

# Next Generation Mobility – Responsible Transformation.



Sustainability Report 2020

# REPORTING PROFILE

This is the ninth edition of the ZF Sustainability Report published by ZF Friedrichshafen AG. It is based on the fiscal year 2020 and was not submitted for external assurance. The most recent report was published in March 2020, as the sustainability reporting of the Group is conducted annually.

The report is intended to provide transparency, with a particular focus on sustainability activities and targets. It is aimed at customers, employees, suppliers, politicians, authorities and all others who are interested in the ZF Group and want to know about the company's values, principles and actions.

At the same time, the ZF Sustainability Report represents the progress report to the United Nations Global Compact, which ZF joined in May 2012. This report has been prepared in accordance with the GRI Standards: Core option. The GRI Standards request companies perform a materiality analysis which sets priorities for, and boundaries of, the reporting. The latest materiality analysis was conducted in summer 2018 and is still valid. The process is described on page 27.

Regarding the scope of reporting, in addition to ZF Friedrichshafen AG, 42 German and 307 international subsidiaries controlled by ZF Friedrichshafen AG are included in the consolidated financial statements. With the takeover of WABCO, 79 subsidiaries and two associates were acquired. WABCO, which was fully acquired in May 2020, is partially being reported but will be fully included in the 2021 sustainability report.



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.

GRI 102-45

# CONTENTS

## 04 Introduction

- 04 ZF at a glance
- 05 CEO Interview
- 07 Markets and solutions
- 10 People and processes
- 11 Sustainability strategy
- 15 Sustainability organization
- 18 Milestones and Highlights





## 19 Performance

- 20 Responsibility
  - Governance
  - Risk management
  - Values and behavioral norms
  - Compliance
  - Reporting
  - Stakeholder management
  - Sustainability program
- 35 Value Creation
  - Tax approach
  - Supply chain
  - Sustainable product portfolio
- 47 Environment
  - ZF climate neutrality strategy
  - Energy
  - Water management
  - Materials and resource efficiency
- 59 People
  - Employment
  - Fair remuneration
  - Labor-management relations
  - Training and education
  - Diversity and equal opportunity
  - Health and safety

## 78 Appendix

- 78 GRI Content Index
- 85 Imprint

The icons can be used throughout this Sustainability Report for the following functions:

-  [Table of contents](#)
-  [Print](#)
-  [Internal references](#)
-  [External references](#)

# ZF GROUP PROFILE

ZF was established in 1915 as a specialist for the aviation industry. Now the Group is a mobility technology company that supplies systems enabling next-generation mobility in passenger cars, commercial vehicles and industrial technology worldwide. Thanks to its comprehensive portfolio, ZF offers one-stop solutions for established automobile manufacturers and mobility service providers as well as newly emerging companies from the fields of transport and mobility. Digital networking and automation constitute a further development focus of ZF's systems. ZF enables vehicles to see, think and act. When the Group acquired WABCO in June 2019, its expertise in the field of technologies for heavy commercial vehicles, buses and trailers was significantly increased.

The combined Group now has 153,522 employees at some 271 locations across 42 countries, and it possesses an international service network of around 130 of its own service locations and 650 service partners. In 2020, ZF generated €32.6 billion in revenue and invested 7.7 percent of last year's annual turnover in research and development. Thanks to its innovative portfolio, ZF is aiming at "Next Generation Mobility" for passenger cars, commercial vehicles and industrial applications.

The main sales markets of the Group include Europe at 46 percent, North America at 26 percent and Asia-Pacific at 24 percent. At 79 percent, cars and light commercial vehicles make up the major share of the sales distribution by sector, whereas commercial vehicles over six tons make up 12 percent, and construction and agricultural machinery, marine craft, aircraft, special and rail vehicles as well as wind power account for 9 percent of the minor shares.



**11.9** percent women in management positions



**100** percent of the production and main development locations manage environmental issues according to the ISO 14001:2015 standard



**€2.516** million in research and development spending



INTERVIEW WITH WOLF-HENNING SCHEIDER,  
CHIEF EXECUTIVE OFFICER OF ZF FRIEDRICHSHAFEN AG

# SUSTAINABILITY IS A MULTI-FACETED PROCESS

## Has the EU's Green Deal from December 2019 affected ZF's business?

I don't see that it's brought about a fundamental change of direction, but it has accelerated things through its even more ambitious targets. Climate-friendly solutions for sustainable traffic have guided our actions for a long time already, though. As we see it, it would be a good idea for market objectives to be defined for the long term and validated by scientific evidence – to make them both plannable and transparent.

## Are your sustainability activities already yielding a competitive edge for you?

We're witnessing a significant increase in sustainability criteria demanded by customers. What's more, the pandemic has proved that swift and effective solutions are possible when necessary. This must also apply to traffic if we want to meet the Paris climate targets. This realization is playing into our hands, because we're offering solutions for more efficient traffic in all areas of mobility and are successful in doing so. ...

Wolf-Henning Scheider  
ZF CEO



“Our plan is to cut our carbon emissions by 80 percent by 2030 as compared to 2018 – and we’re confident that we can meet this goal.”



... **How far are you on your journey towards becoming climate neutral?**

We can contribute to climate neutrality in two ways: through our products, which reduce emissions in street traffic, and through our production. In our strategy, we’ve firmly anchored the goal of becoming climate neutral by 2040 – that’s ten years ahead of the deadline set by the Paris Climate Agreement. This year, we’ll continue to refine our plan of measures and lay down concrete intermediate steps on our path towards becoming carbon neutral.

**How important is the supply chain for your company’s ability to meet its sustainability goals?**

The supply chain has traditionally been an important element in any sustainability strategy. For a company of our size, compliance with human rights, employee rights and climate neutrality at every stage of the value chain is an indispensable building block when it comes to enhancing worldwide acceptance and reputation.

For us at ZF, these aspects have always played an important role. Which is why we’re also fully committed to the UN Global Compact, which we joined in 2012, as well as the UN Sustainable Development Goals (SDGs), set in 2015.

**Are there any sustainability areas where you feel you have some catching up to do?**

Sustainability is multi-faceted process. Which is why it’s not about catching up but instead, about a continuous need to act. In 2021, a major focus of ours will be diversity. We already began working on several projects in this field last year. Another topic where we still see great potential is the circular economy. We’re also placing great hope for sustainable development on digitalization, which we see as a major driver of the green transformation. In this area, however, we’re largely dependent on a modern and future-oriented infrastructure.



## MARKETS AND SOLUTIONS

# MOBILITY OF THE FUTURE

Two years ago, ZF presented its “Next Generation Mobility” corporate strategy. Its objective is to enable clean, safe, comfortable and affordable mobility for everyone, everywhere. Now the strategy is being rolled out with solutions ready for serial production in the four technology domains of electromobility, autonomous driving, vehicle motion control and integrated safety. Digitalization stands above all of these areas as their common enabler. As a software developer and provider, ZF is further accelerating the transformation. This makes the company a systems provider who’s setting the pace in all core areas of mobility. ZF’s non-automotive products are benefiting from this as well by, for instance, showing significant market growth in our wind power division outside of Europe.

### Electromobility on the rise

ZF is expecting a considerable market shift to occur by 2030 thanks to electrification. Within a decade, the proportion of conventional engines will decrease from 90 to less than 50 percent. At a share of 40 percent, pure battery electric vehicles (BEVs) will have clearly overtaken plug-in hybrid electric vehicles (PHEVs). ZF supplies both of these driveline technologies. The development of the next generation of BEVs now amounts to a paradigm shift: It is no longer power and torque that come at the top the specification sheet – current e-vehicles possess plenty of that – but rather efficiency. And because range is the currency of efficiency, ZF is pulling out all the stops when it comes to the electro vehicle system.

Overall, ZF technicians are expecting efficiency potentials of up to 13 percent thanks to combining these measures.

### Equipped for heavy-duty traffic

There is particular pressure to act when it comes to buses. In its Clean Vehicle Directive, the EU Commission is requiring a binding quota for vehicle procurement starting in August 2021: At least 45 percent, i.e., just under half of new additions to fleets, must be equipped with low-emission engines. Since acquiring WABCO, ZF has had access to all commercial vehicle segments – including heavy-duty trucks, buses and trailers – and is well-positioned to make a valuable contribution. The ZF offer covers the complete range of electrification: from hybrid vehicles to pure electric solutions and from e-transporters to electrified trucks. From 2023 onwards, the portfolio will include electric engines for all weight classes of up to 44 tons.

### Wind turbine gear units for the energy transition

For the transformation to succeed, however, the expansion of renewable energy generation must be accelerated. According to the International Renewable Energy Agency (IRENA), renewable energies would need to climb to 86 percent of electricity generation by 2050 to achieve the objectives of the Paris Agreement. In this scenario, wind energy is set to become one of the biggest drivers of the global energy transition, supplying more than one-third of total electricity demand, and this at strongly increasing energy generation needs. ZF is already playing a significant role in this development even today: A quarter of all wind turbines worldwide contain a ZF Wind Power gear unit.

- Cooperation lowers generation costs: ZF Wind Power and wind turbine manufacturer Vestas pooled their expertise in 2020 and brought a powertrain to the market, lowering power generation costs. The EnVentus powertrain guarantees an output of up to 6 megawatts (MW). Due to the modular platform design, customers from all around the world will benefit from more flexible solutions and a wider range of customer-specific turbine varieties.
- SHIFT enables best-of-breed torque density: Also in 2020, ZF Wind Power first exceeded the torque density limit of 200 Newton meters per kilogram thanks to the SHIFT 7k modular gearbox platform. This enables a material reduction and thus a decreased nacelle weight – a decisive argument when it comes to turbine towers growing ever taller.







**Dr. Dirk Walliser**  
ZF Senior Vice President  
Research & Development

# KEY FOR INNOVATION AND EFFICIENCY

Networking and digitalization have become indispensable parts of our everyday lives. The enormous amounts of information available everywhere and in real-time have enabled new functions and business models that would have been inconceivable just a few years ago. ZF has presented the open software platform Middleware and implemented a Global Software Center for developing tailored customer-oriented software solutions. Dr. Dirk Walliser, ZF Senior Vice President Research & Development, Innovation & Technology, explains the new approach.

**Dr. Walliser, today's vehicles are primarily perceived as products that mainly differ in terms of their hardware. Is this about to change?**

Without intelligent software, it's barely possible to increase safety and efficiency any further. Software expertise is a growing factor that's key for innovation and is becoming an indispensable feature of technology leaders. This is also true for mobility and industrial applications: The prerequisite for successful products is the ability to network individual components to create comprehensive systems that act autonomously and continue to learn thanks to artificial intelligence and deep-learning algorithms. In this sense, it really is all about "software-defined vehicles".

**In other words, cars are turning into the much-cited smartphones on wheels?**

Not exactly. Because even though the operation of a vehicle is becoming more and more like that of a smartphone, the difference lies mainly in the type and number of hardware systems to which a software platform – such as ZF Middleware – must intelligently connect in order to transport people and goods in a smooth and safe fashion.

**Is that software platform a new ZF offer?**

It is. Middleware is ZF's new open software platform which functions as an intermediary between the operating system of a vehicle's computer and its software applications. From 2024 onwards, ZF Middleware will be available in production vehicles to control the abstraction of the computer hardware from software applications as well as the communication between these applications.

**How will your customers benefit?**

They'll greatly benefit from accelerated development processes and reduced complexity. Today, vehicles may have around 100 different control units, each with their own software. In the future, software functions will run on a central system with few domain control units – for instance for autonomous driving functions. This shortens development times. All these software applications are going to benefit from the seamlessly integrated platform, which is ZF Middleware, as it ensures system integration. What's more, the functions can be updated, extended or provided on demand throughout the vehicle's entire life cycle.

## PEOPLE AND PROCESSES

# THE TRANSFORMATION OF WORK

The year 2020 put heavy demands on people all over the world. ZF employees and executives were suddenly faced with situations and necessary measures for which, in theory, they may have been prepared, yet which they never expected would actually occur. The global pandemic dictated almost every development and activity and its effects will remain visible far beyond 2020. The transformation of the working world has speeded up. ZF has worked on its structure, strategy and processes guided by the question: What changes does the company need to make to be well positioned for the future in this “new normal”?

### “Next Generation Mobility” strategy

The objective of the new HR strategy is to support the “Next Generation Mobility” business transformation through an excellent HR organization, one that’s highly efficient, innovative, diversified and networked. In 2019, the rollout began when the status quo of relevant processes and methods in the regions and divisions was captured. By involving all relevant stakeholders, the current situation, customer needs and overall business transformation will be reflected in the new strategy. It will center around five top strategic goals:

- Ensuring that the best employees are in the right place at the right time
- Promoting leadership qualities, diversity and team culture
- Supporting cost competitiveness
- Improving speed, simplicity and agile working
- Becoming truly digital

### A focus on teamwork

Initiatives and concrete projects were defined for all targets. For instance, regarding the strategic goal of “Promoting leadership qualities, diversity and team culture,” the “Improving feedback culture” initiative was established. From this, programs were developed such as a new employee dialogue, skip-level meetings and the 360° feedback rollout. The “Team beats silo” motto has also been designed as an integral part of ZF’s DNA to promote a wide range of diversity aspects, including gender, place of origin, life philosophy/religion, age and sexual identity. Concrete goal attainment, in terms of the different measures contributing to the HR strategy, is measured through various key indicators including a five-star rating for products and processes, the Leadership Excellence Score, the HR Satisfaction Score, the number of cross moves, and a ZF employer ranking in strategic markets.

### Diversity campaign

Diversity plays a crucial role for the entire ZF culture, as only diverse talent leads to true innovation. It’s the wide range of ideas, thoughts, experiences, education paths, mindsets and approaches that challenge the status quo. The ZF diversity campaigns began on May 26, 2020 with Diversity Day, when ZF subsidiaries from all around the world participated, despite the pandemic.

The ZF diversity campaign is geared towards one specific goal: making clear to all employees that diversity is everyone’s concern. To do so, a virtual global photo and video campaign was initiated where employees worldwide were asked to submit contributions on the topic of “I am diverse because...” The ZF diversity guide, published in 2020, is an online guideline, regularly updated, with general information on the topic. Special categories for such issues as “personality types” shed light on diversity from various angles and create in-depth insight for executives.

## SUSTAINABILITY STRATEGY

# THE GUARDRAILS OF TRANSFORMATION

The ZF Group's framework for action is set by the SDGs and the Paris Climate Agreement. Sustainability requires foresight. In 2012, ZF joined the UN Global Compact and has subscribed to its ten principles, among them improving working conditions for employees worldwide, respecting human rights and fighting corruption and bribery.

Today, sustainability is an integral part of the Group's strategy. With "Next Generation Mobility," ZF is pursuing an agile and integrated approach to shaping the fundamentally changing mobility needs of tomorrow. The overarching goal is to harmonize society's mobility needs with the requirements of a healthy ecosystem. Humanity must ensure that all its activities respect ecosystem boundaries while also bringing about sustainable and future-oriented solutions. ZF is stepping up its efforts to embrace these ecological and social challenges, following the clear vision of being part of the solution.



### Challenges and action fields

Ever since ZF began engaging in corporate sustainability management and sustainability reporting in 2012, the company's material topics have regularly been evaluated. This has always been preceded by a careful analysis of global challenges, the company's own impact as well as stakeholder expectations.

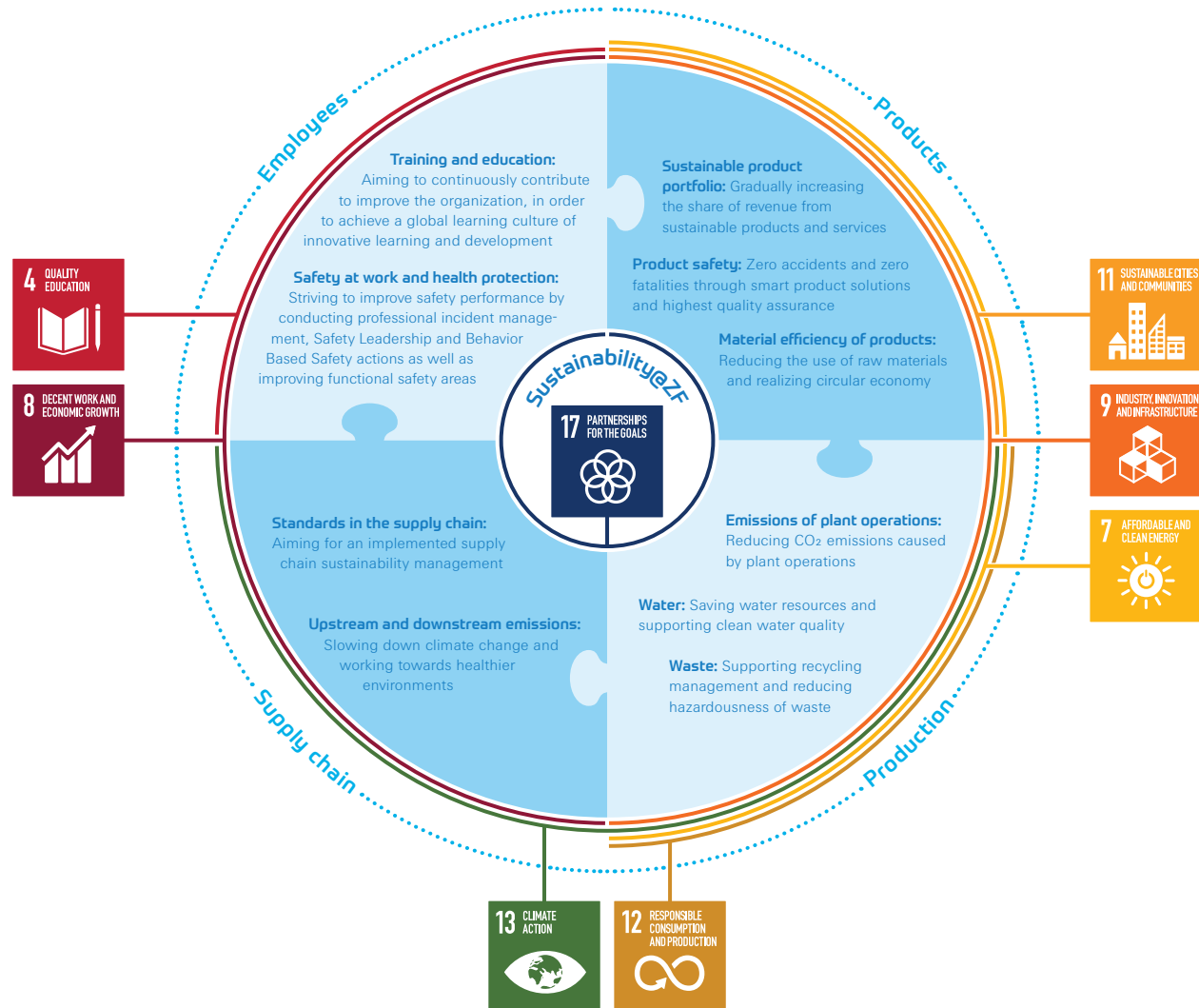
Climate change has therefore always been a major topic and, along with it, energy use in production, as well as product solutions aimed at reducing carbon emissions in traffic. The topics of demographic change and urbanization have long played a major role for ZF, too, as well as supply chains and questions of personnel development such as gender equality and diversity promotion.

More recently, the goal has been to better include the SDGs in the company's activities and make a positive contribution to implementing them. In the context of ZF's business activities, eight SDGs were identified relating to areas where the company can make the biggest contribution – either by minimizing negative effects or developing new solutions with a positive impact. They guide ZF's sustainability strategy.

### The ZF climate strategy

In late 2019, ZF adopted an ambitious climate strategy. The goal is to become climate neutral by 2040 across all emission categories. Already by 2030, production-related emissions are to be cut by 80 percent, as compared to 2018. At the same time, ZF is working on reducing emissions from its entire supply chain and minimizing the environmental impact of its products. This way, ZF is making an active contribution to achieving the goals of the Paris Climate Agreement and limiting the global temperature increase to well below 2 degrees and, if possible, to 1.5 degrees. The Group is also contributing to the implementation of the European Green Deal. This pursues the goal

### Sustainability strategy



## By joining the Alliance of CEO Climate Leaders, ZF takes responsibility and seeks to use its position of influence to drive climate protection.

of making Europe a frontrunner in terms of sustainable technologies and, by 2050, the first continent to become climate neutral. The goals that ZF has set for itself have been aligned with the SDGs, the Science Based Targets initiative (SBTi), CDP Climate and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

To coordinate the various initiatives, measures and effects for the entire company, ZF has established a steering group. This is made up of representatives from expert committees from the areas of sales and customer development as well as innovation and technology, along with the responsible executive board members for sustainability, materials management, production and finance.

### Partnership for climate protection

The entire industry still has a long way to go before fully rising to meet the many ecological and social challenges of sustainable development. The complexity of these challenges means they cannot be solved by individual companies but only through collaboration and partnerships. To underline its engagement in this field, ZF has joined the Alliance of CEO Climate Leaders of the World Economic Forum. Its position is that the private sector must take responsibility and actively engage in efforts to reduce greenhouse gas emissions, thereby helping to shape the global transition to a low-carbon, climate-resistant economy.

The members of the Alliance of CEO Climate Leaders pledge to

- publicly define a net zero target for 2050 at the latest;
- join the "Business Ambition for 1.5°C" campaign of the Science Based Targets Initiative (SBTi) and the UN Global Compact;
- define interim emission reduction targets and paths that are in line with the 1.5°C scenario of the Paris Agreement,
- and transparently report on emission reduction progress, e.g., via the Carbon Disclosure Project (CDP).

Beyond this, the Alliance is implementing the TCFD recommendations regarding the disclosure of climate-related data and ensuring that the guidelines for effective controlling of climate risks are implemented and monitored by the company management.

### Supply chain management

ZF began early on with the integration of sustainability aspects in its purchasing processes and supplier evaluations. Materials management initiated its first project as early as in 2012. Today, the department has dedicated employees dealing with human rights questions and climate protection topics in the supply chains.

To drive forward the topic of climate neutrality in the supply chain, ZF communicated quantified expectations for essential carbon reduction levers in 2020.

These include, among other things, the use of renewable energies and recycled materials. In addition, so-called decarbonization dialogues were initiated with important suppliers of production and non-production materials. A significant outcome of this dialogue has been the identification of measures that will be implemented through joint projects.

### Sustainable finance

In the context of the EU strategy for financing sustainable growth – Sustainable Finance for short – which is closely linked with the Green Deal, ZF is perceiving increased demand to act and growing request for transparency from financial institutions and rating agencies. ZF is responding to this with its climate strategy and expanded sustainability reporting. ZF strives to meet upcoming requirements of the EU taxonomy, i.e., demanding that companies classify their investments and revenues by sustainability criteria. The ZF Group is well aware that in the future, to a much larger degree than in the past, access to capital will come to depend on a company's ability to substantiate its successful sustainable management.

ZF has also begun developing a Green Finance Framework (GFF) so it can take advantage of new financing opportunities for projects that contribute to a lower-emission and more climate-friendly economy. The GFF will be directed towards the SDGs and corresponds to the ICMA Green Bond Principles and the LMA Green Loan Principles.

### Education for sustainable development

In the context of the new HR strategy, which places a focus on empowering executives and employees to carry out the transformation, sustainability has grown into an important topic of internal training, recruitment as well as collaborations with schools and educational institutions.



# THREE QUESTIONS FOR SABINE JASKULA

## Sabine Jaskula

Member of the Board of Management,  
responsible for sustainability

### How does ZF stand out from other companies in its field with regard to sustainability?

For one thing, ZF offers a unique product portfolio. We don't just provide highly efficient systems for the electrified automotive powertrain, but also products that actively contribute to sustainable energy generation, such as wind power turbine gearboxes. What's more, we don't simply set top sustainability standards for ourselves – we oblige our supply chain partners to comply with these standards, too. The SDGs serve as our benchmark.

### What topics are you currently focusing on?

Climate protection is what we're currently attaching great importance to. Achieving climate neutrality by 2040 is an ambitious goal and in doing so, we've intentionally opted for a credible approach based on technical measures. Which is why we're currently re-sharpening our climate strategy and uniformly aligning the different divisions' activities throughout the Group. This requires embedding sustainability targets in all operative business processes. Like this, sustainability isn't just the responsibility of the various departments, but rather encompasses our entire business model.

### What opportunities do you associate with sustainability management?

We'd like to assume a growing degree of responsibility to society and bring it to the outside world. As I see it, successful sustainability management is the foundation upon which we can build societal as well as economic viability. Being awarded customer orders already hinges on meeting sustainability goals today. Due to ever more restrictive emission legislation as well as carbon taxation, low-emission products yield a clear competitive edge. This trend is going to gain even more momentum in the future. Not least, I personally find that a consistent focus on sustainability also increases ZF's attraction as an employer. Often people apply for jobs with us because they are motivated by their desire to make a contribution to sustainable development.



## SUSTAINABILITY ORGANIZATION

# RESPONSIBILITY TAKES THE DRIVER'S SEAT

At ZF, questions of sustainable governance are firmly anchored in the company guidelines. More than just part of every individual's behavior, they're a central aspect of all business activities in every day's decision processes. Yet sustainability cannot simply be dictated from the top down – it must be filled with life throughout the entire organization. EHS management as a longstanding globally established approach has served ZF as its basis for this and has been implemented at all ZF locations.

**Guidelines, principles and management systems**

Guidelines such as the principles of social responsibility, environmental policy, respect for human rights policy statement and the Code of Conduct for employees serve as guardrails worldwide. Step by step over the past two years, the Group has further developed its ZF Enterprise Risk Management. This included defining and regulating clear roles and responsibilities along with Group-wide standardized risk management processes. A further significant addition to the reviewed Enterprise Risk Management (ERM) is an integrated governance, risk management and compliance (GRC) approach, characterized by improved interfaces between control systems, compliance, corporate audit and corporate risk management. As part of the Group’s ISO 14001 certified environmental management system, the respective risks and opportunities are evaluated at both the location and the Group level and reported as part of the management review. This procedure was adjusted to the new corporate risk management norm in 2020.

