a technology company.

In order to reach the targeted future position, especially in autonomous driving, ZF has decided not to develop everything organically but to fill some technological gaps by building on strong partnerships. With the implementation of ZF Ventures GmbH, ZF created a framework to develop an ecosystem based on equity shares with technology partners such as IBE0 (Lidar), Astyx (Radar) and DoubleSlash (Software). Other gaps are to be closed through cooperations, for example with Nvidia (ECU), Hella (Radar) or Faurecia (interior concepts).

The top financial key figures ROCE (Return on Capital Employed), ZF Value Added, and Operating Result are used to measure and control the financial performance of the ZF Group.

GRI 201-1

Direct economic value generated and distributed

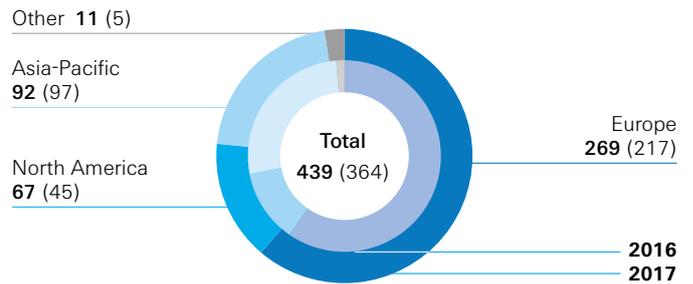
The ZF Group succeeded in increasing sales by 3.6 percent to €36,444 million and invested €2,230 million (2016: €1,948 million) in research and development, which is 6.1 percent of Group sales. The ZF Group overall donated €6.87 million (2016: €8 million).

The production materials purchasing volume in 2017 totaled €19.8 billion. This includes directed buy volumes. The value of non-production materials amounted to some €5.5 billion.

Overall personnel expenses totaled €4,669 million (2016: €4,419 million), including wages and salaries, social security contributions, benefit expenses and pension expenses. For more details see the consolidated statement of profit or loss in the 2017 Annual Report, p. 58.

Ongoing tax payments by regions 2017 (2016)

in € million



GRI 201-2

Financial implications and other risks and opportunities due to climate change

One of the main factors resulting from our production activities is the emission of greenhouse gases. Reducing these emissions, therefore, is a central element of ZF environmental policy and targets, which are managed worldwide by our environmental management system according to ISO 14001. See ► GRI 300 for more details on ZF’s environmental management approach.

Following the Paris Agreement of 2016, the German Climate Protection Plan 2050 and the COP in Bonn in autumn 2017, many countries have been working on national regulations and programs to fulfill the conventions. The scope of these impacts on ZF’s businesses is currently not fully foreseeable. Moreover, financial implications cannot be quantified while legal requirements are under discussion and not yet conclusively defined.

Operating costs are likely to rise due to increasingly strict legislation with tougher regulations for plant approvals and operations. In China, for example, the 13th five-year plan restricts air pollution to fixed limits by region, which results in locations having to make increasing efforts to ensure they comply with the local legal requirements.

Losses due to extreme weather

Extreme weather situations caused by climate change such as high water and flooding or extreme drought have so far only affected our production locations in isolated cases. Nevertheless, ZF sees these developments as a potential risk with more frequent and more intensive consequences. This is why we include early precautions against extreme weather and natural disasters as part of our sustainable corporate development.

We have only seen isolated examples of higher property insurance premiums at locations subject to potential natural hazards such as flooding, storm or extreme drought. These could increase in the future if incidents of damage occur more frequently. These issues are decisive factors when building new plants or purchasing production facilities.

Reliable supply chains in light of climate change

To minimize risks and manage them more effectively, the ZF Group is working on localizing sources. The objective here is to reduce transport costs and actively contribute to lower CO₂ emissions. Furthermore, this can limit the impact of failures in the supply chain to the region affected. We are also carrying out initial projects to identify robust methods for determining the emission values and environmental impacts of selected products and materials.

Product level

ZF generates a substantial proportion of its sales with products used in the combustion engine driveline. Even though progressive electrification in the passenger car and commercial vehicle drive segment may represent a competing technology, ZF sees promising opportunities in the development of electric, electronic and mechatronic competence. Therefore, we prepared for this technology trend with our E-Mobility Division.

Moreover, with our Vision Zero we defined a strategic response impacting many levels and processes within the ZF Group. Aiming for zero emissions and zero accidents leads to new products and services. First applications are already on the market and major future business projects were secured in 2017. The development of competitive products has opened up new sales opportunities for ZF. At the same time, a possible increase in fuel or energy prices may result in an increase in logistics costs and a decrease in the demand for individual mobility on the part of the market. We can mitigate this risk with innovations in hybrid technology, e-mobility and light-weight design. For more information about ZF solutions see ► GRI 302-5.

Further influences

The opportunities and risks for our wind power sector vary widely since business development is still heavily dependent on subsidies and overall development on emission-related regulations supporting renewable energies. European companies are facing higher organizational costs due to the obligation and the expanded requirements for statutory and regulatory reporting, e.g. the EU directive on the disclosure of non-financial information.

Finally, suitable precautionary measures must be taken to minimize the diverse and often increased risks. We are also addressing identified risks with our environmental management system, and our sustainability program has set corresponding environmental targets.

GRI 201-3

Defined benefit plan obligations and other retirement plans

Provisions for pensions are set up for obligations from vested benefits and current pensions for entitled current and former employees of the consolidated ZF Group and their surviving dependents. Various retirement pension schemes exist depending on the legal, economic and tax situation in the respective country, which – as a rule – are based on the length of service and emoluments of the employees. In general, a distinction can be made in connection with company pension schemes between defined contribution plans (DC) and defined benefit plans (DB). Plan benefits depend upon salary, length of service and the cost of living index. For details about provision for pensions see the 2017 Annual Report, p. 101.

GRI 201-4

Financial assistance received from government

In the fiscal year 2017, €18 million (2016: €18 million) in government grants was received. They were divided as follows: Investment grants were basically received for investments at various locations in the USA, Germany, Belgium, Russia and Australia. Expense subsidies mainly comprise research subsidies and subsidies for education and vocational training.

Government grants
in € million

	2017	2016	2015
Investment grants	10	12	17
Expense subsidies	8	6	11

GRI 202 MARKET PRESENCE

GRI 103-1, 103-2, 103-3

Management approach – Market presence

Progressive globalization is having a major impact on ZF’s sales and sourcing markets and therefore requires a stronger international focus regarding our structures and competencies. Following our acquisition of TRW Automotive, the division of business is much more international, strengthening our presence in North America and Asia. Its integration as the Active & Passive Safety Technology Division added locations in China, Mexico, Poland, Romania, the USA and other vital markets around the world – including 22 technical centers and 13 test tracks. ZF is well positioned with two engineering technology centers, 32 manufacturing facilities, three after-sales service and trade companies as well as 239 aftersales service networks all over the country. ZF is also one of the biggest employers and customers in all the regions that the company operates in.

As a fair employer, ZF is committed to competitive remuneration of its employees. Locations in countries with high employee headcounts participate in coordinated market benchmark exercises in partnership with leading benchmark service providers on an annual basis. Locations in countries with lower employee headcounts participate in local surveys according to their specific needs.

GRI 202-1

Ratios of standard entry level wage by gender compared to local minimum wage

ZF pursues a “globally attractive employer” strategy comprising competitive wages and salaries. Ratios for standard entry-level wage compared to local minimum wage is currently not systematically reported on. Therefore, a global compensation database will be progressively introduced over a three-year period. The planned compensation database will enable ZF – among other benefits – to report and monitor wage and salary levels worldwide.

GRI 202-2

Proportion of senior management hired from the local community

We traditionally recruit management staff from within the company’s own ranks. This also applies to international locations. As a result of the integration of the Active & Passive Safety Technology Division, the locations around the world and the management structure of the combined company have become even more international than before. Figures relating to senior management hired from the local community are currently not reported on.

GRI 203 INDIRECT ECONOMIC IMPACTS

GRI 103-1, 103-2, 103-3

Management approach – Indirect economic impacts

We know that a company can only achieve business success in an intact economic environment. A company’s focus on success must match the development of the surrounding and dependent companies so that sustainable corporate governance is possible for all. This principle plays a major role in our relationships with business partners, but also in our investments in production materials and capacities. ZF is one of the biggest employers and customers in all the regions that the company operates in. See ► GRI 102-9 and ► GRI 204-1 for details on our expenses for our supplier network, which has significant indirect economic impacts as we apply our “local for local” principle.

Corporate social responsibility at ZF is an important and intrinsic component of the company's mission statement. In line with this commitment, we therefore contribute a great deal to our local communities by supporting education, sports and recreation, culture, and environmental and community projects. Activities of this nature range from funding endowed chairs at universities, through the ZF Art Foundation supporting artists and musicians, festivals and non-profit organizations, to sponsoring the elite volleyball players of the VfB Friedrichshafen team or funding many local recreational sports.

Each year, ZF gives the Zeppelin Foundation a dividend. The funds are used in line with the articles of association, especially in the fields of science and research, art and culture, as well as child and youth development. The Dr. Jürgen and Irmgard Ulderup Foundation in Lemförde supports the education and vocational training of young people as well as nature and landscape conservation. Jürgen Ulderup was the founder of the Lemförder Group, a company that is part of the ZF Group today.

GRI 203-1

Infrastructure investments and services supported

ZF makes significant investments in technical professions. We aim to promote interest and enthusiasm for MINT subjects early on among children and adolescents, with particular emphasis on girls. ZF is achieving this objective for instance by actively participating in the Girls' Day and running Knowledge Workshops ("Wissenswerkstätten") in several German cities. These popular workshops lead hundreds of children and youngsters every year to gain hands-on experience in the world of technology.

In higher education, ZF finances a large number of endowed professorships in the Lake Constance region and across the world. Cooperation with renowned universities, for example the Zeppelin University and the Baden-Württemberg Cooperative State University in Friedrichshafen, the University of Ravensburg-Weingarten, the HTWG Constance – University of Applied Sciences or the RWTH Aachen University, is part of the young talent promotion program.

As a Corporate Partner, ZF also extended the cooperation with the UNITECH Program in 2017. UNITECH International is a European network of top engineering universities and multinational companies. At present, only nine schools from nine different countries are allowed to propose their twenty best students, of which only ten will be accepted. UNITECH students are people who want to become highly qualified, internationally experienced engineering graduates with access to prime international internships and employment positions. In 2017, ZF was able to recruit two students from the UNITECH talent pool who had successfully completed the prestigious program.

Furthermore, ZF supports several teams of the Formula Student Germany competition. In this engineering design competition, international students compete against each other in various disciplines with their self-constructed race cars. In addition to sharing its expertise, ZF has been supporting the young talents with high-tech racing products, financial assistance and team-building activities since 2002. In 2017, ZF was sponsoring 39 university teams. For the first time in the history of the competition, there was the new Formula Student Driverless race category, presenting the students with a completely new challenge: Developing an electric race car that can run without a driver in autonomous mode – in line with the ZF triad "See – Think – Act", the leading principle for bringing artificial intelligence to vehicles.

ZF-Innolab

As part of expanding its long-term commitment to cooperation with universities, ZF established an innovation laboratory at the Friedrichshafen campus of the Duale Hochschule (DHBW) Ravensburg. At the "ZF-Innolab" facility, DHBW students, under an apprenticeship contract with ZF, conduct research on themes such as autonomous driving and digital business models.

The students at the "ZF-Innolab" work closely together with the "ZF Denkfabrik" think tank. The Innolab deals with broad mobility issues internationally and across all modes of transportation. It also explores new business segments that may be turned into viable business models over the long term.

GRI 204 PROCUREMENT

GRI 103-1, 103-2, 103-3

Management approach – Procurement

Good materials management is vitally important for customer satisfaction. Only then can we guarantee the high quality of our products and delivery reliability. This is why a trusting and reliable collaboration with our suppliers is a priority for ZF.

The specific requirements for suppliers result from the Advanced Procurement Strategy (APS 25). The APS follows and supports the Group strategy and is based on the ZF Environmental Policy, the ZF Principles of Social Responsibility and the ten principles of the United Nations Global Compact. All suppliers are required to comply with these three sets of principles. Establishing an effective and efficient value creation chain throughout the Group is the declared objective of the APS 25. The strategy also aims for three sub-goals: increasing ROCE, total quality management and standardization. Its systematic implementation is supported by a process which ensures that sourcing decisions are based on total cost of ownership criteria.

