

FEV



Sustainability Report 2022



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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 and mobility ecosystem. The focus of its own actions is fundamentally on the responsible promotion of sustainable and efficient mobility. 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 40 years ago, FEV has earned a worldwide reputation as an innovative and forward-looking engineering provider with more than 7,300 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. FEV also actively contributes to reducing emissions and sustainably improving people's quality of life through state-of-the-art energy and software solutions. FEV has transformed this corporate promise into its own brand with a comprehensive rebranding in 2022.

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 almost 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, CO₂-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 2022, which are aimed at sustainable development.

We wish you exciting insights



feel evolution

01 Company profile P. 6

- 1.1 Corporate structure and management P. 7
- 1.2 FEV services P. 8
- 1.3 Management of opportunities and risks P. 11
- 1.4 Value-oriented corporate management P. 13

02 Sustainable technologies & concepts P. 14

- 2.1 SVEN P. 15
- 2.2 Software Defined Vehicles P. 16
- 2.3 More safety for high-voltage batteries P. 17
- 2.4 Circular economy for vehicle batteries P. 18
- 2.5 Development and test center for high-voltage batteries/eDLP P. 19
- 2.6 First development and test center in Morocco P. 20

03 Focus on sustainability P. 22

- 3.1 Commitment to people and the environment P. 23
- 3.2 Sustainability management and organization P. 24
- 3.3 Stakeholder engagement P. 24
- 3.4 Materiality of FEV key topics P. 27



04 Environmental responsibility P. 30

- 4.1 Environmental management at FEV P. 31**
- 4.2 Energy management and climate protection P. 32**
- 4.3 Waste management P. 36**

05 Social responsibility P. 38

- 5.1 People at FEV P. 39**
- 5.2 Recruiting and employer branding P. 40**
- 5.3 Qualification and advanced training P. 42**
- 5.4 Occupational health and safety P. 43**
- 5.5 Diversity and equality P. 46**



06 Governance P. 48

- 6.1 Code of Conduct P. 49**
- 6.2 Sustainable customer relationships P. 50**
- 6.3 Respect for human rights P. 50**
- 6.4 Compliance management P. 51**
- 6.5 Information security P. 53**
- 6.6 Functional safety and cybersecurity P. 54**
- 6.7 Data protection P. 55**

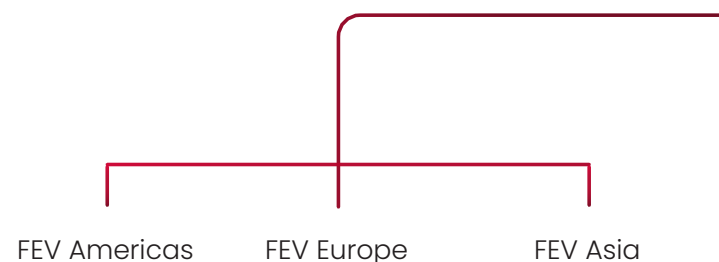
07 About this report P. 56

- ESRS content index P. 57**
- Editorial information P. 60**

For more than 40 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.

Company profile





1.1 Corporate structure and management

With around 6,800 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 advise 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 systems 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, Markus Kersting is also Chief Financial Officer

with global responsibility for finance, controlling, IT, purchasing, quality and legal affairs, as well as sustainability. As Managing Director and 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

6,800
Employees
globally

645 M€
Revenue
in 2022

>50
Different
nations

70%
Academics

>40
Years of
experience

300+
Test stands for
engines, T/M,
e-drives, fuel cells
and batteries

40+
Locations
on five
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 drive technologies. These are validated with virtual and real test-based 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.

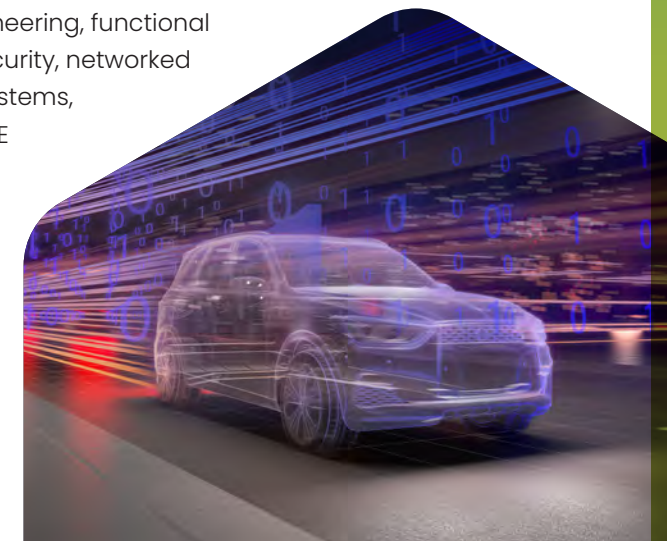
In particular, FEV develops tailor-made solutions for all vehicle sub-assemblies such as chassis, electrical and electronic systems, body, doors and hatches, as well as exterior and interior design. The range of services also includes concepts for light and visibility, vehicle performance and production, 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 manu-

facturers 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. The eDLP also has its 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 participates in many international research and development projects as a result. 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 CO₂ 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. In addition to series development, customer projects are also handled in pre-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

FEV energy 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 and

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.

