fev

Sustainability Report 2024

Patrick Hupperich
Chairman of the
Executive Board,
FEV Group

Norbert W. Alt
Managing Director and
Chief Operating Officer,
FEV Group

Christian Rösch
Managing Director and
Chief Financial Officer,
FEV Group

Dear Readers,

FEV is a leading global development services provider in the automotive sector and a driver of innovation for various industries. This gives the company a decisive edge over its customers and partners, which include the world's largest automobile manufacturers and companies throughout the transportation, mobility, aerospace as well as software and energy and resources ecosystems. Sustainability is therefore deeply rooted in FEV's DNA and determines the daily activities of the independent, family-run company, which are characterized by enthusiasm for technology. FEV views sustainability as an ongoing process that must be regularly reviewed, optimized and reinforced. This process is ensured by ecological, social and economic evaluation factors.

Since its foundation more than 45 years ago, FEV has earned a worldwide reputation as an innovative and forward-looking engineering provider with more than 7,000 highly qualified employees. FEV recognizes the challenges of the times and has been developing pioneering innovations in the field of mobility since its inception, which have become an integral part of everyday life.

A key principle of FEV is its openness to different technologies. Over time, this has led to the development of numerous areas of expertise in which the company offers targeted solutions. FEV has been involved in projects with hydrogen applications for fuel cells and engines for more than two decades. Another focus is battery electric mobility. With the eDLP, FEV operates the world's largest independent development center for batteries in cars and commercial vehicles in order to continuously improve the safety and efficiency of batteries. The energy required there comes almost entirely from renewable sources. Other sustainable drive concepts are being optimized or made ready for market in various research collaborations, often with FEV in a leading role. This includes, for example, the use of renewable, CO_2-neutral e-fuels.

The company also gives great importance to its own employees acting in a responsible manner. This is achieved through continuous training programs, audits and certifications concerning environmental protection, occupational health and safety, information security as well as quality and sustainability management.

With this report, FEV aims to fully inform its partners, customers and all interested parties about its activities and services in 2024, which are aimed at sustainable development.

We wish you exciting insights.

01 Company profile P. 5

1.1 Corporate structure and management **P. 6**

1.2 FEV services **P. 7**

1.3 Management of opportunities and risks **P. 10**

1.4 Value-oriented corporate management **P. 12**

02 Sustainable technologies & concepts P. 13

2.1 FEV and ProLogium **P. 14**

2.2 Partial discharge **P. 15**

2.3 CogniSafe **P. 16**

2.4 The Dutch WindWheel **P. 17**

03 Focus on sustainability P. 19

3.1 Commitment to people and the environment **P. 20**

3.2 Sustainability management and organization **P. 20**

3.3 Stakeholder engagement **P. 21**

3.4 Materiality of FEV key topics **P. 24**

04 Environmental responsibility P. 27

4.1 Environmental management at FEV **P. 28**

4.2 Energy management and climate protection **P. 29**

4.3 Waste management **P. 32**

05 Social responsibility P. 34

5.1 People at FEV **P. 35**

5.2 Recruiting and employer branding **P. 36**

5.3 Qualification and advanced training **P. 38**

5.4 Occupational health and safety **P. 39**

5.5 Diversity and equality **P. 42**

06 Governance P. 44

6.1 Code of Conduct **P. 45**

6.2 Sustainable customer relationships **P. 45**

6.3 Respect for human rights **P. 46**

6.4 Compliance management **P. 47**

6.5 Information security **P. 49**

6.6 Functional safety and cybersecurity **P. 50**

6.7 Data protection **P. 51**

07 About this report P. 52

ESRS content index **P. 53**

Editorial information **P. 56**

For more than 45 years, we at FEV have been creating pioneering innovations and carrying out forward-looking projects in the mobility sector. Over the years, we have steadily expanded our areas of expertise and at the same time continued to specialize. Our goal is to shape the future of the transportation sector together with our customers – for climate-neutral, efficient, connected, and safe mobility. We are guided by a clear vision and strong values that form the foundation of our corporate culture and serve as a guideline for all strategies, activities and decisions.

FEV Group

FEV Americas FEV Europe FEV Asia

1.1 Corporate structure and management

With around 7,000 employees in 22 countries during the reporting period, FEV is one of the world's leading companies in the sector. Along with 18 German subsidiaries, the Group also includes 30 subsidiaries outside of Germany – in Europe, Asia, Africa, Australia and in North, Central and South America. The Group headquarters is located in Aachen, Germany. The parent company is FEV Group GmbH. It determines the strategic direction, taking into account the subsidiaries, and defines the values to which FEV is committed. In addition, the FEV Group provides support to its subsidiaries with central functions – from legal and compliance, marketing and communication, sales, controlling and HR management to quality, labor, environmental and sustainability management.

FEV ensures compliance with group-wide uniform standards through its shareholdings in the subsidiaries. The FEV Group has established a voluntary advisory board with former members of the Executive Board from industry and the financial sector, which gives advice to the management and at the same time makes recommendations for further development to the shareholders.

At the FEV locations, the focus is on development services for the automotive industry and other technology-driven areas of the transport sector, in particular aviation, space and maritime transport, as well as the energy sector. The headquarters in Aachen and its surrounding area provides access to large development centers with comprehensive research and test facilities. FEV operates additional branches worldwide at customer locations as well as subsidiaries outside of Germany.

The current Executive Board of FEV Group GmbH is chaired by Patrick Hupperich. As Managing Director and Chief Operating Officer, Norbert W. Alt is responsible for the technology-driven business units, sales, marketing and communication worldwide. Alongside his role as Managing Director, Christian Rösch is also Chief Financial Officer

with global responsibility for finance, controlling, IT, purchasing, quality and sustainability. As Chief People & Strategy Officer, Yvonne Thürwächter is responsible for human resources, employee development and organizational culture as well as corporate strategy.

FEV is globally active for its customers

7,000 Employees globally	**740 M€** Revenue in 2024	**>50** Different nations	**70%** Academics
>45 Years of experience	**~240** Test stands for engines, T/M, e-drives, fuel cells and batteries	**40+** Locations on four continents	**~200** Patent applications per year

1.2 FEV services

Intelligent solutions for current challenges

Connected systems, highly automated vehicles, efficient and emission-free drive technologies: The demands placed on sustainable mobility concepts are constantly growing. The vehicle development process is becoming increasingly complex and now includes a wide range of disciplines, such as software development and vehicle energy technology. To meet these challenges, FEV offers its customers precise processes, reliable systems and teams of highly specialized experts. The company has decades of experience in the management of challenging projects such as powertrain integration, attribute development, and vehicle engineering.

FEV reacted to the changes in vehicle development at an early stage and adapted to the growing importance of electrified powertrains and energy storage technologies. Today, FEV's service portfolio also includes hardware and software solutions for various vehicle technologies. These are validated with virtual and real-world test methods and are future-oriented in terms of efficiency, emissions, and resource requirements.

FEV's expertise also includes cost planning, supplier procurement, advanced quality planning, and release management. Smooth workflow is ensured by global teams close to the customer, who can work together in an agile manner across disciplines thanks to digital networking. In this way, the development services provider supports its customers in all phases of project development.

The FEV sub-brands make the range of services visible to the outside world.

FEV vehicle

Whether advanced driver assistance systems, human-machine interfaces, electrification or connectivity: An endless series of new innovations is shaping vehicle development. In that context, FEV provides support to the research and development departments of automakers and suppliers, helping them to integrate all components into large-series production, smoothly and on schedule. The company offers OEMs (Original Equipment Manufacturer) and their suppliers new approaches and perfectly adapted concepts – from the initial concept idea to scheduled implementation and series production.

In particular, FEV develops tailor-made solutions for all vehicle sub-assemblies such as chassis, electrical and electronic systems, body, doors and hatches, as well as exterior and interior design. The range of services also includes concepts for light and visibility, vehicle performance and production, such as test equipment, fixture/equipment construction, etc. Each and every project is considered holistically and individually. The FEV specialists not only consider criteria such as weight reduction, safety, aerodynamics and thermal management, but also aspects such as functionality, aesthetics and cost optimization. Regular audits ensure high quality throughout the entire process. In the development of sustainable vehicle platforms, FEV relies on the "hybrid BEV" (Battery Electric Vehicle), among other things, which is based on a native BEV platform. This can be used for vehicles with two different types of drive: either purely battery-electric or with highly efficient energy conversion systems. The decisive advantage for automobile manufacturers is that the cost-intensive parallel development of two different platforms is no longer necessary.

FEV.io

Future vehicles are embedded in the digital lives of users. In future, the customer experience will be largely shaped by software-controlled functions – from driver assistance and autonomous driving (ADAS/AD) to infotainment and fully networked systems. Due to their complexity, software upgrades and the permanent exchange of data between vehicles, infrastructure, users, and the cloud backend are now key factors in modern vehicle construction and have a major influence on customer expectations as well as the pace of development.

With its sophisticated methods in the scenario and model-based development process, FEV has a unique selling point on the market and closes the gap between vehicle and ITC (information technology and communication). The company has made a name for itself worldwide with networked solutions and the end-to-end view of data pipelines from the vehicle to the backend. The service spectrum spans systems engineering, functional safety, and cyber security, networked mobility, ADAS/AD systems, infotainment, SW & EE platforms, and SW & EE integration.

FEV propulsion

FEV can also build on many years of experience and extensive expertise in drive development. The services span both mild, full and plug-in hybrid vehicles as well as pure battery electric vehicles. There are also complete battery systems, including battery management system (BMS), power electronics and battery testing. FEV relies on standard modules and its own BMS "FEV LiONMAN", but also proposes completely new products according to specific customer requirements. eDLP is FEV's own center for developing and testing safe and high-performance batteries.

As a company that is open to new technologies, FEV has been working on fuel cell applications for about 20 years now and, as a result, participates in many international research and development projects. Another area of activity is hydrogen combustion engines.

At the same time, the company specializes in highly efficient combustion engines, transmission solutions and turbocharging. These meet demanding customer requirements as well as the current and increasingly stringent legal requirements. The company can rely on its global network of development centers with connected test stands for different types of drive.

In the area of combustion engines, the company participates in the development of regenerative fuels (e-fuels) for the emission-free operation of the existing fleet, which comprises around 1.4 billion vehicles worldwide. Powered by e-fuels, there is an immediate opportunity to significantly reduce the CO_2 emissions of the vehicle fleet.

FEV EVA GmbH specializes in electromobility and offers all services along the development process – from project and requirements management to concept and function development, simulation, application, testing and validation. Customer projects can cover pre-development, series development and series production support after the start of production.

FEV EVA pays particular attention to the areas of e-machines and high-voltage batteries. The division has its own cell test stands for testing and analyzing Li-ion cells as well as a prototype construction facility for HV batteries.

FEV energy + resources

FEV energy + resources specializes in creating synergies between the mobility sector and the power and heating sector. The focus is on solutions that intelligently connect and holistically optimize power and heat generation with mobility and industry. The aim is to make efficient use of renewable energies, responsible use of our resources, and to accelerate the transformation towards a climate-neutral society.

The numerous possibilities for producing, storing, transporting, and using renewable energies are reflected in the wide range of business activities. FEV is involved, for example, in the system design of photovoltaic systems, in the optimal dimensioning and regulation of photovoltaic battery storage heat generation systems, in fuel cell combined heat and power stations, and in stationary energy storage facilities.

The development and integration of bidirectional charging management is a promising business area in the automotive sector. For this purpose, for example, FEV is developing smart regulation strategies for energy management in domestic and industrial environments and for the intelligent charging and discharging of connected vehicle batteries. For all of the applications mentioned here, FEV assumes the role of system integrator.

FEV Consulting

FEV combines top management consulting with technical expertise from 40 years of involvement in the automotive and aviation industries. Together with clients, FEV Consulting finds innovative solution approaches to all challenges. The consultants formulate and implement successful business strategies, determine product and market options, and optimize value creation chains as needed.

In addition, FEV conveys methods for establishing new product and process technologies in the company over the long term, thereby developing new markets. The global teams advise on three levels. On the one hand, they assist senior management with difficult challenges in the industry. At the same time, they determine sophisticated solution approaches for critical business problems, relying on proven methods. In addition, they optimize operational processes in order to reduce costs and generate more sales and margin growth.

FEV aerospace

FEV is pushing the boundaries of what is possible with its technologically advanced solutions for the aerospace industry. These include, in particular, innovations in the areas of sustainable, efficient propulsion systems, electronics and software. For the company, consistently delivering top performance is just as important as focusing on cutting-edge research and development. This is how FEV aerospace is committed to improving performance, efficiency and sustainability in the aerospace industry.

With its extensive expertise and long-standing cooperation with leading players in the aviation industry, FEV aerospace is playing a key role in shaping the future of aerospace technology and thus driving the development of holistic mobility.

1.3 Management of opportunities and risks

The FEV Group is exposed to economic uncertainties worldwide, especially due to geopolitical conflicts such as the war in Ukraine and new trade barriers, such as US tariff policy. This puts a strain on international trade and leads to price losses on the financial markets, which has a negative impact on the export industry. In addition, inflation, a shortage of skilled workers, digital infrastructure deficits and new requirements for climate and resource protection pose further challenges that can also influence FEV's business development.