**Organizational anchoring of sustainability**

The sustainability department is located in the human resources domain. It reports to the head of sustainability, environment, health and safety. The sustainability department is responsible for sustainability reporting, serves as the internal contact point for all sustainability-related questions, advises the Board of Management and manages stakeholder dialogue. In coordinating sustainability topics within the company, the sustainability department is supported by a 15-member steering group. Comprised of representatives from all relevant departments, this group meets on a quarterly basis.

The tasks of this high-ranking interdisciplinary committee include:

- Developing and implementing an appropriate sustainability strategy and monitoring progress for the ZF Group. In this endeavor, it assists the Board of Management in fulfilling its responsibility for oversight of relevant sustainability and corporate social responsibility aspects of the company.
- Regularly reviewing the materiality matrix.
- Drawing up an annual review of ZF’s sustainability strategy.
- Anchoring the top issues in the sustainability program as well as in the respective departmental strategy and management.
- Regularly reviewing the appropriateness and effectiveness of ZF’s strategy, targets and measures.
- Providing regular progress reports on target achievements or related measures.
- Monitoring external trends and requirements and recommending additional actions in response.
- Within the context of risk management, identifying, assessing and managing risks associated with sustainability issues.
- Reviewing and approving the annual Sustainability Report.
- Coordinating the internal and external communication of sustainability – stakeholder dialogue.

To gain an overview of newly arising company topics and to elaborate initial starting points for dealing with them, the steering committee may establish working groups that will then address specific tasks in depth.

**ZF Sustainability Organisation**





# STATEMENTS FROM THE SUSTAINABILITY COMMITTEE



“Sustainability at ZF is not only about complying with regulations. It is an integral part of our strategy. By embedding sustainability in processes and decision-making, we interlink our long-term business success with our responsibility for society and the environment.”

**Dr. Michael Karrer** Corporate Sustainability

“We’ve set ambitious climate targets for ourselves. That’s why we’ve updated our corporate product strategy, even though ZF products were already meeting many of the criteria. As a result, ZF will no longer be manufacturing component parts for combustion engine-powered drive systems.”

**Joachim Seliger** Research & Development



“We consider electrical energy a central lever for reaching our climate goals. We’re focusing on energy efficiency measures and purchasing green energy in ever-growing proportions. What’s more, we’re also currently looking into expanding our internal power generation through wind power and photovoltaic plants”

**Gabriel Gonzalez-Alonso** Production

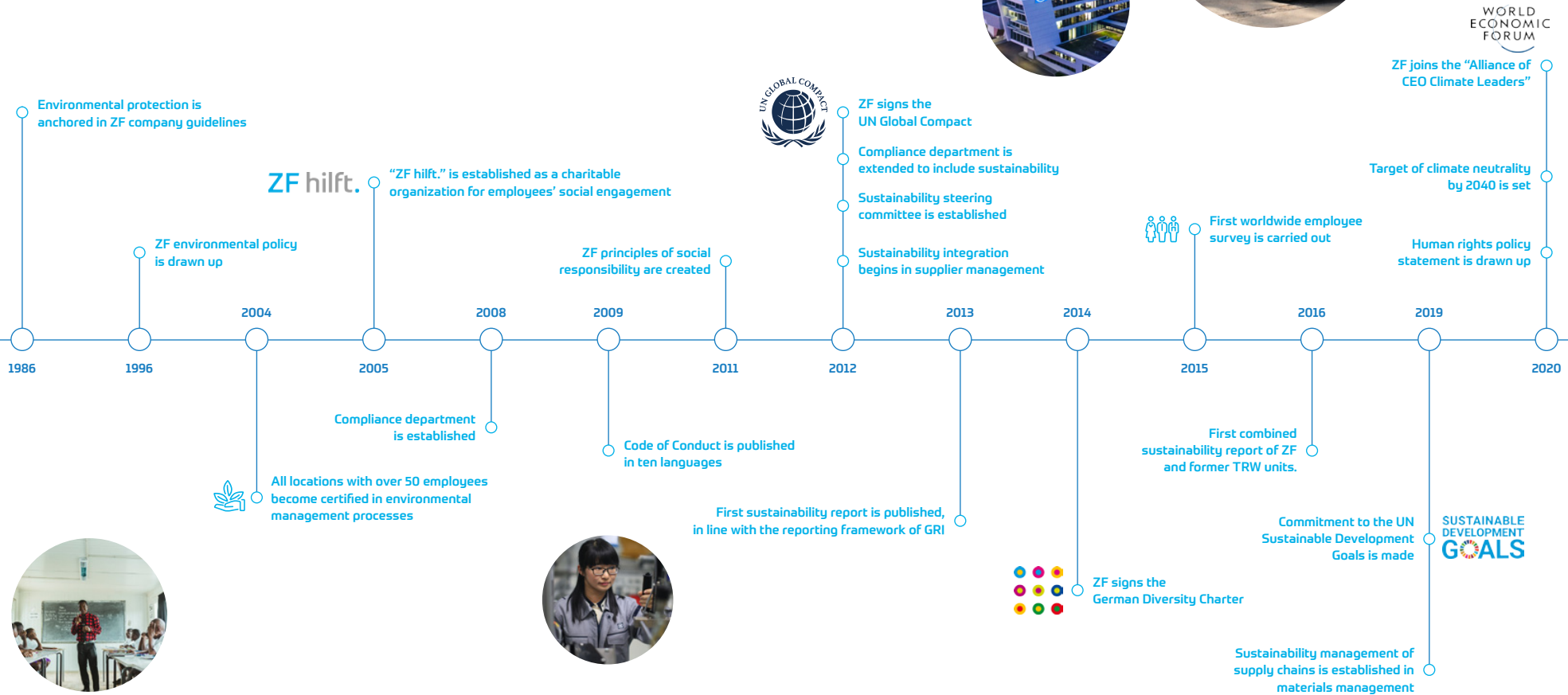
“Thanks to our sustainability criteria for suppliers, we now have a central steering element that’s a mandatory part of our sourcing process. Our next step is to intensify our monitoring of, and collaboration with, suppliers to improve our joint sustainability performance.”

**Michael Schmitt** Supplier Management



# SUSTAINABILITY – AN OVERVIEW

# ZF MILESTONES





# PERFORMANCE

**20** Responsibility  
Governance  
Risk management  
Values and behavioral norms  
Compliance  
Reporting  
Stakeholder management  
Sustainability program

**35** Value Creation  
Tax approach  
Supply chain  
Sustainable product portfolio

**47** Environment  
ZF climate neutral strategy  
Energy  
Water management  
Materials and resource efficiency

**59** People  
Employment  
Fair remuneration  
Labor-management relations  
Training and education  
Diversity and equal opportunity  
Health and safety

# RESPONSIBILITY

While a company can only achieve business success in an intact economic environment, its focus on success must also match the development of the companies that surround it and depend upon it so that sustainable corporate governance is possible for all. This principle plays a major role in all relationships with business partners, as well as in investments in production materials and capacities.

For these reasons, the Group has firmly anchored sustainable corporate management factors in its guiding principles. These factors are seen not as individual actions, but rather as central aspects of entrepreneurial activity in the day-to-day decision-making processes of the company.

With regard to corporate social responsibility, the Group founded "ZF hilft." in 2005. The registered nonprofit association was set up for worldwide aid and relief for humanitarian affairs, e.g., for victims of natural disasters, epidemics, infectious diseases, and famine. All donations received are destined for relief projects because the ZF Group covers the complete general administration expenses of the association.

In addition, each year ZF gives dividends to its shareholders: The Zeppelin Foundation operates in line with its 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.

# GOVERNANCE

The shareholders exercise their voting rights at the annual shareholders' meeting. The Zeppelin Foundation holds 93.8 percent of shares, which are managed by the City of Friedrichshafen. The remaining 6.2 percent are held by the Dr. Jürgen and Irmgard Ulderup Foundation in Lemförde (Germany).

ZF Group and the ZF Friedrichshafen AG 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 all corporate functions, divisions and 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.

In the 2020 fiscal year, the Board of Management consisted of seven members: Chief Executive Officer Wolf-Henning Scheider, Dr. Konstantin Sauer, Sabine Jaskula, Michael Hankel, Wilhelm Rehm, Dr. Martin Fischer and Dr. Holger Klein. Stephan von Schuckmann was appointed to the Board of Management on July 29, 2020, with a starting date of January 1, 2021. Michael Hankel stepped down on December 31, 2020.

# RISK MANAGEMENT

The Board of Management is under the oversight of the Supervisory Board, whose members are appointed with equal representation. It is supported by an Executive Committee and an Audit Committee, which are both composed of members of the Supervisory Board. In the 2020 fiscal year, Dr. Ing. Franz-Josef Paefgen served as Chair of a Board comprising 20 members.

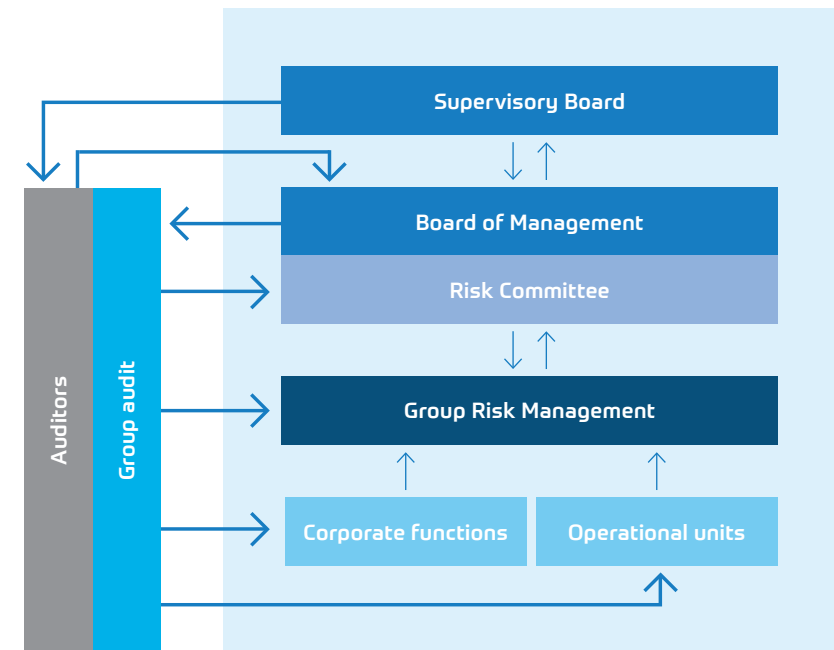
For information regarding representation of women and men in managerial positions, see the Diversity chapter.

ZF's culture of opportunities and risks is focused on sustaining the Group's continued existence and increasing its value. The enterprise risk management system aims to identify and benefit from opportunities as early as possible, while preempting risks that could adversely affect the value of activities. The ZF risk management system covers the whole Group and involves all operational reporting units and corporate functions via dedicated processes and contact points in order to utilize the strength of the ZF Group matrix organization.

The Board of Management bears overall responsibility for the risk management system. It informs the Audit Committee and the Supervisory Board on a regular basis, promptly – at least every three months – and comprehensively about the opportunities and risks of the ZF Group and the respective control measures initiated and planned. The Supervisory Board oversees the effectiveness of the risk management system. The implementation of the ZF enterprise risk management system is regularly audited for internal and external compliance by Corporate Audit. In addition, external auditors check ZF's early risk detection system as part of the annual financial statement audit.

More detailed information about the Group's overall approach to risk management can be found in the 2020 Annual Report.

## Risk management at ZF



# VALUES AND BEHAVIORAL NORMS

## Risks and opportunities due to climate change

A key development in the analysis of risks is the intensified consideration of climate change impacts – for which the Group follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The increased integration of the TCFD is being conducted parallel to the further implementation of ZF's climate neutrality strategy. The Group has been reporting climate data within the CDP reporting scheme on an annual basis since 2016. Since the CDP is widely aligned with the TCFD recommendations, information was provided regarding risks and opportunities due to climate change (physical risks) and risks due to increasing climate protection requirements (transitory risks). A so-called TCFD index will be published on the company website in the fall of 2021 after this year's updated CDP questionnaire has been submitted and made publicly available.

For more information regarding the adaptation of ZF's product portfolio to climate change related impacts, see the Sustainable Product Portfolio chapter.

For more information regarding ZF's climate neutrality strategy, see the Environment chapter.

The ZF Group has earned the recognition and trust of its customers through its responsible corporate governance, compliance, and outstanding products and services. The aim is to maintain the company's commitment and the high esteem it has earned in the future as well.

Regarding behavioral norms for employees, the ZF Code of Conduct provides guidance when questions arise about proper behavior and compliance. For more information, see the Compliance chapter.

ZF's Business Partner Principles require all suppliers and service providers to commit to abiding by law and relevant regulations at all locations worldwide. Suppliers and service providers must ensure that human rights are respected and human dignity is protected, for example, in all business processes. For more information, see the Supply Chain chapter.

## The ZF Way

Values and principles of conduct have been anchored in guidelines, and they are ensured by various corporate functions. It is more important, however, that they be recognized and supported by all employees – i.e., that they be lived out in day-to-day interaction. Over its more than one hundred years of company history, ZF has developed a unique corporate culture, based on the entrepreneurial spirit of its founders and with a strong innovation focus. For more information about the ZF Way, see the People chapter.

Sustainable action is the decisive factor for the success of a company. Many challenges can only be solved together.

## Supported initiatives

ZF believes that cooperation is key to achieving sustainable development. Many corporate units engage with stakeholders to exchange knowledge and to work towards viable solutions. The External Affairs department coordinates this commitment. Association membership fees amount to less than €1 million. A respective directive states that ZF prohibits sponsoring and donations favoring:

- Politicians, political parties and organizations, or party-related foundations
- Individuals or organizations that are not charitable
- Organizations that discriminate against third parties on the basis of skin color, gender, age, nationality, origin, religion, sexual orientation, disability or other legally prohibited grounds.

Exceptions to this include donations made through political action committees (PACs) in the United States, provided that this is done in strict compliance with the law and that the distribution of these donations reflects political neutrality on the part of the party and candidates. Payments to private accounts or in cash are prohibited.

 Sustainable Product Portfolio

 Environment

The ZF Group acknowledges the core labor standards of the International Labour Organization (ILO), the contents of the German Corporate Governance Code (DCGK) and the OECD Guidelines for Multinational Enterprises. ZF also respects and supports the Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights.

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

In late 2019, ZF announced its climate neutrality strategy (see the Environment chapter for more information). Additionally, CEO Wolf-Henning Scheider joined the Alliance of CEO Climate Leaders at the World Economic Forum in Davos 2020. The aim of this initiative is to build momentum for an ambitious global climate change deal and to catalyze greater and broader private-sector commitment and action on climate change. ZF's climate neutrality strategy meets the requirements of the Alliance. In addition, members pledge to implement the recommendations of the Task Force on Disclosure of Climate Related Financial Data (TCFD) and to adhere to the guidelines for effective climate governance of the

governing bodies. By joining this alliance, ZF seeks to use its position and influence to drive change: Capital, the industrial sector and regulation are coming together to address climate change.

In light of Germany's National Action Plan on Business and Human Rights (NAP), ZF took part in the NAP Monitoring 2019 and 2020 led by EY to learn and receive an outside-in view. ZF is an active member of the NAP Automotive Industry Dialogue under the lead of the Federal Ministry of Labour and Social Affairs (BMAS) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and with the participation of civil society. The target of the dialogue is to create a common perspective on fulfilling requirements appropriately, creating a common overview of the major risks in the industry and beyond countries/commodities and identifying areas for individual and collective action. ZF is also engaged in the NAP industry dialogue of the Mechanical Engineering Industry Association (VDMA) on machine and plant construction, to strengthen standards beyond industries and to support small and medium-sized companies. ZF has also joined the Sustainability in the Supply Chain working group of the German Association of the Automotive Industry (VDA). This group is working on the development and implementation of an industry assessment standard called the Automotive Sustainability Audit (ASA).

## Memberships

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 (VDI)** – Lake Constance regional association (as a supporting member)
- **Automotive Industry Action Group (AIAG)**
- **Chamber of Industry and Commerce Hochrhein Bodensee**
- **Compliance Network e.V.**
- **Employers' Association Südwestmetall**
- **European Association of Automotive Suppliers (CLEPA)** (i.g., Green Deal Task Force or Energy and Environment Working Group)
- **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 (BME)**
- **German Digital Association** (Bitkom e.V.)
- **German Global Compact Network**
- **German Association of the Automotive Industry (VDA)** (e.g., sustainability working group in the supply chain and the PG ASA standardization project)
- **German Engineering Federation (VDMA)**
- **German Federation for Motor Trades and Repairs (ZDK)**
- **German Diversity Charter** (Charta der Vielfalt e.V.)
- **Industria Nacional de Autopartes (INA)**
- **Original Equipment Suppliers' Association (OESA)**
- **Wissenswerkstatt Friedrichshafen e.V.** (as a supporting organization)

# COMPLIANCE

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 constitutes the basis of lasting collaboration in an atmosphere of trust.

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

The CoC defines binding principles for correct, law-abiding and ethical behavior. It includes subjects such as adherence to laws, fair competition, human rights, anti-corruption, business and social responsibility, product compliance, occupational safety, data protection and transparency. The CoC is a core element of the Compliance Management System (CMS) and is available in more than 25 languages. As managers at every level are responsible for the compliance culture within the company, they must confirm receipt of the CoC and commit to following its principles.

## Compliance regulations

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

- Lawful and responsible behavior
- Ban on corruption
- Business partner integrity
- Handling favors, gifts and hospitality
- Correct behavior in competition
- Conflicts of interest
- Contacting the Corporate Compliance Office and reporting incidents
- Responsibilities, tasks and authority of the Compliance Organization

## Compliance management

The ZF Compliance Management System (CMS) constitutes 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 by employees and business partners in the areas of:

- Fraud
- Reputational damage
- Corruption/bribery
- Conflicts of interest
- Gifts/entertainment

The primary goal of the CMS is to meet the following requirements:

- The independence and effectiveness of the Compliance Organization
- The integration of compliance into business processes
- The transparency of decision-making processes
- Respective HR processes (sanctions)

The three pillars of the CMS are prevention, detection and response. The Compliance Organization is set up in line with the organizational structure of the ZF Group.

 [ZF Code of Conduct](#)

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

## ZF Compliance Organization

Prevent	Detect and respond
<ul style="list-style-type: none"> <li>• Risk analysis</li> <li>• Regulations</li> <li>• Communication</li> <li>• Training</li> <li>• ComplianceHelpdesk</li> <li>• Business partner due diligence</li> </ul>	<ul style="list-style-type: none"> <li>• Notification</li> <li>• ZF Trustline</li> <li>• Investigation</li> <li>• Monitoring</li> <li>• Remediation and sanctioning</li> </ul>



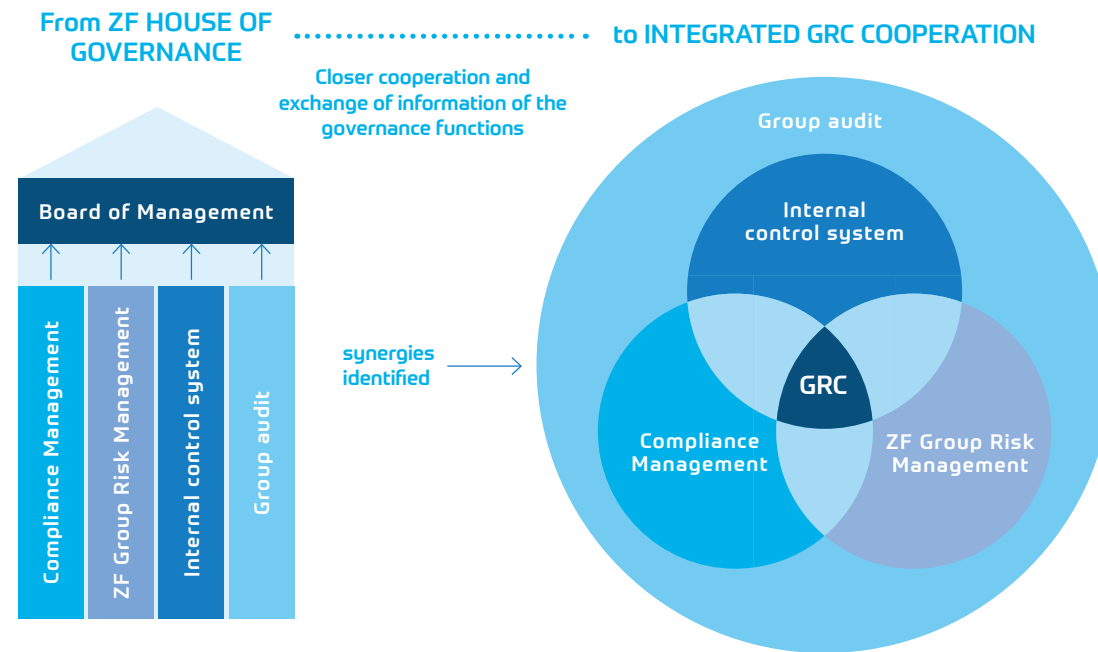
### Compliance tools

- The ComplianceHelpdesk is a preventive tool for systematically clarifying and documenting 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 ZF CMS is complemented by the ZF Trustline, an electronic notification system that employees and third parties can use to anonymously report suspected serious misconduct. Such incidents might include violations of competition and anti-trust law, cases of corruption and bribery, conflicts of interest, fraud and financial reporting concerns, employment-related matters, violations of human rights and other material violations of policies or law. In 2019, 232 cases were received by the case management system, which includes reports received through the ZF Trustline and other reporting channels. In 2020, the ZF Trustline was made available to employees of the new Commercial Vehicle Control Systems division. In 2020, 137 incidents were reported directly via the ZF Trustline and 71 incidents were reported through other internal avenues tracked by the ZF Trustline, for a total of 208. Of these 208 reports, only 85 fell within the scope of Corporate Compliance.
- ZF is in the process of updating its risk analysis process for compliance risks. The objective of this analysis is, at an early stage and based on ZF's risk profile, to identify and assess compliance-relevant risks and then to counteract them.

- Business partners can pose a compliance risk if their actions or failure to act can be attributed to ZF. All business functions of the Group must therefore 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 was established in 2015.

With regard to corruption-related categories, all operations are regularly assessed over a target period of about three years. To achieve more precise results, the risk analysis process is currently being revised with a focus on product lines and the use of online survey tools.

### Integrierte Governance, Risk & Compliance (GRC)



News and sharing information about compliance issues help to raise awareness among employees. Values and employee conduct expectations are regularly communicated. A range of communication measures ensure that compliance is firmly anchored within ZF's culture. All employees, including the Board of Management, have constant access to compliance topics and training through Zoom, the corporate intranet, the compliance intranet blog and other channels. As a main communication channel, the intranet also provides access to necessary compliance contacts and essential documents.

To ensure that compliance news reaches the management teams of the individual ZF locations, compliance officers and compliance delegates periodically inform the management team of compliance issues, so that management staff can pass this information on to their employees.

ZF's Code of Conduct (CoC) is made available to all new hires. They are obligated to sign an employee compliance certification form acknowledging receipt of the CoC and accepting their responsibilities as outlined in it. New employees are also advised about how to ask questions about the CoC and how to report any possible violations.

The CoC was implemented in the Commercial Vehicle Control Systems (CVCS) group, formerly WABCO, in July 2020. Its introduction was complemented

by an online training opportunity. By October 2020, 8,659 employees had enrolled in the CoC online course via CVCS's learning management system, KnowBe4. By the end of 2020, 55 percent of the employees who had enrolled (4,720 individuals) had completed the course.

In November 2020, the newly updated ZF Corporate Compliance Policy Statement and new Work Instructions on Gratuities and Conflicts of Interest were approved and came into effect on January 1, 2021.

#### Training opportunities

With such a large employee base, the ZF Group relies on online training as the principal form of instructing employees on key compliance topics. The objective of these online courses is to firmly anchor compliance in employees' consciousness and prevent wrongdoing. The courses convey knowledge and promote employees' ability to act in critical situations. Target groups can be addressed in accordance with the necessities of a particular topic.

In April 2019, the ZF Group launched the online learning management system myHRSuite (MHRS). Throughout 2020, the following courses were completed via MHRS:

- Code of Conduct – 2,468 completions
- Conflict of Interest – 489 completions
- Ethical Leadership – 3,026 completions

Additional courses on the following topics will be implemented in 2021:

- Recognizing and Avoiding Bribery
- Business Integrity and Fraud

The MHRS allows every employee to track their training progress. In addition, an escalation process with the HR function has been established for mandatory training courses. Other types of non-trackable online content are available to employees on the Compliance Training Zoom page. These relate to Compliance at ZF and Anti-corruption. The page also offers communication tools on Shaping our Culture and Conflicts of Interest.

Training in other formats, such as in-person training on key topics, is provided to more focused groups as required, based on region, job function and risk category.

5,983 courses completed via the new online learning management system.



### Sustainability activities of WABCO

While ZF has successfully completed the acquisition of WABCO, the sustainability reporting of the new CVCS division (Commercial Vehicle Control Systems, ex WABCO) will be further harmonized over the course of 2021.

In previous years, WABCO did not publish a sustainability report. Nevertheless, the company had been working on important sustainability-related topics. Ethical responsibility towards employees, society, business partners and the environment was anchored in a Code of Conduct. With a view to sustainable supply chains, a Conflict Minerals Policy was drafted. With regard to environmental sustainability, the locations pursued goals to reduce the company's impact on water, energy and hazardous waste.