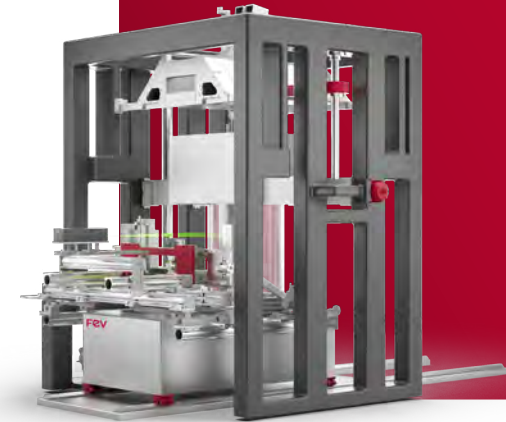
In addition, FEV conveys methods for establishing new product and process technologies in the company over the long term, thereby developing new markets. The global teams advise on three levels. On the one hand, they assist senior management with difficult challenges in the industry. At the same time, 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 test systems

With innovative solution approaches, FEV test systems ensures that development processes run with high efficiency. State-of-the-art test facilities, measurement, conditioning and control devices as well as intelligent software of the latest generation are available. They make it possible to transfer relevant tests from the road to the test stand and to computer simulation, thus significantly reducing time and costs. The model-based, collaborative development and validation framework meets all development, testing and calibration requirements – for e-mobility and automated driving, as well as in the area of standardized driving cycles for measuring fuel consumption and CO₂ emissions (WLTP and RDE cycles).

The basis forms a revolutionary, interdisciplinary approach. Powertrains along with electronic system are dimensioned and validated completely remotely on a scalable platform. The FEV team can rely on this model in every project phase – on hardware-in-the-loop and powertrain test stands as well as for road tests. The platform allows experts from various fields to share their knowledge and work together on solutions. In addition, seven test centers and more than 180 test stands



are available for customers worldwide, including the battery development and test center for cars and commercial vehicles eDLP in Saxony-Anhalt. FEV test systems also offers its customers the turnkey installation and commissioning of such test centers.

1.3 Management of opportunities and risks

Entrepreneurial activity requires targeted decisions that are geared towards the future but are made on the basis of current knowledge. This inevitably involves risks. There is a risk that targets will not be achieved because internal factors such as personnel development or performance, as well as external factors such as the market environment, new climate and resource protection requirements and geopolitical and regulatory changes, are not correctly assessed.

Due to the economic and political changes in the Far East and Europe, FEV is facing particular challenges. These include, for example, uncertainties due to disrupted supply chains, shortages in semiconductors and further increases in raw material and energy prices. The continuous expansion of the service portfolio and the strategic focus on electro mobility and digitalization can reduce the risk of dependencies in the automotive industry and, at the same time, support the sustainable development towards a low-emission automotive sector.

As a pacesetter for innovative technologies, FEV is also committed to establishing an effective early warning system in order to anticipate and prevent risks that could jeopardize the company. The aim is to raise awareness of existing risks on the one hand and to implement supporting tools that enable forward-looking activity and help to safeguard the future on the other.

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. 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.

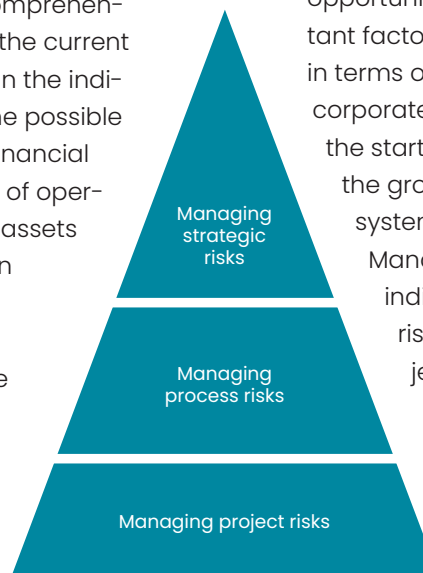
Corporate Risk Management

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 marks the start of the implementation of the group-wide risk management system (RMS as Corporate Risk Management). In future, both 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.

In future, risk management will be supplemented by a central risk management function. This 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 assessment based on the weighted "value-at-

Risk management consists of three levels



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 the net assessment, FEV uses tried and tested risk-reducing measures and develops them further. 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.

Sustainable technologies & concepts



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.

FEV
vehicle

2.1 SVEN: The ideal model for urban e-mobility

In urban settings, carsharing with electric vehicles opens the opportunity to significantly reduce traffic volumes and to make a valuable contribution to the protection of the climate and the environment. With the Shared Vehicle Electric Native, or SVEN for short, FEV has developed the ideal model for an urban means of transportation of the future. The electric car, which is optimized for carsharing, is emission-free and produces its own electricity using solar cells on the roof. Modern camera and radar sensor technology enables automated driving functions. The innovative “FlexBody” body concept ensures a high level of crash safety.

With its compact 2.50 m long and 1.75 m wide design, the prototype provides room for up to three passengers. If additional storage space is needed, the passenger seats fold up. Users can create an individual profile via the app and use it to select the interior temperature, seat position or desired audio playlist. Operators and provider firms also benefit from the digitalization: The stored IT architecture enables to establish different usage models. In the near future, SVEN will also be seen on Asian roads in a modified form – various companies have already secured the mobility concept for their own purposes.