The cross-functional Sourcing Decision Board enables us to ensure that not only price is paramount but also environmental aspects are considered when suppliers are selected.

To minimize impacts of transportation such as, for example, costs or environmental impacts but also aspects of timing, ZF's strategy is "local for local" – to buy where the supplied materials or components are needed. Therefore, we continue to focus our localization activities on Mexico, India, China and Eastern Europe. The objective here is to implement the "local for local" concept with our existing strategic suppliers or to prepare and develop the local supplier base to meet ZF-specific requirements.

Business partner principles

The success of our internationally active company is partially based on professional cooperation with our business partners worldwide. Since the foundations of this cooperation are common values and standards, all new and existing suppliers have been under an obligation to endorse our Business Partner Principles (BPP) since the end of 2016, with suppliers of the Active & Passive Safety Technology Division onboarding in 2018. A standardized process for the request and confir-

mation of our BPP includes a tool-based solution to track the information about the current BPP status of each supplier. The information about the BPP acceptance is considered in the supplier awarding decision as well as in the new supplier approval process.

The BPP represent values that ZF recognizes, supports and communicates to partners. As guidelines, they specify fundamental sustainability requirements for the cooperation with our business partners. They address various topics such as human rights, labor standards, occupational safety and health protection, environmental protection, responsible raw materials procurement, business ethics and compliance. ZF reserves the right to scrutinize the business relationship and we consider it our duty to take appropriate action if we identify deviations or violations.

External service providers in Germany must sign a declaration of compliance to the collective agreements guaranteeing fair wages, normal working hours and a rejection of unregistered labor and tax evasion. This declaration also applies to subcontractors engaged by ZF and includes the proviso that ZF can check compliance at any time.

Improving supply chains

In line with the principles endorsed by APS 25 we have integrated environmental and social (including safety and health) standards into supplier management and the supplier selection process – evaluating potential new suppliers using supplier self-assessments and audits. The long-term goal is a purchasing strategy which dispenses with materials from critical procurement sources.

ZF requires new potential suppliers to submit a self-assessment following the Supplier Self-Assessment Sustainability template based on the Business Partner Principles, during the approval process.

ZF uses an adapted version of the so-called Self-Assessment Questionnaire on CSR and Sustainability developed by the European Automotive Working Group on Supply Chain Sustainability. The advantage of using a standardized Self-Assessment Questionnaire for all participants (OEM and Tier 1) is to avoid duplication and to improve efficiency for the suppliers. This Self-Assessment Questionnaire is one part of our Supplier Approval Process.

In 2016, ZF started to use a special tool to manage supplier inquiries about supplier contact data, the existence of a product safety officer as well as general company data. In 2017, the survey was enhanced and ZF requested the update of supplier master data including Product Safety Experts, HSE (Health, Safety and Environmental) Experts and certificates. In future this tool will be rolled out Group-wide.

GRI 204-1

Proportion of spending on local suppliers

83 percent (2016: 83%) of our global purchases for non-production materials (excluding investments) in the reporting year are to be made locally. The local procurement of production materials is calculated using a key indicator based on total spending including directed buy and internal supply. The average over all divisions for 2017 amounted to 54 percent (2016: 54%) for production materials.

GRI 205 ANTI-CORRUPTION

GRI 103-1, 103-2, 103-3

Management approach – Anti-corruption

Compliance is an essential element of successful management and good corporate governance. It supports reliable and respectful dealings with customers, business partners, employees and the environment. Compliance also forms the platform for lasting cooperation in an atmosphere of trust.

We rise to the challenge posed by globalization. This requires law-abiding, honest and responsible behavior on behalf of our employees at all levels and in all areas as the core value in our corporate culture. ZF communicates the relevant rules proactively to its employees; for example, through the Code of Conduct (CoC) or other compliance regulations.

The Code of Conduct defines binding principles for correct, law-abiding, and ethical behavior. Subjects covered include adherence to laws, fair competition, anti-corruption, business and social responsibility, product compliance, occupational safety, data protection and transparency. The Code of Conduct as a core element of the Compliance Management System (CMS) is available in all languages in which ZF conducts business. Managers at every level are decisive for the compliance culture in the company. Therefore, they must confirm they have received the CoC and promise to follow its principles.

Compliance regulations

Compliance regulations include rules governing anti-corruption and antitrust law. They also include the correct approach for correctly handling favors, gifts and hospitalities. The following topics are covered by the regulations:

- Responsibilities, tasks and authorities of the Compliance Organization
- Rules for lawful and responsible behavior
- Ban on corruption
- Business partner integrity
- Rules on handling favors, gifts and hospitality
- Correct behavior in competition
- Contacting Corporate Compliance and reporting incidents
- Conflicts of interest

ZF Compliance Management System

The ZF Compliance Management System (CMS) has created the framework for meeting the respective legal requirements worldwide. The objective of the CMS is to ensure compliance with internal and external regulations. The CMS focuses on preventing and investigating violations in the areas of

- Corruption,
- Antitrust law,
- Code of Conduct,
- Fraud and
- Reputational damage.

The CMS meets the following requirements: independence and effectiveness of the Compliance Organization, integration of compliance into business processes, transparent decision processes and corresponding HR processes (sanctions). The pillars of the CMS are: prevent, detect and respond. The Compliance Organization is set up in line with the organizational structure of the ZF Group.

In joint ventures where ZF is the majority shareholder, the ZF board representatives must ensure that either the ZF compliance management or a comparable compliance management system is in place.

Compliance tools

The ComplianceHelpdesk is a preventive tool to systematically clarify and document general compliance questions. ZF employees can contact the ComplianceHelpdesk whenever they are faced with a compliance-related question in their day-to-day business activities.

The preventive elements of the ZF CMS are complemented by a case management system. It is – amongst others – connected to the ZF Trustline, an electronic notification system that employees and third parties can use to e.g. anonymously report suspected serious misconduct. Such cases might include violations of competition and antitrust law, or cases of corruption and conflicts of interests.

ZF developed an internal risk analysis process for compliance risks. The main focus of this risk analysis is on antitrust and corruption. The objective of this analysis is to identify and assess, on the basis of the risk profile of ZF, compliance-relevant risks at an early stage and to counteract them.

ZF Compliance Organization

Prevent	Detect & respond
Risk analysis	Notification
Regulations	Investigation
Communication	Monitoring
Training	Remediation & sanctioning
ComplianceHelpdesk	
Business partner due diligence	

Business partners can pose a compliance risk if their actions or failures to act can be attributed to ZF. As a result, ZF could be held liable if no suitable precautionary measures were taken, for example to prevent bribery. All business functions of our company are therefore obliged to take appropriate measures – preferably before business relations with a partner are initiated – to ensure that business partners are adequately assessed and instructed. A business partner due diligence process has been set up and an appropriate guideline was published in 2015 and is an addendum to ZF’s Business Partner Principles. For more details on ZF’s risk management approach see Annual Report 2017, p. 48.

GRI 205-1

Operations assessed for risks related to corruption

Regarding corruption-related categories all operations are being assessed over a period of four years. The total number or percentage for the reporting year is not available.

To achieve more precise results, the risk analysis process follows the divergent business models and is performed at business unit level. Additionally an online questionnaire regarding compliance risks will be conducted every two years, starting in 2018.

GRI 205-2

Communication and training about anti-corruption policies and procedures

News and information sharing on compliance issues raises awareness among employees and communicates values and expectations on employee conduct.

A range of communication measures ensure that compliance is firmly anchored within ZF’s culture. All employees, including the Board of Management, have continuous access to compliance topics through newsletters, the compliance intranet and other channels. As a main communication channel, our intranet provides access to necessary compliance contacts and essential documents. To ensure that compliance news reaches the management teams of the individual ZF locations, compliance delegates are required to update the management team about compliance issues periodically, so the management will pass this information on to their employees.

In 2017, the compliance newsletter was used to communicate the status of integration between the ZF and former TRW compliance departments. Due to the high importance of this issue, the newsletter was sent to the compliance community of approximately 5,000 individuals, which includes all compliance delegates and compliance officers, and all members of the ZF management. Additionally, Compliance published an article on the main ZF corporate news site to reach all levels of employees.

Training opportunities

ZF has integrated target-group-oriented compliance training courses into its training concept. The objective of the training program is to firmly anchor compliance in employees' consciousness and prevent wrong-doing. The courses convey knowledge and promote the ability to act in critical situations. Target groups can be addressed using different solutions, depending on the necessities of a topic.

Classroom training gives participants the opportunity to directly exchange ideas and experiences on compliance-relevant topics and issues. In 2017, face-to-face training sessions were offered in a number of countries including China, Brazil, Argentina, Germany, Russia, Slovakia, Poland, Mexico and Hungary. Overall 1,116 employees received face-to-face training in the reporting year.

Online training serves to convey broad, general knowledge to all employees. Online training for the Code of Conduct is available on the intranet and should be completed by all new employees. ZF online training courses include the following topics: international anti-bribery principles, financial integrity and antitrust law. In the reporting year, approximately 13,000 employees completed these training courses. Additionally 1,135 employees received webinar training in 2017. Participant numbers are currently not reported by employment category or region.

Environment

GRI 103-1, 103-2, 103-3

Management approach – Environment

We are meeting our responsibility toward people and the environment by implementing a range of different environmental protection measures. This responsibility is anchored in ZF's values, and protects against entrepreneurial risks – in the areas of compliance, customer relations and reputation – while improving operating efficiency and benefiting the environment.

Conserving natural resources is the fundamental principle of our environmental strategy. A corresponding policy is based on environmental objectives and is globally binding for all locations. This policy includes essential areas of activity such as climate protection, the environmental impact of production, eco-friendly product design and environmental performance improvement. The locations strive to achieve the objectives at a local level.

In the course of integrating the Active & Passive Safety Technology Division, an integration team for Environment, Health and Safety (EHS) agreed on the update of the environmental policy and targets, which will be rolled out in 2018. The environmental policy and objectives are published on the corporate website.

The global ZF environmental organization covers all areas of the company, from each individual division to different regions, right down to the locations. The corporate environmental protection officer is responsible at the Group level and senior environmental protection officers are appointed at the divisional level. On plant level, the EHS officers work on a daily basis towards ensuring environmental protection. The regional managers provide support for ensuring compliance in their respective regions, the implementation of ZF standards and monitoring of the environmental management system.

All ZF production and main development locations are required to have an environmental management that conforms to the requirements of the ZF Group's EHS management system, either Group Directive DG 16-02 or the EHS management handbook. They also have to be certified within the ZF Group certificate in accordance with ISO 14001. In 2017, there were 230 ZF locations worldwide certified in conformity with ISO 14001, thereof 123 locations in the corporate scheme and an additional 107 single certifications of the Active & Passive Safety Technology Division.

Management reviews are conducted twice a year, in which the Board of Management assesses the target achievement of the sites. The board also assesses whether the environmental management system is qualified to fulfill current legal customer and management requirements.

In 2017 the EHS integration team committed to a new common EHS management system based on a best-of-both approach. The rollout of this advanced management system will be conducted over a three-year transition period.

2017 also saw the launch of the implementation of the Group Directive for Global Development & Product Evolution Process (GD PEP). Following the "design for environment" principle, this puts particular focus on environmentally friendly product design. Relevant aspects must be proven by means of a checklist at various steps in the development process, taking into account environmentally friendly manufacturing and manufacturability, wear, serviceability and repairability, recyclability and environmentally sound materials.

Furthermore, the technical standard ZF 9003 on Control of Prohibited & Regulated Substances has been updated, extended and implemented for the combined company. Furthermore, the product-related environmental protection elements in the Supplier Purchasing Directive (QD 83) have been further strengthened and harmonized for the combined company.

GRI 301 MATERIALS

GRI 103-1, 103-2, 103-3

Management approach – Materials

As raw materials become increasingly scarce and more expensive, their efficient use is crucial. Likewise, materials must conform to our high expectations regarding quality and safety as well as environmental and social standards. Please see ► GRI 204 for more details on procurement procedures and the general environmental management approach for details on the “design for environment” principle.