Certified management systems in use:

- **Energy:** ISO 50001 covering 28 percent of the manufacturing and logistics locations.
- **Environment:** ISO 14001 covering 94 percent of the manufacturing and logistics locations as well as test tracks.
- **Occupational health and safety:** ISO 45001 covering 94 percent of the manufacturing and logistics locations as well as test tracks.

### WABCO environment, health & safety figures

	2020	2019	2018
<b>Energy consumption</b> in MWh	<b>129,417</b>	126,148	131,294
<b>Water consumption</b> in m <sup>3</sup>	<b>179,859</b>	248,220	225,869
<b>Waste</b> in tons	<b>16,174</b>	17,160	17,219
<b>Recycling rate</b> in percent <sup>1</sup>	<b>80</b>	77	74
<b>Rate of accidents</b> as LTAR <sup>2</sup>	<b>0.15</b>	0.2	0.2

<sup>1</sup> Excluding burning for energy.

<sup>2</sup> Accidents with working days lost per one million working hours.

## REPORTING

Ever since ZF began sustainability reporting in 2012, the company's material topics have regularly been evaluated. This was always preceded by an intensive analysis of global challenges, the company's own impact as well as stakeholder expectations. The topic boundaries of this report follow the materiality analysis from summer 2018. Due to the completion of the WABCO acquisition, the steering committee decided to conduct a new materiality analysis over the course of 2021.

The methodology for the underlying analysis of the material topics in this report was as follows: As a first step, a list of all sustainability topics potentially relevant to ZF was compiled based on an industry analysis and general sustainability standards. In the next step, this list was evaluated by an external expert panel. Opportunities and risks were also put in concrete terms, and ZF's opportunities to exert influence were discussed. As part of a Sustainability Steering Committee workshop, topics were then prioritized in terms of business relevance, relevance from the stakeholders' point of view and the impact of ZF's business activities. In this process, topics for reporting, as well as those considered relevant foci for further strategic development, were identified. Finally, the results of the materiality analysis were confirmed by the Board of Management.

## STAKEHOLDER MANAGEMENT

GRI 102-42  
GRI 102-43  
GRI 102-44  
GRI 102-46

Regular and consistent communication with its stakeholders allows the Group to find balanced solutions. As the approach for stakeholder communication and engagement has been established and refined for several years now, all relevant target groups are well defined. The most relevant stakeholders are employees, customers and suppliers, the company owners, investors, authorities, trade unions, associations, politicians and the media and as well as business partners and residents at company locations. Each group is important, having unique insights and feedback to contribute. With regard to mentioned topics, as in the previous year, climate change and human rights were issues that played an important role in general discussions in society. Accordingly, stakeholders brought up these issues with ZF, too.

### Customer satisfaction

Delivery reliability, the ability to innovate and cost competitiveness are basic qualifiers in today's automotive industry. Due to regulatory changes, rising consumer awareness and new supply chains for megatrends such as electrification, sustainability expectations placed on the automotive industry continue to grow.

In this context, the role of a Tier 1 automotive supplier such as ZF is rapidly changing. The Group now offers complex vehicle functions to a greater extent. This necessitates not just new skills, but also a different market approach where all expertise as well

## Ways of stakeholder communication

Groups	Media and formats
Employees	Zoom social intranet including the CEO's blog and various news channels, townhall meetings, webinars, skip level meetings, innovation challenges and pitch events, family days, zf.com, social media, ZF hilft., ZF BarCamp, New Work, leaders at ZF
Potential employees	Collaborations with universities, ZF annual report and sustainability report, advertisements, ZF website, involvement in trade fairs, events, sponsoring, social media and – in the future – employee ambassadors
Former employees	ZF website, ZF pensioner association, ZF family days, senior professionals program, social media
Customers	ZF annual report and sustainability report, ZF website, brochures, advertisements, customer days, involvement in trade fairs, key account management, social media
End customers	ZF annual report and sustainability report, involvement in trade fairs such as the International Motor Show, CES, non-automotive trade fairs, advertisements, ZF website, social media
Suppliers and partners	ZF annual report and sustainability report, ZF website, involvement in trade fairs, advertisements, supplier days, key purchasing strategy, ZF Global Supplier Summit, social media
Politicians, associations, interest groups, NGOs	ZF annual report and sustainability report, ZF website, external affairs department: topic-related discussions, roundtable events/webinar, site visits, association work, social media, industry dialogues
Educational institutions	ZF sustainability report, collaboration with universities and schools, ZF website, involvement in trade fairs, advertisements, social media
Press and the media	ZF annual report and sustainability report, ZF website, press releases, press conferences, social media
Communities	Press, ZF website, advertisements, sponsoring, regional events, social media
Investors, analysts and other capital market participants	Annual and semi-annual conference calls with analysts and investors, capital market days, face-to-face meetings, exhibitions, ZF IR website

as the entire product portfolio can be provided from a single source. In addition, ZF customers expect to interact with a competent contact person who can represent the entire Group.

GRI 102-40

GRI 102-44

Ever since the IAA 2019, customers and suppliers have been accelerating their ambitions around sustainability. In 2020, customers approached ZF with considerably higher requirements to help them achieve transparency regarding carbon emissions in their supply chains. Here the main focus was on insights into product-specific carbon footprints and the share of secondary materials as well as of renewable energy of production locations.

### ZF Excellence Award

Due to the COVID-19 pandemic, the annual ZF Excellence Award took place in a virtual format. Taking the circumstances of the pandemic and the resulting economic crisis into account, the three awarding categories "Safe Re-Launch", "Financial Independence" and "Health & Safety" were awarded.

### Global Supplier Summit

Due to the COVID-19 pandemic, the 2020 Global Supplier Summit had to be conducted virtually. Over 5,000 suppliers were invited to attend various sessions during the day. Decarbonization was a major topic along with purchasing and digitalization. ZF presented its newly developed goals for achieving progress in reducing carbon emissions. The Group also called for participation in specific decarbonization dialogues. Many suppliers expressed interest in introducing activities they were working on and in jointly developing solutions. Following the summit, a sustainability information pack was distributed to all ZF commodity buyers.

# SUSTAINABILITY PROGRAM

This ZF Sustainability Program follows the materiality analysis of 2018. Strategic objectives correspond to the identified material topics. ZF will conduct a new materiality analysis over the course of 2021 and report on how the Group is proceeding to achieve its targets, which projects and measures have already been implemented and what progress has been made.

## Products

Strategic objective	Targets	Actions/Status
<b>Product safety:</b> Zero accidents and zero fatalities through smart product solutions and highest quality assurance	By the end of 2021, ZF will develop an integrated concept for "Functional Safety" and "Safety of the Intended Functionality" (SOTIF) to address emerging active safety technologies and automated driving.	<ul style="list-style-type: none"> <li>• ZF is working on a strategy for updating its global directive and making SOTIF requirements normative.</li> <li>• Active safety systems such as braking, steering and driver assistance continue to be further developed, including functional safety, and integrated in the vehicle architecture to enable increased safety.</li> <li>• ZF systematically analyzes the performance limitations of autonomous driving assistance systems (ADAS) and identifies methods to further improve SOTIF.</li> </ul>
	By 2022, ZF will align functional safety programs across all divisions and product development groups to ensure harmonized processes and better transparency.	Cross-divisional working groups and steering committees have been established to achieve full alignment in all segments for ADAS and autonomous driving (AD) related products and software deliverables. This will be continued in 2021.
	By 2022, ZF will enable customers to meet the highest NCAP ratings in the EuroNCAP 2025 roadmap.	ZF is part of all relevant EuroNCAP committees to meet future EuroNCAP requirements. Today's core technology and product development addresses all EuroNCAP requirements. Requirements such as automated emergency braking (AEB) are fulfilled by technologies such as electronic stability control (ESC) and further enhanced by integrated brake control (IBC) and camera/radar fusion.
	By 2023 ZF will enable CV customers to fulfill general safety regulation (GSR) requirements for 2024.	<p>New engineering processes (EPPM) have been established in compliance with automotive SPICE (ISO/IEC 15504-5) and ISO26262 standards. Further improvement activities have been structured according to Six Sigma methodology.</p> <p>The effectiveness of KPIs and the analysis of industry best practices have been integrated to identify further optimizations. These activities are to be continued in 2021.</p>

## Products

Strategic objective	Targets	Actions/Status
<b>Material efficiency of products:</b> Reducing the use of raw materials and realizing a circular economy	By the end of 2021, a strategy with related targets will be developed to increase the overall material efficiency of products with a focus on secondary materials.	Material efficiency will be integrated into the product design directive. Materials Testing will conduct projects to identify the potential for the use of secondary material.  Dedicated projects for substituting primary materials for recyclates will be initiated.
<b>Sustainable product portfolio:</b> Gradually increasing the share of revenue from sustainable products and services	There will be no new product development for pure combustion engine drives.  By the end of 2021, the existing carbon monitoring system will be reviewed and extended.	ZF focuses on core application projects for mild hybrids and plug-in hybrids as well as electrified powertrain solutions.  Main improvements: <ul style="list-style-type: none"> <li>• Detail analysis to specific product groups and material commodities.</li> <li>• By the end of 2020, the top 3 product groups of each Division were analyzed regarding baselines and potentials for improvement in carbon contribution from the materials used.</li> </ul>

## Supply chain

Strategic objective	Targets	Actions/Status
<b>Standards in the supply chain:</b> Aiming to implement supply chain sustainability management by 2025	By 2020, a new initiative will be introduced worldwide to reduce the highest carbon emitting supplies and suppliers within the product life cycle.  Increase coverage on sustainability-related certificates (e.g., ISO 14001) within the ZF supplier base.	Target achieved. The carbon neutrality program has been implemented at ZF Group level. Within this program, Materials Management has developed a clear decarbonization roadmap towards climate neutrality by 2040.  A backoffice in India has been set up to drive the fill-rate of sustainability-related certificates worldwide.

## Supply chain

Strategic objective	Targets	Actions/Status
<b>Standards in the supply chain</b> (cont.)	By the end of 2021, the existing carbon monitoring system will be reviewed and extended.	Concerning the upstream supply chain, the focus lies on: <ul style="list-style-type: none"> <li>• Increasing renewable energy</li> <li>• Using secondary materials</li> <li>• Creating transparency and standardization of carbon footprint calculations</li> <li>• Participating in ZF Supply Chain Decarbonization Dialogue</li> <li>• Driving energy efficiency projects with absolute carbon reduction effects</li> </ul> These expectations were shared at ZF's Global Supplier Summit 2020 and will be followed up by dedicated projects and initiatives from 2021 onwards.
	Implementation of a sustainability supplier assessment for the existing supplier base and for new suppliers.	Target achieved. The Sustainability Criterion was introduced in May 2020 as a relevant element for approval of new suppliers as well as for sourcing, covering all relevant aspects of sustainability.
	Increase CSR self-assessment for new suppliers.	Sustainability Criterion questionnaire replaced the CSR self-assessment within the supplier approval process.
	Introduction of social media monitoring.	Target achieved. Social media monitoring is now in place. Critical incidents are followed up by the sustainability team established in 2021.
	By 2025, ensure a strong anti-bribery and corruption training program to employees in Materials Management.	New target.

## Production

Strategic objective	Targets	Actions/Status
<b>Emissions of plant operations:</b> Reducing carbon emissions caused by plant operations	ZF has set itself the goal of being climate-neutral by 2040. The interim targets are to reduce the Scope 1 and Scope 2 carbon footprint by 80 percent by 2030 as compared to 2018.	New target.
	By 2025, ZF Group Production is to have reduced its energy consumption by 2 percent annually, relative to value add, as compared to 2019.	New target. Targets were broken down by location and technical measures planned.
	By 2030, the entire ZF power consumption will come from renewable power.	New target. For Southern and Eastern Europe, specific purchasing agreements (PPAs) are being prepared.
<b>Water:</b> Saving water resources and supporting clean water quality	By 2025, ZF locations in areas where water scarcity determines public life are to have reduced their water consumption relative to value add by 2 percent annually, as compared to 2019.	New target.
	By 2025, ZF locations outside water scarce areas are to have reduced water consumption from all water sources relative to value add by 1 percent annually, as compared to 2019.	New target.
<b>Waste:</b> Supporting recycling management and reducing hazardousness waste	By 2025, ZF locations are to have reduced waste for disposal relative to value add by 1 percent annually, as compared to 2019.	New target.
	By 2025, the reduction of hazardous waste is to be a general target in waste management.	New target.



## Employees

Strategic objective	Targets	Actions/Status
<b>Globally attractive employer:</b> Aiming to be among the most attractive engineering employers worldwide and well positioned in growing markets	By 2025, ZF aims to be among the top 20 (Germany) and top 100 engineering employers in our strategic markets.	<p>Employer brand activities targeted students as well as specific groups of professionals.</p> <p>Specific campaign for electromobility with virtual events and pitch nights focusing on autonomous driving and electromobility.</p> <p>Employee Ambassadors are to be implemented in Q3/2021.</p> <p>Trendence/Universum rankings stable at top 25 in Germany and already top 100 in Poland/Czech Republic. Positive ranking, especially for professionals, with rank 13 (Universum) and 21 (Trendence).</p>
	By 2025, the turnover rate for the Group will be between 6 and 8 percent.	ZF managed to reduce turnover from above 12 to below 8 in 2020. Turnover rates will be closely monitored. Necessary actions taken to ensure that low rates are not linked to effects caused by the COVID-19 pandemic, but instead are due to ZF measures.
<b>Training and education:</b> Aiming to continuously contribute to improving the organization, to achieve a global learning culture of innovative learning and development	By 2025, a global and innovative leadership and learning culture will be established across divisions, functions and regions.	In 2020, ZF launched several initiatives to contribute to a global and innovative leadership and learning culture. For details, see the Training and Education chapter.
	Upskilling programs will be in place for critical target groups to ensure employability and capability for the future. ZF aims to qualify at least 15,000 people to support business transformation towards future and sustainability related technologies within ZF's e-Cademy initiative.	

## Employees

Strategic objective	Targets	Actions/Status
<p><b>Safety at work and health protection:</b> Striving to improve safety performance by conducting professional incident management, Safety Leadership and Behavior Based Safety actions as well as improving functional safety areas</p>	<p>Reduction of the Group accident rate (LTAR: accidents resulting in at least one full day's absence from work per million working hours) from 3.8 (2019) to 2.0 (2025) to move forward towards industry leading performance.</p>	<p>In 2020, the ZF Group was on track and reduced LTAR to 3.3 (13 percent down from 2019). Locations contribute with yearly step-down based on individual ZF location targets.</p>
	<p>Reduction of the Group severity rate (SR: Number of lost working days per accident) from 14.5 (2019) to 8 (2025) by increasing the focus on high-consequence injuries and near misses.</p>	<p>New target. The severity rate in 2020 slightly increased, showing the importance of monitoring severity according to the Group target.</p>
	<p>By 2025, low ergonomic risk profile for 90 percent of workplaces. Risk assessments and improvement measures are conducted according to global standards.</p>	<p>New target. Currently 55 to 60 percent of production workplaces are evaluated as having a low ergonomic risk profile – implementation will be tracked according to individual location targets.</p>

# VALUE CREATION

ZF is a global technology solutions provider and its comprehensive technology portfolio is aimed primarily at established vehicle manufacturers, mobility providers and start-up companies in the fields of transportation and mobility. Alongside the core markets – passenger cars and commercial vehicles – ZF also serves market segments such as wind power, marine propulsion, aviation technology, rail drives, special drives and test systems.

Offering advanced mobility products and systems for passenger cars, commercial vehicles and industrial technology, the Group's technology can also be found in many applications ranging from motorcycles and construction equipment to trucks and yachts. In the world of electromobility, ZF stands not only for efficient energy consumption in electric vehicles, but also for intelligent energy generation through renewable energy sources such as wind parks. At the same time, the Group transfers its expertise to all other areas of application, including connectivity and cloud-based solutions, and is working on digital solutions for mobility providers and new automotive customers. As a mobility systems supplier, ZF develops its software solutions simultaneously and

interlinks them with components and systems. This results in innovative and integrated solutions at the component level but can also be expanded to comprehensive and intelligent vehicle systems.

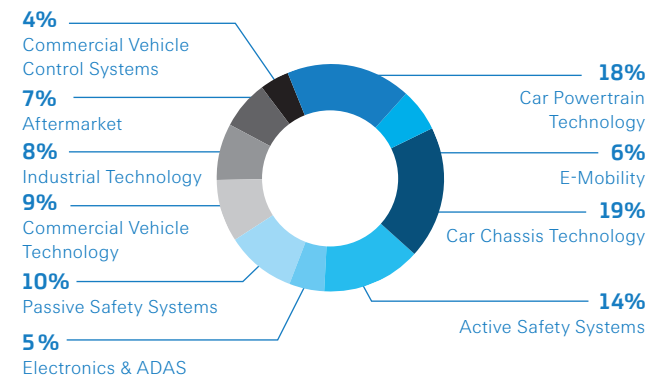
ZF is also digitalizing its products to enable intelligent mechanical systems, which are used to allow vehicles to see, think and act. Autonomous driving becomes a reality through the networking of environmental sensors, such as cameras and radar (see), electronic control units (think) and intelligent mechatronics in driveline, chassis and steering (act).

Through ZF's service network, customers worldwide have access to a comprehensive range of services. This includes individual service offers for fleets and exchange transmissions to minimize downtime, intelligent connectivity solutions, maintenance and repair services as well as conversions and retrofits for more efficiency, comfort and safety.

The ZF aftermarket offers a workshop concept that not only makes technical innovations quickly available on the aftermarket, but also provides the relevant technical know-how for professional diagnostic findings, maintenance and the repair of ZF components. The most important aftermarket product brands include:

- **SACHS:** clutches, dual-mass flywheels, torque converters and shock absorbers for passenger cars, motorcycles, commercial vehicles and agricultural machinery

## 2020 sales by division



- **LEMFÖRDER:** steering and suspension parts, rubber-to-metal components for passenger cars and commercial vehicles
- **TRW:** braking systems, steering and suspension parts and shock absorbers for passenger cars and commercial vehicles. Brakes, clutches, handlebars, pretensioners, radar, switches, accessories and footrest systems for motorcycles
- **BOGE:** shock absorbers for passenger cars and commercial vehicles
- **WABCO:** air supply and processing, air storage, conventional braking components, air brake systems, brake actuators, air disc brakes, hydraulic disc brakes, drum brakes, suspension controls, driveline controls, clutch control systems, bus systems, retrofit solutions, connecting devices, diagnostics hardware and software

# TAX APPROACH

## Financial figures

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

In 2020, the ZF Group recorded a 10.7 percent decrease in sales to €32.611 billion and invested €2.516 billion (2019: €2.652 billion) in research and development, amounting to 7.7 percent of Group sales (2019: 7.3 percent). Overall, the ZF Group made donations of €1.8 million (2019: €3.6 million).

The purchasing volume of production materials totaled €16.3 billion in 2020 (€20.6 billion in 2019), including directed buy volumes. The value of non-production materials amounted to €4.6 billion (€6 billion in 2019). Overall personnel expenses totaled €4.391 billion (2019: €4.783 billion), including wages and salaries, social security contributions and benefit expenses.

For more details, see the consolidated profit and loss statement in the 2020 annual report.

The Group's tax strategy has been developed as part of its corporate responsibility in line with the overall corporate strategy. The strategy's priorities aim to meet the following criteria:

- Compliance with tax regulations to ensure that tax return filings are performed correctly and in a timely manner.
- Ensuring that taxes are paid to the jurisdictions where the creation of value takes place, thereby avoiding inappropriate tax structuring strategies.
- Assurance that tax information regarding corporate decisions and publications of financial data is valid and relevant.
- Establishing appropriate measures to minimize tax risks and prevent unexpected tax payments.
- Upholding the positive reputation of ZF in the public perception as a responsible company that respects tax laws. This includes, but is not limited to, conducting transparent business practices and maintaining open communication with local tax authorities.
- Preventing inefficiencies from a tax perspective (e.g., double taxation).

The ZF Group is committed to an open and transparent exchange of information with tax authorities. It advocates fair and practical legislation, supports the work of industrial associations and international organizations in the field of tax law and contributes towards ensuring transparent and responsible taxation.

## Taxes – Values & Principles



## Tax governance

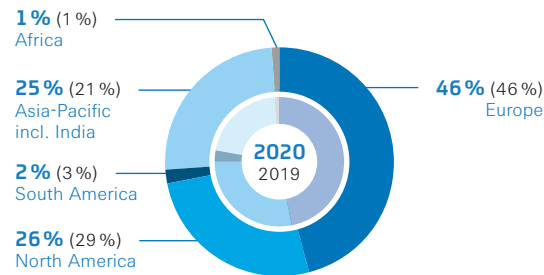
When it comes to tax-related processes, measures and structures, the basis for effective tax management is a clear definition of roles and responsibilities. For this reason, ZF's tax function maintains an organizational matrix structure tailored to the operational needs of the business organizations (Divisions, Business Units and Corporate Functions) as well as maintaining a clear definition of tasks, rights and responsibilities of both the business organization and the Group tax function within each region.

Roles and responsibilities have been defined above all in the following areas:

- Policy-making competence
- Consultation requirements
- Involvement or pre-approval requirements
- Responsibility for tax-relevant elements in ZF's business processes
- Maintenance and improvement of ZF's tax compliance management system

 [Annual Report 2020](#)

## Sales by region



Within the Board of Management of the ZF Group, the responsibility for taxes lies with Corporate Function F (Finance, IT, M&A) and is managed by the CFO. The Group tax function, directly reporting to the Head of Corporate Function F (or Group CFO), is responsible for compliance with the tax strategy. Tax compliance measures are executed by centralized local tax functions and are included either within a tax function of a larger jurisdiction or at the local finance function level. General definitions are embedded in ZF's respective management policies, to make sure that all Group entities adhere to these principles.

ZF ensures that taxes due are determined according to local tax laws and that internal transfer prices within the ZF Group are set in accordance with the arm's-length principle. Remuneration for intra-Group transactions is based on the fair market value of each area involved in the transaction.

### Tax risk management

ZF's appetite for tax risks is low and therefore seeks to minimize tax risks. The ZF Tax Risk Management and Tax Control Framework are consistent with, and embedded in, the Group's overall Risk Management and Internal Control Framework. Tax risks are actively and continuously identified, assessed, monitored and managed to ensure that they remain in line with the overarching objective of the tax function, to ensure Group-wide tax compliance.

Effective tax risk management and tax compliance are ensured by the following measures:

- The tax governance framework, integrated in ZF's policy management structure
- Continuous monitoring and improvement of the tax control framework via an established TAX CMS lifecycle process
- Tax compliance control of confirmation and issue reporting process integrated in the Group's internal control system
- A structured approach to monitoring and evaluating potential tax risks

### Country-by-country reporting

In compliance with the base erosion and profit shifting (BEPS) actions of the OECD, the ZF Group prepares a country-by-country report (CbCR) for the entire Group and then makes it available to the German tax authorities annually. In turn, the German tax authorities share ZF's CbCR with countries that have signed agreements allowing this exchange. The ZF Group's CbCR is therefore available to all countries whose tax authorities have agreed to the OECD standards.

### Ongoing tax payments by region 2018 to 2020

in € million	2020	2019	2018
Europe	30	154	337
North America	33	32	36
Asia-Pacific	127	114	94
Other	6	6	9
<b>Total</b>	<b>196</b>	<b>306</b>	<b>476</b>

# SUPPLY CHAIN

A steady supply of good materials and components lays the foundation for high-quality products and thus for customer satisfaction. Only professional supply chain management can ensure the high quality of ZF's products and delivery performance. A trusting and reliable collaboration with its suppliers is therefore of utmost importance to ZF.

Since ZF manufactures products at about 160 locations worldwide, a major part of value creation in production lies in the supply of components. The cost of materials purchased from suppliers accounts for some 73 percent of sales. ZF suppliers tend to be contractors who procure the raw materials or basic components for the products ordered, manufacture them and, in some cases, design the products, too.

For the sole purpose of producing materials, ZF maintains a global network of approximately 5,900 suppliers, ranging from small family businesses to large corporations. These include about 1,100 strategic suppliers. Furthermore, ZF has some 51,800 non-production material suppliers worldwide. Due to the COVID-19 crisis, the purchasing volume for production materials decreased to €16.3 billion in 2020 (from €20.6 billion in 2019), including so-called "directed buy" volumes, for which ZF's customers define the supplier from whom procurement is to occur. The purchasing value of non-production materials amounted to €4.6 billion in 2020 (€6.0 billion in 2019).

Of all production materials, 56 percent (2019: 57 percent) were procured locally, i.e., the supplier was situated in the same country as the ZF receiv-

ing location. As for non-production materials, 84 percent (2019: 80 percent) of the global spend (excluding investments) was sourced locally.