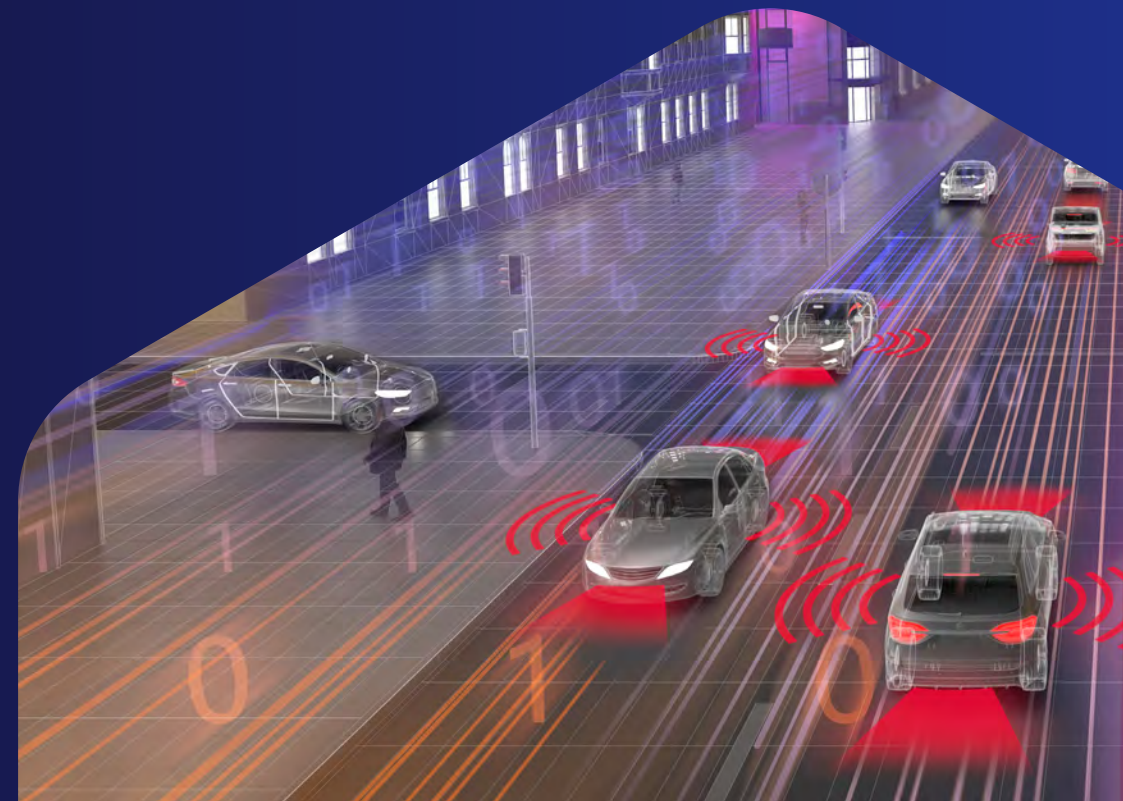
2.2 Software Defined Vehicles: Automation sustainably defined

New concepts are necessary to meet the fundamental need for mobility in the future and at the same time preserve a planet worth living on. Software Defined Vehicles (SDV) in conjunction with automation solutions play a key role in this. Assistance systems such as adaptive cruise control and parking assistants (automation levels 1 and 2) are already standard equipment in many vehicles. In the future, SDVs in an advanced evolutionary stage (automation levels 4 and 5) will make it possible to dispense with personal vehicles as autonomous “people movers” or “vehicles on demand” on a large scale. With decreasing traffic density and the increased use of emission-free drive concepts, significant savings in pollutant emissions can be achieved.

Together with leading automobile manufacturers, FEV is working on SDV-compliant, centralized electrical/electronic architectures (E/E architectures) and corresponding software solutions. As a development partner with many years of expertise and experience, FEV ensures that these are safe, easy to use and flexible, have end-to-end connectivity and can be embedded in digital ecosystems. The integration of advanced assistance functions such as “Hands-Off Driving” develops highly innovative solutions that give customers a decisive competitive advantage and a head start in the market.

The increasing importance of electronic system and software as the central components of modern vehicles involves a fundamental change in research and development. The change affects the organization, the processes and the required skills. In terms of product architecture, manufacturers are striving for highly modular and reusable software and E/E platforms that allow upgrades over the entire life of the vehicle. At the heart of the SDV are high-performance computers in combination with conventional control units. Considerable computing and storage capacities connected with the cloud are available for networked and continuously updated functions.

For a consistent, function-oriented specification and an universal architectural design, FEV relies on its established systems engineering framework “CUBE” in the development process. In doing so, requirements are derived from use cases at all development levels and the information and product architecture are modeled accordingly on this basis.



2.3 More safety for high-voltage batteries

A sustainable future is also a secure future. Safety is a high priority for FEV and is the focus of development work along with environmental aspects. One example is the high-voltage batteries used in hybrid and electric mobility. They can over-heat and even catch fire under unfavorable conditions. In a reaction chain, first the so-called “thermal runaway” of a cell occurs, whereby the battery becomes very hot. This can trigger a thermal propagation, a jump-over reaction, as a subsequent reaction. As a result, the temperatures increase to several hundred degrees in a fraction of a second, with a high potential for damage. FEV has developed an innovative process that combines fundamental simulation technologies with a cascaded testing approach. This significantly reduces the risk of thermal runaway and thermal propagation. This enables customers to significantly improve the design of their high-voltage battery packs. At the same time, development times and costs can be saved.



2.4 Circular economy for vehicle batteries

On the way to a zero-emission transport sector, access to raw materials for electric vehicle batteries is increasingly becoming a geopolitical challenge. In contrast, the recycling of vehicle batteries as part of the circular economy represents a sustainable option with high economic potential.

However, this raises fundamental questions about suitable recycling technology and the right time to invest. It is still to be clarified which business models are promising for End-of-Life (EoL) batteries, and which Second-Life applications are possible for BEV batteries.

In cooperation with the stakeholders along the battery recycling value chain, FEV has developed comprehensive technical and economic know-how in recent years. The result of this process is "CycleBat", a practical tool for modeling value chains. This makes it possible to make predictions about the future of battery recycling. In particular, the effects of selective measures can be quantified and taken into account in future battery and ecosystem design. In this way, "CycleBat" supports vehicle manufacturers and suppliers in utilizing their strategic options in the emerging battery recycling market and playing an active role in the circular economy.