At ZF, product-related environmental protection begins with material selection. From the very start, during the product development phase, we consider the total life cycle of a product, including factors such as product materials, utilization phase as well as disposability and recyclability, and design our products accordingly. By reducing material variety, ensuring materials are easily separated and using consistent materials, we continually increase the recyclability of our products. We systematically substitute materials containing hazardous substances. All these principles are embedded in guidelines during the development phase.

The ZF Materials Warehouse provides information on almost all existing materials, and, in the future, will also classify them into approved and preferred materials. It will then only be possible to use a non-approved material after submitting a release application to the Materials Department, which will review the material and check its conformity with set requirements. This procedure optimizes costs, simplifies material selection and guarantees that only materials are used which comply with technical standards and country-specific laws banning certain materials. Materials in the ZF Materials Warehouse will be regularly screened for hazardous substances. This means materials containing hazardous substances can be substituted at the earliest possible stage of the material selection process, reducing the environmental impact of ZF products even before they are manufactured.

Material and life-cycle analysis

Product responsibility for ZF also means critical analysis of materials used, especially for materials as energy-intensive in their production as carbon and glass fiber materials, and as challenging to recycle. Fiber-based lightweight materials, in particular, can help reduce the environmental impacts of ZF

products during their use. To ensure that lightweight solutions help minimize the environmental impact of our products, we successfully completed two projects. In the course of these, the entire life cycles of two fiber-based products were analyzed and compared with their steel and aluminum counterparts. LCAs for six variants of two products were successfully calculated and compared.

Cradle to cradle

Over the years, we have gained valuable insights into closing the loop. Like nature, the cradle-to-cradle concept knows no waste, no renunciation and no restrictions. Biological and technical nutrient cycles provide the right materials at the right time and in the right place.

Ultimately, the result is always better quality. The “from the cradle to the cradle” (C2C) production method directly contrasts with the “from the cradle to the grave” model, in which material flows often ignore resource conservation.

One certified example of cradle to cradle is the MFZ 430 clutch cover. The ZF plant in Bielefeld (Germany) arranged the assessment of another remanufactured product in 2017. The 8HP torque converter for automatic transmissions was awarded a certificate in Silver by the Cradle to Cradle Products Innovation Institute. The certificate comprises the categories: material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness.

GRI 301-1

Materials used by weight or volume

The commodities steel and aluminum have the largest consumption share in the purchasing portfolio. The ZF Group purchases approximately 280,000 t of aluminum and 1,935,000 t of steel (including iron cast) annually.

ZF purchases not only raw materials but also a large number of assembled parts and products, which already consist of a mixture of different materials. Therefore, figures on specific materials are not readily available. A standard ZF product, the 8HP70 8-speed automatic transmission, comprises approximately 58 percent steel and 25 percent aluminum. The rest contains lubricating oil (7%), silicon (3%), rubber and plastics (2.2%) and copper (1.5%) as well as other metals, alloys and solvents in extremely small quantities.

GRI 301-2

Recycled input materials used

ZF frequently uses recycled materials in its production processes. Steel and aluminum constitute the highest weight share of ZF products. This includes steel from scrap steel and aluminum from scrap aluminum. For standard steel, the minimum global recycling rate is 70 percent.

Recycled oils are also used in production, for example hydraulic oil. Furthermore, ZF channels a high percentage of waste back into the material cycle via external recycling procedures, especially scrap metal and metal chips, waste oil, paper and cardboard, wood and demolition waste. As a result of their material composition, ZF products make a disproportionately high contribution to meeting the recycling quotas as stipulated in the EU End-of-Life Vehicle Directive.

GRI 301-3

Reclaimed products and their packaging materials

To comply with respective legislation, ZF is required to take back packaging. In Germany, ZF fulfills this requirement by, for example, participating in external collection systems that involve taking back and recycling packaging through a dual system, or through sector solutions (for automobile repair workshops or for information technology, communications technology and consumer electronics). Through this approach, we have more than exceeded statutory recycling quotas.

Data of the total amount of packaging material used within the ZF Group will be published on the internet after validation and acceptance of authority, which is expected for April 2018.

Concerning products, ZF has been committed for decades to remanufacturing procedures and has therefore established a global reclaiming system. Various parts like torque converters, ConAct and dual-mass flywheels are being remanufactured for industrial use. Remanufacturing transmissions and other parts saves production energy by upwards of 90 percent. Also, ZF was able to save over 10,000 tons of materials by remanufacturing over 25,000 gearboxes for trucks, buses, passenger cars and off-road vehicles, and our site in Bielefeld (Germany) remanufactured over 340,000 clutch pressure plates and discs and saves an additional 10,000 tons of material each year. Moreover, the locations in Frydlant and Wrexham accomplished remanufacturing almost 745,000 brake calipers from passenger cars.

GRI 302 ENERGY

GRI 103-1, 103-2, 103-3

Management approach – Energy

Energy management is a top priority for an industrial company such as ZF and a core element within the ZF EHS management system. By this means, all locations regularly evaluate their energy profiles and energetic topics. This involves conducting audits, identifying potential for improvement and defining actions and measures for improving energy efficiency and consumption reduction.

As an integral part of the energy management system, locations define specific targets locally on an annual basis to increase energy efficiency and take appropriate actions. The target achievement is monitored and controlled through key performance indicators within the environmental and energy management system in conformity with ISO 14001 and ISO 50001.

Detailed energy programs help the locations to achieve their targets. The core elements are behavioral changes, energy supply management, energy data management, and organizational and technical energy efficiency programs.

Actions to increase efficiency and reduce energy consumption are planned and implemented at all locations depending on the local consumption footprint and target achievement. These measures, in conjunction with the energy management system, considerably improve energy efficiency worldwide.

Additionally to ZF EHS management, all German and European locations are audited externally on a regular basis. The Corporate Energy Management ISO 50001 scheme covered 47 locations in 2017. Further locations gained single-site certification according to ISO 50001 or have conducted external audits according to EN 16247.

A roadmap for a revised energy and climate change strategy and Group targets were updated, following an energy-and-climate strategy workshop held in the last quarter of 2017. The cross-functional Steering Board, including decision-makers from purchasing, production, tax and real estate management departments, revised methods and tools from all relevant domain functions within the company. The essential discussion of strategy was based on legal requirements and requirements arising from political and societal developments (e.g. the Paris Agreement) with the goal of defining ambitious Group targets.

GRI 302-1

Energy consumption within the organization

Energy is mainly used for production processes, especially heat treatment, surface treatment and compressed air. Another significant field of energy use is associated with building and infrastructure management, for example heating, lighting, air conditioning and ventilation. Due to the huge variety of production processes used within the ZF Group, the share of energy use differs greatly from location to location.

Approximately 66 percent of the energy consumed at ZF comes from purchased electricity. Energy procurement and consumption is therefore a major topic, especially at the ZF production locations. While the major share of energy consumption comes from electricity, natural gas accounts for 28 percent of the energy. It is mainly used for heating and production processes and partially in on-site combined heat and power (CHP) plants. The remaining 6 percent comprise energy from oil, district heating, liquid gas, acetylene, liquid gas and biogas. In terms of renewable energy resources a minor share comes from on-site solar power. Approximately 12 percent of the electricity consumption involves CO₂-reduced emission factors due to special purchasing contracts or on-site production.

Compared to the previous year the absolute energy consumption increased by 1 percent. Energy efficiency programs and measures could not compensate the for increase of energy consumption due to expanded production.

GRI 302-2

Energy consumption outside of the organization

The vast majority of energy consumption outside the organization comes from the use of our products. See ► GRI 302-5 for more information.

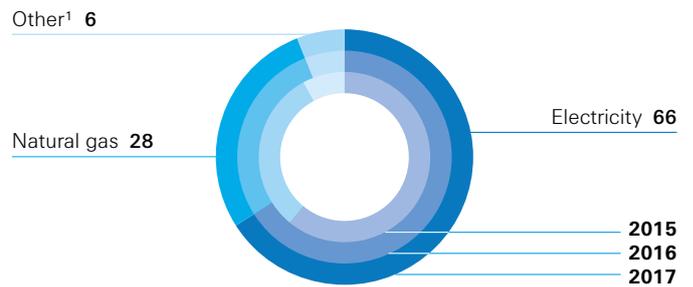
GRI 302-3

Energy intensity

As in previous years, ZF reduced energy intensity. ZF brought down energy consumption per € million of sales by 3 percent last year. This improvement in energy performance was reached by increasing production volume and implementing a vast variety of energy efficiency measures. From 2015 to 2017 specific energy consumption decreased by 10 percent.

Energy consumption 2015–2017

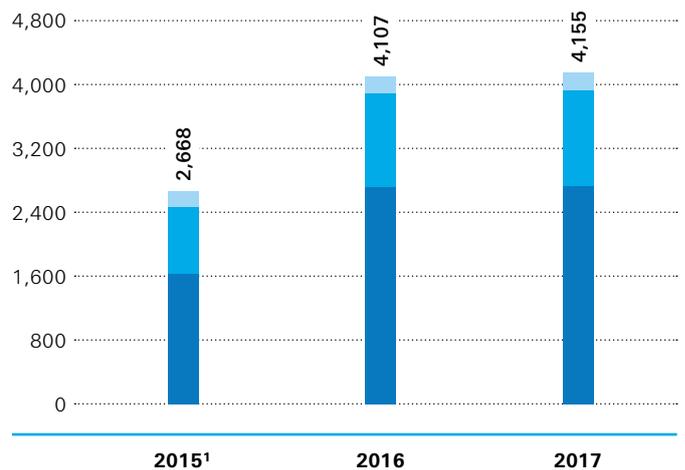
in percent



¹ Oil, district heating, liquid gas, acetylene

Absolute energy consumption 2015–2017

in gigawatt-hours



■ Natural gas ■ Electricity ■ Other²

¹ Without the Active & Passive Safety Technology Division

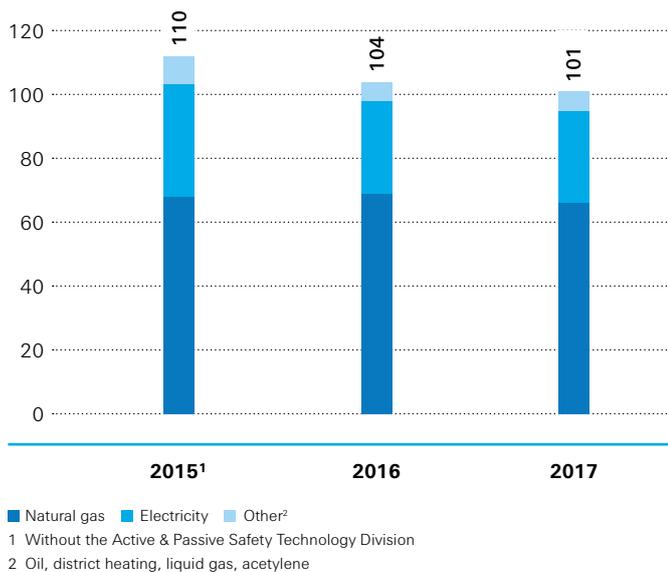
² Oil, district heating, liquid gas, acetylene

GRI 302-4

Reduction of energy consumption

Special programs and actions at site level have achieved continuous improvement in energy efficiency. In 2017, ZF implemented more than 110 projects to reduce energy consumption and increase energy efficiency, not including the Active & Passive Safety Technology Division. These were mainly in the areas of plant engineering, process optimization and building technology.

Specific energy consumption 2015–2017
in megawatt-hours per € million in sales



Within the huge variety of measures there were 110 projects reported to save 34 GWh in 2017, not including the Active & Passive Safety Technology Division. This is enough energy to supply more than 6,400 households with an average consumption of 4,000 kWh/a.

ZF also fosters behavior that reduces energy consumption through empowering employees to identify and label equipment and lights that can be safely turned off when not needed.

A promising project is called DO MORE, which stands for “Digital Online Machine and Operations Research.” It allows for making digital operating data from machines and systems centrally available and evaluable. This way, the collected data

can be used to make processes more robust while at the same time indicating which machines require preventive maintenance. While the project initially started with an Industry 4.0 focus it also improves our energy management efforts. The acquired data reveal opportunities and potential in electricity savings, which are consistently exploited.