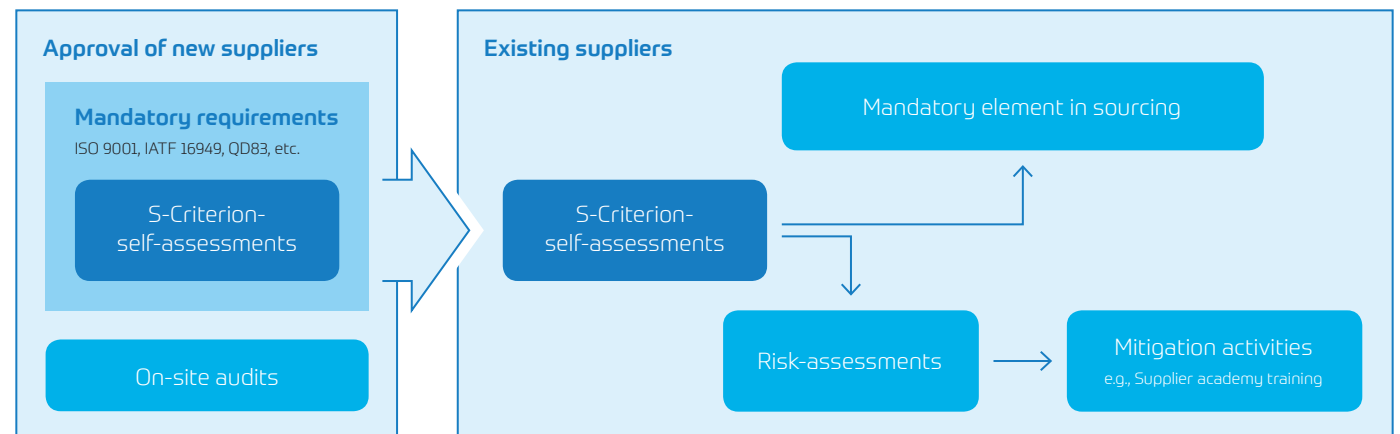
## Procurement practices

Over the past few years, specific requirements for suppliers have resulted 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 UN Global Compact. The declared ob-

jective of the APS 25 is to establish an effective and efficient value creation chain throughout the Group. This strategy pursues three subordinate goals: total quality management, standardization and the increase of ROCE. Its systematic implementation is supported by a process that ensures that sourcing decisions are based on the total cost of ownership criteria.

In May 2020, ZF introduced an additional sustainability criterion as a mandatory requirement for the approval of new suppliers and for ongoing sourcing.

## Sustainability as a key element for supplier approval and sourcing of production material



## Business Partner Principles

The sustainability criterion covers the topics of climate footprint, human rights and compliance, as well as environment, health and safety (EHS). Regarding the environmental management of its suppliers, ZF also carefully reviews energy consumption, water usage, air emissions, waste management and the handling of restricted substances and chemicals. A corresponding questionnaire was developed based on the Self-Assessment Questionnaire on CSR and Sustainability developed by the Drive Sustainability initiative (formerly the European Automotive Working Group on Supply Chain Sustainability).

The reviewed questionnaire is a mandatory element of the new supplier approval process. It is also a mandatory deliverable for new sourcing from existing suppliers. If a supplier does not provide a completed questionnaire, if the score achieved lies below 25 percent or if the signed acceptance sheet of the ZF Business Partner Principles is not submitted, the sourcing case will not be processed. Since its introduction, all production material suppliers with an upcoming approval or sourcing case must fulfill this requirement. The rollout for non-production material suppliers will follow in 2021.

Furthermore, product-related environmental protection elements are addressed in the Supplier Quality Directive (QD83) and the annual Conflict Minerals Report. These two documents are also directed at sub-suppliers and include aspects such as REACH, logistics and packaging specifications.

To ensure responsible procurement practices, ZF has appointed a cross-functional Sourcing Decision Board (SDB) with representatives from Commodity Purchasing, Program Purchasing, Logistics, Quality, Supplier Management, Engineering, Program Man-

agement and Operations. The board is the highest decision-making body for sourcing at ZF and ensures that environmental, quality, technical, logistical and pricing requirements are equally fulfilled in the selection of a supplier. Target conflicts are also managed within the SDB. The SDB possesses a unanimous decision-making power with regard to sourcing cases.

ZF is determined to strengthen its sustainability-related activities within its supplier base. Consequently, a team for supply chain sustainability is in place within ZF Materials Management. This team, which is also part of the Group program on climate neutrality, will develop a clear decarbonization roadmap over the course of 2021 in line with the Group's 2040 target. To achieve this target, general expectations regarding carbon reduction were communicated at the digital Global Supplier Summit in November 2020. Individual letters of information were also sent to each supplier by the end of 2020. See the ZF climate neutrality strategy chapter for further details about ZF's supplier decarbonization expectations.

#### Business partner principles


All new and existing suppliers are required to endorse the ZF Business Partner Principles (BPP). The BPP represent values that ZF recognizes, supports and communicates: Respecting national and international laws and regulations at the locations worldwide is considered the minimum. The BPP also conform to principles and conventions, such as the principles of the UN Global Compact, the OECD Guidelines for Multinational Enterprises, the Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights and relevant conventions of the International Labour Organization (ILO).

## The new sustainability criterion is a mandatory requirement for the approval of new suppliers and for ongoing sourcing of production material.

The BPP are guidelines specifying fundamental requirements for collaboration with ZF's business partners. They address topics such as human rights, labor standards, occupational safety and health protection, environmental protection, business ethics and compliance. Business partners are specifically expected to reject any form of slavery, forced labor or child labor. They are also expected to respect freedom of association and the right to form interest groups, to provide fair and appropriate remuneration and working times in accordance with applicable law, and to promote the qualification of their employees. A reviewed version of the ZF BPP was released in 2020.

In Germany, external service providers must sign an additional declaration of compliance to collective agreements guaranteeing fair wages, normal working hours and the rejection of unregistered labor and tax evasion. This declaration also applies to subcontractors engaged by ZF and includes the provision that ZF may check compliance at any time.

A standardized process for the request and confirmation of ZF's BPP includes a tool to track the information about the current BPP status of each supplier. Acceptance of BPP is taken into consideration in supplier award decisions and in the approval process for new suppliers. ZF reserves the right to scrutinize business relationships and take appropriate action if deviations or violations are identified.

 [ZF Supplier Quality Directive](#)

 [ZF Business Partner Principles](#)

### Risk assessment and management

ZF successfully conducted a pilot project assessing sustainability risks within a target group of about 800 suppliers. The assessment included Environmental Protection (ISO 14001/EMAS), Human Rights & Labor (SA 8000 (SIA)), Anti-bribery & Anti-corruption (ISO 37001), Health & Safety (OHSAS 18001/ISO 45001) as well as Supply Chain Responsibility (Directive 2014/95/EU). The overall goal was to increase transparency within the supply chain and better mitigate risks. As a result of the pilot project, a total of 39 suppliers were classified as critical. They were approached individually to define appropriate mitigation activities in 2021.

The results and learnings from this pilot project were integrated in the development of the sustainability criterion. A second pilot with another service provider is planned for the first half of 2021. When this is completed, the 2019 evaluation of service providers will be updated and expanded based on experiences from the second pilot. The overall goal will be to select a service provider to be rolled out to all suppliers by the end of 2021.

The format for conducting audits depends on the progress of the VDA working group ASA, in which ZF actively participates. Depending on when this platform becomes available, ZF will either decide to work with ASA or conduct audits with an external service provider.

For 2021, the annual process of human rights risk analysis will be extended to all relevant production material suppliers and to all relevant non-production material suppliers.

Furthermore, a social media monitoring system is now in place to screen media on a daily basis for negative CSR issues in ZF's supply chain. Overall,

102,833,046 relevant social media messages were considered for the supply base, 97 percent of which were classified as uncritical. For the 23 suppliers with critical incidents, a follow-up was initiated on an individual basis.

### Improvements in supply chain sustainability

To manage all sustainability-related supplier documents and information, ZF uses an online supplier portal. In 2020, a managed service was established to ensure that all suppliers were properly onboarded to the portal. Suppliers are expected to fulfill their responsibility to maintain a profile with up-to-date information. If a supplier does not follow this responsibility, the managed service actively contacts the supplier to ensure that outdated information and expired certificates are updated.

ZF then consolidates all internal data on a plant level via a supplier scorecard consisting of the dimensions General, Performance, Purchasing and Risk. A full integration of the newly developed sustainability criterion into this process is planned for 2021.

In 2020, all new ZF suppliers of production material and all Sourcing Decision Board (SDB) supplier awardings (in 2020: 256 sourcing decisions) underwent self-assessment in accordance with the Sustainability Criterion. No indications of infringement of ZF principles regarding environmental protection, human rights, labor practices, forced labor, child labor or freedom of association were identified.

In addition to regular business communication, ZF has set up an electronic reporting system available in German, Chinese, Brazilian Portuguese, Spanish, Polish and English. Known as the ZF Trustline, it is open to all employees and business partners and can be used to anonymously report suspected misconduct with regard to guidelines, regulations or laws.

However, to prevent potential future infringements in the supply base, the above-mentioned risk assessment identified ten suppliers with insufficient performance in the area of Environmental Protection (ISO 14001/EMAS) and two suppliers with deficiencies in the area of Health & Safety (OHSAS 18001/ISO 45001). These have since been approached by the supply chain sustainability team for further clarification.



### Capacity building – ZF Supplier Academy

ZF set up the Supplier Academy to create a strategic collaboration and qualification platform to promote and support cooperation with the company's production material suppliers. ZF suppliers are given the opportunity to take part in seminars held in their regions. Participation provides suppliers with in-depth training on ZF requirements, standards (environmental, human rights, EHS), guidelines and procedures. These can then be applied effectively by the respective companies.

For 2021, a specific sustainability training module is being planned that consolidates all pre-existing aspects of sustainability from other modules and adds additional aspects such as decarbonization.



**Conflict minerals**

To meet the requirement according to the provisions of the Dodd Frank Act, Sec. 1502, and to ensure a conflict-free supply chain, ZF requested all relevant production material suppliers to disclose the origins of their resources. The selection of relevant suppliers is based on a due diligence process aligned with ZF’s Corporate Sustainability team and follows the OECD 5-step approach. Based on relevant commodities, regions and impact based on purchasing volume, some 800 suppliers participate in the annual conflict minerals reporting.

Gold, coltan, cassiterite, wolframite and its derivatives such as tantalum, tin or tungsten from the Democratic Republic of the Congo (DRC) and adjacent countries are used in company products and are considered conflict minerals as they are traded to finance conflicts.

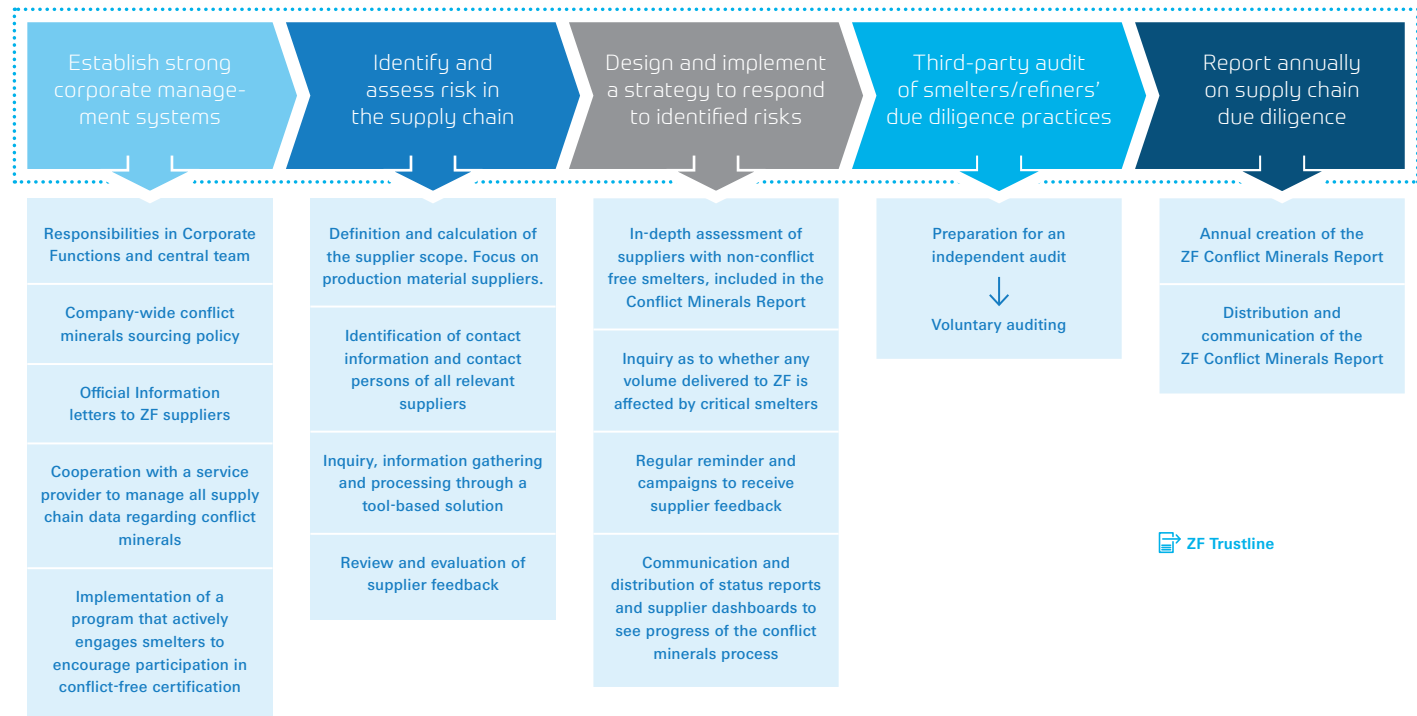
ZF uses a web-based solution for the reporting and identification of conflict minerals throughout the supply chain. All relevant suppliers receive written communication explaining the topic of conflict minerals and the fact that ZF is committed to eliminating critical smelters from its supply chain. Furthermore, since 2020, to facilitate the provision of feedback on other critical issues in the supply chain, e.g., child labor, human rights violations or environmental protection, information has been provided about the ZF Trustline.

As part of the tool-assisted supplier inquiry program, an overall feedback rate of more than 73 percent was recorded in 2020 (2019: 50 percent). ZF intends to increase the feedback rate from suppliers in 2021. The inquiries showed no indication that ZF products had been directly affected by sourced products that finance conflicts in DRC regions.

For all suppliers who indicate potential high-risk smelters in their supply chains, ZF conducts a follow-up and requests that these suppliers eliminate critical smelters from their supply chains. As these minerals are necessary for technical functions in some of the company’s products, ZF is fully committed to avoiding sourcing from potentially critical smelters.

In 2021, the conflict minerals reporting template is expected to be implemented, thereby affecting the sourcing decision process to ensure that any supplier that is not committed to eliminating conflict materials from its supply chain will no longer be awarded any new business.

**ZF approach in line with the OECD Due Diligence Guidance for Minerals**



 ZF Trustline

# SUSTAINABLE PRODUCT PORTFOLIO

The corporate “Next Generation Mobility” strategy is designed to position ZF and its systems expertise in the passenger car, commercial vehicle and industrial applications sectors.

The company’s strategic focus is on digital networking and automation. Accordingly, the product portfolio is developed around four technological fields, systematically combining them through integrated solutions:

- **Vehicle Motion Control.** Supplying networking solutions for intelligent chassis control: These solutions combine steering, braking, damping and electric drive and ensure safe, efficient and comfortable mobility via a central controller.
- **Integrated Safety.** Providing products and solutions for mobile safety: The spectrum ranges from sensors, brakes, steering systems, seat belts, airbags and electronics to active chassis.
- **Automated Driving.** Providing products and solutions on the road to automated driving: cameras, radar, lasers, 360-degree communication and overview systems, intelligent drive, steering and brake control systems as well as human-machine interfaces.
- **Electromobility.** Offering purely electric and hybrid solutions for all vehicle segments: In addition to drives, this includes power electronics, inverters and appropriate software solutions.

ZF’s strategic approach is to ensure it can meet both historical and future challenges by continuing to develop existing technology while also entering completely new markets and fields, thus serving both existing and new customers. The goal is technology leadership within the industry, and the roadmap consists of four technology clusters that have been defined as follows:

- **Vehicle System & Functions:** In the future, vehicles will increasingly be controlled by system functions. This cluster is developing the necessary architectures and software methods as well as the structure of these complex system functions.
- **Data Handling & Analytics:** This cluster focuses on vehicle connectivity and communication with the infrastructure, from embedded components to the IoT platform necessary for data analysis, and algorithms including artificial intelligence.
- **Efficient Energy Conversion:** ZF is researching and developing the efficient storage (batteries, hydrogen/fuel cell) and conversion (frequency changers, electric motors, DC/DC converters) of electrical energy as well as systemic algorithms for optimized vehicle control.
- **Advanced Base Technology:** This cluster deals with basic technologies that enable complex vehicle functions, including state-of-the-art high-resolution sensors, artificial intelligence, powerful central electronic controls and cutting-edge materials for efficient power electronics.

Within these four clusters are 18 key technologies that ZF is pursuing in global research and development.



## ZF’s See – Think – Act approach

**See:** Technologies 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. In addition, functions such as the automated front collision avoidance assistance allow the vehicle to sense its environment. The system can thereby determine if an automatic lane change is necessary. This can help to prevent accidents if the driver fails to react in time.

**Think:** The central control unit processes information and is capable of activating safety functions such as automatic emergency braking or airbag deployment. cubiX, a control system for actuators and components, networks these units through software and optimizes driving behavior. cubiX serves as a link between Think and Act.

**Act:** Actuators turn electric commands from control units into mechanical movements, such as braking maneuvers. Recuperation makes it possible to convert part of the kinetic energy back into electrical energy. This energy can then be used to charge the battery of a hybrid or electric vehicle. Moreover, smart seatbelts such as the active control retractor (ACR) provide driver alerts through belt vibration if the car departs from its lane.

**Rethinking safety**

In providing products and services for people, ZF works towards improving customer health and safety in many ways. From the start, ZF gives careful consideration to choosing the right materials and suitable design, usability and functional safety. In doing so, the company lives out its commitment to delivering top quality and reliability in all its products.

ZF's Global Development and Product Evolution Process (GD PEP) is aimed at establishing quality and safety management procedures for all products and services. Group directives ensure that processes are adhered to for adapting specifications to specific products. Appropriate testing is done at various

stages of a project. Service concepts are also designed and implemented by trained customer service personnel as part of the development process.

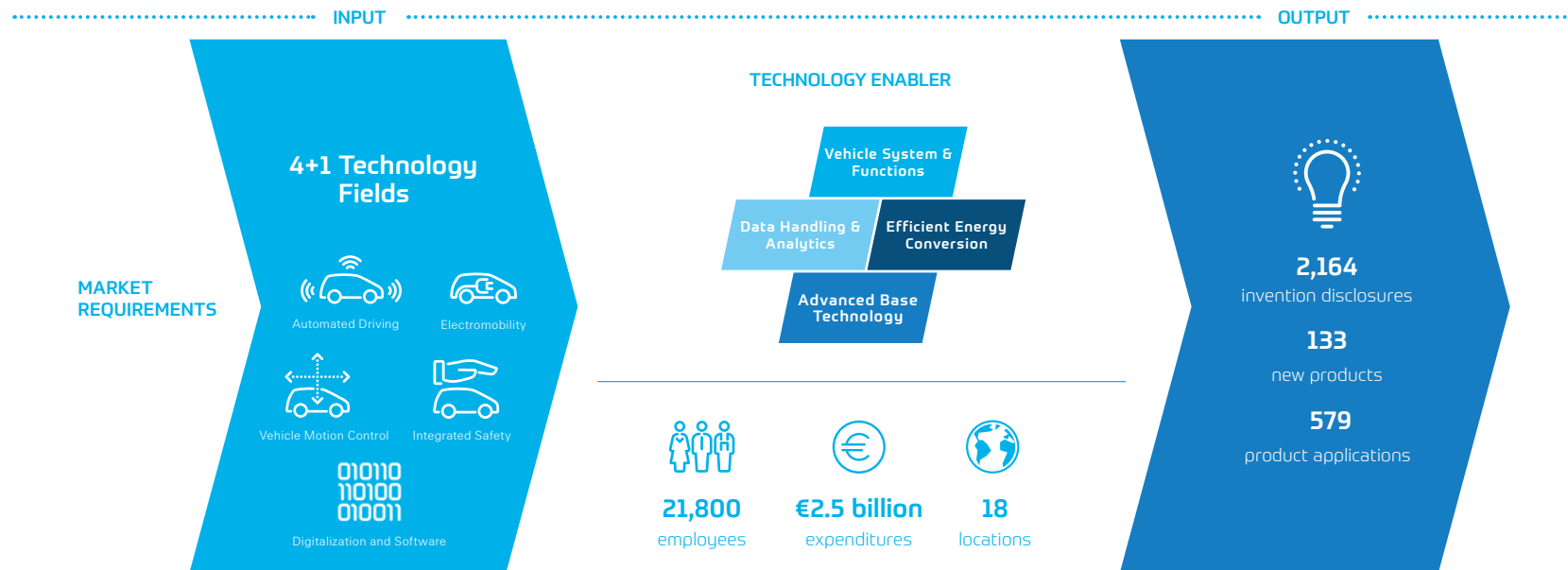
To ensure top product quality and reliability, ZF applies recent technological developments from the field of non-destructive testing (NDT). Furthermore, ZF is actively involved in research projects to industrialize new non-destructive testing methods as well as in creating standards for their application.

Non-destructive testing methods such as computed tomography scans (CT), ultrasonic testing (UT) or thermographic testing (TT) are used both in the development of new products and for quality control in

serial production. By replacing any destructive testing for quality control purposes with non-destructive methods, ZF reduces its material expenditure and thereby actively contributes to making its production more environmentally friendly. Furthermore, by comparing NDT results with simulation tools, materials, time and energy-consuming testing are minimized and virtual testing for validation improved.

ZF's commitment to top product quality continues in manufacturing, and the Group has also put processes in place to monitor products in the field and work with customers should any potential issues arise.

**Technology strategy**



**Quality excellence strategy**

With the advancement of complex programmable electronics, functional safety has become increasingly important in product safety, as overall safety depends on the correct functioning of safety-related systems and other risk reduction measures. ZF continues to be dedicated to promoting functional safety as part of its Vision Zero: Zero Accidents – Zero Emissions.

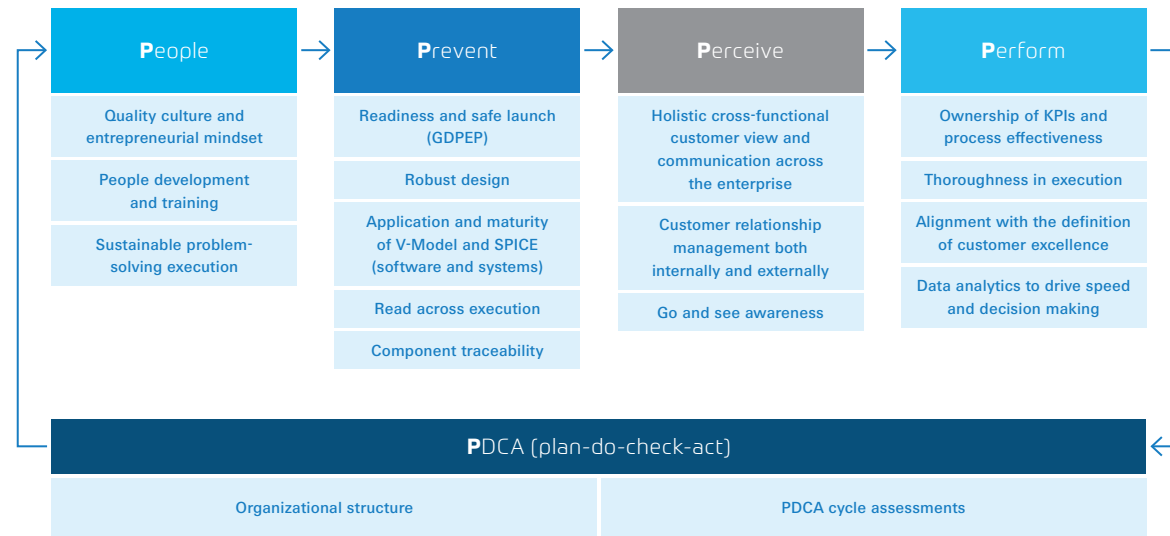
In 2019, the Quality Excellence Strategy DNA of Quality was developed. Its purpose is to drive a preventive quality mindset at all levels, functions and related processes. At the core of this DNA are five driving principles which support ZF’s zero defect philosophy: people, prevention, perception, performance and PDCA (“plan-do-check-act”). Based on these principles, master plans have been created with all divisions. In the plans, individual excellence targets and related initiatives have been defined along with a DNA of Quality assessment to provide a status of excellence.

The DNA of Quality strategy is derived from the Group strategy and complements the ZF quality management system, which is based on the IATF 16949 framework (automotive quality management).

The strategy’s goal is to develop all business and production processes to a high level of maturity and to continuously improve them. This way, a high level of operational fitness can be reached – a major target of ZF’s “Next Generation Mobility” strategy.

ZF considers full compliance with the law the foundation of its work. The company therefore constantly strives to maintain the highest level of product quality despite increasing product complexity. This is supported by a certified ZF quality management system,

**ZF DNA OF QUALITY – Guiding principles**



consistent quality controls and regularly optimized processes. In addition, a Product Safety and Regulatory Office was established in 2019. It analyzes, evaluates and tracks all relevant quality incidents and associated risks, and reports its findings directly to the member of the Board of Management responsible for quality.

The ZF DG 06-16 guideline describes the application of safety standards (e.g., IEC 61508, ISO 26262) during product development and supports the development of safe products. The directive is consistent with safety as defined in the intended functionality (SOTIF) principles. It is also applies to acquisitions and majority shareholdings.

The Functional Safety Directive establishes functional safety processes at ZF. Its goal is to

- Specify functional safety as an objective,
- Create awareness of the potential safety effects of errors, and
- Establish responsibility for actions, consistent analysis and mitigation of problems on a sound technical basis.

Each division is responsible for training employees on this directive and developing an organization with clearly defined areas of authority, responsibilities and functional safety processes.

### Safer mobility

In addition to quality and functional safety aspects, ZF products enable safety in mobility to be improved. By adhering to the “See – Think – Act” principle and its Vision Zero, the company intends to make a strong contribution to future mobility – reducing emissions and accidents to zero.