FEV
propulsion

FEV
test systems

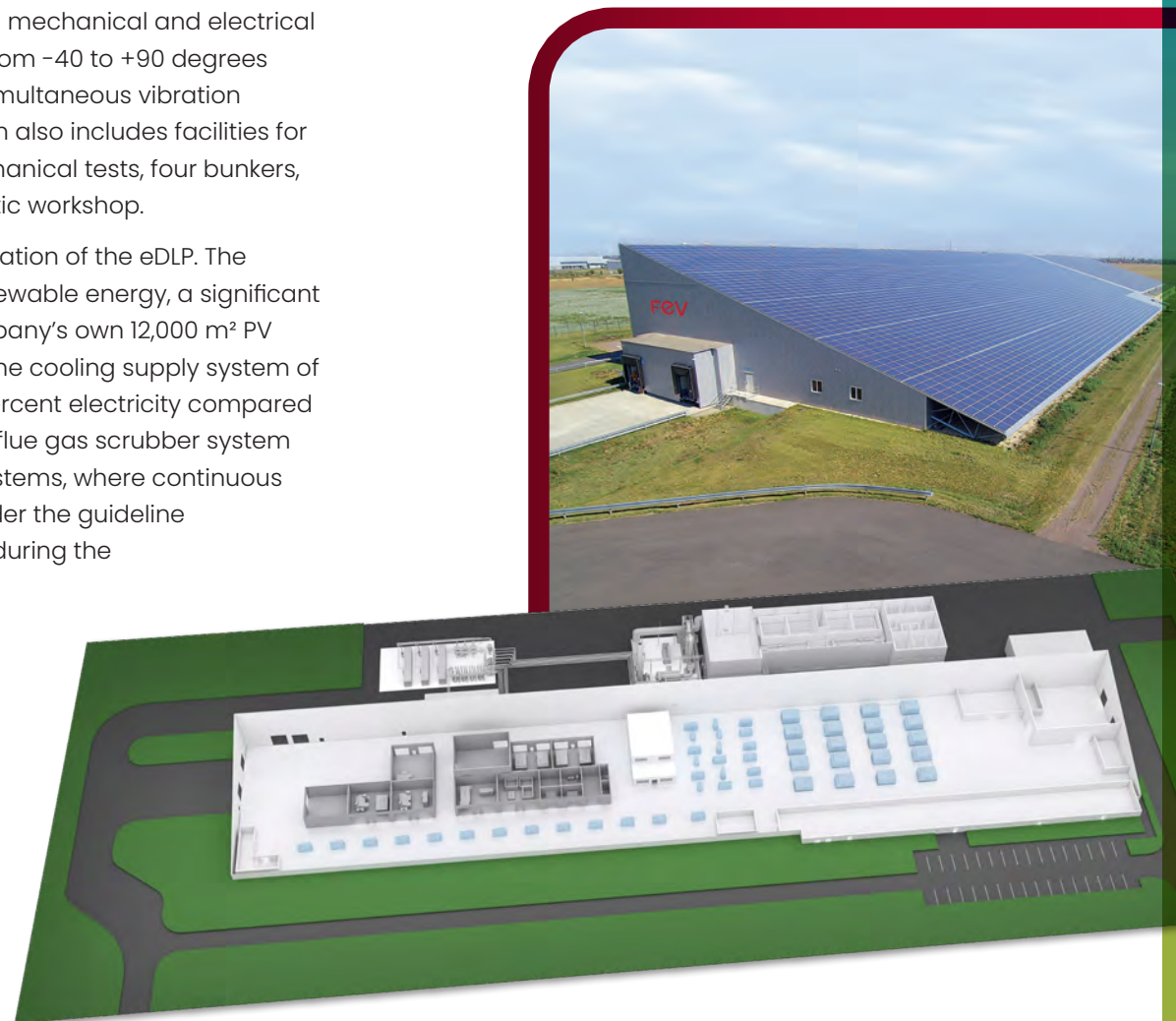
2.5 Development and test center for high-voltage batteries/eDLP

FEV can rely on highly qualified employees and advanced development centers at its locations outside of Germany for battery development. In 2020, the world's largest independent development and test center for high-voltage batteries for cars and commercial vehicles was opened with the eDLP (e-Endurance Test Center). It closes the gap between the increasing need for testing and the available test stands, and significantly reduces the previous development effort. This strengthens FEV's position as a partner for the holistic protection of high-voltage storage systems and its components.

On a total area of 42,000 m², two buildings with 12,000 m² and 3,500 m² of space are available at the location in Sandersdorf-Brehna, Saxony-Anhalt. All the tests that a vehicle manufacturer's development plan provides for modules and complete high-voltage batteries can particularly be offered at 69 facilities in total. The 54 climate chambers alone are equipped with an electrical power of 30,000 kW. It covers all common test methods for batteries in service life assurance, environmental and transport tests as well as crash safety for cells, modules and packs. Another USP is the 350 kN shaker, which can be used to carry out combined mechanical and electrical tests on batteries in ambient conditions from -40 to +90 degrees Celsius. Charging and discharging with simultaneous vibration loading is also possible. The overall system also includes facilities for safeguarding all environmental and mechanical tests, four bunkers, a fire hall and a dismantling and diagnostic workshop.

Sustainability is also important in the operation of the eDLP. The system is operated almost entirely by renewable energy, a significant proportion of which comes from the company's own 12,000 m² PV system. A central cooling unit is used for the cooling supply system of the test chambers – this saves up to 15 percent electricity compared to using several decentralized systems. A flue gas scrubber system cleans the exhaust air from the bunker systems, where continuous gas emissions and fires are provoked. Under the guideline "Safety first", all pollutants that may arise during the tests are filtered and neutralized.