The FEV Group sees great opportunities in the transformation of the mobility industry, especially through

sustainable drive technologies, electrification, digitalization, and software development. It invests in CO_2-neutral solutions, new business areas such as the energy sector and aerospace, as well as in global partnerships and centers of excellence. At the same time, there are risks from market changes, regulatory requirements, declining investments in conventional technologies, and increasing competition from the IT and service sectors, which FEV is addressing with strategic diversification and innovation.

FEV is a development service provider for the automotive industry that sees great opportunities for innovation and business expansion through technological trends such as electromobility, autonomous driving and vehicle networking. At the same time, there are risks due to project complexity, miscalculations of technological developments and regulatory changes.

Entrepreneurial action geared towards this requires target-oriented decisions that are focused on the future, but are made on the basis of current knowledge. This inevitably entails risks.

Opportunity and risk assessment on three levels

FEV systematically analyzes opportunities and risks that can have an impact on the success of the business. Continuous assessment takes place at strategy, process and project level. The strategic risk assessment is reviewed annually as part of the strategy process and documented in the annual Group Management Report. As a development services provider with international operations, FEV Group's business risks and opportunities primarily arise from foreseeable economic developments in various countries, as well as technological and legal changes and increasing sustainability requirements. Aspects concerning fiscal matters, taxation and personnel are also taken into consideration. The Management Report comprehensively presents the current developments in the individual areas. The possible effects on the financial position, results of operations, and net assets are assessed on the basis of the probability of occurrence. The risk-based approach is ensured on the process level by the internal Quality Management, whereby FEV meets the requirements of the international standard ISO 9001. For sub-areas such as Environmental Protection, Occupational Health and Safety, additional specific management systems are used. Project-specific opportunities and risks are managed with specially developed project management tools and a monthly project assessment using a traffic light system.

Corporate Risk Management

In 2022, FEV set the course for the introduction of a central risk management system that combines and cumulates the previous, decentrally organized systems. This creates the basis for a holistic analysis of opportunities and risks – an important factor for securing the future in terms of long-term profitable corporate management. 2023 marked the start of the implementation of the group-wide risk management system (RMS as Corporate Risk Management). Individual and cumulative risks that could potentially jeopardize the company's success can be identified, analyzed, assessed, and actively managed. Risk assessment is also being further developed. In this way, current topics such as supply chain due diligence, whistleblower protection and other sustainability issues can also be adequately taken into account.

The central risk management is coordinated by the Corporate Risk Manager who informs the management as part of both regular and occasion-related reporting. Responsibility for the risk management process remains with the Executive Management of the subsidiaries. This makes it possible to react quickly to changing conditions, maintain financial and entrepreneurial flexibility and sustainably increase the corporate value. Impacts, opportunities and risks in relation to sustainability-relevant aspects are a key component of the assessment. The starting point and result of the continuous process is group-wide risk reporting and the quarterly update of the risk register. The concept stipulates that ad hoc risks outside the reporting intervals must be reported immediately. An

Risk management consists of three levels

assessment based on the weighted "value-at-risk" model allows risks to be compared in internal and external reporting. Risks are classified according to their risk level, i.e., the average impact on earnings taking into account the probability of occurrence. As part of its net assessment, FEV uses proven risk-reducing measures and continues to develop them. The effects of risks and opportunities are presented separately and are not offset against each other. By aggregating all material risks at Group level, group-wide effects become visible.

"As a leading driver of innovation, FEV actively contributes to promoting sustainability and improving people's quality of life. Our vision is a future in which mobility is even more efficient, energy is generated in a sustainable and environmentally friendly manner and software solutions enrich people's lives in every sense."

Patrick Hupperich, Chairman of the Executive Board, FEV Group

1.4 Value-oriented corporate management

FEV stands for uncompromising quality, distinct innovative strength, and clear customer orientation – characteristics that are anchored in the company's DNA.

FEV has developed binding corporate values that serve as a framework and standard of conduct for all employees in their dealings with each other, business partners and customers. All decisions at FEV are based on the vision, the mission and the corporate values. They form the foundation for all internal and external actions as well as for the complete communication. The principle of sustainability is an integral part of FEV's value system at all levels.

FEV has initiated a group-wide cultural change in order to bring these values to life and implement them in day-to-day business practice. For this purpose, all employees were invited to a lively exchange at numerous events worldwide. The dialog process was documented and evaluated in detail. The aim is to gain a comprehensive understanding of the concerns and ambitions of employees and to strengthen their identification with and sense of belonging to the company in the long term.

2

FEV propulsion

We combine passion for technology with a deep understanding of the ongoing development of ideas, concepts, and strategies. We research, question, test, learn – and continuously optimize our own solutions and the way we work together. In this way, we are launching standard-setting innovations worldwide in the fields of sustainable mobility, energy, and software. This creates the basis for a sustainable future and a better quality of life for everyone. The following examples provide an insight into the areas of expertise that are particularly relevant to the sustainability aspects of climate change, the circular economy, and personal safety.

2.1 FEV and ProLogium present innovative vehicle battery with greater range, higher safety, faster charging, and lower weight

Customer requirements for the evolution of electric cars are clearly defined: Weight must be reduced, efficiency and range should be increased. Charging should be faster, and safety needs to be guaranteed at all times. Furthermore, maintenance costs should be reduced. FEV, Germany's innovation powerhouse for the automotive industry, and ProLogium, a global pioneer in the development of advanced vehicle batteries, fulfil precisely these requirements with their new product development.

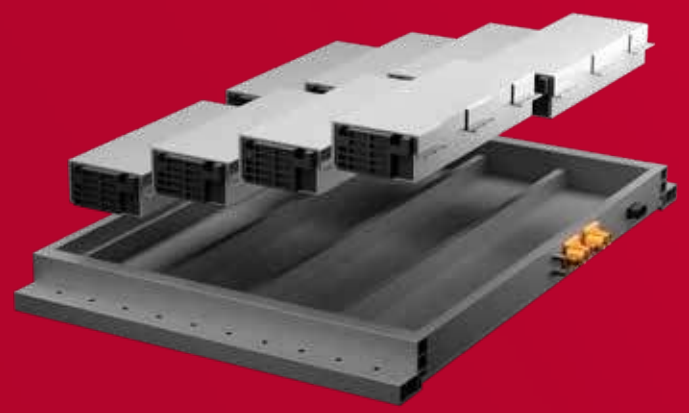
All this is made possible by LLCB technology (Large-Footprint Lithium Ceramic Battery). With its anode that consists of 100 per cent silicon composite material the latest generation of this battery offers a 10-times higher capacity density compared to the graphite anodes used to date. Depending on the vehicle segment and intended use, the LLCB allows weight savings of up to 300 kg or a maximum range of 1,000 km. In contrary to current liquid electrolytes, the applied solid-state electrolyte is non-flammable and increases safety against thermal runaway. It also prevents potential short circuits caused by leaking electrolyte fluid in the event of a spill.

For the LLCB solution, FEV has successfully combined ProLogium´s know-how in the field of cell development with its own development, system and testing expertise. The collaboration on battery packs and concept designs focuses not only on regulatory standards, but also on market requirements.

Compared to current fast charging intervals of around 30 minutes, the silicon anode enables the ultra-fast charging process, which reduces the charging time by more than 80 per cent. This means that the battery can be charged from five to 60 per cent within five minutes, allowing the user to cover an average distance of 300 km. After a further three minutes, the battery is charged to 80 per cent and can cover a further 100 km. In this way, the LLCB helps to bring charging times closer to the duration of a refueling process for vehicles with combustion engines. The slim shape of the battery cells means that new, space-saving designs can now be realized for the battery packs, which opens up many additional options for OEMs.

The modular design of the battery also makes maintenance much easier, saves costs and allows individual cells to be replaced and recycled. LLCBs therefore have a positive environmental impact and make a significant contribution to preserving the value of future electric vehicles.

FEV X ProLogium



FEV propulsion

2.2 FEV senses electrical partial discharge in high-voltage vehicle propulsion systems

With PD-HVX ("Partial Discharge-High Voltage X"), FEV has developed the world's first solution for early detection and prevention of partial discharge (PD) in high-voltage Electric Drive Units (EDUs). PD can cause damage to the insulation in modern EDUs, which in the worst case scenario can result in a total failure of the vehicle. FEV's PD-HVX uses well established measuring systems with specialized sensors, which are used in EDUs for qualitative measurement. This enables customers to identify partial discharge during the development phase and take the necessary action.

PD is a local electrical sparkover that can occur at high voltages above 600 volts. It is caused by extremely small defects or inhomogeneities in the insulation material or soiled surfaces. If it remains unnoticed within an EDU and occurs repeatedly, PD leads to gradual damage of the insulation and to a premature stop of the vehicle.

PD-HVX uses electromagnetic frequency analysis, one of the most precise and reliable measurement methods for the application field of electrical propulsion systems, to measure the electromagnetic fields around the drive unit to be analyzed. The innovative software then uses the measurement results to determine whether partial discharge occurs within the EDU during operation. PD has been known for a long time in the field of electrical systems engineering and high-voltage transmission networks, where corresponding tests are common practice. In the automotive sector, however, the phenomenon is just gaining focus with the increasing spread of 800V batteries. Thanks to FEV's many years of expertise in the development of EDUs, with PD-HVX the company can already offer its customers a dedicated solution for PD.

The solution is part of a comprehensive service package for vehicle manufacturers and suppliers. The test equipment, which is optimized for EDU operation, filters out drive-related interference signals and therefore enables significantly better measurement results for PD. The customer subsequently receives the data obtained in the tests for evaluation and further interpretation. FEV has many years of experience in power, propulsion, and control electronics as well as various areas of sensor technology in vehicle construction. On request, the customer can also make use of this expertise in data analysis and system optimization.

PD-HVX enables the early detection of partial discharge in the EDU so that potential causes of insulation damage in the electronics can be eliminated during the development process. This avoids delays due to premature vehicle failures and additional costs during development.

fev.com/en/partial discharge

2.3 FEV develops AI-supported driver monitoring system CogniSafe

FEV has presented CogniSafe, a state-of-the-art Driver Monitoring System (DMS) that significantly increases road safety. The system uses advanced technologies such as deep learning and computer vision to monitor driver conditions such as distraction, fatigue, and inattention in real time and under even the most challenging conditions.

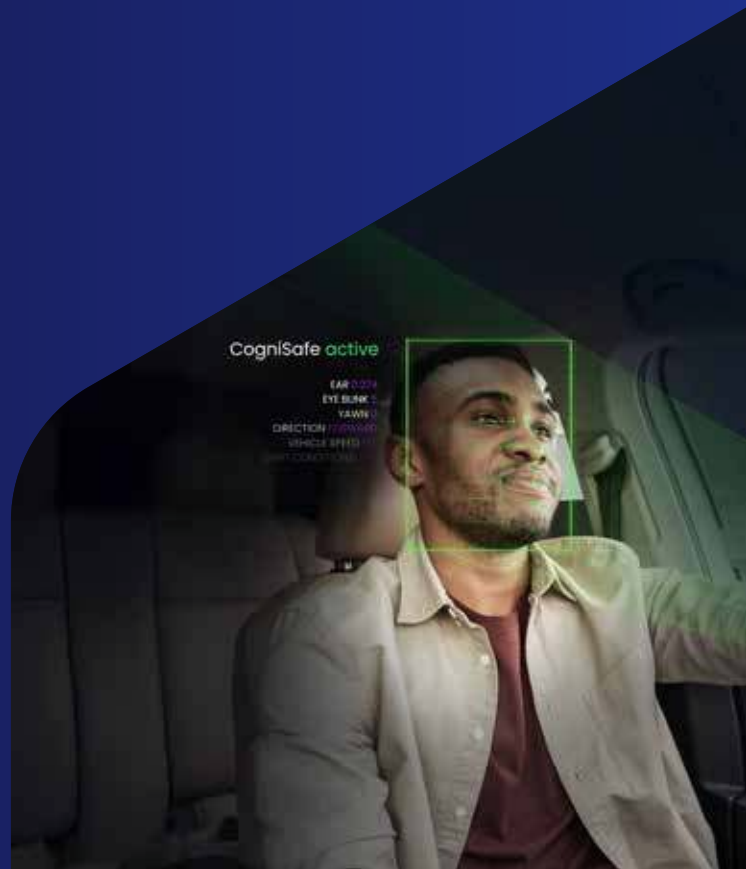
CogniSafe is a holistic, innovative system that uses a variety of sensors and combines them with artificial intelligence (AI) to precisely analyze driver behavior and alertness. In (semi-) autonomous vehicles in particular, legal safety requirements are increasing, and the driver must be able to intervene in any situation. With this development, FEV is actively reducing accidents caused by human error – which make up the majority of all accidents with over 90 percent.

CogniSafe uses a combination of functions which are unique on the market and coordinate with each other. It uses a network of cameras in the visible light and infrared spectrum to analyze driver behavior from different angles. On this basis, the system continuously tracks the driver's gaze, analyzes eye condition (percentage of eye closure, PERCLOS) and assesses head posture, providing further information on alertness, fatigue and drowsiness.

In addition, CogniSafe analyzes driver behavior regarding activities that could impair safety, such as texting on a cell phone, drinking while driving or adjusting controls in the vehicle. In this case, the system can inform the driver visually and acoustically and, if necessary, initiate active safety measures such as emergency braking or activate lane assistance.