The Car Chassis Technology Division started a project using heat treatment by means of AWP tempering (for “Assembly of Warming Parts”), in order to reduce energy consumption and emissions. AWP tempering is a new induction-based process where a workpiece is no longer heat-treated as a whole in an oven, but only selectively heated by induction. This saves 30 percent energy compared to the old method in the oven. The process is currently being introduced at eight locations worldwide, with more to come. ZF is about to completely convert the process for heating structural components of passenger cars to AWP tempering.

GRI 302-5

Reductions in energy requirements of products and services

As a technology and cost leader, ZF aims to meet the demands of the mobility megatrends of tomorrow, such as efficiency, integrated safety and automated driving. Following our Vision Zero, ZF products are intended to make a strong contribution to reducing emissions and accidents to zero. Accordingly, the Group has set a clear technology focus with its guiding principle “See – Think – Act”. The company’s product and technology planning follows market and product roadmaps, which are continuously updated. At ZF, sustainability is not another product development objective, but rather an integral part of our company worldwide.

Putting into practice our Vision Zero, ZF offers electric drive solutions for almost all vehicle segments, such as bicycles, buses or tractors. The newly presented Vision Zero Vehicle uses an electric axle drive system with an output of 150 kilowatts that can power a mid-sized car comfortably and powerfully. The system is integrated into the innovative rear-axle modular system called mSTARS, which stands for modular Semi-Trailing Arm Rear Suspension. This modular system is compatible with the most varied requirements and can be combined with hybrid, fuel cell and electric drives as well as conventional all-wheel modules or active rear axle steering (AKC). Consequently, mSTARS offers ease and flexibility in electrifying volume-produced vehicles, and OEMs can respond to different market requirements with just one chassis variant.

As a worldwide leader in marine propulsion systems, supplying systems and components for all types of ships, ZF Marine offers a range of “hybrid-ready” transmissions to address the market needs. Our systems can be integrated into all types of fast craft, from coast guard vessels to fast offshore supply vessels. The resulting environmental protection includes fuel savings, lower CO₂ emissions and noise reduction.

GRI 303 WATER

GRI 103-1, 103-2, 103-3

Management approach – Water

Water is used at ZF locations for production, e.g. for surface treatment processes, washing, rinsing and cleaning, as a coolant, or for non-production purposes such as sanitary water, drinking water, in the canteen or during construction projects.

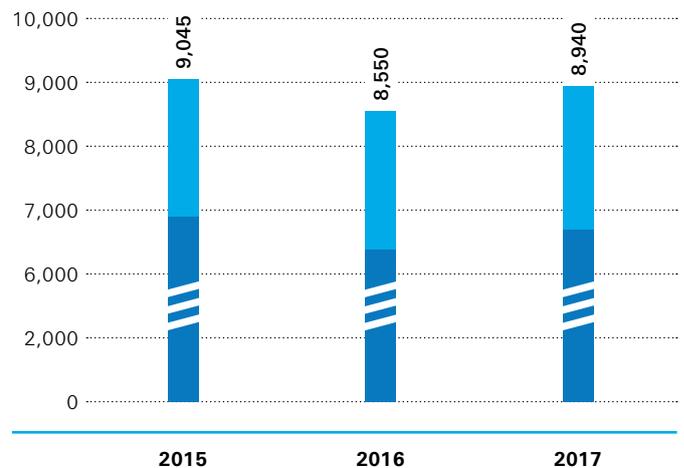
At locations in water-scarce areas, water consumption in production is a major issue as the use of freshwater might become increasingly restricted in the future. However, the ZF water management objective goes beyond reducing consumption in risk areas: We want to continually reduce specific water consumption throughout the Group. Therefore, we are introducing location-specific water-saving projects. Progress is monitored and managed in line with our environmental management system at the individual locations and at Group level. The different approaches of the Active & Passive Safety Technology Division and the other ZF divisions are mainly driven by different production footprints and sources. In 2017, the EHS integration team worked on a common strategy to align management and reporting strategies and targets. These were first rolled out at the beginning of 2018. See ► GRI 300 for more details on the management approach.

GRI 303-1

Water withdrawal by source

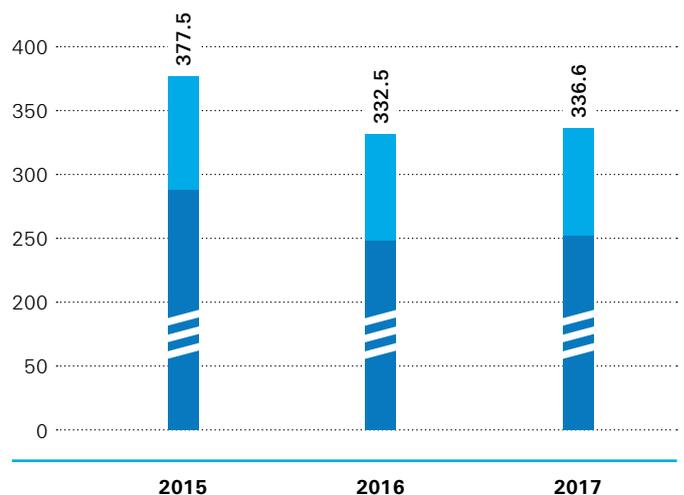
The water supply at ZF locations is adapted to local circumstances and generally comes from the municipal water supply. At some locations water from rivers or groundwater is used for cooling processes without any chemical change. Within the last year, the absolute amount of water consumption increased by 5 percent.

Absolute water consumption¹ 2015–2017
in million cubic meters



■ Ground and surface water ■ Municipal water ■ Rainwater
1 Without the Active & Passive Safety Technology Division

Specific water consumption¹ 2015–2017
in cubic meters per € million in sales



■ Ground and surface water ■ Municipal water ■ Rainwater
1 Without the Active & Passive Safety Technology Division

Besides various projects to reduce overall consumption, ZF makes use of available water treatment and reuse technologies to reduce freshwater consumption - as for example the sewage treatment plant in Guadalajara (Mexico), which provides final disinfecting with ozone to ensure that the reprocessed water complies with local quality standards. In future, it will also serve to wash the chromated parts.

GRI 303-2

Water sources significantly affected by withdrawal of water

Currently no figures are available for affected water sources. Some of our production locations, e.g. in Brazil and Mexico, are in so-called "water scarce areas". Permits for water withdrawal for production are in some cases already restricted in these areas. If water scarcity persists, the situation could worsen or spread to other regions. Resource scarcity results in the need for increased investment or expenses to cover the technical modernization of production equipment. Furthermore, we are currently faced with more expensive electricity in Brazil. A large part of the country's electricity supply comes from hydropower, so increases in water scarcity entail a risk of price increases. Such a development could also lead to electricity rationing, which would put energy supply to the locations at risk.

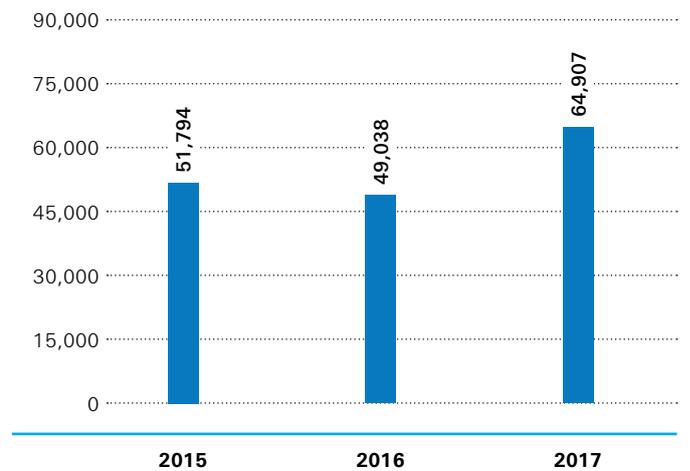
GRI 303-3

Water recycled and reused

ZF makes full use of all technical methods for saving water in production processes, for example cascade rinsing systems for washing processes or process water recycling. The significantly increased amount of water recycled or reused (absolute and specific) proves the good impact of our efforts. We will initiate further projects in 2018.

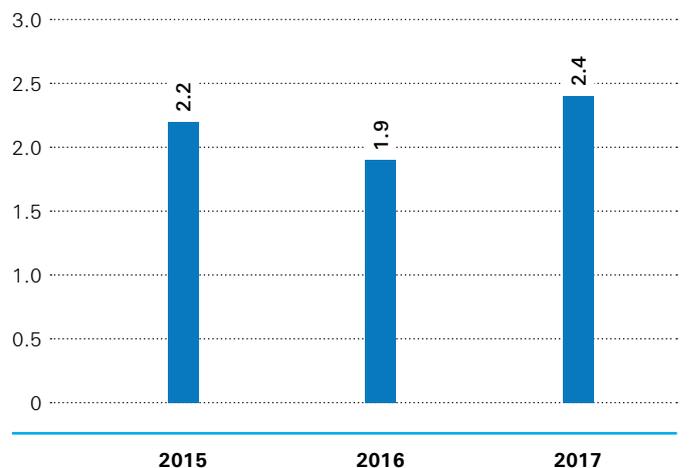
Since 2016, our location in Schweinfurt (Germany) has made use of a new ion exchanger plant that allows the contaminated groundwater to be treated so that it can be used as ultrapure water for our industrial rinsing processes in surface treatment plants. The new system replaces four old ion exchangers with annual savings of potable water (11,000 m³/a), energy (65,000 kWh/a) and process chemicals (43 m³/a hydrochloric acid, 28 m³/a sodium hydroxide). This way it also supports local soil rehabilitation efforts.

Absolute water recycled/reused¹ 2015–2017
in cubic meters



¹ Without the Active & Passive Safety Technology Division

Specific water recycled/reused¹ 2015–2017
in cubic meters per € million in sales



¹ Without the Active & Passive Safety Technology Division

GRI 305 EMISSIONS

GRI 103-1, 103-2, 103-3

Management approach – Emissions

The majority of emissions generated by our products occur during the utilization phase. That is why, as part of our emission reduction efforts, we are focusing on developing products that contribute to cutting vehicle emissions. See ► GRI 302-5 for more information.

Our environmental and energy management system manages the reduction of emissions from our production facilities. Prior to the merging of ZF and TRW, the objective of the two companies was a 20 percent decrease in CO₂ emissions generated by the energy consumed during production per sales by 2020. This target had already been achieved by both companies in 2015. By 2017, the specific ZF emissions dropped by 32 percent compared to the baseline (average emission 2006–2010). Absolute fossil CO₂ emissions (Scope 1+2) increased in the last year although several energy and emission reduction projects were conducted. This increase results mainly from increased energy consumption due to production expansion in countries with high emission factors for purchased electricity in Asia-Pacific, as well as Mexico and Germany. The reorganization of the EHS management system for the combined company will include a revision of the CO₂ reduction target and its reallocation as part of the new EHS policy and strategy.

Since 2016, the emissions calculation has been based on the VDA emission factors from 2015. The reported amount of fossil CO₂ emissions does not include CO₂ equivalents (from CH₄, N₂O, HFCs, PFCs, NF₃, or others). In 2016, ZF joined the CDP reporting – the full report is available at the CDP website.

Absolute CO₂ emissions 2015–2017

in thousand tons

	2017	2016	2015 ¹
Scope 1 ²	253	–	–
Scope 2 ²	1,393	–	–
Total	1,646	1,570	928

¹ Without the Active & Passive Safety Technology Division

² Scope 1+2 are only reported for 2017 due to changing calculation in recent years

ZF’s strategy is to buy where the supplied materials or components are needed, i.e. “local for local,” which helps to avoid the impacts of transportation. A strategic decision was made by the Group for ZF to be responsible for all transport carried out from suppliers to ZF plants. For us, this is the best way to ensure that transportation is organized efficiently and that environmental factors are systematically taken into account. In countries where this has not yet been implemented, for instance China, we have launched projects to roll out this strategy as quickly as possible. As part of our freight management, we are making a concerted effort to pool transport and increase the full truck load (FTL) quota to avoid unnecessary transports.

When selecting transport service providers, we always consider the company’s “green logistics” credentials.

GRI 305-1

Direct (Scope 1) GHG emissions

Direct emissions include emissions from energy sources consumed at the sites, including natural gas, fuels e.g. diesel, gasoline, biogas, acetylene, liquid gas and others.

The increase in absolute energy consumption due to expanded production led to a slight rise in absolute Scope 1 fossil CO₂ emissions in 2017.