Through active safety, vehicle crashes can be prevented or their impacts mitigated. Lane departure warning (LDW) and lane keeping assistance (LKA) help monitor, alert and steer vehicles to ensure they remain appropriately laterally situated on roads. Intelligent Speed Assistance (ISA) and Autonomous Emergency Steering (AES) help vehicles anticipate and avoid collisions with other vehicles through steering or braking maneuvers.

Passive safety technologies play a crucial role in mitigating the severity of a crash should it occur. ZF offers innovative passive safety technologies, such as a pre-tensioning system for seat belts and airbags that deploy from vehicle roofs, armrests and other locations, to enhance safety while accommodating novel seating arrangements and other design changes.

ZF's approach to integrated vehicle safety combines active and passive safety technologies with joint benefits exceeding what each aspect could achieve separately. Improving integrated vehicle safety goes hand in hand with the development of autonomous and automated driving. Advances in safety technology, such as increasingly powerful electronic control units, sensor technology for monitoring the vehicle environment and the vehicle interior, form the basis for more and more partially and fully automated driving functions.

Yet, integrated safety also increases comfort, convenience and driver support through easy-to-use assistance systems and functions such as health monitoring for vehicle occupants. These technologies can help to protect vehicle occupants in critical driving situations. Going forward, the ZF Group is committed to eliminating injuries and fatalities on the road. The company constantly invests in research and development to improve safety, and works with standardization bodies, legislators and regulatory authorities around the world.

### Cleaner mobility

The Group's environmental considerations are massively linked to the context of climate change. Therefore, the “Next Generation Mobility” strategy follows a global focus, aimed at reducing mobility-related carbon emissions, significantly in the short term and achieving “Zero Emissions” in the long term.

The decarbonization of the use phase of ZF components and systems is largely outside the Group's sphere of influence. These emissions are strongly determined by customer preferences for certain products, driving behavior and the purchased energy mix. ZF's focus therefore lies on energy efficiency, the weight of ZF products and the increasing use of vehicles that have an electric motor as well as an internal combustion engine for the purpose of greater range, such as plug-in hybrid vehicles (PHEV) and electric vehicles with so-called range extenders (REEV).

ZF's partnership with the Baden-Württemberg Ministry of Transport for example makes the “Real Lab for Automated Bus Operation in Public Transport in Urban and Rural Areas – RABus” project possible. Electric and automated buses will be tested in Mannheim and Friedrichshafen as part of the regular public transport system until 2023.



### WABCO – towards a greener future

With the integration of WABCO in June 2020, ZF was able to expand its global network and product portfolio. The Group is now the world's largest supplier to commercial vehicle manufacturers. Since innovation is the industry's most important response in terms of achieving environmental sustainability, ZF's Commercial Vehicle Control Systems (CVCS) division is developing technologies for the rapidly expanding electric vehicles market.

Alongside developing systems specifically for electric vehicles, CVCS continues to engineer innovative solutions. For instance, a tractor-trailer equipped with applicable technologies from ZF's portfolio can increase its fuel economy by up to 20 percent while reducing emissions. These technologies include OptiFlow™ aerodynamics for trailers and OptiDrive™ automated manual transmission. The OptiRide™ electronically controlled air suspension improves operational efficiency, vehicle handling and comfort through suspension quality and remote-controlled chassis height adjustments, reducing fuel consumption by up to 3 percent. The combination of ZF's breakthrough c-comp™ clutch compressor and innovative FuelGuard™ electronic air-processing unit deliver fuel savings of up to 2 percent by disengaging the compressor from the engine during off-load phases.

The integration of WABCO increases the potential for automated vehicle operations through advanced vehicle motion control based on WABCO's ADOPT™ (Autonomous Driving Open Technology) software platform – which increases safety, efficiency and operational productivity.

The second generation of ZF's AKC (Active Kinematics Control) is another technological innovation that improves the quality of electric vehicles. Its central actuators have an increased force of about 40 percent, making them suitable for vehicles weighing up to 3.5 tons. An improved adjustment stroke now allows the rear wheels to turn by up to ten degrees (previously 4.5 degrees). In this way, the new systems primarily support battery-powered vehicles (BEV). Due to their lithium-ion batteries, these vehicles are not only heavier, but often have a longer wheelbase as well, and their energy storage units are usually placed between the axles. Without rear-axle steering, these vehicles would be more difficult to maneuver, especially in urban environments.

Further improvements concern weight reduction and increased efficiency in all product lines including electrified products – such as the powerline automatic transmission (AT) or the use of the CeTrax 1-speed transmission in central drive. These technologies enable better quality through automation and higher power density. The lightweight design of suspension systems without the use of composite materials will result in weight savings of up to 120 kg.

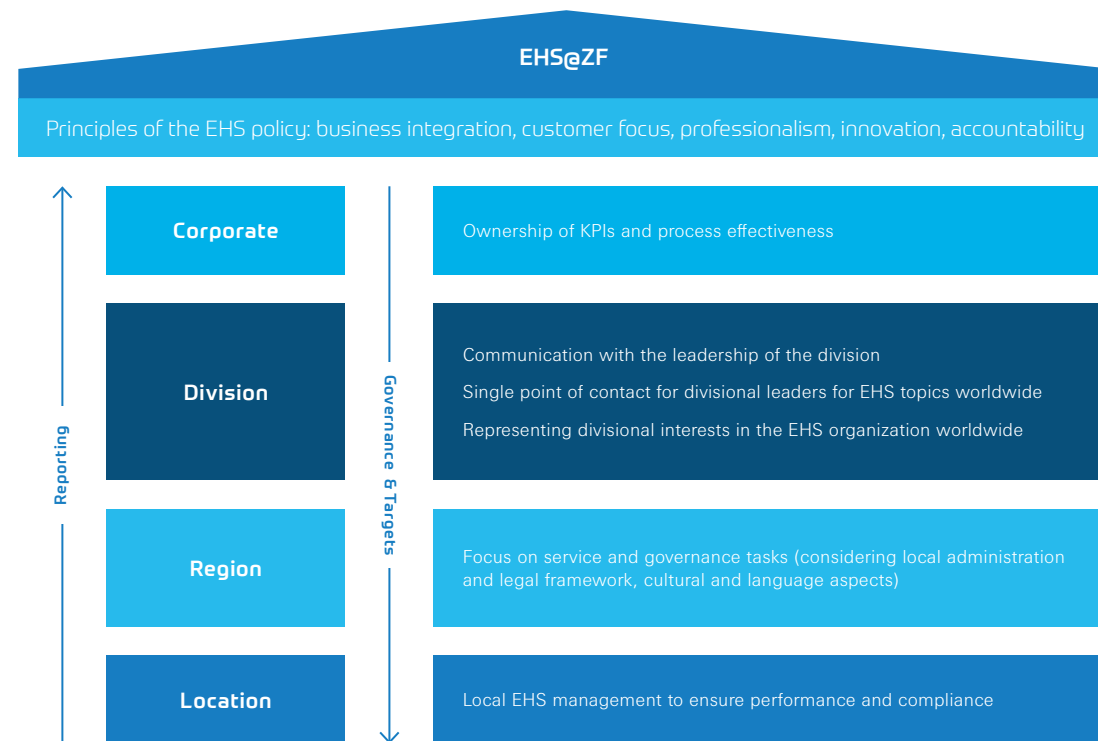
# ENVIRONMENT

Conserving natural resources and reducing the environmental footprint of the company is the fundamental principle of ZF's environmental strategy. A corresponding policy therefore includes essential areas of activity such as climate protection, the environmental impact of production, eco-friendly product design and environmental performance improvement. This is binding for all locations.

The ZF sustainability program provides an overview of its environmental protection targets and actions, all of which are included in this report.

The global ZF environmental organization covers all areas of the company, from the various divisions to each region and individual location. The corporate environmental protection officer is responsible at the Group level, with senior environmental protection officers appointed at the divisional level. At the plant level, environmental, health and safety (EHS) officers work daily to secure environmental protection. Regional managers provide support for ensuring compliance in their respective regions, the implementation of ZF standards, as well as the monitoring of the environmental management system.

## Environment, health and safety organization



Systematic environmental management according to ISO 14001:2015 is the standard for all production and main development locations. In the ZF Group, a total of 216 certificates had been issued by the end of 2020. These external expert audits confirm that the participating locations conform to current environmental and occupational health and safety legislation as well as certification standards.

The Board of Management assesses locations' target achievement in management reviews twice per year. The Board also assesses whether the environmental management system is qualified to fulfill current customer and management requirements from a legal standpoint.

#### **“Prevention before reaction” and precautionary principle**

All locations follow the “prevention before reaction” and precautionary principles. A core element of ZF's environment, health and safety (EHS) management system is therefore the evaluation and minimization of potential risks. All locations conduct assessments of environmental aspects and risk for their respective facilities and processes in a local context and on a regular basis – for example prior to introducing procedures or substances. To minimize liability and financial risks, environmental due diligence is also conducted as part of acquisition processes, along with internal and external audits.

In preparation for emergencies, every location has an emergency organization plan in place. Emergency response teams are provided with all the necessary 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) are company standard, as are behavior-based measures for increasing awareness to prevent environmental damage.

#### **Environmental compliance**

The ZF Group operates responsibly as a business and manufacturer of products by constantly striving to comply with legal requirements and internal standards on a global scale. In the context of environmental management, compliance is a core issue. Due to various local requirements, legal developments are pursued and evaluated and – where necessary – measures are implemented at all locations and levels of the ZF Group. Compliance-relevant processes as well as incidents and violations must be reported.

In 2020, the company was involved in 53 remediation projects whose causes date back at least a decade. The processing of these projects was carried out jointly with the relevant local authorities and cost more than 5.6 million euros. No major violations were reported in 2020.

Systematic environmental management according to ISO 14001:2015 is the standard for all production and main development locations.



# ZF CLIMATE NEUTRALITY STRATEGY

Climate protection has become one of the most urgent issues of our time. ZF set a target to become climate neutral by 2040 at the latest – ten years ahead of the EU requirement. The Greenhouse Gas Protocol (GHG) sets an international standard to categorize direct and indirect sources of emissions. Climate neutral means that all processes, products and services will not increase the CO<sub>2</sub>e load in the atmosphere. ZF addresses all three scopes of the GHG: Scopes 1 and 2 can be directly influenced by ZF, as Scope 1 includes direct emissions resulting from the combustion of fossil fuel in ZF's own production and Scope 2 involves emissions from purchased energy, e.g., electricity. Scope 3 accounts for indirect emissions generated by purchased goods (Scope 3 "upstream") and emissions generated by ZF products in the utilization phase (Scope 3 "downstream"), and can therefore not be directly influenced by the Group.

The target path towards climate neutrality is set in accordance with the UN Sustainable Development Goals (SDGs), the Science Based Targets Initiative (SBTi), the CDP (formerly the Carbon Disclosure Program) and the Taskforce on Climate-Related Financial Disclosures (TCFD). In addition to managing CO<sub>2</sub> emissions, ZF will also tackle emissions such as methane and various hydrocarbons which occur in smaller quantities than CO<sub>2</sub> but which are much more harmful in the atmosphere. Therefore, all relevant greenhouse gases are included and reported as CO<sub>2</sub>e.

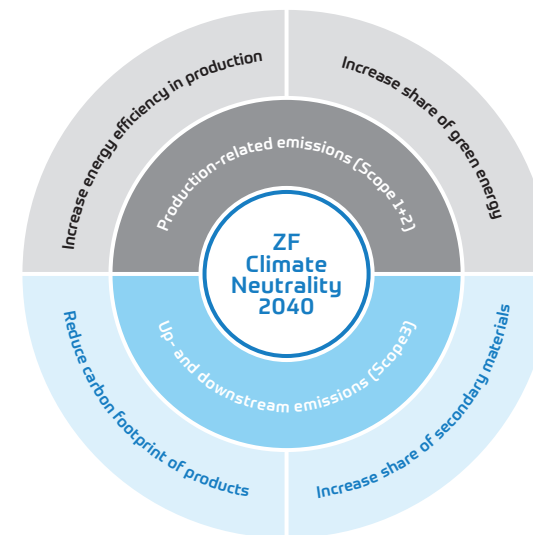
ZF has been reporting climate data within the CDP reporting scheme on an annual basis since 2016. The data includes all GHGs listed by type (CO<sub>2</sub>, methane, etc.) and by country in which ZF is in operation. In 2020, the Group achieved a "Management B-" rating. Since the CDP is widely aligned with the TCFD recommendations, information regarding climate change-related risks and opportunities, governance and management were reported. As part of its climate strategy, ZF Group is currently refining its management approach and corresponding reporting. A so called TCFD Index will be published on the corporate website in fall 2021, after submitting this year's updated CDP questionnaire.

## Production-related emissions (Scopes 1 and 2)

To achieve decarbonization in on-site operations, ZF focuses on two main levers: energy efficiency and the transformation towards green energy. The Group includes all production, administrative and research facilities in its efficiency programs. In early 2021, the new target was set: by 2030 Scope 1 and Scope 2 emissions to have reduced by 80 percent, as compared to 2018.

With contributions from the energy efficiency projects, this target will be achieved by reducing energy consumption by 2 percent every year relative to value added (with 2019 as the base year). It will also be achieved through an increased share of renewable power 100 percent by 2030. High demands are

## Climate strategy and implementation (Scopes 1, 2 and 3)



placed on all projects in terms of quality and credibility. ZF focuses on technical green energy solutions which ensure actual additionality, for example by increasing renewable energy production. Particular attention is paid to the generation of electricity by wind turbines using ZF technologies.

### CO<sub>2</sub>e emissions in figures

The intensity of GHG emissions results directly from the energy intensity and footprint of each country in which energy is purchased and used (location-based). In addition, the production footprint is strongly influenced by customer needs, national production and purchasing requirements (market-based). The intensity of GHG emissions developed in a highly unusual way as the reduction in energy consumption did not fully correspond with the significant decrease in sales throughout the pandemic year 2020.

Absolute direct carbon emissions (Scope 1) fell slightly from 262,000 tons in 2019 to 255,000 tons in 2020. Absolute indirect carbon emissions (Scope 2) fell from 1,585,000 tons in 2019 to 1,390,000 tons in 2020. The difference between market- and location-based emissions mainly results from contractually creditable emission qualities.

Due to the general decrease in business, energy efficiency projects were reduced and the focus was instead placed on measures with low investment and quick returns. ZF proceeded with projects like the Schweinfurt (Germany) site, where the second largest carport photovoltaic system in Germany is being built. Once completed, the plant will supply the location with an output of 2.5 megawatts.

That is as much electricity as more than 700 average households consume in one year. In addition, 80 electric car-charging stations are to be installed. ZF is investing over 3.6 million euros in this project. The solar power generated is expected to save 1,250 tons of CO<sub>2</sub>e annually.

As part of ZF's green energy strategy, four photovoltaic power plants were installed at ZF locations in Rayong (Thailand), Pune (India), Johannesburg (South Africa) and Czestochowa-Legionow (Poland). Further projects in other locations are in the investigation and prioritization phase. In 2020, self-generated renewable electricity from photovoltaic systems contributed about 880 MWh.

### Ozone-depleting substances (ODS)

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

Volatile organic compounds (VOC) are the most relevant ODS in operation processes and are mainly used in surface treatment processes.

### Absolute emissions 2018 to 2020

in thousands of tons	2020		2019	2018
	Scope 1	257	255	262
Scope 2	-	-	1,323	1,361
Location-based	1,351	1,340	-	-
Market-based	1,138	1,135	-	-
<b>Total<sup>1</sup></b>	<b>1,395</b>	<b>1,390</b>	<b>1,585</b>	<b>1,627</b>
	CO <sub>2</sub> e	CO <sub>2</sub>	CO <sub>2</sub>	CO <sub>2</sub>

1 The total amount was calculated using market-based emissions.

### CO<sub>2</sub> intensity: specific CO<sub>2</sub> emissions 2018 to 2020

in tons per million € in sales	2020		2019	2018
	Scope 1	6.19	6.17	5.5
Scope 2	-	-	27.7	27.0
Location-based	32.6	32.4	-	-
Market-based	27.5	27.4	-	-
<b>Total<sup>1</sup></b>	<b>33.7</b>	<b>33.6</b>	<b>33.2</b>	<b>32.3</b>
	CO <sub>2</sub> e	CO <sub>2</sub>	CO <sub>2</sub>	CO <sub>2</sub>

1 The total amount was calculated using market-based emissions.

### Nitrogen oxides (NOx), sulphur oxides (SOx) and other significant air emissions

A major portion of ZF's VOC emissions originate from painting and degreasing facilities. Wherever possible, the Group continues its transition to water-based paints and aqueous degreasing procedures to reduce VOC emissions from these processes. Whenever 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.

Another approach to improving environmental performance is to change air filters from active carbon absorption to thermal oxidation. This enables solvents to be oxidized effectively and solid particles to be extracted. Other potential ways of reducing VOC in paint processes are being evaluated in certain products from the off-highway segment, keeping in mind the specific resistance to high corrosion and mechanical stress requirements.

### Absolute NOx and SOx emissions<sup>1</sup> 2018 to 2020

in tons	2020	2019	2018
SOx	3,224	3,875	2,984
NOx	2,148	2,384	2,224

<sup>1</sup> Emissions data includes Scope 1 and Scope 2; SOx and NOx were calculated using VDA emission factors.

### Absolute VOC emissions 2018 to 2020

in tons	2020	2019 <sup>1</sup>	2018
VOC	771	836.7	1,123

<sup>1</sup> The 2019 figure was adjusted due to improved data quality regarding VOC balancing.

### Upstream and downstream emissions (Scope 3)

Since Scope 3 emissions are not within ZF's direct sphere of influence, the attainment of climate neutrality by 2040 along the entire value chain is one of the most ambitious targets in the automotive industry. The contribution of ZF's supply chain partners is key: Regarding upstream emissions for example, aluminum and steel account for a majority proportion of procurement volumes. An effective reduction of emissions can only be achieved through major technological innovations in the production of these raw materials, e.g., the production of steel in electric arc furnaces driven by renewable energy, the introduction of nitrogen technology in blast furnaces or the use of green energy for smelting aluminum. Concerning Scope 3 downstream emissions, ZF's electric powertrain solutions contribute to lower vehicle emissions. However, carbon emissions during the use phase of an electric vehicle depend mainly on the energy mix available in the respective country.

To prioritize material upstream and downstream emissions for the Group's Climate Neutrality Strategy, an initial corporate carbon footprint screening was performed in alignment with the GHG Protocol. Two kinds of material emissions were identified:

Material for ZF as main source of Scope 3 emissions	Material for ZF due to stakeholder expectations
↑ <b>Category 1:</b> Purchased goods and services	↑ <b>Category 2:</b> Capital goods
↓ <b>Category 11:</b> Use of sold products	↑ <b>Category 4:</b> Upstream transport
	↓ <b>Category 6:</b> Business travel
	↓ <b>Category 7:</b> Employee commuting
	↓ <b>Category 9:</b> Downstream transport

↑ Upstream ↓ Downstream

As a result of the screening, ZF is aiming at an improvement of the product carbon footprint for lead product groups representing over 80 percent of sales covering all divisions and focusing on major improvements for new product generations. A significant lever is the use of secondary material in products. The Group intends to increase the share of secondary material. A specific target is currently under review.

### Transport management

Regarding procurement-related emissions, ZF's strategy, whenever feasible, is to make their purchases in those regions where the supplied materials or components are needed. It therefore follows the "local for local" principle, which helps to prevent the negative impacts of transportation. Therefore, ZF has decided to assume responsibility for all transport carried out from suppliers to ZF plants as this is the best way to ensure that transportation is organized efficiently and that environmental factors are systematically taken into account.

As part of its freight management, the Group is making a concerted effort to pool transport capacities and increase its full truck load (FTL) quota to prevent unnecessary transport runs. Additionally, all FTL and inbound factory transportation requires certain technologies: EURO 6 and gas (LNG/CNG) – and in the future, hybrid vehicles and e-vehicles – with the aim of increasing ZF's gas transport share. Should gas rates be cheaper or nearly identical, ZF will always focus on gas technology to reduce its carbon footprint.

In one of its recent projects, the Group worked together with long-standing customer Iveco for greater climate protection and lower emissions. Transport powered by liquid or compressed natural gas significantly reduces CO<sub>2</sub>, NO<sub>x</sub> (nitrogen oxide) and exhaust particle emissions – as well as noise. By 2025, ZF plans on using some 200 gas-powered trucks to serve local and long-distance logistics among its plants.

### Supply chain decarbonization activities

In alignment with ZF's 2040 climate neutrality strategy, the focus of 2020 was to establish a systematic framework for a decarbonization stepdown in the supply chain: The ZF sustainability criterion, which was introduced in May 2020 as a mandatory element of the sourcing process (see the Procurement practices chapter) contains an assessment of the suppliers' current emission profile as well as their prerequisites for a systematic decarbonization plan. The assessment forms the basis of further activities. Apart from that, ZF materials management has focused on three major activities in the reporting year 2020.

First, ZF began calculating the product carbon footprint for defined reference products representing main technologies in each division. The purpose of these calculations is to identify main levers decarbonization for these product categories as well as to prepare further discussions with suppliers to arrive at concrete step-down measures.

Second, ZF has initiated so-called decarbonization dialogues with important suppliers of both production and non-production materials concerning CO<sub>2</sub>e. The purpose of these dialogues is to provide an opportunity for suppliers to present their decarbonization efforts to senior management at ZF and bring in their technology-specific know-how on feasible CO<sub>2</sub>e reduction measures. From the dialogues, concrete initiatives are derived and are then followed up on by a dedicated team staffed by ZF and supplier experts.



Over **5,000**  
suppliers were invited to the virtual global  
supplier summit in November.



The dialogues also serve as a platform for exchange about methods and tools of decarbonization and fostering standardization.

Third, in November 2020, a virtual global supplier summit was organized by ZF with more than 5,000 suppliers. ZF's decarbonization expectations towards the supply base regarding its carbon footprint, green energy, recycled material and energy efficiency were communicated as one of the main agenda points. Based on these general decarbonization expectations, ZF will approach suppliers on an individual level starting in the second quarter of 2021 in order to align specific decarbonization targets and a quantified step-down plan.

Performance to target will be continuously monitored and resulting KPIs will be incorporated into the existing materials management processes, especially the supplier approval and sourcing process, in order to ensure that the planned step-down roadmap of suppliers supports the overall climate neutrality 2040 goal of ZF.

In parallel, the Supply Chain Sustainability Team is working on a series of web-based training courses to inform employees about decarbonization, human rights and EHS. The first training unit is expected to launch in the first quarter of 2021.

# ENERGY

Energy management is a top priority for an industrial company such as ZF and a core element within ZF's EHS management system. This means that all locations regularly evaluate their energy profiles and energy-related activities. This includes conducting audits, identifying potential for improvement and defining actions and measures for increasing energy efficiency and reducing consumption. In addition to ZF's EHS management, all German and European locations regularly undergo external audits to meet the ISO standard for energy management systems (ISO 50001).

As an integral part of the company's energy management system, locations define specific local targets on an annual basis to increase energy efficiency and take appropriate action. The previous Group-level target – that energy consumption will be reduced by 10 percent relative to sales by 2020 compared to 2017 – has not been met, with the COVID-19-related economic downturn being the main factor. In early 2021, the new target was set: for the production of the ZF Group to have reduced its energy consumption by two percent annually by 2025, relative to value add, as compared to 2019.

In 2020, a cross-functional energy efficiency task force was established under the leadership of the domain function Operations and with participation of real estate management and EHS. The task force manages the program and reports to the production management of the divisions and the overall Group.

Target achievement and energy efficiency projects are monitored and controlled through KPIs within the environmental and energy management system in conformity with ISO 14001 and ISO 50001.

The ISO 50001 Corporate Energy Management scheme covered 76 locations in 2020; three locations gained single-site certification according to ISO 50001. Of overall energy consumption, about 50 percent takes place at locations which are ISO 50001 certified. Further European locations have conducted external audits to fulfill the European Energy Efficiency Directive (EED) based on country-specific options such as EN 16247 or ESOS (UK).

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

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

## Energy consumption

Energy is mainly used for production processes, especially heat treatment, surface treatment and compressed air. Another significant area of energy use is associated with building and infrastructure management, such as heating, lighting, air conditioning and ventilation. Furthermore, natural gas – and at one location, methane – is used at several locations in combined heat and power plants to generate electricity and heat for ZF's own facilities. Due to the huge variety of production processes within ZF, the share of energy use varies greatly among locations.

Based on measured overall consumption, 64 percent of the energy consumed at ZF comes from purchased electricity. Energy procurement and consumption is therefore a major topic, especially at ZF production locations. Natural gas consumption accounts for 29 percent of ZF's and is mainly used for heating and hardening processes and partially for on-site combined heat and power (CHP) plants. The remaining six percent comprise energy from diesel, gasoline, oil, district heating, liquid gas, acetylene and biogas.

Renewables accounted for 6 percent of the total purchased electricity (2019: 10 percent) in 2020 – under guaranteed certified green power contracts.



This change mainly results from temporary conversion of electricity supply contracts in various regions. The Group's own production of renewable energy is currently at a low level of 0.04 percent. However, the expansion is part of the green energy strategy. About 20 percent of the electricity consumption involved CO<sub>2</sub>-reduced emission factors related to special purchasing contracts or on-site production in combined heat and power plants (CHP).

### Energy consumption 2018 to 2020

in percent	2020	2019	2018
Natural gas	29	29	29
Electricity	64	65	65
Other	7	6	6

Special programs and actions at the site level have brought about a constant improvement in energy efficiency. However, due to the business downturn and influence of the COVID-19 crisis, several energy efficiency projects in 2020 needed to be reprioritized, and the focus was put on measures with low investment and quick returns. Overall a total of 412 projects were implemented or initiated, which led to more than 39 GWh – equal to the electricity consumption of 10,000 average households and avoiding 20,400 tons of CO<sub>2</sub> emissions.