AI plays a pivotal role in the functions of FEV's latest development. Convolutional Neural Networks (CNN) are used to perform precise real-time analyses that dynamically adapt to different drivers and environmental conditions, such as different lighting conditions, and continuously improve.

When developing the DMS, FEV paid attention to ease of use. CogniSafe can be seamlessly integrated into existing driver assistance systems (ADAS/AD) and can also be integrated into cloud-based structures. The development is furthermore modularly expandable and can be adapted to future technologies and regulations.



FEV energy+ resources

2.4 FEV plans energy and building technology for the low-emission building "The Dutch WindWheel"

"The Dutch WindWheel" is the prototype of a new generation of sustainable buildings designed by the Rotterdam-based architecture bureau DoepelStrijkers. These buildings are designed to produce virtually no emissions and generate most of the required energy themselves from sustainable sources. With this project, FEV is transferring the expertise, built up over several decades in the mobility sector to the building market. The company acts as the exclusive project partner for the planning and realization of the technical building equipment (TBE). This includes the wind and solar power generation systems along with energy and battery management as well as air conditioning.

Although wind energy gives the approximately 170m high building its name, "The Dutch WindWheel" is not equipped with conventional wind turbines. Instead, the electricity is generated using electrospraying. This technology uses electrodes inside the facade that release charged particles in the form of water droplets into the air through nozzles. This technology requires no moving parts at all, which significantly reduces noise pollution, vibrations, and shadows.

The second energy source for the building is the sun. For this purpose, around 70 percent of the building facade is fitted with solar panels, which also provide the building with shade. Further photovoltaic capacities were considered when planning the power supply, which FEV carries out using existing models for different loads and applications. This will include, for example, the roofing of the parking areas.

A smart charging and grid control system developed by the FEV engineers utilizes the vehicle batteries of the parked electric vehicles as additional energy storage and enables the necessary load shedding when required. The planning team has focused on sustainability when it comes to air conditioning, too: the warm exhaust air is fed through spaciously dimensioned pipes into heat exchangers located deep below sea level, where it is cooled down.

The autarchy of "The Dutch WindWheel" also includes the building´s water supply. FEV uses a patented concept in which the drinking water is largely obtained by treating rainwater. When it comes to disposing of wastewater, the engineers focus on recycling and recirculating it back into the building's cycle. FEV has successfully demonstrated the use of wastewater to produce bio-methanol in numerous projects and is now incorporating this concept into the WindWheel´s ecosystem. The long-term target is to create an environment that has a minimal ecological footprint and can also recycle waste and wastewater from the surrounding buildings if necessary.

3

Preserving the natural resources is one of the greatest challenges of our time. A transition to an economy that is in harmony with nature and the environment and benefits everyone is needed. The mobility and transport sector plays a decisive role in the sustainable transformation. As a development services provider, we are aware of our responsibility and focus on environmentally and climate-friendly mobility technologies and concepts. We follow a sustainability strategy that takes into account all three ESG dimensions in order to comprehensively fulfill our environmental, social and governance responsibilities.

3.1 Commitment to people and the environment

The entire mobility and transport sector is undergoing profound change, which is characterized by the trends of sustainability, digitalization and new drives. The focal points of sustainability activities were derived from this and the areas of activity relevant to FEV were defined:

- Electrification and hydrogen technology
- Responsible use of energy and resources
- Software development
- New work models

3.2 Sustainability management and organization

Building up its sustainability organization, FEV follows an integrative approach involving all relevant departments, officers and decision-makers. The key sustainability issues for the company are considered holistically and bundled for the subsidiaries worldwide. The structures created are regularly reviewed and adapted to changing internal and external requirements.

Key topics of sustainability activities

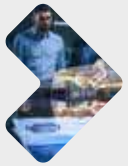
Electrification and hydrogen technology

- Development of battery-electric drive solutions to support global CO_2 reduction
- Hydrogen and fuel cells offer opportunities for commercial vehicles

Responsible use of energy and resources

- Connect power and heat generation with mobility and industry
- Consulting and development services support industry and society to achieve climate goals

Software development



- Smart regulation strategies for energy management and for the intelligent charging and discharging of connected vehicle batteries (V2X)
- Ensure high standards for safety and data protection in digital mobility solutions

Modern work models

- Recruiting and retaining talented staff is important
- Flexible work options like remote work and shared-use workplaces are implemented

Environmental

Optimizing our environmental impact

As a development services provider, we strive for a positive impact on climate change with our projects and innovations. We pay attention to our consumption of resources and our emissions.

Social

Responsibility for employees and society

FEV puts people first. We promote diversity, fairness and respectful cooperation and create good working conditions along the value chain. Making a positive contribution to society is part of our vision.

Governance

Highest standards of quality, ethics and integrity

We establish sustainability in our company and ensure a holistic risk management. FEV enforces sustainability standards with suppliers and customers.

Sustainability strategy of FEV

The aim is to identify opportunities and risks at an early stage and systematically utilize the potential for improvement – also with regard to external stakeholders. The sustainability coordination team is linked to the quality management department and reports directly to the management board. One of its core tasks is to further develop sustainability management and ensure sustainability reporting.

Although not yet obligatory, the current sustainability report has already been prepared following ESRS methodology including an assessment of double materiality. The upstream and downstream value chain was also included in the deliberations. It is planned to gradually enhance sustainability reporting to fully meet the requirements of the European Corporate Sustainability Reporting Directive (CSRD) in 2027.

3.3 Stakeholder engagement

Customers today regularly evaluate their service providers and suppliers with regard to their ESG performance. In addition, investor companies and financial institutions prepare ratings and rankings that are aligned with generally recognized ESG criteria. These evaluations provide FEV with valuable input to continuously improve its performance and to benchmark itself against competitors.

FEV aims to meet the expectations of its stakeholders and to position itself in a technologically, ecologically, socially, and economically sustainable manner. This approach not only strengthens FEV's own sustainability performance but also contributes to setting industry-wide benchmarks.

FEV continues to receive positive feedback in customer ratings and sustainability-related assessments. Through participation in recognized supplier and sustainability evaluation platforms as well as customer-specific assessments, FEV monitors its ESG performance and identifies opportunities for further development.

Dialogue with stakeholders

Understanding the motivations, requirements, and expectations of stakeholders is essential for FEV. Regular dialogue with stakeholders supports the continuous development of FEV and helps sharpen its sustainability profile. In addition to customers and suppliers, external stakeholders include associations, investor companies, media representatives, authorities, policymakers, and scientific organizations. Internal stakeholder groups include employees, employee representatives, and the Advisory Board.

"We align economic, ecological and social requirements and face up to our social responsibility."

Dean Tomazic, Chairman of the Executive Board, FEV North America

FEV maintains an active and transparent exchange with stakeholders through a wide range of communication channels. Trade fairs, conferences, and congresses remain central platforms for professional dialogue and knowledge exchange. Each year, FEV participates in numerous national and international industry-specific and cross-industry events.

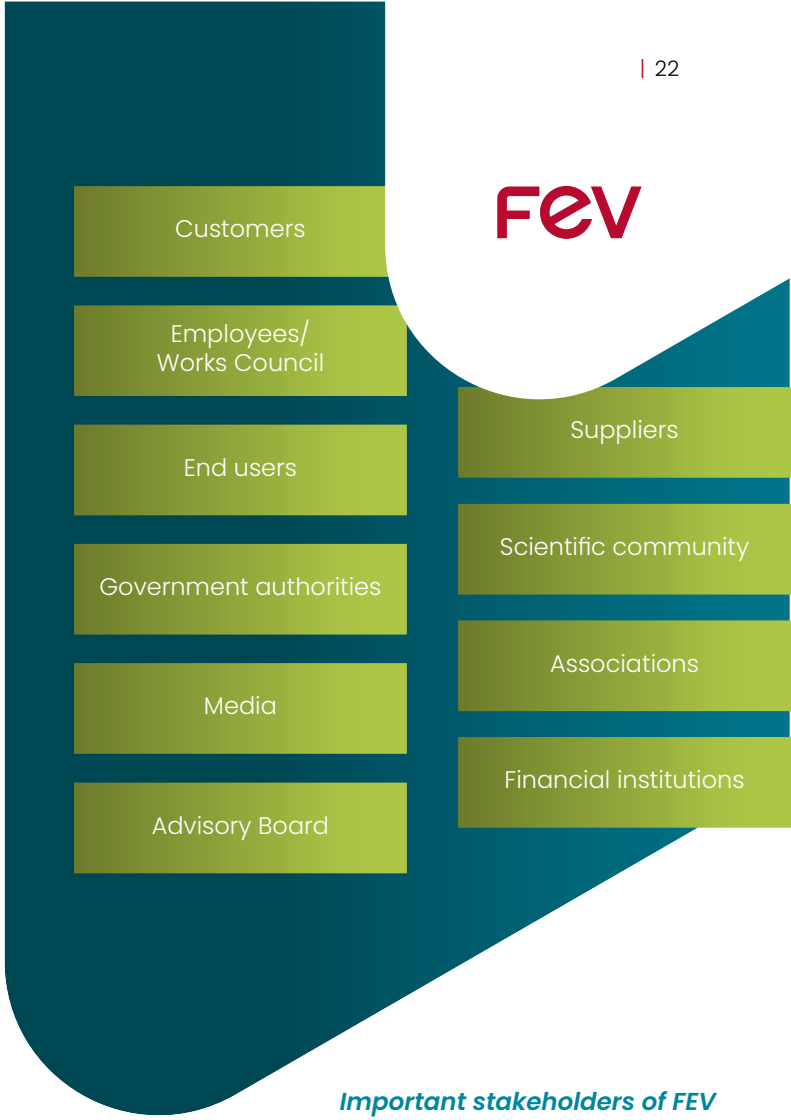
In discussions with key stakeholders, FEV addresses the foundations of sustainable mobility and presents innovative technologies and solutions for the decarbonization of the transport sector and adjacent markets. FEV actively contributes to the professional discourse through publications, presentations, and panel discussions at leading international events.

In 2024, FEV was represented at a broad range of international conferences and exhibitions focusing on sustainable mobility, electrification, hydrogen technologies, automated driving, and software-defined vehicles.

Here is a selection of key events in 2024:

- Aachen Colloquium Sustainable Mobility, Aachen, Germany
- World Hydrogen Summit 2024, Rotterdam, Netherlands
- European Hydrogen Week, Brussels, Belgium
- Hydrogen + Fuel Cells EUROPE, Hanover, Germany
- The Battery Show Europe, Stuttgart, Germany
- AABC – Advanced Automotive Battery Conference Europe
- IAA Transportation, Hanover, Germany
- SIAT 2024. Pune, India
- CTI Symposium Automotive World, Michigan, USA
- JSAE Automotive Engineering Exposition 2024, Yokohama, Japan
- EVS37 – Electric Vehicle Symposium
- FEV Future Mobility Conference, Shanghai, China
- Go Green 2024, Bursa, Turkey

Through its participation in these and other events, FEV strengthens dialogue with stakeholders, contributes to the advancement of sustainable mobility solutions, and supports the transition toward a climate-neutral transport system.



Important stakeholders of FEV

FEV is a member of influential associations and institutions:

- German Association of the Automotive Industry (VDA)
- The Association of German Engineers (VDI)
- Verband Deutscher Maschinen- und Anlagenbau (VDMA)
- Nordrhein-Westfälische Akademie der Wissenschaften und der Künste (AWK)
- ÖVK – Österreichischer Verein für Kraftfahrzeugtechnik
- German Technion Society e. V.
- FISITA International Connected Community
- acatech – National Academy of Science and Engineering
- SAE International
- The American Society of Mechanical Engineers – ASME
- NAE – National Academy of Engineering

FEV places high value on transparent communication and is constantly available to answer questions from media representatives. This takes the form of personal discussions and interviews, press conferences, round-table discussions, press releases, media partnerships, trade articles and podcasts. The range of topics is broad and includes new drive technologies and mobility concepts, for example, current software and battery development, holistic electro-mobility, hydrogen applications, e-fuels, sector coupling in the energy sector as well as overall vehicle development. The company also uses social media to share information on innovations, events, and publications. The global newsroom is available to employees on the intranet. In vivid reports, videos and interviews, they learn everything they need to know about the company, new products, services, individual teams, cooperations and partnerships. Special attention is also paid to social commitment, such as relief projects for the victims of flood disasters and earthquakes.

Close and trustful exchange of information with employees and their representatives is a high priority for FEV. The Executive Board regularly provides information about the company's strategies, goals and projects in personal meetings, videos and newsletters. Regular staff meetings are also held both on site and digitally, providing a space for an exchange of opinions, questions and feedback. FEV also works closely with the Works Councils. For their part, they inform the workforce both online and at on site Works Council meetings.

3.4 Materiality of the FEV key topics

The materiality of sustainability issues was analyzed in accordance with ESRS specifications and assessed from two perspectives. First, the positive and negative impacts of FEV's activities on society and the environment were considered and then the opportunities and risks of the sustainability aspects and their financial impact on FEV itself. The relevant points in terms of this "double materiality" are published in this report.

A comparison with stakeholder expectations and industry trends completes the materiality assessment. The key issues identified in this way guide FEV's actions.