Test area with
54 climate and temperature chambers,
8 chambers for environmental testing, shaker for
mechanical tests, 5 chambers for misuse tests,
workshop for battery disassembly





2.6 First development and test center in Morocco

FEV has systematically expanded its reach in Morocco in recent years. In 2022, the company and its joint venture partner UTAC opened the first development and test center for vehicles on the African continent in Oued Zem, Morocco. Just outside of Europe, customers now have access to a unique range of modern development, testing and homologation services.

The plant in Oued Zem, around 150 kilometers south-east of Casablanca, allow test operation to be carried out almost all year round thanks to the warm and dry climate.



“As a leading global engineering service provider in vehicle and powertrain technology, we develop innovative solutions with an ecological vision. In this way, we are creating a sustainable basis for meeting the mobility needs of global society in a climate-neutral way in the future.”

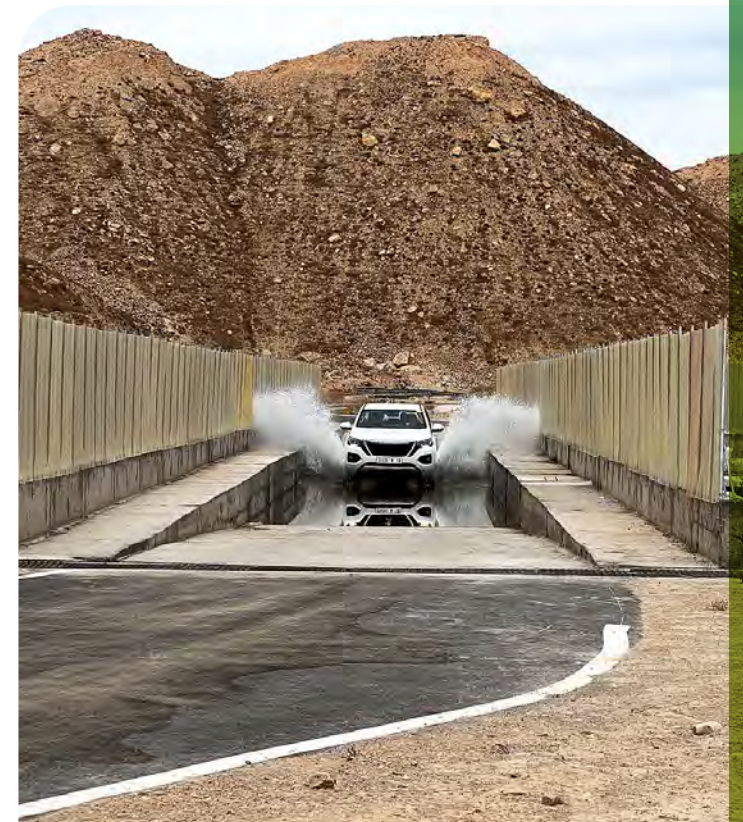
Johannes Scharf, Chairman of the Executive Board, FEV Europe

Situated at a height of 850 meters in the Moroccan Atlas foothills, the 500-hectare site is home to a completely redesigned testing ground for cars and commercial vehicles. It enables a wide variety of test drives on a total of 14 partial and individual routes.

The heart of the plant is the four-kilometer smooth-out distance (in accordance with EU and Japanese specifications as per ISO 1702507.22), which is the only one of its kind in the world. Test sections for high-speed driving, brake tests and acoustic tests as well as hill climbs and rough roads, an ISO 10844 acoustic route and other test routes supplement the portfolio. The location is also a convenient starting point for long-distance drives in the Atlas foothills, which are only 70 kilometers away.

Customers will find a complete range of test stands for powertrain development (vehicles with electric, hybrid and combustion engines), RDE cycles, endurance and reliability tests, dynamics, acoustics and climate tests in the associated, also newly built test center. The building complex also houses spacious offices, conference and seminar rooms as well as presentation areas. A total of four halls with office and workshop spaces are available for preparing customer vehicles. A hotel built especially for guests of the test center with restaurants, spa areas and leisure facilities rounds off the offer.

It is only an hour and a half's drive from the port in Casablanca to Oued Zem, and FEV can also take care of the entire testing process for its customers, including pick up and return transport of the vehicles. The area is also ideal for events such as vehicle presentations, driver training and internal training courses.



Focus on sustain ability

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 drive technologies and sustainable mobility concepts. We follow a sustainability strategy that takes into account all three ESG dimensions (E = Environment, S = Social, G = Governance) in order to comprehensively fulfill our environmental, social and business 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:

- Sustainability
- Electrification and hydrogen technology
- Software development
- New work models

3.2 Sustainability management and organization

When establishing 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 the increasing internal and external requirements.

Focus topics in the mobility and transport sector

Sustainability



- Participation in the achievement of global climate protection goals
- Taking political and social developments into account

Electrification and hydrogen technology



- The battery-electric drive is becoming the standard for cars
- Hydrogen and fuel cells offer opportunities for commercial vehicles

Software development



- The vehicle of the future will be defined through software
- Digitalization will penetrate all business areas

New work models



- Recruiting and retaining talented staff will be decisive
- Flexible work options will be needed, e.g., remote work and shared-use workplaces

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 focus is on sustainability coordination by the Quality Management department. One of its core tasks is to further develop sustainability management and ensure sustainability reporting. The procedure is subject to the decisions of a steering committee, which sets the strategy, goals and measures together with the Executive Board. A work group comprising representatives of all disciplines takes over the implementation of the measures. In addition, the topic of sustainability is integrated in the established committee structure of the existing management systems.