As part of the program “ZF Energy Basics,” each site is expected to establish and maintain standards to improve employee awareness and behavioral changes as well as such things as demand management or peak-load management. For each aspect, a guidance document was added to the ZF EHS Management System. In the field of compressed air, an initiative from the areas of Spare Parts Purchasing, Machine Inventory and EHS sought to standardize technology, and thereby allowed for energy-optimized compressed air management. To further reduce energy consumption for heat generation, ZF continues to recover heat from industrial and washing processes.

Compared to the previous year, absolute energy consumption decreased by 6 percent, or 239 GWh.

### Absolute energy consumption 2018 to 2020

in gigawatt hours	2020	2019	2018
Electricity	2,408	2,606	2,696
Natural gas	1,110	1,177	1,192
Other <sup>1</sup>	275	249	262
<b>Total</b>	<b>3,793</b>	<b>4,032</b>	<b>4,150</b>

<sup>1</sup> Fuels (e.g., diesel, gasoline), oil, district heating, liquid gas, acetylene

## 412 energy efficiency projects were implemented or initiated.

Compared to the year 2019, energy intensity, measured in megawatt hours per million euros of sales, increased by 8.5 percent. Compared to the previous year, KPIs decreased by 8.5 percent which was mainly caused by weaker business performance and a reduction in sales in the overall automotive industry. Energy consumption could not be reduced to the same extent as business decreased. In total, energy consumption was reduced by 239 GWh (or 6 percent), of which 39 GWh (-1 percent) were demonstrably achieved by energy efficiency projects.

### Specific energy consumption 2018 to 2020

in megawatt hours per million € in sales	2020	2019	2018
Electricity	58.1	54.6	53.4
Natural gas	26.8	24.6	23.6
Other <sup>1</sup>	6.6	5.2	5.2
<b>Total</b>	<b>91.5</b>	<b>84.4</b>	<b>82.2</b>

<sup>1</sup> Fuels (e.g., diesel, gasoline), oil, district heating, liquid gas, acetylene

# WATER MANAGEMENT

Water consumption for production at all ZF's sites is considered by the Group as a major environmental issue since the use of freshwater will become increasingly restricted in the future. Water is used for production, such as for surface treatment processes, washing, rinsing and cleaning, as a coolant, and for non-production purposes, such as non-drinking water for sanitation and construction projects as well as drinking water used in the cafeteria.

Some of ZF's production locations, such as in Brazil, Mexico, India and China, are located in "water stressed areas" with significant water stress. In these areas, permits for water withdrawal for production purposes are occasionally restricted. If water scarcity persists, this situation could worsen or spread to other regions. Resource scarcity results in a need for increased investment or expenses to cover the technical modernization of production equipment.

In 2020, all ZF sites were assessed for their water risk using the WWF Water Risk Filter. Twenty-two locations were identified as being in high or medium water scarcity areas due to their geographical position. These plants will be assessed using the WWF questionnaire in the first quarter of 2021. Operative site data will confirm the final group of relevant locations.

The ZF water management objective goes beyond reducing consumption in risk areas: The goal is to continuously reduce water use and consumption

throughout the Group. The previous Group-level target – that water consumption relative to sales will be lower than the previous year – has been met, with the COVID-19-related economic downturn being the main factor. New targets were adopted in 2021: By 2025 the Group will reduce water consumption at ZF locations in areas where water scarcity determines public life by 2 percent relative to value added on an annual basis. For all other locations, a 1 percent reduction is being targeted on an annual basis. The base year for both targets is 2019.

In order to achieve the targets, all sources of water are under consideration. Location-specific projects are focusing on water reuse as well as water conservation. Progress is monitored and managed in line with ZF's environmental management system at the level of individual locations and of the entire Group.

## Water consumption

The water supply at ZF locations is adapted to local circumstances and mainly comes from untreated sources. At some locations, water from rivers or groundwater is used for cooling processes without any chemical change. Over the past year, absolute withdrawal decreased by 12.1 percent, with the COVID-19-related economic downturn being the main factor.

Along with its various projects for reducing overall water consumption, ZF makes use of available water treatment and reuse technologies to reduce freshwater consumption.

## Water withdrawal with water stress 2018 to 2020

in million cubic meters	2020	2019	2018
All sources	0,332	0,335	0,315

## Absolute water withdrawal 2018 to 2020

in million cubic meters	2020	2019	2018
Untreated water	5,693	6,408	7,421
Municipal water	3,336	3,824	4,016
Rainwater	0,006	0,016	0,015
<b>Total</b>	<b>9,003</b>	<b>10,248</b>	<b>11,452</b>

## Specific water withdrawal 2018 to 2020

in cubic meters per million € in sales	2020	2019	2018
Untreated water	137.4	134.1	148.1
Municipal water	79.8	80.1	80.2
Rainwater <sup>1</sup>	<0.01	<0.01	<0.01
<b>Total</b>	<b>217.3</b>	<b>214.5</b>	<b>227.6</b>

<sup>1</sup> Data was adjusted due to improved internal reporting.

## Absolute water recycled/reused 2018 to 2020

in million cubic meters	2020 <sup>1</sup>	2019	2018
Recycled/reused	2,7	0,088	0,090

<sup>1</sup> The clear increase is mainly due to improved reporting and a recently set-up circulation facility at the Schweinfurt (Germany) location.

## Specific water recycled/reused 2018 to 2020

in cubic meters per million € in sales	2020 <sup>1</sup>	2019	2018
Recycled/reused	65.2	1.86	1.81

<sup>1</sup> The clear increase is mainly due to improved reporting and a recently set-up circulation facility at the Schweinfurt (Germany) location.

ZF makes full use of all technical methods for saving water in production processes, such as with cascade rinsing systems for cleaning processes or process water recycling. The significant increase in the amount of water recycled or reused (absolute and specific) demonstrates the positive impact of ZF's efforts.

At the Pamplona site in Spain, oil components are now being separated from emulsions. The recovered oil can be delivered to a refinery and water can be used again for the preparation of cooling lubricants. This enables 1,500 m<sup>3</sup> in water savings every year.

### Water discharge

Using water treatment technologies, ZF not only reduces freshwater consumption, but also effluents. The production process then uses the recycled water for washing, rinsing and cleaning operations and for the application of cooling lubricants.

Wastewater at ZF is usually discharged into the public sewer system and treated at local wastewater treatment plants connected to the system. Direct drainage into surface water only occurs at a few locations where public infrastructure is lacking. In these cases, water is drained only if approved by the authorities and is treated using state-of-the-art technology. Threshold values are strictly monitored in these cases.

ZF is committed to installing water-saving equipment that exceeds these statutory requirements. The target is a continuous year-after-year reduction of wastewater disposed (relative to sales).

The total and specific volumes of wastewater at ZF locations decreased in 2020. While a slight change was recorded for sanitary wastewater, it was the lower volumes of treated and untreated process wastewater that made the largest contributions to this overall decrease. Water discharge only takes place in line with approval by authorities. No bodies of water were significantly affected by wastewater drainage and no significant environment-impacting spills were reported.

Relevant processes at ZF with the potential risk of releasing hazardous substances include surface treatment, machining with metal working fluids and painting. Preventive technical measures in place at the locations ensure that hazardous substances cannot seep into the ground and endanger groundwater, even in the event of a release resulting from a breakdown. A Group-wide reporting obligation has been introduced to cover the eventuality of such a release.

Wastewater loads are managed at the local level, with relevant deviations from legal requirements and permissions being reviewed at the Group level through audits and management reviews.

## Water discharge by source 2018 – 2020

in million cubic meters	2020	2019	2018
Surface water	4,665	5,670	6,743

## Absolute wastewater 2018 to 2020

in million cubic meters	2020	2019	2018
Sanitary and treated wastewater <sup>1</sup>	2.984	3.322	3.518
Untreated process wastewater	4.665	5.658	6.722
<b>Total</b>	<b>7.649</b>	<b>8.980</b>	<b>10.240</b>

<sup>1</sup> Sanitary and treated process wastewater were consolidated retrospectively to comply with the new GRI standard.

## Specific wastewater 2018 to 2020

in cubic meters per million € in sales	2020	2019	2018
Sanitary and treated wastewater <sup>1</sup>	72	69	70
Untreated process wastewater	112	118	134
<b>Total</b>	<b>184</b>	<b>187</b>	<b>204</b>

<sup>1</sup> Sanitary and treated process wastewater were consolidated retrospectively to comply with the new GRI standard.



# MATERIALS AND RESOURCE EFFICIENCY

As raw materials increase in scarcity and price, their efficient use is becoming even more crucial. Likewise, materials must conform to stringent quality and safety, as well as environmental and social, standards.

Product-related environmental protection begins with responsible material selection. From the very start – during the product development phase – ZF considers the total life cycle of a product, including factors such as the materials required to manufacture the product, its utilization phase, and its disposability and recyclability. ZF continuously increases the recyclability of its products by, for example, keeping the variety of materials to a minimum and being consistent in the materials used to ensure that they can be easily separated.

Regarding the control of prohibited and regulated substances, the ZF 9003 technical standard, as well as international laws and regulations, apply. Implemented in the ZF supply chain, these requirements are tracked to ensure their conformity.

Additionally, ZF has implemented the ZF Materials Warehouse to support the overall materials management of the Group. In light of the COVID-19 pandemic, rollout to the various business units has been postponed, with a finalization expected in 2021. This process relies upon the screening and classification of materials into non-approved, approved and preferred materials, according to conformity with predefined requirements. Besides material

approval, the ZF Material Warehouse enables materials to be selected and changed. Not only does early analysis of materials ensure compliance with technical standards and country-specific laws, it also offers the possibility of controlling several material variants. At the same time, supplier management and material provision efforts are limited to a manageable degree. In view of the increasing number of localization projects, this prevents the portfolio from ballooning into an unmanageably high number of materials.

## Material input

As commodities, steel and aluminum have the largest consumption share in the purchasing portfolio. Every year, the ZF Group purchases approximately 232,000 tons of aluminum and 2.28 million tons of steel including iron cast annually (exclusive directed buy volumes).

ZF purchases more than merely raw materials – it also purchases many assembled parts and products that consist of a mixture of various materials. Therefore, figures on specific materials are not readily available.

## Recycling and remanufacturing

ZF uses recycled materials in its production processes. In terms of weight, steel and aluminum constitute ZF's highest share of recycled materials. This includes steel from scrap steel and aluminum from scrap aluminum. In pursuit of the circular economy



The recently acquired WABCO, now CVCS division of the ZF Group, also has a history serving customers at five sites in different countries: in Rochester Hills (USA), Krajków (Poland), Jinan (China), Campinas (Brazil) and a joint venture facility in San Luis Potosi (Mexico).

Originally focused on remanufacturing air dryers, air compressors and other products, today the portfolio of WABCO REMAN SOLUTIONS alone covers 140 different products including brake calipers, axle modulators and automated manual transmissions.

and the long-term goal of carbon-neutral products, projects to investigate the extended potential use of secondary materials were implemented in 2020 and will be further discussed with customers in 2021.

Furthermore, ZF channels a high percentage of waste from production processes back into the external cycle of recycling processes, especially of scrap metal and metal chips, waste oil, paper and cardboard, wood and demolition waste. As a result of their material composition and design aspects, ZF products are more likely to be recycled, resulting in a disproportionately high contribution to meeting the recycling quotas stipulated in the EU End-of-Life Vehicle Directive.

The ZF Group is involved in various projects to promote the circular economy. Among other activities, studies are being conducted on the use of recyclates in ZF products. For example, in the second half of 2020, the influence of recyclates on the performance of materials typically used in oil pans was investigated. Due to the promising results,

the project will be continued in 2021. A three-year project was launched in December 2020, which aims to examine ZF products in more detail to identify the use of recyclable materials. Here, input from the company's own production (production scrap) as well as post-consumer materials are taken into account. Furthermore, ZF intends to enable the use of sustainable resins to reduce the carbon footprint of products. To this end, ZF actively cooperates with resin suppliers to work on new developments.

Regarding its 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 reduces ZF's demand for raw materials by up to 90 percent while saving about 90 percent in energy compared to manufacturing a new product. In 2020, the ZF site in Bielefeld (Germany) remanufactured 138,964 clutch pressure plates, 114,358 clutch disks, 42,091 ConAct®, 2,667 torque converters and 925 dual-mass flywheels. Moreover, the locations in Frydlant (Czech Republic) and Wrexham (UK) remanufactured 970,587 brake calipers from passenger cars. Each year the Saarbrücken (Germany) location remanufactures several thousand products of all types of automatic transmissions and various types of mechatronics and hydraulic control units.

### Waste management

ZF's environmental management system aims at continuously reducing the volume of waste. To support the circular economy and close material circuits, ZF set a new waste reduction target in 2021: Locations now need to reduce waste for disposal relative to value added by 1 percent on an annual basis, with 2019 as the base year. The previous target – that

the amount of waste for disposal relative to sales will be lower than the previous year – has been met, with the economic downturn caused by COVID-19 as the primary factor. The reduction of hazardous waste is a general target in waste management.

ZF also continues to work towards decreasing the volume of waste it sends for disposal, as well as hazardous waste, by altering processes, optimizing procedures and substituting hazardous substances in operations. ZF does not export hazardous waste from one country to another, with waste management organized at the local level.

In 2020, no external influences or trends impacted ZF's effluents or waste volumes. While the total amount of waste decreased by 18.1 percent, the specific amount of waste decreased by 5.6 percent in 2020 compared to the previous year. In 2020, the recycling rate was 90 percent, the same as in the previous year.

ZF initiated several projects worldwide to prevent waste or better recycle waste in the future. For example, at the ZF location in Marysville, Michigan (USA), the grinding swarf is collected and placed in a compactor that presses the swarf into "pucks." Approximately 7.7 tons of pucks and scrap metal are recycled each year. Some 38 m<sup>3</sup> of grinding oil is also collected, filtered and reused each year.

Three to four times per year, the Lapeer (Michigan) and Newton (North Carolina) locations in the US participate in an "adopt-a-highway" program: A team of ZF volunteers receives training and is equipped with proper personal protection equipment to pick up trash and debris along the "adopted" section of a highway. A significant amount of waste is collected as part of this program.

### Absolute waste 2018 to 2020

in tons	2020	2019	2018
<b>Total recycling</b>	<b>445,475</b>	<b>546,193</b>	<b>553,384</b>
Non-hazardous	416,754	512,735	515,176
Hazardous	28,721	33,458	38,208
<b>Total disposal</b>	<b>48,753</b>	<b>57,474</b>	<b>65,960</b>
Non-hazardous	24,826	27,824	28,710
Hazardous	23,927	29,650	37,250
<b>Total</b>	<b>494,228</b>	<b>603,667</b>	<b>619,344</b>

### Specific waste 2018 to 2020

in tons per million € in sales	2020	2019	2018
<b>Total recycling</b>	<b>10.75</b>	<b>11.43</b>	<b>11.05</b>
Non-hazardous	10.06	10.73	10.28
Hazardous	0.69	0.70	0.76
<b>Total disposal</b>	<b>1.18</b>	<b>1.2</b>	<b>1.32</b>
Non-hazardous	0.60	0.58	0.57
Hazardous	0.58	0.62	0.74
<b>Total</b>	<b>11.93</b>	<b>12.63</b>	<b>11.93</b>

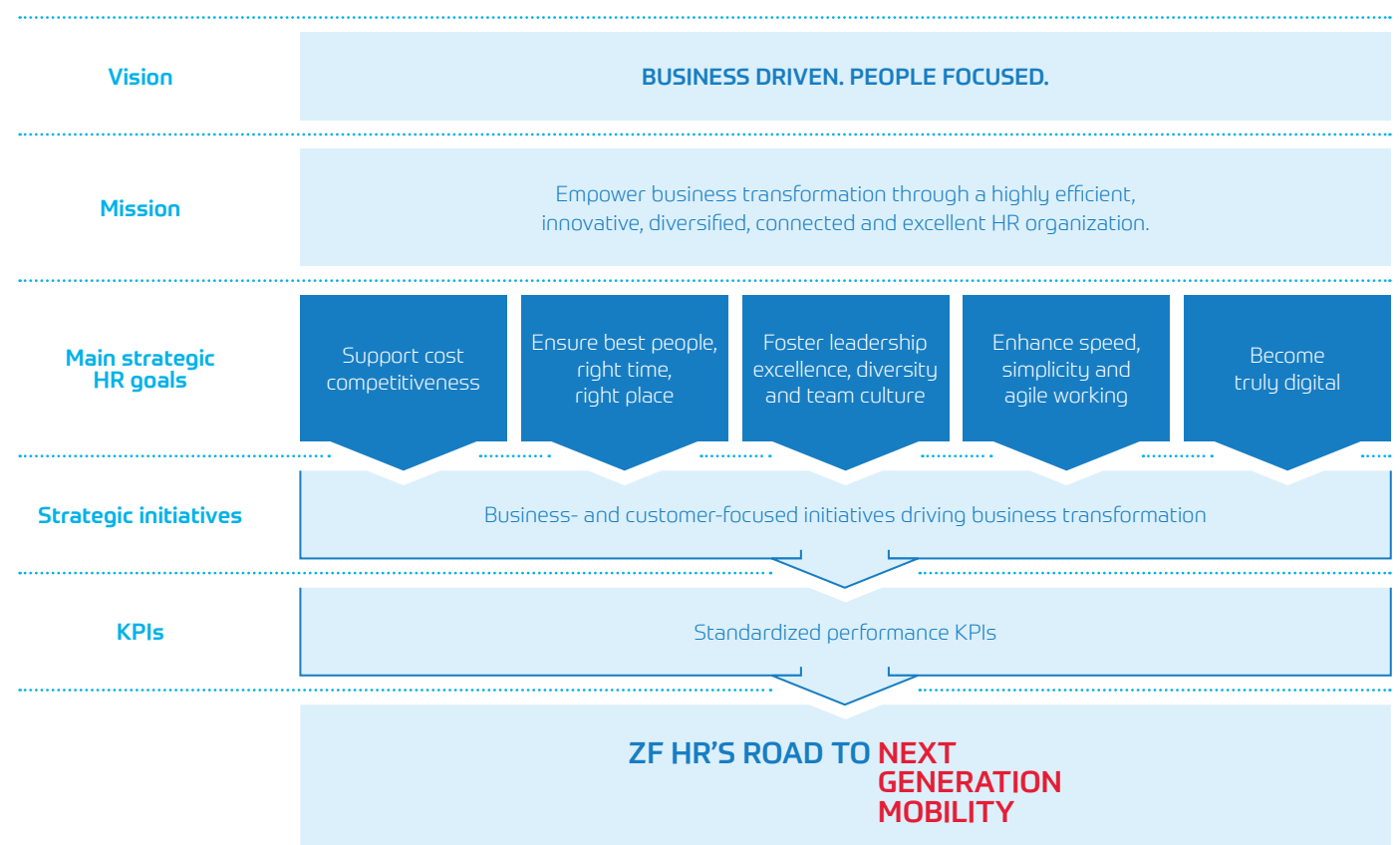
# PEOPLE

Passionate, accountable and engaging – that’s the kind of employer ZF aims to be. The Group is creating a corporate culture that strengthens collaboration, leadership and responsibility. And a work environment that rewards high performance and teamwork.

Therefore, it acts as a faithful and supportive partner for its employees while at the same time expecting dedication and commitment from them. Fairness, from the company’s point of view, provides benefits for employees and employer alike. And the Group is convinced that this approach also leads to better financial results.

The corporate “Next Generation Mobility” strategy strives for clean, safe, comfortable and affordable individual mobility for everyone, everywhere. It is ZF’s answer to the challenging transformation currently occurring in the automotive industry. As part of this strategy, ZF relies heavily on a high level of commitment and willingness to adapt to new developments in employees. To ensure that all employees know how to orient themselves clearly in this changing environment, the Group has developed a central roadmap that brings together all strategically relevant internal initiatives and links them to concrete sets of measures.

## HR Strategy



Over the course of 2020 – as the business situation and landscape significantly changed – the Group also reviewed and continued to develop its HR strategy. The aim was to define a strategy reflecting the current situation, customer needs and overall business transformation. This HR strategy – “Business Driven. People Focused.” – follows the vision of empowering the ongoing internal transformation through an innovative, diversified, connected and highly efficient HR organization. Supporting the Group’s “Next Generation Mobility” strategy, the HR strategy includes five top goals:

- Ensuring that the best people are in the right place at the right time
- Fostering leadership excellence, diversity and a team culture
- Supporting cost competitiveness
- Enhancing speed, simplicity and agile working
- Becoming truly digital

These goals are driven by several business- and customer-focused initiatives, backed up by a number of different projects.

Following ZF’s global HR strategy will help to firmly establish the company among the most attractive employers in the world over the coming years. ZF wants employees to actively shape the future of mobility and to act as ambassadors among future talents as well as in tech communities. For this reason, the ZF Group strives for a balanced gender ratio, promotes an international workforce, seeks a broad spectrum of experience and expertise, and seeks to be well prepared for demographic change.

#### The ZF Way

During more than one hundred years of company history, ZF has developed a unique corporate culture, based on the entrepreneurial spirit of its founders and with a strong innovation focus. This culture, the so-called ZF Way, clearly defines what ZF aims for with its corporate strategy and how it intends to achieve its goals.

The transformation of the industry and the economy as a whole is very dynamic and, in some cases, disruptive. But adapting and responding to trends has always been a strength of the ZF Group. The ZF Way

therefore also provides orientation in today's world. It helps position ZF for future success and the way ZF adapts to market changes. It also describes how colleagues lead, how they are developed and how everyone works together. The ZF Way comprises five equally important principles:

- Passion
- Anticipation
- Diversity
- Empowerment
- Accountability

These principles describe ZF’s corporate culture and what’s important to the Group, how it does business and what makes it special.

ZF employees form an excellent, highly committed team with a great sense of community, which in 2020 more than ever demonstrated the will, courage and ability to change and deliver.

# EMPLOYMENT

As a company with a long-term strategy and a strong focus on people, ZF is committed to the long-term employment of its staff. To remain competitive, however, particularly considering today's highly dynamic external environment, the company must continuously evolve and, at times, adjust its structures. In such cases, the Group primarily makes use of natural fluctuation, early retirement programs and the reduction of external personnel. If these measures prove insufficient, however, further adjustments, such as terminating existing employment relationships, may be necessary – although these are always considered a last resort.

ZF also employs external employees across many of its plants. Among other factors, this helps the company to increase its flexibility and recruit suitable employees. ZF ensures that the working conditions for these employees are appropriate and fair. For example, external employees are involved in all regular employee communication activities, are subject to the same rules for occupational safety and health protection and have the same access to site facilities such as cafeterias.

The use of recruitment agencies for external hiring is governed and restricted by standard supplier agreements worldwide, with strong requirements in terms of compliance with the company's Code of Conduct and business ethics. If recruitment fees apply, they are paid by the company and not the candidate.

On December 31, 2020, ZF employees worldwide numbered 141,346. This represents a decrease of 4.36 percent as compared to the previous year. By the end of 2020, ZF had hired a total of 12,512 new employees, of which 4,712 were women, 7,795 were men and 5 were listed as divers. Almost half of all hiring took place in Europe, at 48.83 percent, followed by North America, at 25.83 percent.

The support of ZF's "Next Generation Mobility" strategy has led to an increase in the number of employees, especially in the area of electromobility. From a regional perspective, a major increase was noted in APAC, especially in the Technology Center in India. In all other regions, the employee headcount decreased as compared to 2019, with the economic downturn caused by COVID-19 as the primary factor.

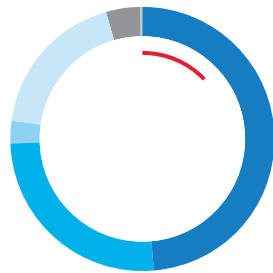
## Number of people<sup>1</sup>

	2020	2019	2018
<b>ZF Group (total)</b>	<b>141,346</b>	<b>147,797</b>	<b>148,969</b>
Europe	86,832	88,304	86,388
of which Germany	50,073	50,864	50,794
North America	30,767	34,785	36,762
South America	4,950	5,322	5,509
Asia-Pacific	15,268	16,132	17,396
India	2,941	2,627	1,980
Africa	588	627	934
<b>Employee category<sup>2</sup></b>			
Direct	70,238	74,442	78,281
Indirect	71,108	73,355	70,688
<b>Work contracts</b>			
Regular	135,799	142,068	143,198
Limited	5,547	5,729	5,771
Full-time	137,684	144,246	146,383
Part-time	3,663	3,551	2,586
<b>Apprentices and temporary workers</b>			
Apprentices	2,315	2,540	2,756
External agency workers	15,354	12,429	12,421

<sup>1</sup> Number of contract employees in accordance with IFRS regulations at the end of the year, excluding the new CVCS division – formerly WABCO.

<sup>2</sup> Direct and indirect participation in value creation processes.

## Number of new hires for 2020 by region



Europe	●	<b>6,109</b>
of which Germany	●	<b>1,621</b>
North America	●	<b>3,232</b>
South America	●	<b>350</b>
Asia-Pacific	●	<b>2,278</b>
India	●	<b>532</b>
Africa	●	<b>11</b>
<b>Total</b>		<b>12,512</b>

As a company operating in 40 countries worldwide, the internationalization of apprenticeships remains important for the ZF Group. To prepare apprentices for the increasing demands of digitalization and networking in production, the “Training 4.0” project is being continued. It aims to foster the integration of IT and hybrid qualifications and to promote highly relevant future skills, thus qualifying IT and electronics specialists (as well as bachelor degree candidates) and production technologists.

In the reporting year, almost 500 young people started an apprenticeship or dual study program at ZF in Germany. By the end of 2020, our apprentices numbered about 2,300 worldwide, of which 12 percent were students completing a dual study program at a university. Apprentices can choose between 35 different apprenticeships and dual university courses of study. In general, ZF Germany offers regular employee contracts to its apprentices, which leads to the hiring of approximately 500 new employees per year.