Results of the materiality assessment according to ESRS
Inside-out (impact perspective) and outside-in (financial perspective)

E1: Climate change

- Climate change mitigation
- Energy

S1: Own workforce

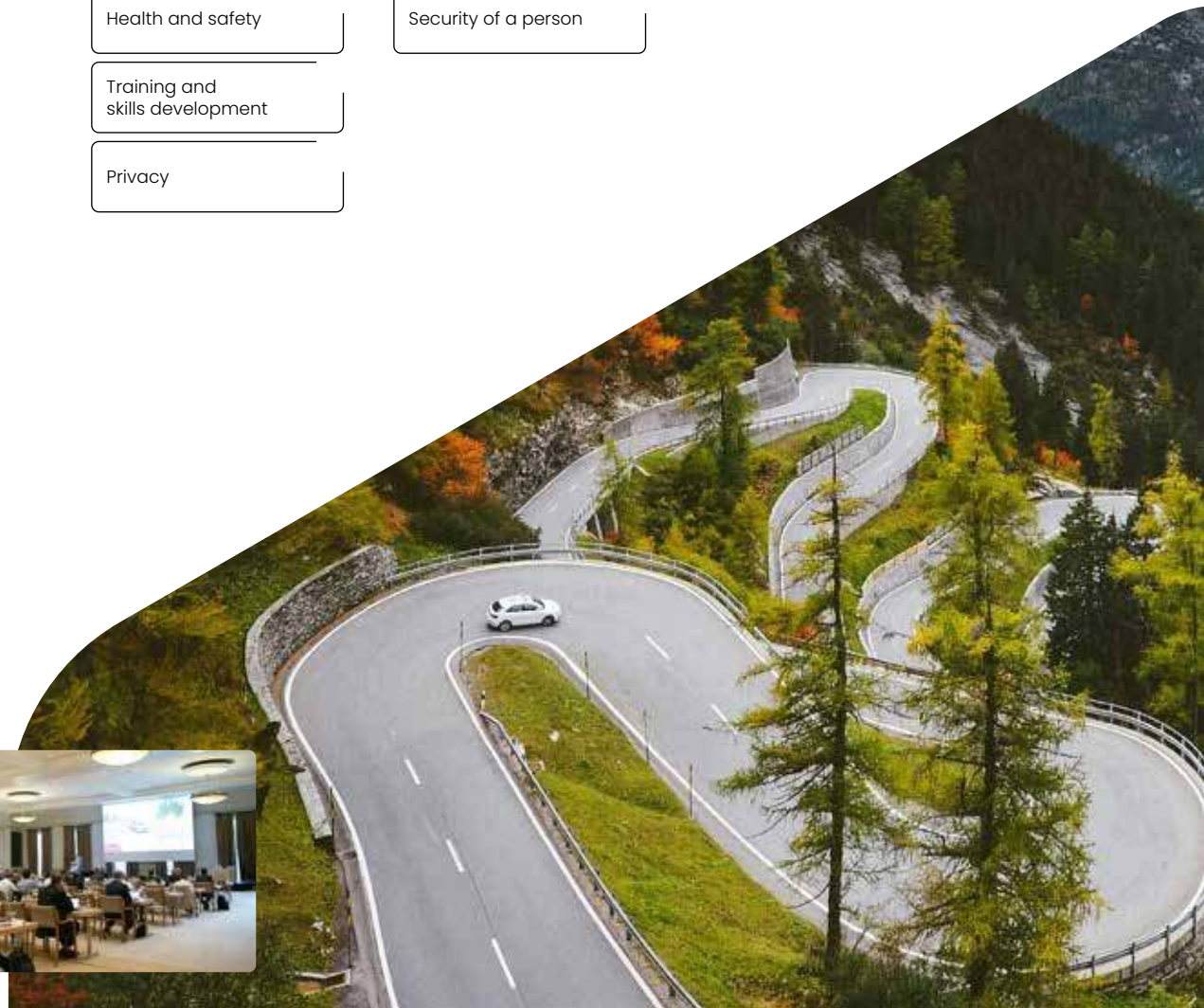
- Secure employment
- Adequate wages
- Health and safety
- Training and skills development
- Privacy

S4: Consumers and end-users

- Privacy
- Health and safety
- Security of a person

G1: Business conduct

- Corporate culture
- Protection of whistleblowers



Environmental responsibility *(Chapter 4 of this report)*

ESRS: Topic	Sub-topic	Justification of materiality (impacts, risks and opportunities)
E1: Climate change	Climate change adaptation (Not material)	The impacts of climate change on FEV due to rising temperatures, increasing storm risks or material shortages are considered manageable. These developments do not currently pose a significant risk to FEV's business development.
E1: Climate change	Climate change mitigation	FEV's development services to support the transformation to climate neutrality have a positive impact on climate protection and are an opportunity for the success of the business. Alternative drive technologies for the combustion engine, the charging infrastructure for e-mobility, for road, rail and air transportation are particularly important.
E1: Climate change	Energy	The operation of testing facilities is energy-intensive and requires efficient energy management. There are also opportunities for active climate protection at the locations by reducing the fuel consumption and using renewable energies.

Social responsibility *(Chapter 5 of this report)*

ESRS: Topic	Sub-topic	Justification of materiality (impacts, risks and opportunities)
S1: Own workforce	Secure employment	As a development services provider, our own employees and their know-how are our most valuable asset and the basis for the success of the business. The aspect of continuity and long-term commitment is therefore of great importance. The reallocation of jobs following the structural change remains a challenge.
S1: Own workforce	Health and safety	Promoting and maintaining the health of employees (e.g. through ergonomics, health management, flexibility) and preventing accidents at work are integral parts of the corporate strategy and relevant to the success of the business. The diverse workplace situations within the Group (e.g. office, test drive) also make it essential for FEV to prevent potentially negative impacts on its own workforce.
S1: Own workforce	Training and skills development	The knowledge and experience of the scientists, engineers, technicians and business people at FEV are essential for the success of the business. The diverse fields of work also offer employees the opportunity to develop know-how and skills in future-oriented technologies and professions.
S1: Own workforce	Privacy	The careful handling of employees' personal data is important owing to strict legal requirements and the FEV values.
S1: Own workforce	Adequate wages	Appropriate remuneration is an important contribution to society, especially in view of the still high inflation rates worldwide. It is also a key factor for employee retention and therefore relevant for the success of the business.
S1: Own workforce	Diversity	Diversity in teams, different genders, ages or cultural backgrounds, promotes creativity, motivation, knowledge transfer and therefore success. FEV is focusing on greater diversity in recruitment marketing in order to better represent the overall social picture and exploit the related opportunities.

S1: Own workforce	Gender equality and equal pay for work of equal value	Gender equality in conjunction with equal remuneration is part of FEV's value system. It also helps to increase the desired diversity and attractiveness for female employees and their career ambitions.
S4: Consumers and end-users	Privacy	Although FEV does not sell consumer goods and only has indirect contact with end consumers, there are impacts on the protection of end customers' personal data. This is particularly important in software development for auto-mobile manufacturers and involves the potential impacts on end consumers as well as opportunities and risks for the business model.
S4: Consumers and end-users	Health and safety, security of a person	FEV influences end consumers indirectly in the context of automotive development. FEV's development activities can have an impact on the safety and health of end users (road users) in areas such as software development for automobile manufacturers. Increasing safety standards by using the latest safety components is therefore very important for customers and end users.

Governance *(Chapter 6 of this report)*

ESRS: Topic	Sub-topic	Justification of materiality (impacts, risks and opportunities)
G1: Business conduct	Corporate culture	Mutual trust between FEV and its customers, partners, employees and other stakeholders is the foundation of our business success. Expression of this attitude is the pronounced service orientation, the assumption of responsibility, innovative strength, openness and honesty. The values to which FEV is committed are customer focus, professionalism, commitment, open-mindedness and respect. They guide the behavior of all employees internally and externally.
G1: Business conduct	Protection of whistleblowers	Fair business practices are essential for FEV's entrepreneurial success. This is based on the trust of customers in the competence and reliability, but also the integrity of FEV's employees and partners. It is in the fundamental interest of the company to recognize potential misconduct in connection with activities and projects and to take preventive or reactive action at an early stage. For this, FEV has installed a complaints management system that ensures the protection of whistleblowers.

Fighting climate change and protecting finite resources are right at the top of the European and international sustainability agenda. We are aware that our business activities also have an impact on people and the environment. Even though we as a service provider only use a limited amount of raw materials and energy, we accept the challenge and have set ourselves the task of gradually reducing our ecological footprint. However, the climate protection potential of our development work is many times greater. With innovative mobility, software and energy solutions, we play a key role in helping our customers to design their products in a more climate-friendly manner and pave the way for sustainable mobility.

4

4.1 Environmental management at FEV

FEV is committed to preserving an intact environment. It is our corporate responsibility to conserve limited resources and reduce the negative environmental impact of our business activities. This leads to the aim of implementing ISO 14001-certified environmental management systems at all locations where this makes sense due to their environmental relevance. To date, around one-third of FEV's branches worldwide covering over 70% of the global business volume are ISO 14001-certified.

With the introduction of environmental management systems, clear responsibilities are defined and environmentally relevant aspects are integrated into all processes along the value chain – from the efficient use of resources and energy to the reduction of emissions and the reduction of material consumption and waste. Particular attention is paid to the optimization of hazardous substance management.

FEV adjusts its environmental targets and programs annually in order to continuously improve its environmental performance and meet both legal specifications and customer demands. In this way, innovative, forward-looking business areas are also gradually being integrated into the existing environmental management system. In 2022, the eDLP development and test center in Saxony-Anhalt was certified in accordance with ISO 14001. FEV vehicle, FEV.io and FEV ND are expected to receive this certificate in 2025.

Focus on climate protection

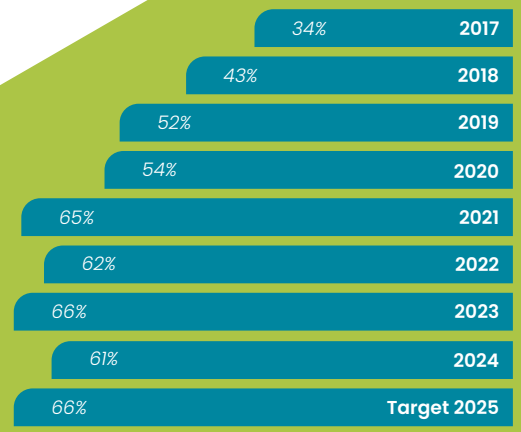
The materiality assessment has made it clear that climate protection is the top priority within the environmental field of action. In this respect, this report focuses on services to reduce greenhouse gases and on energy consumption in the form of fuel, electricity or natural gas and the associated air pollutant emissions. The development of low-CO_2 drive technologies not only opens up new prospects for the company, but also makes a valuable contribution to sustainable mobility in the fight against climate change.

The energy need within the company itself is primarily due to testing procedures in connection with drive technologies, the use of the vehicle fleet, and the heating of our locations. In contrast, there are relatively low environmental impacts in terms of biodiversity, water and wastewater, noise, use of resources, and the emergence of waste. Hazardous waste is only produced to a small extent due to the business activity. In terms of continuous reporting, waste is still reported in the form of summarized data.

Compared to manufacturing companies, the material consumption of a service provider like FEV is also negligible. The largest share of this is accounted for by fuels for the test stands, the quantities of which are shown in the energy management section. Even the environmental aspect of noise only plays a minor role, because the tests take place on encapsulated test stands in closed halls.

Increasing share of sustainable projects

FEV's sustainability performance is reflected in its business development. Specifically, this commitment can be seen in the growing importance of environmentally friendly drive and mobility systems in the alternative drives, innovative mobility concepts, and conventional combustion engine technology segments.



Share of sustainable FEV business with a positive contribution to environmental protection

In order to measure progress, FEV tracks the development of the business volume with a positive environmental contribution using a corresponding key figure. The share of these sustainable customer projects in FEV's business, i.e., the share of the FEV Group's total order intake that is not attributable to conventional combustion engine technology, has increased significantly from 34% in 2017 to 66% in 2021. In 2022, the share of sustainable business fell slightly due to a large diesel order. FEV has set itself the goal of increasing this share to 66% again in 2025. The system is being reviewed and adjusted in line with the EU taxonomy.

4.2 Energy management and climate protection

Studies show: The world is heading for global warming of significantly more than 1.5 degrees Celsius. In order to sustainably protect the natural resources and preserve it for future generations, it is essential to massively reduce energy consumption and the associated greenhouse gas emissions. In the transformation to a carbon-neutral world, FEV is taking an active role beyond development services through effective energy management.

Downward trend for fossil fuels

Energy consumption in the company is significantly influenced by customer requirements. The usage of fossil fuels correlates with the number of combustion test benches operated.

The importance of fossil fuels as a whole is steadily decreasing, as the proportion of projects with conventional drive systems is falling. At the same time, electricity consumption at the individual locations is rising – due to the increasing proportion of battery-electric drives and the growing importance of battery tests.

After the German "Energy Efficiency Act" came into force in November 2023, FEV Europe, DLP and eDLP began setting up an energy management system. This system will be completed and is expected to be successfully certified in accordance with ISO 50001 in Q2/2025.