GRI 305-2

Energy indirect (Scope 2) GHG emissions

Indirect emissions include emissions from purchased electricity and all kinds of district heat.

The increase in absolute energy consumption due to expanded production led to a rise in absolute Scope 2 fossil CO₂ emissions in 2017.

Specific CO₂ emissions 2015–2017

in tons per € million in sales

	2017	2016	2015 ¹
Scope 1 ²	6	–	–
Scope 2 ²	34	–	–
Total	40	40	39

¹ Without the Active & Passive Safety Technology Division

² Scope 1+2 are only reported for 2017 due to changing calculation in recent years

GRI 305-3

Other indirect (Scope 3) GHG emissions

Our approach for Scope 3 emissions is focusing on the supplies and suppliers with highest CO₂ emission levels in the life-cycle perspective. See ► GRI 302-5 for more information on emissions from products and services.

GRI 305-4

GHG emissions intensity

The GHG emissions intensity results directly from the energy intensity and the footprint of each country where energy is purchased and used. In addition, the production footprint is strongly influenced by customer needs as well as national production and purchasing requirements.

In the reporting year, ZF reduced energy intensity. Nevertheless this could not decrease specific fossil CO₂ emissions in tons per € million in sales. The increase of production and therefore energy consumption in some countries with high emission factors, e.g. in Asia-Pacific, Mexico and Germany, led to increased emissions. This rise was higher than the reduction achieved by energy efficiency programs and CO₂ emission reduction projects such as installation of combined heat and power (CHP) plants or solar power plants. For details on projects see ► GRI 302-4.

GRI 305-5

Reduction of GHG emissions

ZF's strategy focuses on continuously reducing GHG emissions. The improvements result from numerous initiatives and projects to increase efficiency and raise awareness at a local level. All projects reducing energy consumption or increasing energy efficiency also lead a reduction in emissions.

Over 110 energy efficiency projects, not including Active & Passive Safety Technology Division projects, were implemented at ZF locations around the world. These were mainly in the areas of plant engineering, process optimization and building technology.

Nonetheless, these measures could not compensate for the increase in absolute emissions which was mainly caused by an increase of energy consumption in countries with high emission factors for electricity. For details on projects see ► GRI 302-4.

In 2017, the locations Pune (India) and Johannesburg (South Africa) installed solar power plants leading to an expected total emission reduction of 480 tons annually.

At the location Bielefeld (Germany) 50 percent of the purchased electricity was from renewable sources. The location has been purchasing 100 percent from renewables since 2018. A total of seven locations purchased electricity from renewables or with reduced CO₂ emissions, leading to a total reduction of approximately 60,000 tons of CO₂.

GRI 305-6

Emissions of ozone-depleting substances (ODS)

ZF locations worldwide manage their ODS emissions at local level in line with our environmental management system and according to local legal requirements. At ZF locations, ODSs are relevant to air conditioning processes and equipment. Therefore, locations engage qualified contractors for the maintenance and service of coolant equipment to ensure adequate handling.

The most relevant ODSs in operation processes are volatile organic compounds (VOC), mainly used in surface treatment processes. For detailed absolute and specific emissions of solvents (VOCs) see GRI 305-7 and ► GRI 305-8.

GRI 305-7

Nitrogen oxides (NO_x), sulphur oxides (SO₂), and other significant air emissions

A major percentage of ZF's VOC emissions originate from large painting and degreasing facilities. Wherever possible, we are continuing the transition to water-based paints and aqueous degreasing procedures so as to reduce VOC emissions from these processes. If water-based paints cannot be used for reasons of product quality, the captured exhaust flows from these facilities are technically treated to minimize VOC emissions.

Absolute VOC, NO_x and SO₂ emissions 2015–2017

in tons

	2017	2016	2015
VOC ¹	1,014	886 ²	1,079
SO ₂	4,350	4,226	2,387
NO _x	2,821	2,755	2,126

¹ Data for VOC solvents of the Active & Passive Safety Technology Division were not yet available on Group level

² Figure was updated compared to ZF's Sustainability Report 2016

Specific VOC, NO_x and SO₂ emissions 2015 – 2017
in kilograms per € million in sales

	2017	2016	2015
VOC ¹ solvents	38	34 ²	45
SO ₂	105	107 ²	100
NO _x	68	70	89

¹ Data for VOC solvents of the Active & Passive Safety Technology Division were not yet available on Group level

² Figure was updated compared to ZF's Sustainability Report 2016

Another approach to improving environmental performance is to change air filters from active carbon adsorption to thermal oxidation. This way solvents can be oxidized effectively and solid particles can be extracted.

Further potential ways to reduce VOCs in paint processes are being evaluated in certain products from the off-highway segment, bearing in mind the specific high corrosion resistance and resistance to mechanical stress requirements.

Future reporting and management of these VOC emissions is being reevaluated in the integration process and will be adjusted for the combined company.

GRI 306 EFFLUENTS AND WASTE

GRI 103-1, 103-2, 103-3

Management approach – Effluents and waste

Wastewater at ZF is usually discharged into the public sewer system and treated at local wastewater treatment plants connected to the system. However, our environmental management system aims at continually reducing the volume of wastewater and waste. Direct drainage into surface water only occurs at a few locations lacking public infrastructure. In these cases, water is drained only if approved by the authorities and is treated in conformity with state-of-the-art technology. Threshold values are strictly monitored here. ZF is committed to installing water-saving equipment that exceeds these statutory requirements.

ZF is constantly working toward decreasing the volume of waste sent for disposal and hazardous waste by altering processes, optimizing procedures and substituting hazardous substances in operations.

The relevant processes at ZF with a potential risk for the release of hazardous substances are essentially surface treatment, carbide treatment, magnesium machining and hardening. Preventive technical measures in place at the locations ensure that hazardous substances cannot spill into the ground and endanger the groundwater, even in the event of a potential release resulting from a breakdown. A Group-wide reporting obligation has been introduced to cover the eventuality of a release.

GRI 306-1

Water discharge by quality and destination

The total and specific volume of wastewater at ZF locations increased based on the use of fresh water. Data for some locations of the Active & Passive Safety Technology Division are not yet available.

Using water treatment technologies, ZF does not only reduce freshwater consumption but also effluents. For example, our site in Coimbatore (India) is treating wastewater at a reverse osmosis plant. The production then uses the recycled water for washing, rinsing and cleaning operations as well as for the application of cooling lubricants.

Absolute wastewater¹ 2015–2017

in cubic meters

	2017	2016	2015
Sanitary wastewater	1,472,482	1,550,626	1,787,733
Treated process wastewater	831,466	870,305	780,868
Untreated process wastewater	6,084,672	5,638,274	6,146,260
Total	8,388,620	8,059,205	8,714,861

¹ Without the Active & Passive Safety Technology Division

Specific wastewater¹ 2015–2017

in cubic meters per € million in sales

	2017	2016	2015
Sanitary wastewater	55	60	75
Treated process wastewater	31	34	33
Untreated process wastewater	229	219	256
Total	316	314	364

¹ Without the Active & Passive Safety Technology Division

GRI 306-2

Waste by type and disposal method

While the total amount of waste increased by 5 percent due to an increase of production, the specific amount of waste slightly increased by 0.6 percent in 2017, compared to the previous year.

Absolute waste 2015–2017 in tons

	2017	2016	2015 ¹
Recycled non-hazardous	534,807	507,062	292,952
Recycled hazardous	43,254	41,180	30,497
Total recycled	578,061	548,243	323,448
Disposal non-hazardous	33,654	34,075	32,887
Disposal hazardous	40,373	36,895	19,545
Total disposal	74,027	70,970	52,433
Total	652,088	619,213	375,881

¹ Without the Active & Passive Safety Technology Division

Specific waste 2015 – 2017 in tons per € million in sales

	2017	2016	2015 ¹
Recycled non-hazardous	12.93	12.83	12.22
Recycled hazardous	1.05	1.04	1.27
Total recycled	13.97	13.88	13.49
Disposal non-hazardous	0.81	0.86	1.37
Disposal hazardous	0.98	0.93	0.82
Total disposal	1.79	1.80	2.19
Total	15.76	15.68	15.68

¹ Without the Active & Passive Safety Technology Division

Phosphate coatings are used on steel parts for corrosion resistance. From the environmental point of view phosphating is seen critically due to the generation of process sludge and effluents, which are considered as hazardous waste. São Bernardo do Campo in Brazil has succeeded in completely eliminating the phosphating process while maintaining the same product quality. There usage of hazardous materials and the amount of hazardous waste and wastewater was thereby reduced and the environmental risks minimized. For this successful project the team in Brazil received the Mercedes-Benz Award in May 2017.

GRI 306-3

Significant spills

In 2017, no significant spills with impact on the environment were reported.

GRI 306-4

Transport of hazardous waste

ZF does not export hazardous waste from one country to another. Our waste management is organized locally.

GRI 306-5

Water bodies affected by water discharges and/or runoff

No bodies of water were significantly affected by wastewater drainage.

GRI 307 ENVIRONMENTAL COMPLIANCE

GRI 103-1, 103-2, 103-3

Management approach – Environmental compliance

We continue to operate responsibly as a business and a manufacturer of ZF products by constantly striving to comply globally with legal requirements and internal standards.

In the context of environmental management, compliance is a core issue. Due to various local requirements, legal developments are pursued and evaluated and – if necessary – measures implemented at all locations and levels of the ZF Group. Processes and events that are relevant for compliance must be reported.

GRI 307-1

Non-compliance with environmental laws and regulations

ZF was involved in over 57 remediation projects, whose causes date back at least a decade. The processing of these projects is carried out jointly with the relevant local authorities. The costs for these projects amounted to €9.0 million in 2017.

Furthermore, we neither committed any legal environmental offences nor were required to pay any significant environment-related penalties or fines in 2017.

GRI 308 SUPPLIER ENVIRONMENTAL ASSESSMENT

GRI 103-1, 103-2, 103-3

Management approach – Supplier environmental assessment

When selecting strategic suppliers, ZF carefully reviews their environmental management. See ► GRI 204 for more details on the management approach for procurement, supplier standards and assessment.

Capacity building

We set up the ZF Supplier Academy to create a strategic cooperation and qualification platform in order to promote and support cooperation with our production material suppliers. ZF suppliers have the opportunity to take part in seminars held in their regions. Participation provides suppliers with an in-depth insight into ZF requirements, standards, guidelines and procedures so that they can subsequently apply them effectively at their companies. Since the end of 2017, suppliers of the Active & Passive Safety Technology Division have been able to participate in seminars as a result of the integration process.

GRI 308-1

New suppliers that were screened using environmental criteria

During the course of the reporting year, 100 percent of new ZF suppliers underwent self-assessment according to sustainability criteria defined by ZF. No indications of infringements against our principles of environmental protection, human rights, labor practices, forced labor, child labor or freedom of association were identified. We will continue to apply this procedure consistently in the future.

GRI 308-2

Negative environmental impacts in the supply chain and actions taken

In China, the government has been taking more strict measures towards violation of environmental laws and regulations. ZF informed its supply base to comply with EHS regulations, and organized respective training and self-assessment for selected suppliers. We also conducted online surveys to assess EHS compliance of suppliers in China. For suppliers with potential environmental risks, the Purchasing and Supplier Management team is taking preventive action. EHS requirements were implemented in the approval process for new suppliers in China.

Social

GRI 103-1, 103-2, 103-3

Management approach – Social

As part of the changing market environment, ZF is responding to megatrends, strong growth in the Asia-Pacific region and North America, technological and demographic change, and worldwide population growth. At the same time, highly qualified personnel are key to the company's long-term success. Therefore, attracting and systematically further developing talented personnel is one of ZF's major challenges. This is why ZF is positioning itself as a globally attractive employer.

Preparing for future challenges

Following the acquisition of TRW Automotive, we introduced the new ZF Management System (ZF MS) to provide both theoretical guidance and practical instructions for effective cooperation. The new ZF Management System aims at shaping our way of working in terms of speed, simplicity and target focus.