FEV sees the obligation to include a sustainability declaration in the management report in the future as a pioneering step and at the same time as an opportunity to further develop sustainability management effectively.

Although not yet obligatory, the current sustainability report has already been prepared with a view to the future ESRS standards. The assessment of materiality and the presented sustainability performance are therefore based on these standards. The upstream and downstream value chain was also included in the deliberations. It is planned to fully cover the scope of consolidation and include the entire value chain in detail in the coming years.

From 2025 at the latest, the sustainability data will be integrated into the management report with the required information on the EU taxonomy, thereby fully meeting the requirements of the European Corporate Sustainability Reporting Directive (CSRD).

3.3 Stakeholder engagement

Today, customers regularly evaluate their service providers and suppliers with regard to their ESG service. Moreover, investor companies and financial institutes prepare ratings and rankings, whereby they orient those analyses in line with the general ESG criteria. The evaluations provide FEV with important stimuli to continuously improve – also compared to the competition. The Group aims to meet the expectations of its stakeholders and to position itself in a technologically, ecologically, socially and economically sustainable manner. This not only strengthens the company's own sustainability, but also sets standards for comparison across the industry. In ratings and rankings given by its customers, FEV consistently receives very good assessments. FEV Europe achieved a very good percentage of 84 in the NQC Supplier Assurance

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

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



Platform assessment in 2022. FEV customers such as Volkswagen AG, Mercedes Benz Group and BMW AG are behind the NQC Supplier Assurance Platform. FEV Europe's rating is significantly above the industry average for services in the areas of engineering, research and technology. FEV North America participated in the Eco Vadis survey assessment and earned Silver status.

In dialog with stakeholders

What motivates the people, institutions and companies that operate in the FEV environment? What requirements, needs and suggestions do they have? It is very important for FEV to further develop and raise its profile through regular exchange with its stakeholders. In addition to customers and suppliers, external stakeholders also include associations and investor companies. Dialog with competitors, media, authorities, politicians and scientific organizations is also of great importance to FEV. Along with employees, internal stakeholder groups also include their representatives (Works Council) and the Advisory Board.

FEV uses numerous communication channels. Traditionally, these are primarily trade fairs and congresses, which offer a central platform for the exchange of ideas and information. Every year, FEV is represented at more than 130 industry-specific and cross-industry events worldwide. In discussions with key stakeholders, the company reflects on the foundations of sustainable mobility and also presents its own pioneering technologies and solutions in this context. FEV positions itself for the decarbonization of the transport sector and adjacent markets with more than 100 publications and presentations in trade press and at all important

international congresses every year. Among other things, the company is represented with its own exhibition at Auto Shanghai (China), SIAT (India), SAE World Congress (USA) and the world-renowned Aachen Colloquium Sustainable Mobility, which focuses on sustainable mobility solutions.

The Group also hosts various international conferences every year, which pursue an interdisciplinary approach. In addition to representatives from the automotive industry, experts from related transport sectors, energy production, infrastructure architecture, socio-economics and politics participate to outline the path to a sustainable, CO₂-neutral future.

Here is a selection:

- FEV Future Mobility Conference: Engineering Solutions, Shanghai
- FEV Future Mobility Conference: Software & Testing Solutions, Shanghai
- FEV Conference High Efficiency Diesel and H₂ Propulsion Systems, Turin
- FEV Day of Smart New Energy Vehicle, Beijing
- FEV Tech Day Korea, Seoul
- FEV Day of Future Mobility Solutions, Turkey
- Aachen Colloquium Sustainable Mobility
- FEV Conference Zero CO₂ Mobility, Aachen
- FEV India Tech Day, Pune



FEV is a member of influential associations and institutions:

- German Association of the Automotive Industry (VDA)
- Vereinigte Unternehmerverbände Aachen (VUV Aachen)
- Nordrhein-Westfälische Akademie der Wissenschaften und der Künste (AWK)
- 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
- The Association of German Engineers (VDI)
- Verband Deutscher Maschinen- und Anlagenbau (VDMA)



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. Dialog via social media is also playing an increasingly important role. The company shares information on innovations, events and publications with its community on LinkedIn and Twitter (today X). 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 future ESRS specifications and assessed from two perspectives. First, the positive and negative impact 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 rounds off the significance 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)*