Digitization: Engine for greater energy efficiency

Digital technologies play a key role in increasing energy efficiency. By relying on professional simulation tools at an early stage of development, the FEV teams reduce the need of energy- and resource-intensive test stand or vehicle tests with real prototypes at later stages. This leads to energy savings of around 10 percent across the entire test scope. There is also considerable savings potential in the systematic digitalization of work processes, which enables international project teams to collaborate virtually. The comprehensive use of a high-performance IT infrastructure, from MS Teams to webcams and notebooks with touchscreens to 3D visualization, not only strengthens group-wide networking, but at the same time improves the CO_2 balance. As a result, employees were once again able to avoid numerous flights and car journeys to attend meetings during the reporting period – a measurable contribution to climate and environmental protection.

"In order to minimize the negative impact of our business areas on the environment, we develop innovative solutions and promote technological progress."

Mayank Agochiya, Chairman of the Executive Board, FEV Asia

CO_2 emissions

CO_2 emissions of FEV Europe according to GHG protocol	2023 (t CO_2e)	2024 (t CO_2e)	Notes
Scope 1	5,009	4,618	Direct emissions from combustion of natural gas and fuel; Heating, test stands, company car fleet and from refrigerant emissions
Scope 2	53	54	Indirect emissions from purchase of electricity and heat
Scope 3.6	1,042	799	Indirect emissions from business travel
Total	**6,104**	**5,471**	

Electricity procurement from renewable energies

Another lever for reducing greenhouse gas emissions is the use of renewable energy sources. Since 2022, FEV Europe has covered its entire demand in Germany with certified, climate-neutral green electricity from KlimaInvest.

By purchasing a total of around 87,000 MWh of green electricity, 30,697 fewer tons of CO_2 were emitted into the atmosphere than would have been the case if the electricity had been generated according to the average German electricity mix.

FEV balances greenhouse gas emissions from its own business activities in accordance with the internationally recognized rules of the GHG Protocol (Greenhouse Gas Protocol). At present, scope 1, scope 2, and the 3.6 Business Travel of scope 3 are reported. The information on scope 1 and 2 CO_2 emissions is based on germanwide reporting of energy consumption data.

As an engineering service provider without its own production facility, the impact in the downstream value chain (Scope 3 downstream categories 3.9 to 3.15) is low. In the future, FEV aims to record the CO_2 emissions of the main parts of the upstream value chain (Scope 3 upstream categories) and include them in the reporting.

Reduction path

Direct greenhouse gas emissions in the company are mainly caused by testing activities, but also significantly by the use of the vehicle fleet. The CO_2 load resulting from testing activities depends on the number and scope of the tests. In 2024, CO_2 emissions from fuel combustion in test benches at FEV Europe amounted to 2,496 tons, compared to 3,202 tons in 2023. The positive trend is the result of reducing demand for combustion engine technologies and the strategic shift towards sustainable e-mobility.

By purchasing additional electric vehicles, the specific CO_2 emissions of the company car fleet have also been continuously reduced – at FEV Europe alone, this represents a reduction of 65 tons from 570 tons in 2023 to 505 tons of CO_2 in 2024. The unintentional escape of climate-damaging gases (F-gases) from refrigeration systems resulted in emissions equivalent to the amount of 249 tons of CO_2 in 2023 and 2024.

At the FEV Europe headquarters in Aachen, the proportion of possible remote working days was increased to 100 percent in March 2023 by means of a works agreement, thereby further reducing greenhouse gas emissions caused by employees commuting to work.

Moreover, by supporting its customers in designing their technologies to be more climate-friendly, FEV makes a significant contribution to reducing greenhouse gas emissions from the products sold by its customers. FEV thus acts as an enabler and amplifier of the energy and transport transition on the way to low-CO_2 mobility. Although this contribution cannot be reliably estimated at present, it is likely to be many times greater than FEV's own savings potential at its locations.

E-charging infrastructure expanded at the locations

Since 2022, the FEV headquarters in Aachen are equipped with 52 charging points for electric vehicles. They are used to charge company cars and test vehicles. They are also available to visitors and the public. In addition, a further 51 charging points have been installed at various locations across Germany. As demand increases, the charging infrastructure will be continuously expanded in the future. At the same time, FEV is accelerating research and development work on charging technology in order to improve the performance of the charging stations and increase cost efficiency.

FEV has been operating the eDLP, development and test center for high-voltage batteries for cars and commercial vehicles in Sanders-dorf-Brehna near Leipzig since 2020.

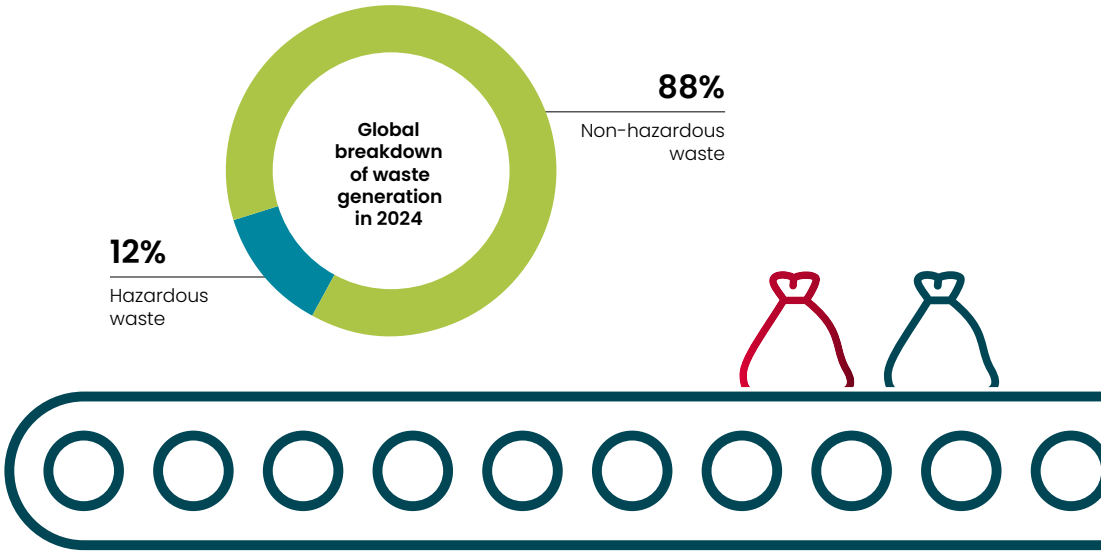
The facilities are characterized by environmentally friendly operation and are equipped with a flue gas scrubber system for emergencies. The photovoltaic panels installed on the roof generate approximately 1,000 MWh of electricity per year. This corresponds to covering about 20 percent of FEV eDLP's annual electricity requirement.

4.3 Waste management

Systematic waste management minimizes the environmental impact caused by the demand and consumption of raw materials. The aim is to use natural resources sparingly and efficiently, to avoid waste and to keep recyclable materials in the production cycle or to recover energy from them. Like energy consumption, waste generation also largely depends on the scope and type of the customer projects and the required testing procedures. Accordingly, the trend towards climate-friendly and resource-conserving technologies also has a positive impact at the locations. As demand for conventional drive systems declines, so does the number of test stands, which has led to a significant reduction in the quantity of hazardous waste, particularly at headquarters in recent years.

Conservation of resources is a top priority

Non-hazardous waste at FEV includes packaging, plastic film, wooden pallets, paper and residual waste. The waste classified as hazardous essentially consists of operating materials required for the testing services: waste oils, antifreeze and fuels. The disposal and recycling of unavoidable waste at FEV Europe is carried out by certified specialist companies in accordance with the statutory provisions of waste legislation. As a rule, this includes material recycling or energy recovery.



Waste generation by type of waste, FEV HQ (AC/Alsdorf)

Type of waste	2023 (t)	2024 (t)	Treatment method
Antifreeze	20	7	Material recycling
Emulsions	15	10	Material recycling
Waste oil/fuels	9	10	Material recycling
Separator contents	–	15	Material recycling
Other	11	8	Material recycling
Total hazardous waste	**55**	**50**	
Household waste-like commercial waste	75	136	Material recycling
Metals	65	131	Material recycling
Paper	49	75	Material recycling
Waste wood	24	29	Material recycling
Grease separator contents	19	–	Material recycling
Bulky waste	–	64	Material recycling
Other	40	89	Material recycling
Total non-hazardous waste	**272**	**524**	
Total weight	**327**	**574**	

feel evolution

It is our employees worldwide who contribute significantly to FEV's business success with their knowledge, experience and motivation. As a responsible entrepreneur, we pursue the goal of ensuring secure and sustainable jobs in the long term. We systematically invest in recruiting, personnel development and training, and development of our employees and strengthen their qualifications, performance, and health. With a high level of professionalism, commitment, open-mindedness, mutual respect, and customer orientation, we are working to bring the vision of sustainable mobility to life.

5

5.1 People at FEV

During the reporting year, FEV employed around 7,000 people worldwide. This corresponds to an average of 6,957 FTEs in the period from January to December 2024 of which 4,666 came from Europe, 1,645 from Asia and 646 from America.

FEV is committed to fostering a culture where every individual can realize their full potential within a safe and inspiring work environment. Mutual respect and partnership are central to this approach, ensuring that all employees are valued equally, independent of their role or position. This requirement is also reflected in the new branding concept (Chapter 5.2), which focuses on the motivation, innovative strength and creativity of employees. The claim "Feel evolution" underlines FEV's corporate culture and its focus on future-oriented mobility.

Workforce structure		Average	
		2023	2024
Share of the workforce	Full-time employees	83.4%	86.5%
	Part-time employees	6.6%	8.9%
	Trainees/students	5.8%	3.2%
	Temporary workers	3.4%	0.9%
Gender ratio	female	16.3%	16.4%
	male	83.7%	83.6%
Age distribution	< 30 years	26.2%	21.8%
	30-50 years	55.9%	59.6%
	> 50 years	17.9%	18.7%

Open dialogue and employee engagement

FEV fosters open and trust-based collaboration with employee representatives at all organizational levels. The shared goal is to strengthen employee well-being through continuous dialogue and constructive feedback. Employees are encouraged to contribute their perspectives on key topics, ensuring that their voices are heard and considered in decision-making.

Transparent communication plays a central role throughout the company. To keep everyone informed about current developments and planned initiatives, FEV uses various channels, including the intranet, regular meetings, and video updates.

Objective: Introduction of standardized software for master data and learning management at Group level

FEV is in the final phase of implementing standardized software for master data management and learning management at Group level. More and more companies within the FEV Group are now being integrated into this system. This initiative establishes a strong technological foundation for involving all relevant stakeholders early on and considering their needs effectively.

Enhanced access to global HR data enables the early identification of opportunities and risks, the optimization of global training structures, and the delivery of relevant learning content to employees across all regions.

Attractive framework conditions

The company is committed to creating a work environment that offers both junior employees and experienced professionals attractive conditions and is characterized by fairness, loyalty, respect, and appreciation:

Flexible workplace design

With suitable workplaces, many employees have the option of both working mobile and on site. This creates more flexibility in the organization of working hours – adapted to individual needs.

Consideration of particular situations in life
In order to create the necessary freedom in challenging situations in life, FEV offers unbureaucratic individual agreements. During birth of a child or the need to care for a relative, it is possible to take time off or adjust the working time model accordingly. As part of the roll-out of the HR software at Group level, key figures in this area should be collected in future.

Remuneration and additional benefits
Remuneration is based on qualification-based wage and salary schedules or comparable systems. In addition to remuneration, various regional benefits are offered, including:

- Subsidies for local public transport (ÖPNV) in the interests of environmentally friendly mobility
- A global mentoring program to promote professional development and training
- Access to LinkedIn Learning to support professional training

The initiatives aim to foster a work environment that enables employees to feel motivated, perform effectively, and contribute to the company's overall success.

5.2 Recruiting and employer branding

Employees at FEV find highly attractive high-tech jobs and can already contribute their know-how to many international future-oriented projects with a focus on sustainable technologies. FEV has also adapted to the requirements of the modern work world and the changing needs of employees.

Feel evolution: The new employer branding approach

The employer profile is expressed in the employer branding approach under the motto "feel evolution". It emphasizes FEV's unique identity and shows potential applicants what the company stands for with its values and culture. In an emotional appeal, the company presents itself as a place where committed employees use their passion and creativity to develop sustainable mobility solutions

The figures prove the success of the strategy: In the reporting year, more than 10.000 people submitted job applications to FEV in Germany alone. During talent acquisition, personal contact is crucial. The Group has also participated in in-person trade fairs in recent years, to the extent possible during the pandemic. The company is also always present at Girls' Day to interest girls and women in technical careers – and to encourage them to apply to FEV in particular.

To develop in-person dialogue even further, future efforts will additionally continue to focus on in-person job fairs. In future, the business networks XING and LinkedIn will also be used as high-profile recruiting tools. They offer the opportunity to increase the reach of job openings and to make direct contact with candidates.

A good place to start

In addition to systematic recruiting, FEV relies on junior staff from its own ranks and offers outstanding opportunities for advancement for trainees and young professionals. The skilled occupations sought most by the businesses include industrial clerks and administrators, IT specialists and automotive mechanics. Students can initially gain professional experience as an intern or a student worker. Numerous graduate theses are also based on FEV projects every year. There is a close partnership with RWTH Aachen University, especially with the Chair of Thermodynamics of Mobile Energy Conversion Systems. For many years now, doctoral candidates have been combining their research with practical applications at FEV.