Being a core element of the ZF MS, the four equally important principles "Innovation Approach," "Customer Focus," "Commitment to People" and "Result Orientation" form the ZF Charter and define what is important to us and how we do business. These principles provide direction and guidance to ZF employees regarding expected behavior and mindset. The principles define what we regard as important, what we do and what makes us special:

- **Innovation Approach:** We develop pioneering products and technologies that help us achieve our strategic goals – and are financially rewarding. Our employees and business units alike all strive to develop innovative and creative solutions. We think like entrepreneurs. This also means we take risks and learn from our successes and failures.
- **Customer Focus:** We win over our customers with our quality and our passion, offering them clear added value. This applies to internal and external customers alike. At the same time, we always aim to be profitable – and act accordingly, in every part of our organization.

- **Commitment to People:** We support and encourage our employees in the fulfillment of their duties and responsibilities. In return, we expect commitment and performance. We provide constructive feedback and foster a culture of trust.
- **Result Orientation:** We set ourselves challenging goals and measure what we achieve. We deliver as promised, and value agility. By finding the right balance between quality and speed, we ensure that we succeed in what we set out to do.

Existing management systems like the ZF Quality Management System or various HR systems are not being replaced or superseded. But in time they will be progressively aligned with the requirements of the overarching ZF Management System.

GRI 401 EMPLOYMENT

GRI 103-1, 103-2, 103-3

Management approach – Employment

Responsible, supportive and fair – that's the kind of employer ZF aims to be. We want to create a corporate culture that strengthens collaboration and trust. And we are convinced that this approach also leads to better financial results. We provide support and make offers, but at the same time ask for our employees' dedication and commitment. We want to create a work environment that rewards high performance. Fairness, as we see it, provides benefits for employees and employer alike.

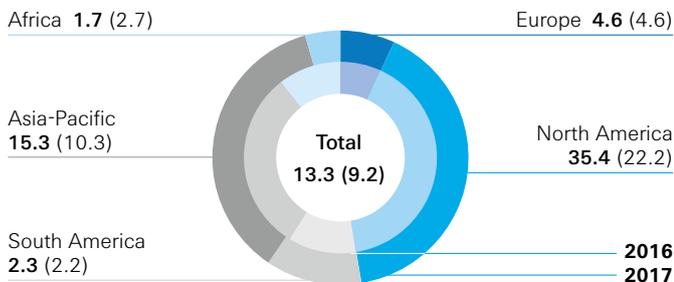
ZF is looking for qualified experts in all markets. Once hired, they enjoy attractive working conditions and qualification opportunities at all our company locations worldwide. The varied cultural backgrounds of our employees, their competencies and their diligence and motivation are shaping our corporate culture and they are the key to our success.

In order to develop and produce intelligent mechanical products, ZF still requires employees from traditional occupations. Due to changing mobility habits, however, employees and graduates in the software and IT fields are becoming increasingly relevant for the automotive industry. This is why the HR Department is increasing its global activities in attracting such graduates or those who have completed vocational training in their respective fields. For further employer branding, the new campaign "What's next?" was rolled out. It is aiming at increasing the brand recognition of ZF as an attractive employer in the growing markets.

GRI 401-1
New employee hires and employee turnover

ZF hires approximately 600 new apprentices in Germany per year. Other parameters are currently not reported on for the Group in total.

Employee turnover for 2017 (2016)
as percent of headcount



GRI 401-2
Benefits provided to full-time employees that are not provided to temporary or part-time employees

ZF employees with part-time, full-time, permanent or temporary employment contracts are provided access to the same benefit programs. Health and insurance benefits play a central role in ZF's offering to employees. Of course, benefits vary according to local standards, regulations and market practice. Benefit programs for contractors and agency temps are treated according to the type of contractual engagement with ZF and according to local regulations.

Provisions for pensions are set up for obligations from vested benefits and current pensions for entitled current and former employees of the consolidated ZF Group and their surviving dependents. Please see ► GRI 201-3 for details on the provisions for pensions.

Following the acquisition of TRW, ZF is in the process of analyzing the key benefit programs in the major countries and locations. The benefits analysis for the USA has been completed and benefits harmonization in the USA will be completed by 2018.

GRI 401-3
Parental leave

At the end of December 2017, a total of 494 employees took parental leave in Germany; of this number, 370 were male and 240 female. In Germany, 195 female employees returned from parental leave and 1,800 male employees took parental leave for a short period in 2017.

GRI 402 LABOR/MANAGEMENT RELATIONS

GRI 103-1, 103-2, 103-3
Management approach – Labor/Management Relations

The common interest of employees, employee representatives and company management is to sustain our international competitiveness and achieve sustainable commercial success. Confronting the challenges of globalization, we strive for collaboration at all levels based on mutual respect.

A trusting cooperation under the Works Constitution Act is a fundamental factor in our corporate culture. This applies to all employee representative committees such as the individual works councils and committees, including the General Works Council, the Group Works Council or the European Works Council and the individual contact persons on the employer's side.

GRI 402-1
Minimum notice periods regarding operational changes

All legal obligations are respected. Employee and employer representatives regularly interact in an atmosphere of trust. Employee representatives are therefore comprehensively informed in a timely manner about changes in the company.

Fundamental questions about the company's development are discussed in communications and at meetings. The discontinuation and relocation of companies or sub-units, investments or other changes to the organization are also main topics.

GRI 403 OCCUPATIONAL HEALTH AND SAFETY

GRI 103-1, 103-2, 103-3

Management approach – Occupational health and safety

Our employees' safety, health and well-being are core values at ZF. They are therefore an integral part of the company's culture and strategy. As we are aiming for appreciable value to our employees and other stakeholders, the vision is to manage our Environment, Health and Safety (EHS) performance to be leading in the automotive industry.

The ZF Group has defined targets to further protect, preserve and promote health, well-being and job satisfaction. Progress of target achievement is frequently measured, monitored and managed. Regarding safety, ZF and the Active & Passive Safety Technology Division targets will be harmonized during the course of 2018.

While compliance with legal and regulatory requirements is the foundation of all our activities, we have implemented Group-wide EHS standards. We aim to meet or exceed customer requirements but also to prevent and minimize the impacts of EHS risks. For example, risks at workstations are periodically assessed, necessary measures are implemented and their effectiveness is evaluated. When planning and procuring machines and equipment, key criteria are considered for occupational health and safety protection. The EHS management system also aims at improving the performance in our supply chain.

In addition, ZF believes that safe behavior cannot only be achieved by technical or organizational measures. Therefore, Safety Excellence programs have been implemented at all levels of the organization. The programs are continuously being enhanced to build Safety Leadership and engage employees in the prevention of work-related injuries and illnesses. They form the basis for the world-class performance and the safety culture we are aiming for.

Organizational structure

A new three-dimensional Environment, Health & Safety (EHS) organization was defined for the combined company, comprising:

- Centers of Excellence developing program elements,
- Regional teams with focus on site service and legislation and
- ZF internal business partners to coordinate all EHS aspects in the division or business unit.

Additionally, the Health Committee was extended to the Active & Passive Safety Technology Division. The Interdisciplinary Expert Group on Health Management (IEG) will be extended to the Active & Passive Safety Technology Division in 2018.

The "best of both" approach was applied in nine "deep dive" teams: Experienced specialists evaluated topic-specific best practices, standards, and opportunities for cost reduction and synergies. Results are being used to define the EHS program for the combined company to be able to better serve internal and external customers and markets. Moreover, the EHS management system team is updating existing procedures, specific requirements and guidelines. The EHS management system for the combined company will be introduced in the course of 2018.

Managing safety

Aiming for constant improvement, all ZF locations apply appropriate management systems. The introduction of OHSAS 18001 is voluntary. Locations may use our Integrated Management System (IMS) for occupational health, safety, environment and energy, which conforms to the international standard BS OHSAS 18001. However, locations that fall significantly short of their accident reduction targets are asked to join the certification scheme. In 2017, 74 (in 2016: 54) locations were certified to OHSAS 18001, with more sites following in 2018.

As part of the integration of the Active & Passive Safety Technology Division, Accident Management as well as Machine Safety and Ergonomics programs were analyzed by deep dive teams. Results will be integrated into the EHS management system of the combined company by mid-2018.

All employees and their representatives are involved in the continuous improvement of health and safety in the workplace and they are subject to regular qualification measures. Staff are motivated to participate in activities such as workshops and suggestion schemes.

Safety Excellence

The Safety Excellence program is ongoing and comprises three key areas: Safety Leadership, Employee Involvement and Continuous Improvement of Functional EHS Programs. This program aims to sustainably foster the same culture of shared values regarding health and safety for every employee and at every location. To build a culture where safety is a value, ZF encourages and empowers employees to make a positive impact on their work environment.

Safety Leadership

The Safety Leadership (SL) Core Team continued to focus on the rollout of the Safety Leadership program. In 2017 the focus was placed on the top management level and site level in Germany. Outside Germany, the rollout began at the end of 2017 and will continue in 2018. So far, more than 2000 leaders (over 90%) participated in 225 workshops delivered by Safety Leadership Coaches – trained employees from EHS and production.

Module 1 focuses on the transformation to a sustainable safety culture, presenting nine Safety Leadership Elements and introducing five Safety Basics. SL coaches received training to conduct workshops on Module 2 that focuses on hazards, risk assessment, incident investigation and managing at-risk behavior.

Safety basics were implemented to support the program and make it visible to the employees. They consist of rules related to the use of safety shoes, high-visibility clothing and mobile devices, unique safety flyers for visitors and envisioning accident-free days at the locations.

Employee Involvement

Behavior Based Safety (BBS) aims to increase employee involvement in safety by making employees more aware of how an individual's behavior at work largely determines safety outcomes. About 113 locations of the Active & Passive Safety Technology Division have implemented this process of safety coaching, with employees coaching their colleagues to work safely. In 2017, one ZF location in Brazil continued with BBS. The systematic rollout is scheduled to start in 2018 world-wide.

Continuous Improvement of Functional EHS Programs

The backbone of the Continuous Improvement program is comprised of our management systems and audit programs. The systems are currently being evaluated. Other safety improvement programs are being developed and rolled out for the combined company based on the best-of-both approach. For example, since the ergonomics program plays a pivotal role at ZF, a modified ergonomics program will be launched for the combined company in 2018.

Managing our wellbeing

Mandatory standards for training courses on leadership and health were rolled out in Germany, not yet including locations of the Active & Passive Safety Technology Division. The training according to the defined curriculum is being prepared and participation of all leaders is planned to be completed by the end of 2019.

The integration of the Active & Passive Safety Technology Division into the Health Committee has already been realized. The integration of the Active & Passive Safety Technology Division into the Interdisciplinary Expert Group on Health Management (IEG) is being prepared and will start in 2018. The Occupational Medicine expert group on "Hazardous Substances" is being continued, and a new Occupational Medicine expert group on "Skin Protection" will be established in 2018.

There were various preventive activities in all locations. While the focus in 2017 was on heart and circulatory diseases, the focus lies on skin protection in 2018.

GRI 403-1

Workers representation in formal joint management-worker health and safety committees

The German Law of Occupational Health and Safety stipulates that occupational health and safety committees should be organized at German locations. Members of the Works Councils are also represented on these committees. Prior to the occupational health and safety committee meetings, specialists in occupational health and safety, medical officers, representatives of the Works Council and responsible executive managers carry out inspections and audits to gain an insight into the current status and need for change.

GRI 403-2

Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities

Work-related lost time accidents are recorded and analyzed in order to monitor safety performance. In 2017, data included agency workers but due to current databases injury rates cannot be disclosed separately. Also, data by gender are not available, but will be included in a new database planned to be implemented in 2018. Due to confidentiality constraints health-related figures regarding absenteeism are not reported on.

In 2017, there was one fatal work-related accident within the ZF Group, in Wuhan, China. Unfortunately also contractors, experienced companies working on our sites without ZF supervision, had a few severe accidents – one leading to a fatality in China. As ZF places great value on the health and safety of each individual we set up a project to further improve contractor management – especially in terms of qualification, information, permission processes and supervision.

As 1,615 work-related accidents resulted in 32,027 lost working days, the Lost Time Accident Rate (LTAR) – accidents per one million working hours – was 5.5. This represents a reduction of 15.4 percent compared to the previous year. While the LTAR in the Active & Passive Safety Technology Division still shows an excellent performance of 2.5, other ZF divisions show considerable improvements. For example, our locations in Germany excluding the Active & Passive Safety Technology Division were able to reduce the LTAR by 20 percent. This can be interpreted as the result of high management attention due to the Safety Leadership Program as well as monthly safety reviews.