EI: Climate change

- Climate change mitigation
- Energy

S1: Own workforce

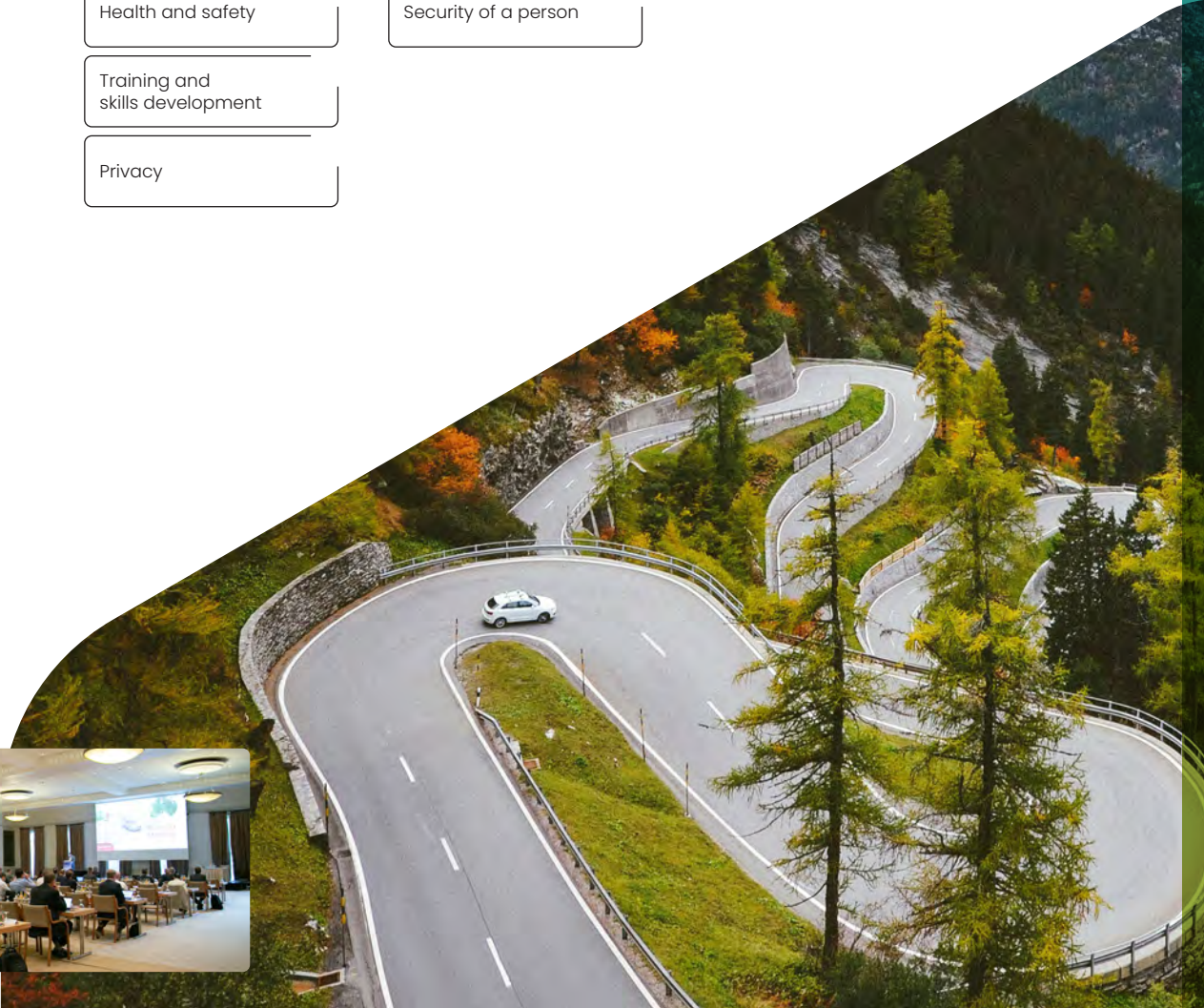
- Secure employment
- Adequate wages
- Health and safety
- Training and skills development
- Privacy

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 (impact, opportunities and risks)
EI: 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.
EI: 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.
EI: Climate change	Energy	Energy consumption is of great importance to FEV. 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 (impact, opportunities and risks)
SI: 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. With the worldwide increase in socially insured jobs, FEV is able to take advantage of future opportunities. The structural change-related reduction of jobs in areas that are not sustainable remains a challenge.
SI: 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.
SI: 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. FEV supports this in the context of initial training (e.g. dual studies, internships, master's theses, doctorates) and further professional development – in some cases beyond its own requirements. The shortage of skilled workers is currently seen as a challenge. Particular attention is therefore paid to increasing the attractiveness of employment and promoting women.
SI: Own workforce	Privacy	The careful handling of employees' personal data is important owing to strict legal requirements and the FEV values.
SI: 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 corresponds to the FEV's understanding of values. 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 automobile manufacturers and involves the potential negative 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 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.

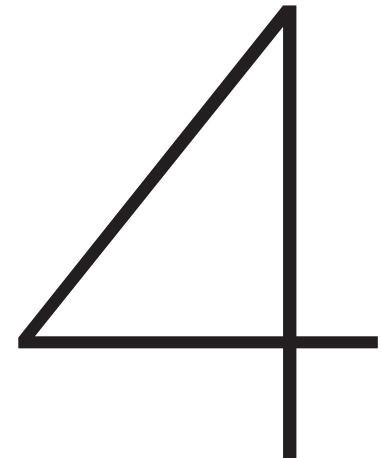
Governance (Chapter 6 of this report)

ESRS: Topic	Sub-topic	Justification of materiality (impact, opportunities and risks)
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 shape the behavior of all employees internally and externally, however, they must be exemplified, regularly communicated and, if necessary, possible misconduct must be sanctioned.
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 also ensures the protection of whistleblowers. There are also legal requirements from the Supply Chain Due Diligence Act and the Whistleblower Protection Act, which require the further development of complaints management system.

A scenic coastal landscape featuring a winding asphalt road in the foreground with a white car driving. The road curves along a cliffside overlooking a sandy beach and the ocean. In the background, there are green hills and a small town built on a slope under a blue sky with light clouds. The text 'Environmental responsibility' is overlaid on the image in a large, bold, teal font.

Environmental responsibility

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 drive and mobility systems, 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.



4.1 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 outside of Germany where this makes sense due to their environmental relevance. To date, around one-third of FEV's branches worldwide with 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 Software and Testing Solutions in Aachen is expected to receive this certificate in 2023.

Focus on climate protection

The materiality analysis has made it clear that climate protection has the highest priority in the environment 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-CO₂ 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 conventional 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 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.