5.3 Qualification and advanced training

Innovative personnel development is a key driver of FEV's long-term success and capacity for innovation. The continuous exchange of know-how and up-to-date expertise within the organization strengthens our competitive position. Consequently, employee qualification and development are high priorities at FEV.

Amid the ongoing transformation of the automotive industry, FEV focuses on equipping employees with future-oriented skills to ensure both employability and sustainable growth.

Digital FEV Academy: A world full of learning opportunities

The Digital FEV Academy is a cornerstone of FEV's advanced training strategy. Its digital Learning Management System (LMS) is continuously expanded and optimized to provide employees with a broad spectrum of learning opportunities — from technical seminars and software courses to training in soft skills. To ensure global accessibility, many modules are available in both German and English.

The platform is structured into a general section and a personal learning area. Within the general section, employees can access the comprehensive FEV Academy catalog, which offers an overview of all available training programs, including detailed content, schedules, and registration options. The courses cover four key development areas: specialist expertise, leadership, project management, and sales excellence.

The personal area of the Digital FEV Academy enables employees to view their individual training history, track assigned courses, and apply for external specialist training. In 2024, FEV Europe employees invested an average of around ten hours in professional development.

The Learning Management System (LMS) is currently available to employees of FEV Europe, FEV Group, and FEV.io. With the global rollout of the new LMS, all FEV employees worldwide will soon gain access to the full range of training opportunities.

Training needs are reviewed annually as part of performance and development discussions. In the engineering area alone, FEV Europe conducts around 600 such reviews each year, ensuring that employee development remains closely aligned with business and innovation goals.

Through global partnerships, FEV continues to promote knowledge sharing and the professional development of its employees. The cooperation with LinkedIn Learning, launched in 2023, has been further expanded in 2024, providing worldwide access to a broad range of high-quality learning resources.

"We see ourselves with a social responsibility, both towards our own employees and society."

Marcus Mülleneisen, Managing Director FEV EVA

Mentoring program and talent promotion: Together to success

The concept for a global mentoring program was developed in 2022 and has since been successfully implemented. In 2024, the program is running successfully in its second round, offering up to 100 participants the opportunity to learn from experienced internal mentors across all management levels. The initiative provides employees with access to valuable knowledge, personal insights, and broad professional experience, fostering cross-functional exchange and development within the FEV Group.

Leadership labs for potential analysis and talent promotion

FEV has established so-called Leadership Labs as promotion workshops at its locations in Europe, Asia and America. These help to analyze potential and promote talent and support employees to further develop their leadership and management skills.

SAP4U

The group-wide introduction of SAP is making a significant contribution to making work processes more efficient, digital and transparent. This has already significantly reduced the manual workload. Digitization and standardization of business activities should be promoted further. In order to make the transition to the SAP world as smooth as possible, employees receive intensive training.

5.4 Occupational health and safety

Protecting the health of employees and ensuring a safe, healthy and inclusive working environment in all areas of activity is a key concern for FEV. Comprehensive protective measures have been taken, particularly in workshops and test fields. FEV also takes care to avoid work-related illnesses and physical and mental overload in office work. The main focus is on prevention, with company measures often going far beyond the legal requirements. Given the different national legal situations, responsibility for occupational health and safety lies with the individual entities. In Germany, hazards are predominantly found at locations with workshops and test facilities. That's why they have already been operating management systems certified by the German Administrative Professional Association VBG since 2011.

Meanwhile, all the locations of FEV Europe are now certified according to the international standard ISO 45001. Around 30 percent of FEV employees are currently under an occupational health and safety management system. The subsidiaries also define specific guidelines and regulations on occupational health and safety in order to ensure the best possible protection of their employees in a given region. Moreover, other FEV companies are currently working to have their own occupational health and safety management systems certified.

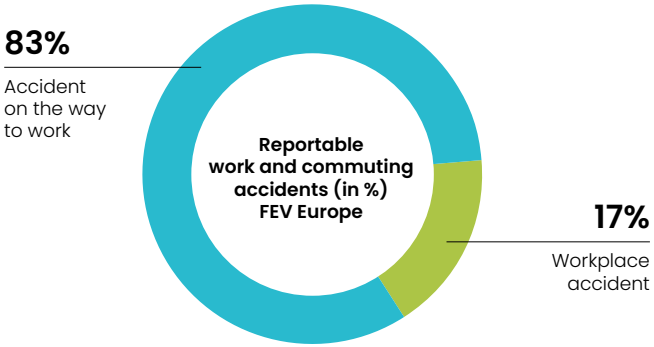
High safety standards at the test stands and testing facilities are very important. These involve numerous sources of danger and accident risks, for example, due to high temperatures and pressure loads, hazardous substances, lasers and, increasingly, due to electric current, for example, during destructive testing at the battery test center (eDLP).

Identify potential hazards at an early stage and take far-reaching preventive measures: This strategy continues to pay off.

Objective: Recording and evaluation of accidents within the FEV Group

The accident frequency rate (recordable accidents per 1,000 employees) remained below the self-imposed target of < 5 from 2019 to 2024 except for 2023, when the rate was 5.1 and thus slightly above the target. In 2023, a total of 16 workplace and 7 commuting accidents were recorded; in 2024 there were 2 workplace and 10 commuting accidents.

To prevent recurrence of such accidents, FEV analyzes all incidents in detail and then takes appropriate safety measures. No fatal accidents occurred during the reporting period.



An ounce of prevention is worth a pound of cure: Over the years, a lively culture of prevention has developed within the company – the focus is on the early assessment of potential hazards and their prevention. More than 200 hazard assessments of very different types are documented at FEV Europe. They not only concern project-specific risks, but also routine conditions, and are always available for consultation on the FEV intranet.

Hazard assessments are centrally documented and treated as a living instrument. They are updated at fixed intervals and whenever necessary (e.g., changes to equipment or procedures, after accidents/near misses, introduction of new HV/battery topics or laser applications). Responsibilities, deadlines and effectiveness checks are defined; results feed into Occupational Safety Committee meetings and employee trainings.

One particularly challenging issue arises from the technological transformation: The transition from classical powertrain systems to electric motors has fundamentally changed the requirements for occupational health and safety. In order to meet current safety needs, the responsible managers are supported by experts, including occupational safety specialists and site medical officers. Those responsible determine the necessary measures according to the **STOP** principle: **S**ubstitution-**T**echnical protective measure – **O**rganizational protective measure – **P**ersonnel protective measure

Accident rate per 1,000 employees (number) FEV Europe

	2023	2024
Accident rate	5.1	4.6
Target	**< 5**	**< 5**

The first step is to check whether there is an alternative to the hazardous situation. If this is not possible, successive system-related and planning solutions are considered, including the use of personal protective equipment. FEV monitors these activities with regular inspections and audits.

Company health management

Although there are no recognized occupational diseases to be registered at FEV: even desk jobs can permanently impair workers' health. Stress, lack of exercise and bad posture are just some of the factors that can have a negative impact. In the modern work world, mental stress is also increasing noticeably. To promote the well-being of employees and raise their awareness for a healthy lifestyle, various offers are available at the locations in Germany, including

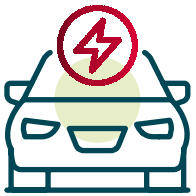
- Fitness centers
- Flu vaccinations
- Massages
- Company sports clubs
- Memberships with Urban Sportsclub and Egym Wellpass
- Reintegration measures, e.g., after prolonged illness
- Electric height adjustable desks

Regular events are also held and consultations by professional partners are provided. Ergonomics consultations, for example, are used to design the working environment according to individual needs and to reduce the risk of work-related illnesses. Site medical officers provide occupational health care and advice. This is organized depending on the respective location in accordance with national regulations. All FEV employees are also instructed in occupational health and safety in accordance with the legal requirements. All relevant information can be accessed on the FEV intranet at any time. Employee participation is ensured by the employee representatives in the Health and Safety Committee and by the Occupational Safety Committee, which meets quarterly at the locations in Germany. Outside companies that perform work on FEV premises are instructed in advance regarding site-specific conditions and hazards.

No matter the burdens involved: Each and every individual can count on the support of FEV. FEV helps in emergency situations by giving people time off work, organizing fundraising campaigns or providing professional psychological support.

E-mobility – but safe

The corporate focus on new drive technologies is also changing the working environment for the employees. The development of battery systems is very important in the context of e-mobility. Compliance with strict occupational health and safety standards cannot be overestimated, especially in the sample production of components. FEV has developed comprehensive emergency concepts for dealing with critical and potentially critical components that go well beyond the official requirements. They form the basis for instructions and exercises and are even attracting growing interest from the competent fire departments.



Fitness around the clock
At the Aachen location, all the members of the company sports club have access to a fully equipped, 24/7 fitness center. Users can train their endurance around the clock on the stepper, back trainer and treadmill, or improve their strength and flexibility with floor exercises, dumbbells and bands. Courses sponsored by the company sports association, such as yoga or functional training, also take place there.

5.5 Diversity and equality

Diversity shapes the way we live together in society and is also a source of innovation and creativity. FEV also stands for diversity and aims to promote diversity at all levels. Employees from different cultures, with diverse experiences, talents and backgrounds contribute different perspectives, ideas and ways of thinking – a key factor in keeping pace with changing market and customer requirements.

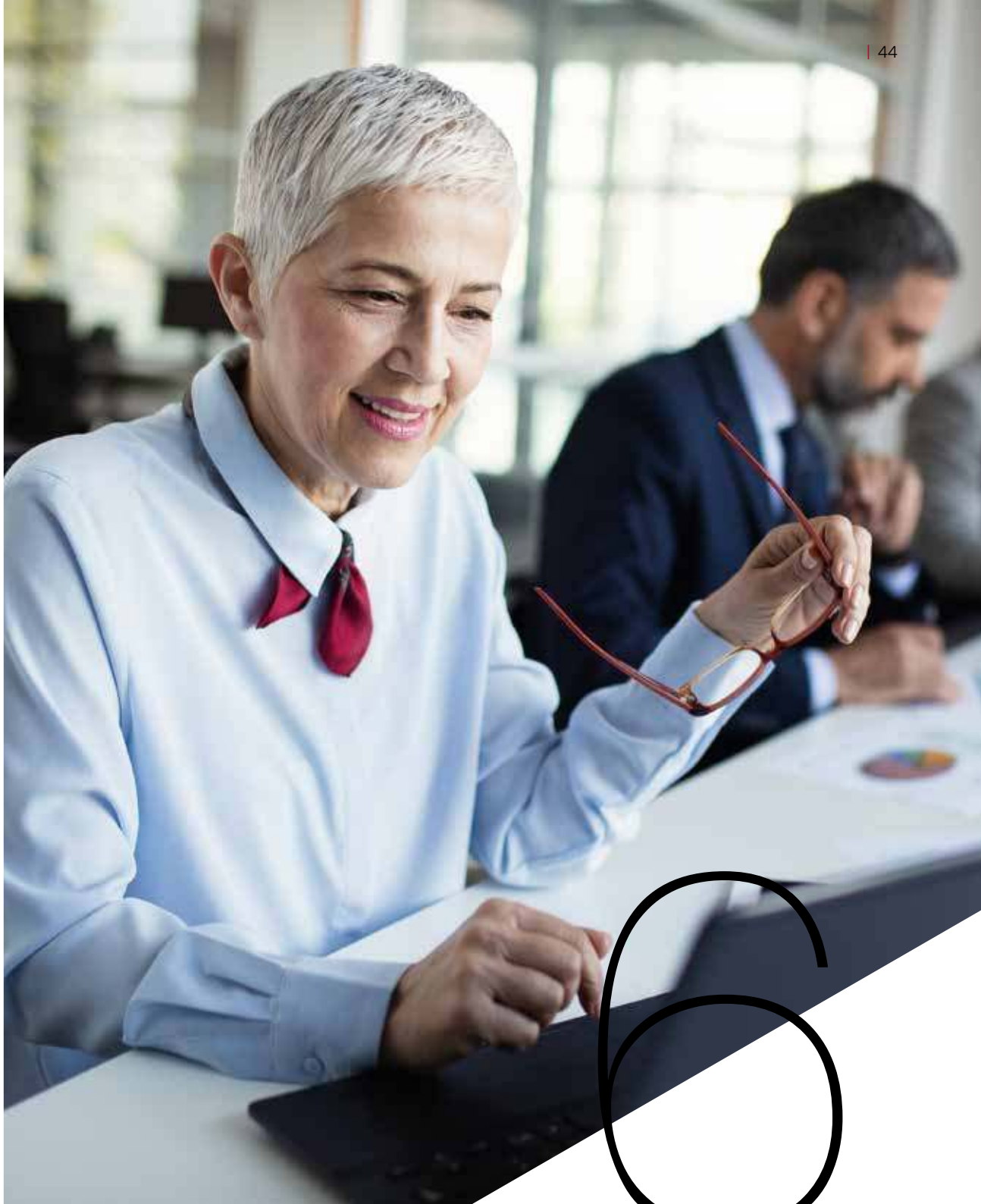
FEV is consistently committed to diversity, inclusion and equal opportunities. Every employee has the right to develop their personality and individuality, and to feel safe and free from discrimination at all times. Regardless of skin color, nationality, gender, sexual orientation, age, origin, religion or disability, all employees are treated equally. These values are firmly anchored in the corporate culture and are expressed in the Code of Conduct, which applies throughout the company. Equal opportunities and respect are defined here as fundamental principles. Violations are consistently tracked, clarified and sanctioned.