In terms of turnover, employee figures in 2020 were affected most heavily by the COVID-19 pandemic. The combination of a highly volatile situation and insecure employment resulted in furloughs.

Furthermore, as companies had restricted their hiring, fewer positions were available on the market. Employees were therefore less likely to look for new opportunities or leave their jobs, both of which affected turnover rates in 2020.

## Employee turnover for 2018 to 2020

as percent of headcount	2020 <sup>1</sup>	2019	2018
Europe	<b>2.18</b>	2.51	4.75
North America	<b>17.06</b>	31.92	37.93
South America	<b>1.31</b>	1.37	2.59
Asia-Pacific <sup>1</sup>	<b>6.59</b>	5.41	14.74
India	<b>5.58</b>	7.09	0.73
Africa	<b>1.42</b>	0.69	1.50
<b>Total</b>	<b>6.05</b>	<b>10.12</b>	<b>13.91</b>

<sup>1</sup> 2020 without the new CVCS division – formerly WABCO.

## FAIR REMUNERATION

Remuneration at ZF is based on compensation structures. While in the Active & Passive Safety Technology units compensation structures have historically been based on a worldwide job classification system, in other ZF entities, the compensation structure for managers is based on a worldwide 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 ensure the overall equal treatment of employees as well as to minimize the risk of discrimination against women with regard to compensation. A worldwide compensation database is being progressively introduced. Among other benefits, this compensation database will enable ZF to report and monitor equal remuneration as well as potential gender gaps worldwide. Due to the COVID-19 pandemic, the implementation process had to be slowed down. Currently, ZF is planning to provide data regarding office workers by the end of 2022.

For all managers, ZF applies a short-term incentive (STI) to foster a culture of innovation and performance. The STI consists of several key financial performance indicators. As of 2020, ZF had removed the aspect of individual performance from the STI to strengthen collaborative behavior and to reinforce the alignment of all managers with the strategic objectives of the Group. The process was made transparent and defines a framework for actions and priorities within the company. Due to the COVID-19 pandemic and the resulting economic crisis, STI KPIs

in 2020 were, as an exception, reduced to one single financial KPI. This was done to lay the focus on the company's number-one strategic priority across the entire organization and to enable ZF to successfully navigate these unique circumstances.

ZF employees with part-time, full-time, permanent or temporary employment contracts are all provided access to the same benefit programs. Health and insurance benefits play a central role in ZF's offering to its employees. Of course, benefits vary depending on local standards, regulations and market practices. Benefit programs for contractors and agency-based temporary workers are treated according to the type of contractual engagement they have with ZF, as well as to local regulations.

Pension provisions are set up for obligations from vested benefits along with current pensions for entitled current and former employees of the consolidated ZF Group and their surviving dependents. Various retirement pension schemes exist in accordance with the respective countries' legal, economic and tax situations. Typically, these schemes are based on the length of service and emoluments of the employees. In general, when it comes to company pension schemes, a distinction can be made between defined contribution plans (DC) and defined benefit plans (DB). Plan benefits are determined by salary, length of service and the cost-of-living index. For further details regarding pension provisions, see the 2020 Annual Report.

## LABOR-MANAGEMENT RELATIONS

Confronting the challenges of globalization and sustainable development, the ZF Group strives for collaboration across all levels, based on mutual respect. ZF 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 to refrain from doing so. Employees and employee representatives may not be disadvantaged as a result of exercising these rights. About 70 percent of the total workforce across all locations are covered by formally elected employee representatives as well as by collective agreements concerning working conditions.

A trusting collaboration under the Works Constitution Act is a fundamental factor in ZF's corporate culture. This applies to all employee representative committees such as individual works councils and committees, including the General Works Council, the Group Works Council, the European Works Council as well as the respective representative on the employer's side. Employee representatives must be fully informed in a timely manner about any company changes. Fundamental questions concerning the company's development are discussed in communications and at meetings.

See the Health and Safety chapter for further information regarding workers' representation in OHS councils.

GRI 102-41

 [Health and Safety](#)

 [Annual Report 2020](#)

# TRAINING AND EDUCATION

Individual and organizational development, qualification and lifelong learning are all decisive success factors when it comes to securing a company's long-term future. ZF believes in and values both the personal and professional development of its employees. Ensuring the workforce has the appropriate skills is important for the Group to retain its power of innovation. ZF is committed to developing employees, management and the wider organization by focusing on various layers and target groups and investing accordingly. The Human Resources Development approach focuses on talent management, learning and development, educational enhancement and competency management. Applying this holistic employee development approach enables the Group to systematically support its workforce in developing and applying future-proof competencies and skills, thereby enabling ZF's business transformation.

Individual development and career plans are the foundation of focused and business-driven career development. These plans can be updated throughout the year, either by the employees themselves or by their supervisors.

In order to ensure tailored training content, all training programs are systematically evaluated. Participants and trainers submit an evaluation after every event as part of a continuous improvement process.

These form the basis for regular reviews and appropriate revisions to keep training standards high and up to date. ZF selects external training providers and trainers according to defined criteria. Subsequently, a selection process is carried out together with the specialist department and Purchasing.

## The Group as a learning organization

ZF considers itself a learning organization, facilitating employee learning on all levels and continuously transforming the way employees work together. A key part of this, beyond a mere comprehensive training landscape, involves ways of collaboration that actively promote change. An open, trustful communication and feedback culture is paramount for learning from each other and jointly shaping the future. The company therefore asks its workforce to actively share ideas and knowledge within the Group based on various collaboration and idea management tools.

The objective is the conscious, responsible and systematic handling of knowledge as a resource. Collaboration rooms, wikis and virtual communication media support employees in working together. Best-practice databases store valuable practical experiences and make them available for future use. Expert forums ensure the targeted exchange of knowledge and experience.



## Preserving knowledge

In order to retain knowledge within the organization, ZF has created knowledge batons through which employees leaving the company make their practical knowledge available to the organization. Existing expertise is documented on storage media, enabling knowledge to be shared. Search engines allow employees to run specific queries.

Additionally, ZF has a program in place enabling former employees to share their valuable experience and extensive project knowledge. The Senior Professionals enables participation in specific projects to match specialist areas with senior experts. These temporary assignments can be managed with little administrative effort, providing ZF with a flexible and dedicated workforce. In 2020, the program included 279 registered experts with 14 work assignments. It was also affected by the COVID-19 crisis. Measures such as furloughs restricted the assignment of senior experts.

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



Suggestion management schemes provide employees with a platform for submitting ideas for improvement. This allows suggestions to be exchanged between locations in Germany. Idea management across all locations has been enabled by the ideas@ZF project. Thanks to this continuous improvement process, specific improvement potential has been identified and ideas implemented.

Knowledge and idea management creates awareness regarding an effective handling of knowledge and ideas; it provides advice and promotes the professionalization of existing activities as well as building new activities in this field.

### New ways of learning

The COVID-19 crisis has pushed new ways of working and the digitalization of training offers even further. Having already started to integrate future ways of working and learning into the training portfolio over the past few years, the Group found itself taking a major leap in its learning architecture in 2020. As a result, the learning portfolio has been extended and become an attractive digital, multi-format learning offer. It allows for workplace-integrated learning with the help of shorter, digital, solution-oriented training sessions, such as videos, tutorials, social learning elements and live online training.

This approach is supported by “subject-matter experts” in the design and creation of digital learning content: a community of functional training experts, not just proficient in the respective area of expertise, but also in the design and delivery of digital learning formats.

To support the digital transformation at ZF and the necessary cultural shift, further specific initiatives and measures are being implemented to shape the learning culture into a more open, connected and collaborative one. This results in a shift from training-led offers towards interactive learning communities, focusing on learning from others and more self-responsible learning elements.

The focus on continuous learning is also emphasized by the ZF Academies, providing specialized training opportunities for managers and employees in all corporate functions. The ZF Academies are closely linked to the Group strategy, providing systematic and worldwide advanced training programs aimed at creating functional excellence in the fields of R&D, Quality, Sales, Finance, IT, Production, Materials Management and HR. The qualification portfolio is tailored to functional and cross-functional learning needs, thus establishing a globally consistent standard of knowledge and expertise.

In 2020, ZF also piloted initial training courses on future driven skills, such as Artificial Intelligence. Starting in 2021, the Group plans to systematically expand the reskilling of employees towards job profiles of the future, e.g., software engineering, to build the skill base needed for the business transformation of the Group.

### Developing leaders

The starting point for all leadership development activities is the newly introduced Performance Potential Succession process (PPS). At the core of the PPS is a globally aligned performance and potential assessment of all ZF leaders. In 2020, the process was simplified and standardized, with feedback aspects put at the center of discussion. The employee dialogue is a key element, which allows the manager and employee to jointly discuss the employee's performance and potential. It is followed by development conferences during which the results are reviewed within the respective leadership teams, and specific individual development measures discussed and agreed on to support individual growth. Previously, performance processes had been linked to bonus payments. This, however, often prevented open and constructive discussions. Decoupling bonus payments from feedback discussions has helped to shift the process towards an open, constructive and development-focused approach.

In preparation for the employee dialogue, all ZF leaders were invited to attend feedback training sessions to foster open and trusting dialogue and to establish the right mindset for ZF's feedback culture. In 2020, some 5,800 managerial employees participated in this new process and, as part of it, received performance feedback and a career development review.

### Leadership training

In 2020, the work environment changed dramatically. The COVID-19 pandemic forced employees to adapt to very different work environments – and on very short notice – but also challenged how leadership and collaboration occurred.

ZF's "Lead the Change" initiative supported leaders in meeting these challenges. This digital learning journey accompanies leaders in using digital tools effectively, leading virtual teams, and remaining close as a team even in times of social distancing. A series of on-demand digital courses and live virtual sessions provided practical tips and a forum for sharing best practices on coping with leadership and business challenges.

As part of this transformation, ZF also reworked its leadership training landscape. The Next Generation Leadership initiative focuses on supporting newly appointed leaders in their new role. In 2020, the Next Generation Leadership team kicked off ZF's first fully virtual #LeadershipSafari pilot group.

This program supports ZF leaders in gaining a common understanding of leadership so that they can shape the opportunities of digitalization. To optimally benefit from the program, participants are given the opportunity to further customize their individual learning journeys to suit their specific business needs. A digital training platform serves as a leadership guidebook, allowing participants to discover, exchange and deep-dive into relevant learnings.

The groundwork of all activities has been laid by the Leadership Pioneer Group, a community of twelve globally active senior managers. Acting as an innovation lab, the team discusses, challenges and tests new leadership approaches and tools, thereby actively shaping leadership at ZF.

In higher education, ZF finances endowed professorships across the world. Collaborations with renowned universities – such as with the Baden-Württemberg Cooperative State University in Friedrichshafen, the RWTH Aachen University and the University of Michigan in Detroit – are part of the young talent promotion program.

Furthermore, ZF supports several Formula Student teams worldwide. As part of this engineering design contest, international students compete against each other in various disciplines using race cars they have built themselves. In addition to sharing its expertise, ZF has been supporting this young talent

with high-tech racing products, financial assistance and team-building activities since 2002. In 2020, ZF sponsored 41 university teams. In 2020, ZF also established a new ZF Driverless Challenge, in which five teams received awards. ZF placed a particular focus on this category, in which students faced a new challenge: developing a race car that runs in autonomous mode, without a driver. This is in line with ZF's "See – Think – Act" triad, the guiding principle for incorporating artificial intelligence into vehicles. Due to the COVID-19 pandemic, on-site events had to be cancelled in 2020. However, ZF organized the Driverless Challenge as a virtual pitch event and proved to be a reliable partner even in times of crisis.

To shape future mobility and support talent, ZF partners with the Carolo Cup in Germany and the Autodrive Challenge in the US. The Carolo Cup is a competition that provides student teams with a platform for designing and implementing autonomous radio-controlled cars. The main challenge is to implement cutting-edge algorithmic solutions for vehicle control and environment perception, based on a realistic application scenario. The Autodrive Challenge, launched in 2018, is a three-year competition in which students develop and demonstrate a passenger vehicle that can operate in a completely autonomous manner. The technical goal of the competition is for the vehicle to navigate an urban driving course in automated driving mode.

# DIVERSITY AND EQUAL OPPORTUNITY

ZF fosters the exchange of thoughts, ideas and methods as well as understanding between cultures and people. The ZF Code of Conduct states clearly that discrimination – whether based on skin color, gender, age, nationality, religion, social background, disability or sexual orientation – will not be tolerated in everyday business conduct. This applies, for example, to the recruitment of new employees, existing employment relationships and professional advancement at ZF. The only characteristics that matter are performance, personality, skills qualifications and behavior.

The Group has set up the ZF Trustline to handle reports from whistleblowers. There were no confirmed incidents of discrimination in 2020. For further details see the Compliance chapter.

ZF considers diversity key for business success. The Group is committed to its diverse workforce and constantly strives for an inclusive culture where all employees develop a sense of belonging while actively participating in shaping ZF's success. Its diverse workforce is a driver of innovation and the company's most important factor for enhancing corporate value and succeeding in the Group's business transformation. This is why ZF signed on with the Diversity Charter and is counted among a group of some 3,300 signatories dedicated to a welcoming, prejudice-free corporate culture. This voluntary commitment represents the company's pledge to actively promote diversity. In China, ZF received the "2020 Excellence in Diversity & Inclusion Award" for

its outstanding diversity activities worldwide. This prize is sponsored by 51job, Inc. ZF's Chinese HR department applied for the award in August through the Diversity Guide initiative.

## Managing Diversity, Equity and Inclusion (DEI)

In 2020, the Group aimed at pushing activities around diversity, equity and inclusion to the next level. DEI is not just part of the HR strategy and reflected in the ZF Way, but a commitment towards the whole workforce. Activities are built along the four building blocks of the DEI strategy: building awareness, attracting and retaining diverse talent, promoting diversity in leadership teams and increasing engagement, motivation and productivity. All activities are coordinated via a dedicated team of diversity managers and experts, steering awareness on DEI topics and fostering a more diverse workforce all around the world. In 2020, the expansion towards a worldwide team was started, enhancing activities not just in specific countries, but across the entire ZF Group.

ZF focuses on particular dimensions to meet strategic challenges and contribute to enhancing the Group's future competitiveness. These dimensions include a balanced gender ratio, aspects such as the workforce's cultural background and internationality, a wide range of experience and expertise as well as responses to demographic change. All of these factors are systematically analyzed and processed on a regular basis, and results are reported to the Board of Management. In 2020, clear ambitions were stated by the Board of Management: The

Group's intention is to increase the share of female leaders worldwide midterm to 20 percent. Furthermore, ZF aims at building more ethnically diverse international leadership teams, better reflecting ZF's international reality and customer base. This does not exclude further DEI criteria, but serves as an example for a strong emphasis on employee diversity and inclusion, regardless of their background, experience and abilities. All efforts are aimed at building a ZF Group where everyone fully belongs.

Diversity and inclusion requirements are strongly embedded in legal and governmental frameworks in several countries where ZG is active and are strictly adhered to by ZF. The Group strongly believes that a diverse workforce helps to improve innovation and creativity. It also makes ZF an attractive employer and attracts the best talent, builds sustainable business success, provides a competitive advantage and drives higher levels of employee engagement.

 [ZF Trustline](#)

 [Compliance](#)

Diversity is of great importance to ZF, because only versatile talent leads to true innovation.

Around the globe, several DEI activities were launched in 2020, such as the celebration of Diversity Day, the Global Diversity Guide and employee-driven communities such as the North American Diversity Council.



### Diversity Day

Living Diversity at ZF also means leaders acting as its ambassadors and leading by example. In May 2020, ZF held its second Diversity Day at various locations around the world. Due to the COVID-19 crisis, this day was celebrated virtually across a wide variety of activities. All around the world, employees celebrated the power of diversity, sharing their own diverse backgrounds and mindsets as part of the global “I am diverse because...” campaign.



### Diversity Guide

A Global Diversity Guide, made available to all employees worldwide, was launched in 2020. Several chapters of the guide provide a deep dive into diversity and inclusion. The goal of the guide is to highlight the topic of diversity in all its dimensions and to train employees on the topic. The guide is available online in all corporate languages.



### Diversity Advocacy Council

In July 2020, ZF North America decided to create a culture of diversity and inclusion throughout the organization. As a result, the Diversity Advocacy Council (DAC) was created. This employee-led council is dedicated to driving a culture of diversity and inclusion. The council holds regular meetings with regional leadership and board members, gathering information and feedback from colleagues to understand and improve the ZF experience. This grassroots initiative plans to expand to colleagues on a global level in the future, to serve as a guide for diversity, equity, inclusion and belonging (DEIB) within ZF.



### Employee Resource Groups

Networking and the exchange of experience are very important success factors. ZF fosters collaboration among employees from different departments, areas of expertise, countries and backgrounds, as this is the best way to promote new ideas and innovative solutions. Through Employee Resource Groups (ERGs) in ZF’s social intranet, expertise in various areas of interest can be built, thereby strengthening networked cooperation. These groups include (Wo)men@ZF, OUT@ZF and Diversity@ZF.

### Strengthening women in STEM

As part of ZF’s approach to managing diversity, the company is focusing on attracting women to careers in STEM (science, technology, engineering, math) professions. ZF is proud to be a corporate partner of the Femtec university network, whose female students seek to become highly qualified, internationally experienced STEM graduates with access to prime entry positions.

The Femtec association was founded by the EAF Berlin and the Technical University of Berlin in 2001 and is an international career platform for women in the fields of natural science and engineering. The organization recruits talented young female students, qualifies excellent candidates for a management career and offers distinguished career perspectives in cooperation with partner companies. Through its involvement in the Femtec network, ZF is able to offer a glimpse into the working world at a technology company, offering plant tours, internships, graduate positions or specific projects, for example. At the knowledge workshops (the so-called “Wissenswerkstätten”), which resumed in 2020 despite the COVID-19 pandemic, Femtec participants explored issues and ideas around autonomous driving.

The company also aims to promote interest in, and inspire enthusiasm for, science, technology, engineering and mathematics (STEM) early on among children and adolescents, particularly among girls. ZF achieves this objective by, for instance, actively participating in Girls’ Day and through its popular knowledge workshops in several German cities. Each year, they enable hundreds of children and adolescents to gain hands-on experience with the world of technology.

### Empowering equal opportunity

The compatibility of work and family is an important driver for promoting equal opportunities and employee satisfaction. This is why one of ZF's career elements is a "social career element" covering parental leave, leave to care for relatives and other types of community and family commitments.

Since 2006, the ZF location in Friedrichshafen, Germany, has been certified as a family-friendly company. As part of the "career and family" ("berufundfamilie") audit, family-related targets and measures have been firmly established. The audit is widely recognized and is an excellent instrument for increasing employer attractiveness and employee commitment. It provides ZF employees with a framework that allows them to reconcile their work, family and private life. A culture of cooperation and partnership on the part of all parties concerned is of great importance to ZF and will allow them to equally benefit from this certification. For the Group, the focus here is on the principle of give and take.

Since 2018, the existing audit has been extended to other major locations in Germany: Besides the Friedrichshafen headquarters, Schweinfurt, Lemförde, Passau and Saarbrücken also participated and received the certificate.

The fact that both parents can devote time to the family is an important component in promoting equal opportunities. At the end of December 2020,

a total of 449 employees in Germany took parental leave (typically up to three years); of this number, 9 were male and 440 were female. Parental leave for a short period (up to one year) was taken by 218 female and 1,751 male employees in 2020. Taking parental leave for a short period, in most cases two months, is very popular among fathers.

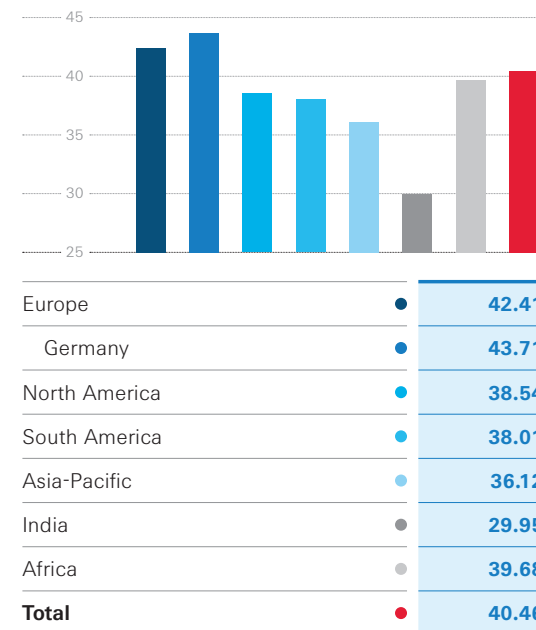
In Germany, 1,943 employees returned from parental leave in 2020; of these, 252 were female and 1,691 were male.

### Diversity figures

ZF reports and reviews diversity figures on a regular basis to derive necessary requirements for action. Major diversity figures focus on age, gender and physical abilities.

When it comes to age diversity, demographic change takes many different forms in different areas of the world. While western industrialized countries are primarily confronted with the challenges of an aging population, developing and newly industrialized countries have far younger populations. Since ZF is a global player with some 271 locations in 41 countries, the age structure of the company's workforce is very heterogeneous and strongly characterized by the history of each particular ZF location. The percentage of older employees is much higher in Europe, where the average age is about 42, whereas the workforce in other regions tends to be younger on average. In India, for example, the average age is about 30.

### Average age of ZF employees in 2020 by region



Among the various regions, there is a large spread regarding the proportion of women and men employed at ZF. While nearly 40 percent of employees in North America are female, women only make up 23.48 percent of the European workforce. Germany shows an even lower percentage, at 14.24 percent.

### ZF employees by gender<sup>1,2</sup> 2018 to 2020

	2020	2019	2018
Men	104,049	108,424	65,680
Women	37,707	39,373	12,619
Divers <sup>3</sup>	9	-	-

1 2018 did not include the Active & Passive Safety Technology Division, 2019 did include it, and 2020 did not include the CVCS division – formerly WABCO.

2 In 2020, due to the newly implemented SuccessFactors HR system, the figures were derived from this system and deviate slightly from the official financial figures.

3 A number of employees chose not to reveal their gender and are therefore listed as divers.

Since 2006, ZF Friedrichshafen AG has been compliant with the statutory requirements for employees with disabilities and has met the required rate for Germany. Accordingly, ZF takes the necessary measures for the integration of employees with disabilities. These employees are supported by a

global HSE (Health, Safety and Environment) team. In 2020, the proportion of employees with disabilities amounted to 5.9 percent. This level exceeded the minimum 5 percent stipulated by company legislation. As a result, no compensation payments needed to be made.

### ZF employees by region and gender<sup>1,2</sup> 2018 to 2020

in percent	Women			Men		
	2020	2019	2018	2020	2019	2018
Europe	23.48	22.89	14.30	76.52	77.10	85.70
of which Germany	14.24	14.07	13.15	85.76	85.93	86.85
North America	39.53	40.38	27.46	60.45	59.61	72.54
South America	13.78	13.60	9.17	86.22	96.40	90.93
Asia-Pacific	24.98	21.67	16.63	75.02	78.32	83.37
Africa	27.97	28.42	16.25	72.03	71.58	83.75
<b>Total</b>	<b>26.60</b>	26.64	16.12	<b>73.40</b>	73.36	83.88

1 2018 did not include the Active & Passive Safety Technology Division, 2019 did include it, and 2020 did not include the CVCS division – formerly WABCO.

2 In 2020, the figures listed do not include one undefined employee in Asia-Pacific, two employees in Europe and six employees in North America.

# HEALTH AND SAFETY

## Management diversity by age 2019 to 2020

in percent	2020		2019	
	Managers on the first, second and third management levels below Board of Management	All other management groups	Managers on the first, second and third management levels below Board of Management	All other management groups
< 30 years	<b>0.00</b>	<b>0.23</b>	0.00	0.23
30-50 years	<b>39.94</b>	<b>59.19</b>	38.51	61.09
> 50 years	<b>60.06</b>	<b>40.58</b>	61.49	38.69

### Diversity at management levels

In light of German legislation governing the 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.

For vacancies on the Supervisory Board, a future proportion of 20 percent was set. The current proportion lies at 15 percent. This target value also applies to the sustainability reports for 2018 and 2019, in which a target value of 30 percent was mistakenly stated, contrary to the resolution.

For vacancies on the Board of Management, a proportion of 10 percent female members is envisaged. The appointment of Sabine Jaskula as member of

the Board of Management in 2018 for HR and Legal means that this target has already been met.

At both the first (executive vice president/senior vice president) and second (vice president) managerial levels below the Board of Management, the proportion of women is planned to be increased to 15 percent.

The overall goal is to increase the share of women in leadership positions across all management levels midterm to 20 percent from 11.9 percent in 2020.

In 2020, 73.4 percent (104,049) of the total workforce were men and 26.6 percent (37,707) were women. This shows no significant change as compared to 2019.

At ZF, the safety, health and well-being of all employees are core values – which is why they are an integral part of the Group's culture and strategy. To deliver substantial value to employees and other stakeholders, ZF's vision is to manage environment, health and safety (EHS) performance in such a way as to achieve a leading position in the automotive industry. The Group's EHS policy describes the mission, execution and responsibilities related to the fulfilment of this vision.

While compliance with legal and regulatory requirements is the foundation of all its activities, ZF has implemented Group-wide EHS standards into its EHS Management System. This system contains detailed stipulations for strengthening relevant processes throughout the company and is subject to annual revision. The Group aims to meet or exceed customer requirements while at the same time preventing EHS risks.