Rate of accidents (LTAR)

Accidents with working days lost per one million working hours

Regions	2017	2016	2015 ¹
EMEA	8.8	10.5	15.5
of which Germany	11.5	14.2	17
of which Europe excl. Germany	5.8	5.9	10.5
North America incl. Mexico	2.2	2.6	6.5
South America	4.8	6.0	12
Asia-Pacific	1.0	1.1	3
ZF Group	5.5	6.5²	12.1

¹ Without the Active & Passive Safety Technology Division

² The difference arises mainly from much lower rates of the Active & Passive Safety Technology Division

Most accidents (80%) occurred in EMEA (LTAR 8.8/ -16%). The Asia-Pacific region reported the lowest accident rate (LTAR 1.0/ -9%); the regions of North America (LTAR 2.2/ -15%) and South America (LTAR 4.8/ -20%) also achieved good results. All regions proved that their safety-improvement actions and programs have been effective.

The Severity Rate – lost working days per lost-working-day accident – was 19.8. As the definition of lost working days has been modified and is now based on calendar days, this data cannot be compared with previous years.

A high percentage of lost-working-day accidents was caused by moving parts. Injuries sustained by employees were mostly to the hands and feet.

GRI 403-3

Workers with high incidence or high risk of diseases related to their occupation

Information on occupational diseases are currently only reported for Germany, not yet including locations of the Active & Passive Safety Technology Division. There were no indications that there are employee groups who have a high rate or risk of disease resulting from their work at ZF during the reporting year. The risks of occupational diseases and work-related health problems typical of the metalworking industry are well known. Preventive measures and contingencies for intervention are in place. For instance, the standard key indicator method is used to evaluate stresses on the locomotor system in the workplace and corresponding prevention and intervention actions are taken, such as ergonomic workplace design.

Noise-induced hearing loss was again the most frequently reported occupational disease among ZF employees. There were 13 cases identified in 2017. As noise-induced hearing loss usually develops over years of exposure to noise, the latest figures for occupational disease identified do not necessarily reflect current working conditions. Strain on the inner ear is also reduced by wearing suitable personal protective equipment (PPE). This hearing protection equipment is available to all employees affected, and wearing it is mandatory in noisy areas.

Apart from hearing loss, some work-related skin diseases were diagnosed. In 2017, 37 cases of potential work-related skin diseases were diagnosed and 3 were confirmed. We provide the required skin protection to prevent work-related skin diseases and stipulate its use in skin protection plans. Whenever employees suspect they have health problems, they can consult the company doctor or medical service during working hours. All employees have the option of undergoing additional health check-ups alongside mandatory health care at ZF. In 2018, prevention activities in Germany are focusing on "skin protection."

In the metalworking industry, the risk of occupational infectious diseases is negligible. People who take business trips to countries with increased health risks including possible infectious diseases receive obligatory preventive care.

GRI 403-4
Health and safety topics covered in formal agreements with trade unions

The system of co-determination in place at the German ZF locations also applies to health and safety at work. Close cooperation on these issues occurs between the Works Councils and the Group Works Council. Occupational health and safety issues are part of the Group Directives and guidelines applied at the various locations. In Germany, the approval process for these regulations includes the involvement of employee representatives regarding issues subject to co-determination. On a location level, there are various guidelines on hand that cover occupational health and safety.

GRI 404 TRAINING AND EDUCATION

GRI 103-1, 103-2, 103-3
Management approach – Training and education

Individual and organizational development, qualification and lifelong learning are decisive success factors when it comes to securing a company's long-term future. Our employees require the right skills in order to guarantee that we retain the power of innovation. ZF employees can choose from a wide range of advanced qualification opportunities.

ZF is committed to developing people, management and the organization by focusing on various layers and target groups and it invests accordingly. Talent management, learning and development, educational enhancement and enrichment, and competency management are supported and strategically developed. Applying this holistic approach to management enables us to systematically monitor and anticipate workforce issues in all corporate areas. This, in turn, allows us to consolidate the capabilities of our employees and respond to the challenges of demographic change.

All training programs are systematically evaluated. Participants and trainers submit an evaluation after every event as part of a continuous improvement process. The individual evaluations form the basis for regular reviews and appropriate revisions. We select external service suppliers such as training course providers and trainers according to defined criteria and a tough selection process carried out jointly by the specialist department and Purchasing.

The corporate HR Development and the HR Development departments in the individual divisions, regions and technical departments work closely together. They standardize operational processes in HR Development and reinforce them permanently. By establishing cross-divisional working groups, we have closely coordinated all areas involved with the objective of effective employee and executive manager training and qualification at all locations.

Increasing digitalization and connectedness in production are making their way into companies under the moniker "Industry 4.0" and it is changing the requirements for apprenticeship, too. As a result of the project "Apprenticeship 4.0" ZF integrated new content specifically focused on electronics and IT into the internal apprenticeship program. In 2018 some sites will add new job profiles to their current portfolio. In addition, the qualification of vocational trainers has been identified as a

main enabler to promote the implementation of “Apprenticeship 4.0” at ZF. Therefore, a ZF Vocational Trainer Day for all trainers in Germany will be held in early 2018. The internationalization of apprenticeships is also becoming more important for the ZF Group as a whole and there are several initiatives to expand the apprenticeship model outside of Germany.

ZF as a learning organization

Currently, the knowledge management approach is only in place at ZF sites in Germany, not yet including locations of the Active & Passive Safety Technology Division. The objective is the conscious, responsible and systematic handling of knowledge as a resource. Collaboration rooms, Wikis, and virtual communication media support the virtual cooperation of employees. Best-practice databases store valuable practical experience and make it available for reuse. Expert forums ensure the targeted exchange of knowledge and experience.

The suggestion and idea management schemes provide employees with a platform for submitting improvement suggestions and ideas. The ideas@ZF project has created the conditions for an idea management process across all locations. This allows ideas to circulate between the German locations. Thanks to the continuous improvement process, specific improvement potential has been identified and implemented.

Knowledge and idea management in the Corporate HR function creates awareness for effectively handling knowledge and ideas; it provides advice and supports the professionalization of existing activities as well as building new activities in knowledge and idea management.

GRI 404-1

Average hours of training per year per employee

This data is not yet available as various HR systems are still being harmonized. Our program “Success Factors” will enable us to collect that data in the future.

GRI 404-2

Programs for upgrading employee skills and transition assistance programs

ZF places a great deal of importance on education and training, resulting in improved qualifications. In the reporting year, about 600 young people started an apprenticeship or dual study program at ZF in Germany. By the end of 2017 our

apprentices worldwide amounted to 2856, including students from the Active & Passive Safety Technology Division. Around 20 percent of them are students completing a dual study program at a university. This young target group can choose from 35 different apprenticeships and Dual University courses of study.

New ways of learning

The Global ZF Campus promotes advanced specialized training opportunities for managers and employees in all corporate functions. The objective is to achieve systematic and global advanced training of employees with technical training programs derived from the Group strategy. Various internal ZF academies offer employees in Materials Management, Quality, Finance, IT, Sales, Production and other associated functions an extensive range of advanced training opportunities.

Currently we are expanding our activities and also setting up a R&D academy to ensure our readiness for future technologies as well as a digital academy to focus on qualification and change processes dedicated to digitalization in the ZF Group. Target groups are cross-divisional, cross-location as well as international. The academy course portfolio is tailored to the functional and cross-functional learning needs, thus establishing a globally consistent standard of knowledge and expertise.

As a new essential component of the ZF Campus, we launched our eCampus in 2017. eCampus is the name of a new, virtual learning environment as a central component of the ZF Campus concept. The eCampus puts the learner in focus and provides the right format for every learning style. This is independent of the learning content, whether digital skills, job-specific knowledge or multidisciplinary competencies need to be developed. Constantly expanding its portfolio, ZF Campus also offers additional learning formats such as videos, quick guides, quizzes and freely available content such as TED talks, tutorials, blogs, digital libraries etc. The learning environment provides not only an overview of the ZF range of learning options, but also connects employees. That opens up scope for interactive learning – true to the motto “learning out loud.” eCampus is tailored to our employees’ needs and boosts faster dynamics and more agility in the entire organization, enabling employees to build stronger networks and work increasingly in teams.

Improving qualifications and developing leaders

We have again increased our international training capacities. For example, we intensified our cooperation with colleges and universities in China, the USA and several European countries. Further successes were also achieved in internationalizing our trainee program.

Since leadership excellence is one strategic target of the ZF Group, we continued our “ZF Global Leaders” program in 2017. It comprises level specific modules with a blend of in-person sessions, virtual learning, self-reflection tools and peer group coaching as well as work on real cases. The objective of ZF Global Leaders is to provide leadership with different development opportunities and to prepare candidates to be ready to transition to the next management level. The ZF Global Leaders landscape fosters a global mindset and strong collaboration. Over time it also aims at creating one global leadership culture through cross-divisional, cross-functional and cross-regional group composition. Further targets are to strengthen the company’s leadership pipeline and to provide a global, consistent leadership development throughout the different management levels. The goals and content of the program are based on the Group strategy and linked to the ZF Management System with its ZF Charter and ZF’s leadership principles – therefore encouraging new ways of working together.

Preserving Knowledge

In order to keep knowledge in the organization, ZF has created knowledge batons where employees who are leaving the company make their practical knowledge available to the organization. Existing expertise is documented and stored on storage media so that knowledge can be shared and exchanged using search engines in which employees can enter specific queries.

In 2016, the ZF Group created a new program to allow former employees to contribute their valuable experience and extensive knowledge. The program “Senior Professionals” enables participation in specific projects and matches specialist areas with senior experts. These temporary assignments can be managed with little administrative effort and provide ZF with a flexible and dedicated workforce. In the reporting year, the program included 221 registered experts with 24 work assignments.

In Germany, ZF is pursuing a comprehensive approach to deal with the challenges of an aging workforce. For example, workplaces are being designed to accommodate the requirements of an aging workforce and emphasis is placed on finding the right work-life balance between career and family. ZF is also focusing on health management, flexible working time models and lifelong learning.

GRI 404-3

Percentage of employees receiving regular performance and career development reviews

ZF emphasizes the importance of personal and professional development for all employees. Individual performance and development opportunities are discussed and documented on an annual basis according to the HR process cycle for non-managerial employees. Figures by gender and employee category are currently not available.

As part of the integration of the Active & Passive Safety Technology Division in 2017, a new potential and succession planning process applicable for managerial employees in the Group was defined. This new process was implemented for pilot groups in 2017 and will be rolled out for all managerial employees in 2018. The process is supported by a cloud-based IT solution.

A new Short-Term Incentive (STI) was rolled out Group-wide for all managers in 2017. The system is intended to foster a culture of innovation and performance, resulting in a stronger target focus. The STI consists of key financial performance indicators and an individual component based on individual targets and personal performance. Assessing the company and individual components ensures a comprehensive evaluation of the results achieved throughout the year. The process is transparent and defines the framework for our actions and priorities, and for the behavior and attitudes we expect from the combined company’s managers. The Individual Target Agreement and Performance Process (iTaP) has been moved to a cloud-based IT solution.

GRI 405 DIVERSITY

GRI 103-1, 103-2, 103-3

Management approach – Diversity

We believe that diversity and the appreciation of diversity have a positive impact on society and how people work together. That is why we signed up with the Diversity Charter and now belong to a group of approximately 2450 signatories dedicated to a welcoming, prejudice-free corporate culture. This voluntary commitment represents our pledge to actively promote diversity within our organization.

ZF employees by gender¹ 2015 – 2017

	2017	2016	2015
Men	64,071	61,768	62,678
Women	11,959	11,537	11,483

¹ Without the Active & Passive Safety Technology Division

In 2016, a mentoring program to increase the visibility of female managers within the organization was implemented. Feedback on the program was very positive – from both the mentees and mentors. A follow-up program open to women and men will be rolled out in the course of 2018. From a global perspective, demographic change comes in many different forms. While western industrialized countries are primarily confronted with the challenges of an aging population, people in developing and newly industrialized countries are much younger. Since ZF is a global player with approximately 230 locations in 40 countries, the age structure of the company's workforce is very heterogeneous and strongly depends on the history of each particular ZF location.