Objective: Introduction of a key figure system for diversity

FEV ensures equal pay for wo[illegible] the entire company. To this e[illegible] were introduced in the form of co[illegible]pany agreements. The guidelines regulate remuneration based on qualifications and job and are free of any discrimination based on age or gender. The responsible Works Councils carefully monitor the classification of employees and ensure fair pay. The commitment to fair working conditions not only applies in Germany, but also in the subsidiaries and foreign branches worldwide and is set out in the Code of Conduct.

In the automotive industry, STEM subjects (science, technology, engineering and mathematics) are still largely dominated by men. This is reflected in the gender distribution at FEV.

FEV has signed the Diversity Charter, underscoring its clear commitment to diversity, equal opportunities, and an inclusive corporate culture. In 2024, FEV continues to strengthen these values through targeted initiatives. Activities such as company events on International Women's Day highlight the role and achievements of women in the automotive industry. In addition, the global "Diversity Talk" series fosters ongoing dialogue and the exchange of experiences across regions, promoting mutual understanding and inclusion throughout the FEV Group.



We take a holistic approach to sustainability and are committed to a livable, fair and climate-neutral world. However, with increasingly complex processes and business relationships, the challenge of integrating sustainability criteria along the global value chain is growing, especially for global corporations such as FEV. Our shared values form the framework for meeting our responsibilities on an ecological, social and economic level.

6.1 Code of Conduct

Based on the understanding of values, FEV has defined a Code of Conduct with clear rules and standards of behavior. In this, management and workforce commit to integrity as well as ethical and sustainable action. The company expects the same attitude from its suppliers. In order to implement this claim in all processes and activities, FEV operates certified management systems for quality, environment, occupational safety and information security.

The Code of Conduct was adopted group-wide by the Executive Board and is binding for all employees, managers and members of the supervisory boards of all FEV Group companies. Correspondingly, FEV has developed a Code of Conduct for Business Partners that covers the entire spectrum of sustainability aspects. FEV obliges its suppliers to comply with legal regulations, to observe human and employee rights, to respect the rights of employee representatives and to protect the environment.

6.2 Sustainable customer relationships

In addition to the motivation, due diligence and competence of our employees, the certified quality management system in accordance with ISO 9001 is crucial for a high level of customer satisfaction and conformity in the performance of services. Responsibilities, processes and the risk-based approach are regulated by other certified management systems for the environment, occupational health and safety and a TISAX label. Certifications are one thing – binding internal Group standards like policies and guidelines are just as important for performance and customer proximity.

Code of Conduct: Basis for commitment

Social responsibility

- Human Rights
- Equal opportunity and respect
- Safety in the workplace

Environmental responsibility

- Environmental protection
- Chemicals management

Governance

- Product safety and compliance
- Adhering to fair labor practices
- Conflict of interest
- Corruption prevention, fair competition
- Accounting
- Export control and customs
- Procurement system
- Insider information
- Data protection
- Confidential information
- Intellectual property rights
- Protection of corporate property
- Whistleblowing

Project-related compliance check

For each project, those responsible regularly review and document the requirements and their implementation with regard to compliance (including technical compliance), non-disclosure agreements, customer needs and customer satisfaction. The project manager uses a traffic light system to evaluate customer satisfaction on a monthly basis. Project risks are assessed at higher-order corporate levels in project reviews. FEV has also established a project management gate process for systematic controlling. From acquisition to completion, each individual project phase is reviewed to see whether the defined interim goals have been achieved before the project can move on to the next phase. The review and approval is carried out by a person external to the project in accordance with the dual control principle. The system is designed to ensure sustainable customer relationships and the greatest possible satisfaction.

6.3 Respect for human rights

Respect is one of the fundamental maxims of FEV's canon of values, which forms the basis of all entrepreneurial activity. A stand for respectful, tolerant and honest treatment to all people along the value chain is taken throughout the Group. Through the Code of Conduct, FEV obliges its employees and suppliers to comply with human rights, including labor law. The requirements defined therein reflect internationally recognized rules as set out in the Global Compact of the United Nations and the core labor standards of the ILO (International Labour Organization).

Sustainability as a selection criterion

Many suppliers and partner companies support FEV in the provision of services. These mainly include the Professional Services, Information Technology and Testing Equipment and Services divisions. Sustainability criteria play a decisive role in the assessment of the supplier and partner relationships of all FEV subsidiaries so that the company can continue to fulfill its duty of care in the future. When selecting its suppliers and partners, FEV always considers ecological and social aspects in addition to price, performance and delivery reliability. Procurement processes are handled locally wherever possible. In this way, FEV establishes regional proximity with its business partners, avoids long transport routes and minimizes procurement risks.

System-supported fulfillment of duties of care

Compliance with human rights and environmental requirements is not only a high priority within our own company, but also throughout the entire supply chain. In order to ensure supply chain due diligence, FEV relies on effective IT systems in addition to certificates: SAP S/4Hana as an ERP system and the online supplier platforms COUPA and EcoVadis. These systems provide for transparent and digital recording, evaluation and further development of communication in all supplier and partner relationships. COUPA is used, for example, to distribute and evaluate supplier surveys. In this way, FEV ensures a careful selection of its suppliers on the basis of defined processes and role-based decision-making competencies, thereby efficiently supporting the provision of services. In order to meet the increasing requirements with regard to social and environmental standards, FEV ensures close cooperation and regular exchange with suppliers and partner companies. This makes it possible to identify and eliminate potential risks within the supply chain at an early stage. The Supplier Code of Conduct is largely similar to the FEV Code of Conduct and obliges suppliers and partners to act in accordance with the law and to comply with corporate, cultural and social norms and values.

6.4 Compliance management

Compliance means more than simply adhering to laws and internal regulations, acting in accordance with industry standard best practices is all members of the organization's responsibility and enhances the company's overall standing with the employees, partners and community. The commitment to ethical, loyal and sustainable behavior is anchored in the FEV Code of Conduct.

The focus of FEV's compliance management is on the following aspects:

- Anti-corruption, with continuous focus on the CPI (Corruption Perceptions Index)
- Competition law
- Data protection
- Insider information
- Technical compliance/ functional security
- Export control

Compliance management system

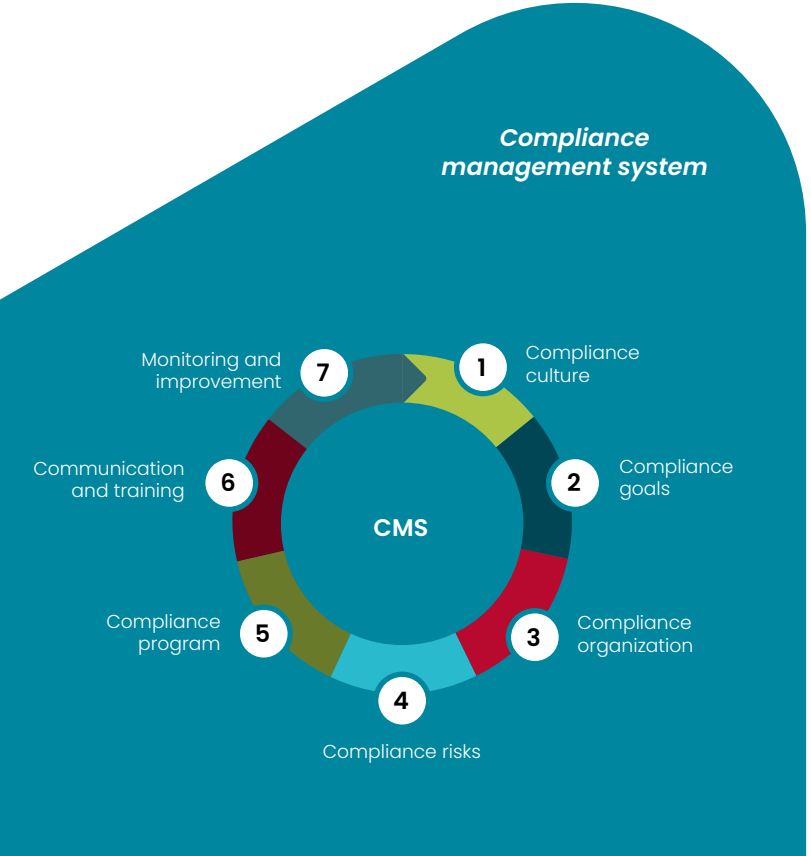
FEV encourages a culture of compliance with the help of a Group-wide Compliance Management System (CMS). This ensures that internal and external requirements are implemented, reported, reviewed and adjusted where necessary. The Group Compliance Management System is based on national and international standards.

All actions are guided by the FEV Group's defined policies and guidelines, which outline the specific responsibilities and duties of the departments. The policies and guidelines formulate minimum requirements that the subsidiaries of the FEV Group must implement.

In addition, all employees are required to participate in training courses on relevant compliance topics at least once a year. Those who work in sensitive areas or are responsible for implementing measures defined in the CMS receive separate, particularly comprehensive training. The aim is to raise awareness of potential conflicts of interest, violations of competition law and corruption (bribery, fraud, obtaining advantages, etc.).

Global CMS organizational structure

Responsibility for the FEV Group's Compliance Management System lies with the Executive Board while the Chief Compliance Officer (CCO) is responsible for its implementation. Regional Compliance Officers in the areas Americas, Europe, and Asia provide additional support. Responsibilities within the individual FEV companies are also defined in accordance with the Group Policies and Guidelines. As part of a quarterly Group Compliance Report, the CCO of the FEV Group is informed by the regions about the status of reports and incidents. The CCO informs the Executive Board about the compliance status in the half-yearly compliance report.



Technical Compliance Officer as a neutral function

The Global Head of Technical Compliance, along with Global Managers of Standards and Regulations, operate independently from the operational units. This independence allows technical compliance to be managed separate from the interests of individual projects or business units, ensuring impartial evaluation and decision-making. The technical compliance team continually monitors projects worldwide, engaging regularly with operational teams in sales and project management.

This proactive approach helps reduce technical compliance risks and prevents violations. The main steps of the technical compliance process are integrated into the project management gate process, managed by those responsible for sales and project delivery.

Technical Compliance Committee as an advisory body

A Technical Compliance Committee, led by an impartial external chairperson, provides advice and makes decisions on general direction and significant technical matters at regular intervals. When legal situations are unclear or regulations are open to interpretation, the committee relies on the intended purpose as a guiding principle supported by an external lawyer. This ensures maximum safety in meeting regulatory objectives and encourages responsible execution of technical solutions that are feasible within the rules.

Investigation of compliance incidents

The investigation of compliance incidents (in particular corruption, antitrust violations and insider trading) is the responsibility of the Chief Compliance Officer of the FEV Group, who, as appointed by the Executive Board, represents the highest level within the compliance organization. If there are concrete indications of serious violations, the Chief Compliance Officer must inspect these indications. As part of the investigation, they can draw on the support of an internal audit and obtain external legal advice. Relevant cases are investigated in accordance with a process description for compliance investigation management. In addition to clear responsibilities, it also includes criteria for the classification of misconduct and for the procedure for evaluating the report, conducting the internal investigation, making decisions and concluding the investigation, including follow-ups.

Systematic whistleblower protection

A key element of the CMS is the FEV whistleblower system in accordance with the Whistleblower Protection Act (HinSchG). The whistleblower system enables reports from employees, customers, suppliers or third parties in order to identify, prevent and stop possible legal violations concerning the FEV Group. FEV recognizes that reports can sometimes be of a sensitive nature. If made public, they may cause significant harm to whistleblowers, the individuals concerned, third parties mentioned in the reports, and the FEV Group as a whole, potentially even existential damage. For this reason, FEV handles such reports with the utmost responsibility.

Employees are encouraged to contact their manager if they have indications of potential violations of laws or internal Policies and Guidelines. Alternatively, they may reach out to the Chief Compliance Officer of the FEV Group, the Compliance Officer, or the Compliance Manager of the respective company. The Whistleblowing Channel (in accordance with HinSchG) also provides a secure reporting option. These reports are received by the ombudsperson selected by FEV, who is an experienced and professional lawyer outside the FEV Group. Reports are treated confidentially and can be made anonymously if desired. Upon receipt of a report, the Compliance Ombudsman will inform the whistleblower within 24 hours that they have received the report. No later than three months after receipt of the report, the whistleblower will receive feedback from the Compliance Ombudsman as to whether FEV has taken action and, if so, what action.

FEV ensures that only authorized persons are informed about the reports, the identity of the whistleblower and the persons concerned. The persons must be named in writing and are obliged to maintain special confidentiality and in particular to comply with the applicable data protection regulations.

Information about the whistleblower system is made available on the company's website, on the intranet and through targeted information to employees, for example, via information e-mails and video messages from the Executive Board.

6.5 Information security

For FEV as a provider of development services, the protection of its own know-how and of its customers' intellectual property is essential. From the customer query all the way through to the delivery of the work result, all steps require a high level of confidentiality and security to protect sensitive data from loss and unauthorized modification. All employees at FEV are sensitized to the careful handling of sensitive data from research and development.