In addition, ZF believes that safe behavior cannot be achieved by technical or organizational measures alone. Safety Excellence programs have therefore been implemented at all levels of the organization. Continuously enhanced to build safety leadership and engage employees in the prevention of work-related injuries and illnesses, these programs form the basis for the world-class performance and safety culture ZF strives for.

## The accident rate LTAR improved to 3.3 in 2020 from 6.5 in 2016.

### Organizational structure

The three-dimensional environment, health and safety (EHS) organization of ZF comprises the following elements:

- Centers of excellence, focusing on program elements,
- Regional teams, focusing on site service and legislation, and
- Divisional EHS professionals, acting as business partners and coordinating all EHS aspects of the division or business unit.

These teams provide guidance and support to the local EHS managers at ZF locations (which can be seen as a fourth dimension) and oversee their performance. For further information see the Environment chapter.

### Health and safety committees

About 72 percent of ZF employees worldwide are covered by national, regional or local labor agreements. The EHS Management System stipulates that the site management team is to consult with employees and their representatives and encourage them to participate in EHS initiatives and decision-making processes. In some countries, this is specified by law. Management is to define the scope of this involvement to meet any existing legal

requirements and to make the best use of employee involvement. Employee involvement in EHS programs is to be supported in activities, teams and initiatives, such as EHS committees and councils. All sites confirmed in their 2020 management reviews that they had complied with this requirement.

The German Occupational Health and Safety Act stipulates that occupational health and safety committees are to be organized at all German locations. Members of works councils are also to be represented on these committees. Prior to the occupational health and safety committee meetings, occupational health and safety specialists, medical officers, representatives of the works council and responsible executive managers carry out inspections and audits to gain insight into the current status and requirements for change.

The system of codetermination in place at German ZF locations also applies to health and safety at work. Close cooperation on these issues occurs between the locations' works councils and the Group works council. Occupational health and safety issues are part of the Group directives and guidelines in force at the various locations. In Germany, the approval process for these regulations includes the involvement of employee representatives around issues subject to codetermination. At the local level, various guidelines cover occupational health and safety.

### Managing safety

The ZF Group has defined targets to further protect, preserve and promote its employees' health, well-being and job satisfaction. The following targets were released by the Board of Management in January 2021 and communicated company-wide:

- Reduction of the Group accident rate (accidents with working days lost per one million working hours, LTAR) to 2.0 (2025) to move towards industry-leading performance.
- Reduction of the Group severity rate from to 8 (2025) by increasing the focus on high-consequence injuries and near misses.
- Low ergonomic risk profile for 90 percent of workplaces by 2025. Risk assessments and improvement measures to be conducted according to global standards.
- All sites around the world must appoint local occupational health professionals to ensure that occupational health expertise is available whenever needed.

 Environment



Aiming for continuous improvement, all ZF locations make use of the Group's internal management system, established in 2018. As part of ZF's Integrated Management System (IMS) for occupational health and safety, environment and energy, locations can voluntarily obtain certification in accordance with the international ISO 45001 standard. Locations are expected to join the scheme if stipulated by customer requirements. In 2020, 76 locations (2019: 75) were matrix-certified and a further 30 locations were single-site certified.

To measure the effectiveness of the EHS Management System at the locations, half-yearly self-assessments are performed. In addition, audits are carried out by members of the global EHS team approximately every three years. The pandemic resulted in a postponement of the 2020 mid-year self-assessment to 2021.

The EHS Management System focuses on the prevention and minimization of health and safety risks, for instance at workstations. Regular risk assessments are carried out regarding risk levels, applying methods such as failure mode and effects analysis (FMEA). Based on the results, preventive measures are implemented along the hierarchy of controls: First, eliminate or substitute hazards; next, devise technical control measures to contain hazards; and finally, implement organizational measures or per-

sonal protective equipment (PPE). Reassessments are performed to confirm the effectiveness of these measures.

Most severe accidents occur during non-routine activities, which are given special attention. When procuring machinery, key occupational health and safety protection criteria are taken into account with the goal of promoting a global standard for machine safety. ZF is supported by a Group-wide machinery safety expert team and an interdisciplinary team from production, purchasing and EHS that define ZF's technical delivery specifications for the supply chain.

Incidents causing injury and near misses with the potential to result in severe accidents or fatalities are thoroughly investigated using root cause analysis, with the 5 Why technique or 8D method. To prevent additional accidents from occurring in the future, information is shared among the worldwide locations through online safety alerts, with a summary of the event, its root causes and the preventive measures taken. These are posted on the EHS intranet.

In 2020, ZF continued to improve its EHS performance along the supply chain, especially in relation to suppliers providing onsite services at the locations (contract activities). Contractors are selected according to their proven ability to perform safety-critical activities. Close cooperation between trained

ZF supervisors and contractors, such as discussing contractors' risk assessments and control measures, proved to be an important component for improving the safety of contract employees.

#### Safety Excellence program

The Safety Excellence program is ongoing and comprises three key areas: safety leadership, employee involvement and the continuous improvement of Functional EHS Programs. The Safety Excellence 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 in which safety is a value, ZF encourages and empowers employees to make a positive impact on their work environment. This program was meant to be carried out in a face-to-face manner, but due to COVID-19 social distancing and gathering restrictions, this was not possible. Champions of the program developed alternatives such as virtual sessions, which will be explained in the next chapters.

#### Safety Leadership program

Safety Leadership (SL) is a global program launched in 2017 whose objective is to improve leaders' awareness of safety and their ability to consider safety in everyday business (e.g., to act as role models and involve employees).

In 2020, the ongoing implementation of the program was highly impacted by the COVID-19 pandemic. Facility lockdowns, travel restrictions and social distancing resulted in a suspension of face-to-face workshops. To support leaders in managing this unprecedented situation, a COVID-specific Safety Leadership webinar was developed and rolled out. In 2020, 210 leaders participated in 13 face-to-face workshops, and 1,295 leaders took part in 48 COVID-specific webinars delivered by Safety Leadership coaches.

As the end of the pandemic cannot be predicted, a web-based interactive Module 1 workshop has been developed to sustain the program throughout the pandemic. Module 1 focuses on the transformation to a sustainable safety culture, presenting nine Safety Leadership elements and introducing five safety basics. Module 2 focuses on hazards, risk assessment, incident investigation and managing at-risk behavior.

#### Employee involvement

All employees and their representatives are involved in the continuous improvement of health and safety in the workplace and are subject to regular qualification measures. Employees are encouraged to report near misses and unsafe situations at the daily shop floor meetings and to participate in activities such as risk assessments, kaizen workshops and suggestion schemes. ZF has established a policy

against reprisals and employees receive feedback as to how their reported information is handled. The Group has also established the ZF Trustline, which employees may use to report complaints regarding health and safety issues. These complaints are treated with strict confidentiality.

As required by the EHS Management System, many locations have developed employee reward schemes to recognize their employees' contributions to improving safety. The implementation of Employee involvement and reporting is also subject to internal audits. For instance, employee statements are kept confidential. Should unacceptable risks arise, employees have the right to stop what they are doing to speak to their supervisor, safety officer and/or safety representative. As part of the safety leadership program, all leaders are made aware of this possibility and are trained in how to respond appropriately.

Behavior-based safety (BBS) aims to increase employee involvement in safety by making employees more aware of how every individual's behavior at work plays a large role in determining safety outcomes. About 125 (2019: 120) locations have implemented this process of safety coaching, with employees coaching their colleagues in working safely. Train-the-trainer training was performed in January 2020 to secure adequate resources for

the BBS rollout in Germany. Due to the pandemic, implementation had to be postponed at many sites in 2020 and only 5 sites were added. BBS had to be temporarily suspended at many sites since face-to-face interaction had to be reduced, but most sites were able to start up again after defining protective measures. To support the implementation of appropriate behavior to prevent the transmission of the virus, a COVID-specific BBS tool was developed and rolled out. Several sites began preparing the rollout for early 2021, when approximately ten more sites will be added to the BBS program.

#### Ergonomics

As musculoskeletal disorders (MSDs) significantly contribute to ZF's accident/illness rates, locations continue to be added to the Group's software-based ergonomics program. Initial introduction workshops were held virtually due to COVID restrictions. The program includes features such as e-learning, ergonomic risk assessment and best practice solutions; workplace risk assessments are performed by members of a trained ergo team at each location. The goal of performing 1,500 new ergo assessments across ZF's locations has been met. The target for locations by 2025 is to eliminate workplaces with a high level of ergonomic risk, and reduce workplaces with a medium level of risk to less than 10 percent.

### Continuous improvement of functional EHS programs

The backbone of the continuous improvement program is the EHS Management System which aims to implement the EHS policy's provisions around EHS legislative compliance, risk minimization and safety improvement, and considers the stipulations of all relevant international norms in this arena. The EHS Management System comprises 15 elements and includes 15 main procedures, 27 specific requirements (which are mandatory) and guidance documents addressing environmental, occupational safety and health management issues for all ZF locations. It fosters business integration, interfaces with multiple other domain functions and is updated on a regular basis according to stakeholder input, legislative changes and customer requirements. Implementation started in 2018 and the implementation target was 90 percent by the end of 2020. Due to sites being closed off for several months and many employees on furlough, the company decided to shift the 2020 deadline to 2021. Nevertheless, progress was evaluated in mid-January 2021 and almost 80 percent of locations already meet the target.

Progress is being evaluated through self-assessments and as part of the EHS Corporate Audit Program. The audit program also includes an evaluation of legal compliance, performed by a third party.

## MANAGING HEALTH PROTECTION

The ZF EHS management system includes a standardized element concerning occupational health. The procedure is aligned with ISO 45001 and covers both core medical issues and health-related interdisciplinary matters. A continuous improvement program was initiated, based on the results of the self-evaluations.

The training units on the topic of "Leadership and Health" held in Germany were almost completed in six of ZF's nine divisions and in the corporate functions.

The "Fit im Betrieb" (Fit at work) activity campaign at the German locations was suspended in February 2020 due to the pandemic. At least two activities have since been conducted at each German location.

The "Prevention of Work-Related Musculoskeletal Disorders" campaign that was planned had to be postponed due to the pandemic. The future implementation of this campaign will depend on the further development of the situation.

### Health protection in times of a pandemic

The COVID-19 pandemic dominated all well-being activities of the company throughout 2020. The development of the pandemic was constantly moni-

tored and recommended courses of actions were derived. The Board of Management received regular reports from national and international medical task forces. Based on defined processes, ZF is able to recognize and interrupt possible chains of infection at an early stage.

Effective health management with interdisciplinary teams has so far successfully prevented the development of major infections in ZF operations. With repeated campaigns, the Group has informed employees about the dangers of SARS-CoV-2 and effective protection against infection (e.g., physical distancing, additional hygiene measures and remote working wherever possible).

At the beginning of the pandemic in January, ZF decided to produce mouth and nose covers itself. The company now produces mouth and nose covers (disposable medical face masks) that are recognized and certified according to international standards at three locations worldwide (China, Germany, USA). This enables ZF to provide its employees with high-quality mouth and nose covers as part of its hygiene concept.

Managers were provided with regular advice and specialist information in order to enable them to create framework conditions with the lowest

possible health risk for employees during the pandemic situation. A “ZF Managers Handbook for dealing with COVID-19” manual with important information and instructions has been made available to all managers.

In particular, through the interdisciplinary cooperation of all specialist functions as well as the consistency and discipline of the employees, the necessary health protection was able to be provided in the company, even in the midst of the pandemic.

#### Accident rate and health figures

To monitor safety performance, work-related accidents resulting in lost time are recorded and analyzed. While this data included agency workers (workers who are not employees but whose work is overseen by ZF), their injury rates could not be disclosed separately in 2020 due to the current database structure. The implementation of a new database to provide more detailed information was postponed to the first quarter of 2021 due to both the COVID-19 situation at many locations and the new EU data privacy law.

The most frequent types of injury involved fingers and hands and were sustained in the assembly and machining areas. In 2020, no employee or agency worker experienced a fatal work-related accident within the ZF Group.

As work-related accidents result in lost working days, ZF’s lost time accident rate (LTAR) – accidents per one million working hours, based on 260 million hours worked – amounted to 3.3 (the target was 3.5). This represents a 13 percent reduction as compared to 2019 – a double-digit reduction in the LTAR is observable in each of the last four years. This is the result of significant management attention and the integration of safety into ZF’s business and shopfloor processes. The regions outside of Europe have shown excellent result and have already met ZF’s 2025 target. In Europe, Germany still shows room for improvement. Increased attention as well as root cause and near miss analyses will be fostered to improve overall safety performance. Data shows that 70 percent of ZF’s nearly 400 reporting units are already achieving good LTAR performance (lower than 2.5). The Group’s focus now needs to be on the 10 percent of the reporting units with an LTAR above ten. The number and rate of high-consequence work-



#### Milestones in the dealing with COVID-19

Since ZF has two plants in Wuhan, the Group responded early in 2020:

**January:** A global task force was established and information regarding the Coronavirus in the ZF-intranet was constantly updated. By the end of January, a travel ban to and from China was in place.

**February:** A campaign on “effective virus protection” was launched at all ZF locations supported with comprehensive information (e.g., poster, flyer, intranet pages). In addition, the European Crisis Team was established.

**March:** Task forces started in the US, and in India, along with one regarding “restart production.” The first COVID-19 cases emerged at ZF in China on the same day that mask production started in China.

**April:** The first masks from China arrived in Europe and in the US on April 10.

**May and June:** Managers Handbook for dealing with COVID-19. Additional webinars regarding restarting production were made available.

**July and August:** Mask production in Germany began. Wearing masks became mandatory at all locations.

**September to December:** The “stay alert” refresher campaign was launched. Rollout of new travel guidelines and a “COVID-19 Test Guideline 2020.”

related injuries as well as recordable injuries, such as restricted cases or injuries beyond first aid, will be determined in the new database.

### Rate of accidents (LTAR)

Accidents with working days lost per one million working hours (LTAR)

	2020	2019	2018
EMEA	5.7	6.5	7.5
of which Germany	7.9	8.6	9.8
of which Europe (excl. Germany)	3.3	3.9	4.6
North America (incl. Mexico)	1.3	1.5	1.7
South America	2.8	2.9	4.4
Asia-Pacific	0.5	0.6	1.0
India <sup>1</sup>	0.1	0.3	-
<b>ZF Group</b>	<b>3.3</b>	<b>3.8</b>	<b>4.5</b>

<sup>1</sup> Starting during 2018, India was listed as a separate region and not as part of the Asia-Pacific region.

The 2020 monthly results showed a rather stable rate around the target of 3.5, and during the lockdown period (April–May) the LTAR improved to less than 2.0. The severity rate (lost working days per lost time accident) in 2020 was 17.6 (2019: 14.5).

To reduce the severity rate, ZF has set a reduction target of 8.0 by 2025. Prevention is to be achieved through more detailed investigation of accidents or near misses with high severity potential, also supported by the new database.

Thanks to a survey of all ZF locations around the world in 2020, a global overview of occupational diseases is now available. A total of 111 cases of occupational diseases were identified across various locations over the past year. Occupational diseases at the global level are based on different social systems and legal frameworks in the individual regions and countries. With the first survey as a baseline, a standardized reporting system is now being developed to enable global analysis in the future, particularly regarding occupational diseases over time.

For the German locations, comprehensive historical data is available. This data has been analyzed and evaluated and supplemented by the data from 2020.

While a total of 25 cases of confirmed cases of occupational disease were identified at various locations in Germany, no indications of employee groups with a high rate or risk of disease resulting from their work at ZF were observed in 2020. The risks of occupational diseases and work-related health problems typical for the metalworking industry are well known. Preventive measures and contingencies for intervention are in place.

Hearing impairment caused by noise was again the most frequently reported occupational disease among ZF employees, with 35 potential and 20 confirmed cases in 2020. As hearing impairment caused by noise usually develops over years of exposure to noise, the latest figures for occupational diseases identified do not necessarily reflect current working conditions. Strain on the inner ear is also reduced by wearing suitable PPE. This hearing protection equipment is available to all employees affected, and wearing it is mandatory in high-noise areas.

Apart from hearing impairment, some work-related skin diseases were diagnosed. In 2020, only 22 cases of potential work-related skin disease were diagnosed, one of which was confirmed. ZF provides the required skin protection to prevent work-related skin diseases and stipulate its use in skin protection plans. Whenever employees suspect they are experiencing 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.

# GRI CONTENT INDEX



**MATERIALITY  
DISCLOSURES SERVICE**

**2021**

For 2020, the ZF Group is reporting on its sustainability performance according to the Standards published by the Global Reporting Initiative (GRI). This report has been prepared in accordance with the GRI Standards: "Core" option. The disclosures included in the report were selected based on a materiality analysis conducted in 2018. This report also

serves as the annual Communication on Progress regarding to the implementation of the ten principles of the UN Global Compact (UNGC).

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to

102-49 align with appropriate sections in the body of the report. All the GRI Standards listed in the following GRI content index were published in 2016. The exceptions are the updated standards GRI 403: Occupational Health and Safety 2018, GRI 303: Water and Effluents 2018 and the new standard GRI 207: Tax 2019.

GRI Standard		Page	Comments
<b>GRI 101:</b>	<b>Foundation 2016</b>		
<b>GRI 102:</b>	<b>General Disclosures 2016</b>		
	<b>Organizational Profile</b>		
GRI 102-1	Name of the organization	20	
GRI 102-2	Activities, brands, products and services	35-37	
GRI 102-3	Location of headquarters	85	
GRI 102-4	Location of operations	35-37	
GRI 102-5	Ownership and legal form	20	
GRI 102-6	Markets served	35-37	
GRI 102-7	Scale of the organization	4	
GRI 102-8	Information on employees and other workers	61	
GRI 102-9	Supply chain	38	
GRI 102-10	Significant changes to the organization and its supply chain	2	

GRI Standard		Page	Comments
GRI 102-11	Precautionary principle or approach	48	
GRI 102-12	External initiatives	22/23	
GRI 102-13	Membership of associations	23	
<b>Strategy</b>			
GRI 102-14	Statement from senior decision-maker	5/6	
GRI 102-15	Key impacts, risks and opportunities	21/22	
<b>Ethics and Integrity</b>			
GRI 102-16	Values, principles, standards and norms of behavior	22	
<b>Governance</b>			
GRI 102-18	Governance structure	20/25	
<b>Stakeholder Engagement</b>			
GRI 102-40	List of stakeholder groups	28	
GRI 102-41	Collective bargaining groups	63	
GRI 102-42	Identifying and selecting stakeholders	27	
GRI 102-43	Approach to stakeholder engagement	27	
GRI 102-44	Key topics and concerns raised	27/28	
<b>Reporting Practice</b>			
GRI 102-45	Entities included in the consolidated financial statements	2	
GRI 102-46	Defining report content and topic boundaries	27	
GRI 102-47	List of material topics	78-83	
GRI 102-48	Restatements of information	-	Where information has been updated is indicated in the relevant paragraph or by explanatory footnotes of the respective table.

GRI Standard		Page	Comments
GRI 102-49	Changes in reporting		There were no significant changes from previous reporting periods in the list of material topics and topic Boundaries.
GRI 102-50	Reporting period	4	
GRI 102-51	Date of most recent report	2	
GRI 102-52	Reporting cycle	-	Annually
GRI 102-53	Contact point for questions regarding the report	84	
GRI 102-54	Claims of reporting in accordance with the GRI Standards	78	
GRI 102-55	GRI content index	78-84	
GRI 102-56	External assurance	2	
<b>Material topics</b>			
<b>GRI 201:</b>	<b>Economic Performance 2016</b>		<b>GRI 102-47</b>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	35-37	
GRI 201-1	Direct economic value generated and distributed	36	
GRI 201-2	Financial implications and other risks and opportunities due to climate change	22	
<b>GRI 203:</b>	<b>Indirect Economic Impacts 2016</b>		<b>GRI 102-47</b>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	20/68	
GRI 203-1	Infrastructure investments and services supported	36/68	
<b>GRI 204:</b>	<b>Procurement Practices 2016</b>		<b>GRI 102-47</b>
GRI 103:	Management Approach 2016 (including 103-1, 103-2, 103-3)	38-41	
GRI 204-1	Proportion of spending on local suppliers	38	
<b>GRI 205:</b>	<b>Anti-corruption 2016</b>		<b>GRI 102-47</b>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	24-26	
GRI 205-2	Communication and training about anti-corruption policies and procedures	26	



GRI Standard		Page	Comments
<b>GRI 207:</b>	<b>Tax 2019</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	36/37	
GRI 207-1	Approach to tax	36/37	
GRI 207-2	Tax governance, control and risk management	36/37	
GRI 207-3	Stakeholder engagement and management of concerns related to tax	36/37	
GRI 207-4	Country-by-country reporting	37	
<b>GRI 301:</b>	<b>Materials 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47/48, 57/58	
GRI 301-1	Materials used by weight or volume	57	
GRI 301-2	Recycled input materials used	57	
GRI 301-3	Reclaimed products and their packaging materials	57	
<b>GRI 302:</b>	<b>Energy 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47/48, 53	
GRI 302-1	Energy consumption within the organization	53/54	
GRI 302-2	Energy consumption outside of the organization	53/54	
GRI 302-3	Energy intensity	53/54	
GRI 302-4	Reduction of energy consumption	53/54	
GRI 302-5	Reductions in energy requirements of products and services	45/46	
<b>GRI 303:</b>	<b>Water and Effluents 2018</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47/48, 55/56	
GRI 303-1	Interactions with water as a shared resource	48, 55/56	
GRI 303-2	Management of water discharge-related impacts	48, 55/56	
GRI 303-3	Water withdrawal	55	
GRI 303-4	Water discharge	56	

GRI Standard		Page	Comments
<b>GRI 305:</b>	<b>Emissions 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47-52	
GRI 305-1	Direct (Scope 1) GHG emissions	50	
GRI 305-2	Energy indirect (Scope 2) GHG emissions	50	
GRI 305-3	Other indirect (Scope 3) GHG emissions	51/52	
GRI 305-4	GHG emissions intensity	50	
GRI 305-5	Reduction of GHG emissions	50/51	
GRI 305-6	Emissions of ozone-depleting substances (ODS)	50/51	
GRI 305-7	Nitrogen oxides (NOx), sulphur oxides (SOx) and other significant air emissions	51	
<b>GRI 306:</b>	<b>Effluents and Waste 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	47/48, 55	
GRI 306-2	Waste by type and disposal method	58	
GRI 306-3	Significant spills	56	
<b>GRI 307:</b>	<b>Environmental Compliance 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	38-41	
GRI 307-1	Non-compliance with environmental laws and regulations	40	
<b>GRI 308:</b>	<b>Supplier Environmental Assessment 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	38-41	
GRI 308-1	New suppliers that were screened using environmental criteria	40	
GRI 308-2	Negative environmental impacts in the supply chain and actions taken	40	

GRI Standard		Page	Comments
<b>GRI 401:</b>	<b>Employment 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	61/62	
GRI 401-1	New employee hires and employee turnover	62	
GRI 401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	63	
GRI 401-3	Parental leave	69	
<b>GRI 402:</b>	<b>Labor/Management Relations 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	63/72	
GRI 402-1	Minimum notice periods regarding operational changes	63	
<b>GRI 403:</b>	<b>Occupational Health and Safety 2018</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	71-77	
GRI 403-1	Management system for occupational health and safety	71-73, 75	
GRI 403-2	Identification of hazards, risk assessment and investigation of incidents	72-75	
GRI 403-3	Occupational health services	72, 75	
GRI 403-4	Employee participation, consultation and communication on occupational health and safety	71-73	
GRI 403-5	Employee training on occupational health and safety	74	
GRI 403-6	Promotion of employee health	75	
GRI 403-7	Preventing and minimising effects directly related to business relationships on employee health and safety	71-77	
GRI 403-8	Employees covered by a management system for occupational health and safety	73, 75	
GRI 403-9	Work-related injuries	76/77	
<b>GRI 404:</b>	<b>Training and Education 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	64-66	
GRI 404-2	Programs for upgrading employee skills and transition assistance programs	65/66	

GRI Standard		Page	Comments
<b>GRI 405:</b>	<b>Diversity and Equal Opportunity 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	63, 67-71	
GRI 405-1	Diversity of governance bodies and employees	71	
<b>GRI 406:</b>	<b>Non-discrimination 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	24-26, 67	
GRI 406-1	Incidents of discrimination and corrective actions taken	67	
<b>GRI 412:</b>	<b>Human Rights Assessment 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	38-41	
GRI 412-1	Operations that have been subject to human rights reviews or impact assessments	40	
<b>GRI 414:</b>	<b>Supplier Social Assessment 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	38-41	
GRI 414-1	New suppliers that were screened using social criteria	40	
<b>GRI 416:</b>	<b>Customer Health and Safety 2016</b>		<a href="#">GRI 102-47</a>
GRI 103:	Management Approach 2016 (including GRI 103-1, 103-2, 103-3)	43-45	
GRI 416-1	Assessment of the health and safety impacts of product and service categories	43-45	

# IMPRINT

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

UN Global Compact Principles	Relevant GRI Disclosures
<b>Human rights</b>	
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
<b>Labour</b>	
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, 204, 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
<b>Environment</b>	
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
<b>Anti-corruption</b>	
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	102-16, 205, 414

## ZF Friedrichshafen AG

D-88038 Friedrichshafen  
Germany  
Phone +49 7541 77-0  
Fax +49 7541 77-908000  
[www.zf.com](http://www.zf.com)

## Contact

ZF Friedrichshafen AG  
Corporate Governance Sustainability  
Löwentaler Straße 20  
D-88046 Friedrichshafen  
Email: [sustainability@zf.com](mailto:sustainability@zf.com)

## Editorial deadline

March 2021

## Photos

ZF Friedrichshafen AG  
Page 11: gettyimages © Michael H

## Consultancy, text and layout

akzente kommunikation und beratung gmbh,  
D-80469 Munich, Germany