ZF employees by region and gender¹ in 2017 in percent

	Women		Men	
	2017	2016	2017	2016
Europe	13.85	13.81	86.15	86.19
of which Germany	12.93	13.01	87.07	86.99
North America	26.62	26.02	73.38	73.98
South America	9.1	8.51	90.90	91.49
Asia-Pacific	16.91	18.89	83.09	81.11
Africa	14.73	15.07	85.24	84.93
Total	15.73	15.74	84.27	84.26

¹ Without the Active & Passive Safety Technology Division

Managing diversity

The HR strategy is part of the Group strategy and highlights the issue of diversity. ZF understands diversity as the key to success, a driver of innovations and a factor in enhancing corporate value. ZF focuses on particular dimensions that will help meet strategic challenges in the coming years. They will also contribute to enhancing the ZF's future competitiveness. These dimensions include a balanced gender ratio, issues such as cultural background and internationality of the workforce, a wide range of experience and expertise and solutions to demographic changes. All of these factors are systematically analyzed and processed on a regular basis, and the results are reported to the Board of Management. The introduction of ZF Career Elements for managers has enabled us to define a binding framework for job and career decisions. The modules determine criteria for promoting and supporting multidivisional, multidisciplinary experience and help to internationalize management. The ZF Career Elements are currently applied when staffing executive positions. Further roll-out is ongoing.

To increase the number of women in technical professions, ZF has become a partner company of the highly renowned Femtec Association, which was founded by the EAF Berlin and the Technical University of Berlin in 2001. Femtec is an international career platform for women in natural sciences and engineering. The organization recruits talented young female students for STEM (Science, Technology, Engineering, Math) professions, qualifies excellent candidates for a management career and offers distinguished career perspectives to focused female students in cooperation with the partner companies. Within the involvement in the Femtec.Network, ZF offers a glimpse into the working world at a technology company.

Thus, ZF offers for example plant tours or different projects. During the Innovation Workshop ("Innovationswerkstatt") 2017, carried out with and for ZF, the Femtec participants dealt with questions and ideas for automated driving and developed an effective and sustainable self-cleaning function for sensors in automotive applications.

A career component was introduced in the form of a social module to cover parental leave, leave to care for relatives and other types of community and family commitments. The compatibility of work and family at ZF is still an important objective for promoting equal opportunities and employee satisfaction. Since 2006, the ZF location in Friedrichshafen has been certified as family-friendly company in Germany. As part of the "career and family" ("berufundfamilie") audit, family-related targets and measures have been firmly established. In 2018, the existing audit will be extended to other major locations of ZF in Germany: Besides Friedrichshafen, also Schweinfurt, Dielingen, Passau and Saarbrücken will participate.

Furthermore, additional family-friendly minimum standards were defined and consistently implemented by an expert body for work and family. Having actively implemented the aspect of career and family care for many years, we have also expanded childcare places and options for short-term care throughout the Group. Another important element is providing daycare for employee children during school vacations. This provides about 700 places for school vacation daycare at our major locations in Germany.

To face the challenge of an aging workforce in Germany, demographic experts at our major locations are already in place. In 2017, the IT-supported age structure analysis was supplemented by standardized evaluations to put a clear focus on areas with an especially age-critical workforce. Subsequently appropriate measures were derived and reported. For example, in Saarbrücken jobs are clustered by physical requirements to achieve a matching to restrictions of individual employees. The efforts in activities for an aging workforce were rewarded with the recertification of the label "Demografiefest. Sozialpartnerschaftlicher Betrieb" (which loosely translates as "Fit for Demography. Social Partner Company") by the Lower Saxony Ministry of Economy, Labor, Transport and Digitization for the locations around the Dümmer Lake.

GRI 405-1

Diversity of governance bodies and employees

In light of German legislation governing equal representation of women and men in managerial positions in the private and public sectors, targets for the relevant managerial levels have been discussed and set for ZF Friedrichshafen AG to be achieved by June 30, 2022.

At the first managerial level (executive vice president/senior vice president) and the second managerial level (vice president) below the Board of Management, the percentage of women is planned to increase to 15.0 percent each. At the first and second managerial levels, the targets set for June 30, 2017 (8.4% and 8.1%, respectively) have been exceeded.

For vacancies regarding the Board of Management, a quota of 10 percent female Board of Management members is envisaged by June 30, 2022.

At the moment, 20.0 percent of the members of the Supervisory Board are women. The target of 30 percent by June 30, 2022, will apply when the next term of office begins in spring 2018.

The percentage of older employees is much higher in Germany, whereas international locations employ younger people.

The age group for managers in the first, second and third management levels below the Board of Management is between 50 and 55. In all other management groups, the age group is between 45 and 50.

In 2017, the percentage of women in leadership positions in the Group amounted to 11.9 percent.

As of 2006, ZF Friedrichshafen AG has been compliant with the statutory requirements for employees with disabilities and recorded the rate for Germany. In 2017, the proportion of employees with disabilities amounted to 6.2 percent. This level exceeded the five percent minimum that legislation stipulates for the company. As a result, it was not necessary to make any compensation payments.

GRI 405-2

Ratio of basic salary and remuneration of women to men

Remuneration at ZF is based on compensation structures. While in the Active & Passive Safety Technology Division compensation structures are historically based on a global job classification system, in other ZF entities the compensation structure for managers is based on a global grading system. Compensation structures below management levels are based either on collective pay-scale agreements or on local grading systems.

Job classification, grading systems and collective pay-scale agreements are intended to minimize the risk of discriminating against women on compensation levels. Entities of the Active & Passive Safety Technology Division have been fully integrated into ZF's grading process for management positions since mid-2017. A global compensation database will be progressively introduced over a three-year period. The planned compensation database will enable ZF – among other benefits – to report and monitor equal remuneration as well as potential gender gaps worldwide. ZF is an equal opportunity employer and appointed a global diversity manager in 2016 to monitor equal treatment among employees.

GRI 406 NON-DISCRIMINATION

GRI 103-1, 103-2, 103-3

Management approach – Non-discrimination

ZF is present in many countries of the world and embraces a wide diversity of cultures and people. We foster the exchange of thoughts, ideas and methods as well as understanding between cultures and people. Our ZF Charter and ZF Leadership Principles contain a definitive statement on the issue of diversity: Employees at ZF are not discriminated against on the basis of skin color, gender, age, nationality, religious denomination, social background, disability or sexual orientation. This applies to the recruitment of new employees, the existing employment relationship and professional advancement at ZF. The only traits that are important are performance, personality, skills and qualifications. For further details on our values see ► GRI 102-16 and regarding managing compliance see ► GRI 205.

GRI 406-1

Incidents of discrimination and corrective actions taken

There were no confirmed incidents of discrimination in the reporting year.

GRI 414 SUPPLIER SOCIAL ASSESSMENT

GRI 103-1, 103-2, 103-3

Management approach – Supplier social assessment

ZF has an integrated approach regarding supplier environmental and social assessment; see ► GRI 204 for further details on our management approach with suppliers.

Based on the provisions of the Dodd Frank Act, Sec. 1502, all relevant ZF production material suppliers were obligated in 2017 to meet the disclosure requirement for the use of conflict minerals (gold, coltan, cassiterite, wolframite and its derivatives such as tantalum, tin or tungsten) from the Democratic Republic of the Congo (DRC) and adjacent countries in company products, and to verify their origins.

To provide a solution for the reporting and identification of conflict minerals along the entire supply chain, ZF has been using a web-based solution. As part of the tool-assisted supplier inquiry program, a total feedback of 64 percent was recorded in the reporting year. The results of the inquiry indicate that the reviewed supply chains do not source products that finance conflicts in DRC regions, although this cannot be entirely ruled out. However, all suppliers are requested to ensure a conflict-free supply chain and are obliged to take measures to disclose the origin or source of their resources. A high-risk smelter follow-up is conducted for the suppliers whose feedback included high risk smelters. We intend to increase the feedback rate from suppliers again in 2018.

GRI 414-1

New suppliers that were screened using social criteria

During the course of the reporting year, 100 percent of new ZF suppliers underwent self-assessment according to defined sustainability criteria by ZF. No indications of infringements against our principles of environmental protection, human rights, labor practices, forced labor, child labor or freedom of association were identified. We will continue to apply this procedure consistently in the future.

GRI 414-2

Negative social impacts in the supply chain and actions taken

ZF performs an integrated approach regarding the environmental and social supplier assessment.

GRI 416 CUSTOMER HEALTH AND SAFETY

GRI 103-1, 103-2, 103-3

Management approach – Customer health and safety

Quality and safety are important priorities at ZF, especially in regards to end users. Our ZF4Q quality strategy is derived from the Group strategy. The ZF Quality Management System is based on three elements: Quality Planning for prevention, Quality Assurance to secure the current volume production and Quality Management to shape processes and structures. The goal is to implement all processes, both industrial as well as business processes, at a high level of maturity and evaluate them for ongoing improvements, in line with the ZF Production System.

ZF has charted the course for the future with its Group strategy. Following the “Vision 0” for 0 emissions and 0 accidents, ZF intends that its products make a strong contribution to reducing emissions and accidents.

ZF aims to meet the demands of the mobility megatrends of tomorrow, such as efficiency, integrated safety and automated driving. With its “See – Think – Act” guiding principle, the Group has set a clear technology focus. The company’s product and technology planning is based on market and product roadmaps which are continuously updated. Development has also focused on sensors for environment recognition, electronic control units, occupant safety systems and automated driving functions.

See – Think – Act

ZF’s “See – Think – Act” approach seeks to further safety in its products.

See – Technology such as forward-looking cameras and 360-degree radar sensors monitor traffic situations and road conditions, seeking to reduce risks to drivers, occupants and pedestrians.

Think – The central control unit processes information and is capable of activating safety functions, such as automatic emergency braking or airbag deployment.

Act – Actuators turn electric commands from the control units into mechanical movements, such as braking maneuvers. Recuperation makes it possible to convert part of the kinetic energy back into electrical energy which can be used to charge the battery of a hybrid or electric vehicle.

Vision Zero Vehicle

Our latest milestones are showcased through the Vision Zero Vehicle. As part of ZF’s efforts towards safer mobility, we simultaneously addressed two decisive causes of accidents. The Driver Distraction Assist is a laser-based time-of-flight interior camera with learning capabilities that helps keep the driver’s eyes on the road. It records the head position three-dimensionally and does so reliably even under difficult lighting conditions and in darkness. The Vision Zero Vehicle is also equipped with a Wrong-way Inhibit that is aimed at preventing drivers from turning onto roads in the wrong direction. The right direction is identified through high-resolution and up-to-date maps which it gets from the cloud and the front camera, which accurately recognizes street markings and traffic signs. The assistance system is designed to warn oncoming vehicles using dipped-beam headlights and hazard warning lights and moves the vehicle at a slow speed to a safe stopping position along the side of the road. For more details and examples see ZF’s corporate website.

GRI 416-1

Assessment of the health and safety impacts of product and service categories

ZF’s Global Development and Product Evolution Process (GD-PEP) establishes quality and safety management procedures for ZF’s products and services. Group directives implement processes for adapting specifications to specific products. Appropriate testing is done at different points in the course of the project. In the development process, service concepts are also designed and then implemented by trained customer service personnel.

ZF’s commitment to product quality continues in manufacturing. ZF then has processes in place to monitor products in the field and work with customers when potential issues arise. These efforts promote stable processes in production at ZF manufacturing locations worldwide.

By signing the United Nations Global Compact in May 2012, ZF committed itself to actively support ten principles of responsible business.

UN Global Compact Principles	Relevant GRI Disclosures
Human rights	
Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and	102-16, 205, 414
Principle 2: make sure that they are not complicit in human rights abuses	102-16, 205, 414
Labour	
Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	102-41, 402, 414
Principle 4: the elimination of all forms of forced and compulsory labour;	102-16, 205, 414
Principle 5: the effective abolition of child labour; and	102-16, 205, 414
Principle 6: the elimination of discrimination in respect of employment and occupation.	102-8, 102-16, 205, 405, 414
Environment	
Principle 7: Businesses should support a precautionary approach to environmental challenges;	102-11, 308
Principle 8: undertake initiatives to promote greater environmental responsibility; and	301, 302, 303, 305, 306, 307, 308
Principle 9: encourage the development and diffusion of environmentally friendly technologies.	301, 302, 303, 305, 306, 307, 308
Anti-corruption	
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	102-16, 205, 414

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