Information security management system (ISMS)

In order to avert potential damage, FEV operates an information security management system (ISMS) in accordance with EN ISO 27001:2022. Furthermore, FEV participates in TISAX® (Trusted Information Security Assessment Exchange) and accordingly undergoes external assessments. This involves the use of the VDA Information Security Assessment (VDA ISA), an audit list published by the German Association of the Automotive Industry (VDA), which has become the leading standard in the automotive sector.

Based on the FEV corporate information security policy, there are binding guidelines for information security, prototype protection and cyber defense. Accordingly, the FEV awareness concept provides target group-specific, mandatory training courses for the relevant employees.

The processes of the ISMS include, among other things,

- a risk classification
- the definition of responsibilities, objectives and measures
- intensive training courses and knowledge management
- the tracking of key figures, and
- emergency preparedness

In addition to external assessments, internal audits are also conducted. They, too, confirm the high degree of maturity of the management system. FEV management is informed about the status of the ISMS on a regular basis and also when specifically required.

6.6 Functional safety and cybersecurity

FEV is involved in many projects to develop safety-relevant systems for mobility solutions, such as high-voltage batteries, vehicle propulsion and assistance functions. Due to malfunctions or deliberate external interventions, such as hacker attacks, these systems can pose a risk to end users and other persons. High-voltage batteries could catch fire, vehicles could accelerate unintentionally, assistance systems could steer a vehicle in the wrong direction. Data theft could also cause financial damage or restrict the functionality of vehicles.

Effective process management for functional safety and cybersecurity

To minimize the potential risks, FEV has implemented effective processes for functional safety in accordance with ISO26262, safety for intended function (SOTIF) in accordance with ISO21448 and cybersecurity in accordance with ISO21434. These processes relate on the one hand to management and on the other to engineering.

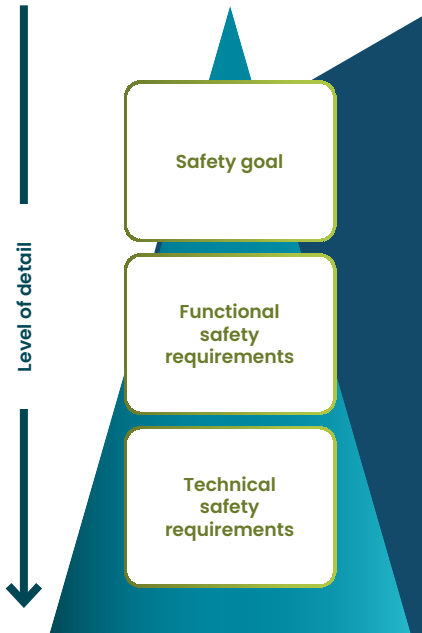
While the above mentioned standards are relevant for road vehicles, FEV is expanding its business continuously into further industries, such as aerospace, railway and energy. Functional safety and cybersecurity regulations applicable for these non-automotive application, such as the EU cyber resilience act, are adopted in FEV´s processes.

Central management tasks are

- to provide employees with sufficient qualifications
- to define an escalation path
- to plan and track the tasks precisely
- to check the work results and issue a recommendation for approval.

The processes for functional safety in the area of engineering run along a V-cycle. First, all functions, interfaces and the preliminary architecture of the system to be developed are described. The potential hazards are then identified, the associated risks are assessed and the requirements for risk minimization are defined on this basis. The focus is usually initially on the vehicle level, but the requirements are transferred stepwise to systems, components, software and hardware. In terms of a systematic approach, proven analysis methods are used to derive the requirements, such as fault tree analyses (FTA) or failure mode and effects analyses (FMEA).

The requirements are implemented in software (SW) and hardware (HW) and then validated at various levels. A key aspect of this is the bi-directional traceability between requirements, test cases and test results. The tests are conducted using different software tools and test environments. Software unit tests are performed on computers with appropriately qualified programs and tests of the SW/HW combination on hardware-in-the-loop test stands (HiL). In contrast, integration tests and function validations are often carried out on the overall system or in the vehicle.



All key work steps are documented in detail in line with the requirements of the above-mentioned ISO standards and reviewed by independent experts. Within the FEV Group, this is ensured by commissioning FEV companies that are not involved elsewhere in the respective development project.

As a consequence of growing cyber threats, FEV has expanded its cyber defense department and brought in an external 24/7/365 Security Operation Center (SOC). State-of-the-art technology ensures continuous monitoring. Cyber defense is supplemented by vulnerability detection and mitigation, a dedicated hunting team to track down threats and a purple team that works to close security gaps in the monitoring and alarm system.

6.7 Data protection

The basic rules for ensuring data protection at FEV are specified in the Group Data Protection Policy, a group-wide policy. All responsibilities and tasks are defined and described in detail in this document. A specialized external attorney serves as Data Protection Officer and reports annually to the Management Board. The introduction and coordination of the group-wide data protection management system was transferred to the General Counsel. As the individual FEV companies are responsible for compliance with data protection regulations, each company has appointed a Data Protection Responsible Contact. This person acts as the point of contact for all data protection issues relating to employees and the Executive Board. A Group Data Protection Coordinator is responsible for issues relevant to the Group.

The transfer of personal data within the Group is regulated by corresponding data protection agreements. Queries and complaints remained at a low level during the reporting period. Whereby they mainly involved the affected parties' disclosure rights.

"By continuously monitoring our corporate processes, we ensure the confidentiality, integrity and availability of our information as well as adherence to compliance standards."

Nadim Andraos, Executive Vice President, FEV France

The present Sustainability Report was compiled for the 2024 financial year (January through December) and with reference to the European Sustainability Reporting Standards. The report was commissioned by the Executive Board of FEV Group GmbH.

FEV reports on activities with regard to company-wide sustainable development. Furthermore, FEV provides an overview of its numerous projects and activities in the area of sustainable technologies and concepts for mobility, aerospace, energy and resources ecosystems.

FEV was not obliged to issue a Sustainability Report in the 2024 financial year. Nevertheless, FEV would like to inform the external and internal stakeholders about its sustainable development activities. With a view to future reporting obligations, FEV has already based this report on ESRS (European Sustainability Reporting Standards) and applied the principle of double materiality. The findings of the materiality assessment served as the basis for selecting the report content. For more information about this, refer to Chapter 3 of this report.

ESRS content index

FEV reported the information listed in this ESRS Content Index for the period from January 1, 2024 through December 31, 2024 with reference to the ESRS valid at that time.

ESRS 2: General Disclosures

ESRS disclosure requirement	Reference	Comments
BP-1: General basis for preperation of sustainability statements	Chapter 1.1 Chapter 3.2	Consolidated presentation (scope of consolidation in accordance with the annual financial statements)
BP-2: Disclosures in relation to specific circumstances		Estimate: Chapter 4.2 (Scope 3) Error correction: Chapter 5.4 (Accidents at work)
GOV-1: The role of the administrative, management and supervisory bodies	Chapter 3.2 Chapter 6.1	
GOV-2: Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	-	Not yet documented. A process is being developed for this.
GOV-3: Inclusion of sustainability-related performance in incentive systems	-	Not given
GOV-4: Statement on due diligence	Chapter 6.3 Chapter 6.4	As part of the implementation of the Supply Chain Due Diligence Act (LkSG), FEV has systematically dealt with the duties of care. More details in the follow-up report.
GOV-5: Risk management and internal controls over sustainability reporting	Chapter 1.3	
SBM-1: Strategy, business model and value chain	Chapter 1.2	
SBM-2: Interests and views of stakeholders	Chapter 3.3	
SBM-3: Material impacts, risks and opportunities and their interaction with strategy and business mode	Chapter 3.4	
IRO-1: Description of the processes to identify and assess material impacts, risks and opportunities	Chapter 3.4	
IRO-2: Disclosure requirements in ESRS covered by the undertaking's sustainability statement	Chapter 7	

ESRS E1: Climate change

ESRS disclosure requirement	Reference	Comments
ESRS 2 GOV-3: Integration of sustainability-related performance in incentive schemes	-	Not given
E1-1: Transition plan for climate change mitigation	-	To be developed in the future
ESRS 2 SBM-3: Material impacts, risks and opportunities and their interaction with strategy and business model	-	To be developed in the future
ESRS 2 IRO-1: Description of the processes to identify and assess material climate-related impacts, risks and opportunities	Chapter 3.4	
E1-2: Policies related to climate change mitigation and adaptation	Chapter 4.1	
E1-3: Actions and resources in relation to climate change policies	-	To be developed in the future
E1-4: Targets related to climate change mitigation and adaptation	-	To be developed in the future
E1-5: Energy consumption and mix	Chapter 4.2	
E1-6: Gross Scopes 1, 2, 3 and Total GHG emissions	Chapter 4.2	
E1-7: GHG removals and GHG mitigation projects financed through carbon credits	-	Not material (see Chapter 3.4)
E1-8: Internal carbon pricing	-	Not material (see Chapter 3.4)
E1-9: Anticipated financial effects from material physical and transition risks and potential climate-related opportunities	-	To be developed in the future

ESRS S1: Own workforce

ESRS disclosure requirement	Reference	Comments
ESRS 2 SBM-2: Interests and views of stakeholders	Chapter 3.3	
ESRS 2 SBM-3: Material impacts, risks and opportunities and their interaction with strategy and business model	Chapter 3.4	
S1-1: Policies related to own workforce	Chapter 5	Strategies are described in connection with the specific impacts
S1-2: Processes for engaging with own workers and workers' representatives about impacts	Chapter 5.1	
S1-3: Processes to remediate negative impacts and channels for own workers to raise concerns	Chapter 5 Chapter 6.3	Processes are described in connection with the specific impacts
S1-4: Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own work-force, and effectiveness of those actions	Chapter 5	Measures are described in connection with the specific impacts
S1-5: Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	Chapter 5	Goals are described in connection with the specific impacts
S1-6: Characteristics of the undertaking's employees	Chapter 5.1	
S1-8: Collective bargaining coverage and social dialogue	Chapter 5.1	
S1-9: Diversity metrics	Chapter 5.5	
S1-10: Adequate wages	Chapter 5.1	
S1-11: Social protection	Chapter 5.1	
S1-12: Persons with disabilities	Chapter 5.5	
S1-13: Training and skills development metrics	Chapter 5.3	

S1-14: Health and safety metrics	Chapter 5.4	
S1-15: Work-life balance metrics	Chapter 5.1	
S1-17 Incidents, complaints and severe human rights impacts	Chapter 5.5 Chapter 6.3	

ESRS S4: Consumers and end-users

ESRS disclosure requirement	Reference	Comments
ESRS 2 SBM-2: Interests and views of stakeholders	Chapter 3.3	
ESRS 2 SBM-3: Material impacts, risks and opportunities and their interaction with strategy and business model	Chapter 3.4	
S4-1: Policies related to consumers and end-users	Chapter 6.6	
S4-2: Processes for engaging with consumers and end-users about impacts	Chapter 6.6	
S4-3: Processes to remediate negative impacts and channels for consumers and end-users to raise concerns	Chapter 6.6	
S4-4: Taking action on material impacts on consumers and end-users, and approaches to managing material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of those actions	Chapter 6.6	

ESRS G1: Business conduct

ESRS disclosure requirement	Reference	Comments
ESRS 2 GOV-1: The role of the administrative, supervisory and management bodies	Chapter 3.2 Chapter 6.1	
ESRS 2 IRO-1: Description of the processes to identify and assess material impacts, risks and opportunities	Chapter 3.4	
G1-1: Corporate culture and business conduct policies	Chapter 1 (Values) Chapter 6.3	
G1-2: Management of relationships with suppliers	Chapter 6.4	
G1-3: Prevention and detection of corruption and bribery	Chapter 6.3	
G1-4: Confirmed incidents of corruption or bribery	Chapter 6.3	

Editorial information

Sustainability Report Financial Year 2024	FEV Group GmbH
Contact	csr@fev.com
Published by	FEV Group GmbH · Neuenhofstr. 181 · 52078 Aachen · Phone +49 (0)241 568 90 · www.fev.com
Responsible for the content	Patrick Hupperich, Chairman of the Executive Board Norbert W. Alt, Managing Director and Chief Operating Officer Christian Rösch, Managing Director and Chief Financial Officer
Project management/ editorial management	Jürgen Graf, Quality Management Systems Anne Kuhn, Quality Management Systems Marius Strasdat, Deputy Head of Central Marketing
Editorial staff	Many FEV employees collaborated on this sustainability report. We will gladly answer your questions and forward them as necessary to the relevant technical departments.
Image credits	FEV Group GmbH
Design	Verena Mainz, Graphic Designer, FEV
Publication	March 2026
Disclaimer	We took great care in compiling the information and data on which this report is based. All report contents have been carefully reviewed by the functional areas in charge. Nevertheless, errors cannot be completely ruled out. Any statements we make about the future development of our company are based on information and prognoses available at the time of publication. This sustainability report refers to the entire group of companies, including the data mentioned in this report, unless otherwise stated. This report has not been subjected to an external audit and is also not part of the management report. It was published in March 2026 with the title "FEV Sustainability Report 2024".

We drive innovation to help the world evolve

feel evolution

fev.com