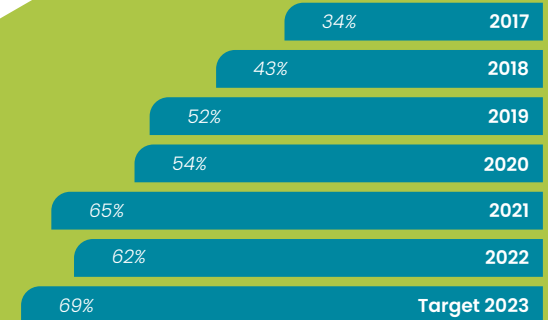
Even the environmental aspect of noise only plays a minor role, because the tests take place on encapsulated test stands in closed halls.

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.

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 percent in 2017 to 65 percent 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 69 percent in 2023 and continue to do so in the coming years. The system is being reviewed and adapted with regard to 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 green-

house 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. As the use of engine test stands decreases, so does the need for fossil fuels. At the German locations, FEV last conducted an energy audit according to DIN EN 16247-1 in 2019. It evaluated both project-related and non-project-related primary energy consumers in the company. The audit found that the importance of fossil fuels is generally declining steadily, as the share of projects with conventional powertrain systems is shrinking. At the same time, electricity consumption is increasing at individual locations – due to the rising share of battery-electric drives and the growing importance of battery testing.

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 energy-intensive 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 CO₂ 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



Energy consumption of FEV Group by sector in a year-on-year comparison

Global energy consumption by sector	2021 (MWh)	2022 (MWh)
Electrical power consumption, total	58,685	57,291
Global regenerative electricity from own production	8,509	6,850
Regenerative electricity procurement	13,404	28,535
Global natural gas consumption for heating	15,589	12,207
Global fuel consumption, test stands and road tests	54,065	49,298
Fuel consumption of company cars	6,181	6,037
Total	156,433	16,0218

Electricity procurement from renewable energies

Another lever for reducing greenhouse gas emissions is the use of renewable energy sources. In 2022, FEV Europe in Germany will have covered its entire demand with certified, climate-neutral green electricity from Klimainvest. By purchasing a total of around 30,000 MWh of green electricity, 10,641 fewer tons of CO₂ were emitted into the atmosphere than would have been the case if electricity had been generated from energy sources corresponding 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 (business trips) and 3.7 Employee Commuting (commuting, estimated value) categories of scope 3 are reported. The information on scope 1 and 2 CO₂ emissions is based on global, group-wide reporting of energy consumption data. In purely mathematical terms, the climate-harming gases emitted by the company

correspond to the ecological footprint of about 2,700 average households in Germany. As described above, the significant reduction in scope 2 emissions in 2022 results, among other things, from the use of 100 percent green electricity by FEV Europe in Germany. Scope 3.6 emissions due to business travel were exceptionally low in 2021 compared to 2022 as a result of the global COVID pandemic and the associated travel restrictions. In general, it can be assumed that the need for business travel will continue to decrease in the future due to the intensive use of MS Teams meetings as part of the digital transformation.



City Cycling: A sign for climate protection

FEV has been taking part in the “City Cycling” competition, which is organized annually by the world’s largest city network “Climate Alliance”, since 2012. The initiative aims to raise people’s awareness for climate protection and motivate them to switch from cars to bicycles as often as possible. With 33 cyclists, the “FEV move” team covered more than 9,000 kilometers in the period from June 1-21, 2022, avoiding 1.4 tons of CO₂. With this impressive result, FEV was able to secure second place in the company category in Aachen - and received the certificate for this climate-friendly commitment from the Lord Mayor in Aachen City Hall.



CO₂ emissions

Global CO ₂ EMISSIONS of the FEV Group according to the GHG Protocol	2021 (t CO ₂ e)	2022 (t CO ₂ e)	Share of Total emissions 2021 (%)	Share of Total emissions 2022 (%)	Notes
Scope 1	19,868	18,084	49	53	Direct emissions from combustion of natural gas and fuel: Heating, test stands, company car fleet and from refrigerant emissions
Scope 2	14,978	8,894	37	26	Indirect emissions from purchase of electricity and heat
Scope 3.6	1,517	3,092	4	9	Indirect emissions from business travel (Cat. 3.6 Business Travel – 2021 COVID)
Scope 3.7	4,213	4,244	10	12	Indirect emissions from employee transportation (Cat. 3.7 Commuting)
Total	40,576	34,313	100	100	

Scope 3.7 emissions from employees' commute to and from work depend on the number of employees. As this only increased slightly in 2022, the associated Scope 3.7 emissions for 2021 and 2022 are at a comparable level.

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 CO₂ 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 CO₂ load resulting from testing activities depends on the number and scope of the tests. In 2022, CO₂ emissions due to fuel combustion at the test stands at FEV Europe were 2,487 tons compared to 2,972 tons in 2021. 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 CO₂ emissions of the company car fleet have also been continuously reduced – at FEV Europe alone by 31 tons from 621 tons in 2021 to 590 tons of CO₂ in 2022. CO₂ emissions as a result of unintentional leaks of climate-damaging gases (F-gases) from refrigeration units amounted to 285 tons in 2022. The reason was a leak caused by a defective valve.

At the FEV Europe headquarters in Aachen, the proportion of possible remote working days was increased to 40 percent in 2022 by company agreement, thus further restricting 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-CO₂ 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

In 2021 and 2022, the FEV headquarters in Aachen was equipped with 52 charging points for electric vehicles. They are used to charge company cars and test vehicles, but are also available to visitors and sometimes even to the public free of charge. In addition, a further 51 charging points were 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 at the Sandersdorf-Brehna location near Leipzig since 2020 (Chapter 2.5).

The system is characterized by environmentally friendly operation and is equipped with a flue gas scrubber system for emergencies. The photovoltaic panels installed on the roof generate around 1,000 MWh of electricity per year. This corresponds to around 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 with a high degree of efficiency, 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 on the environment 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.

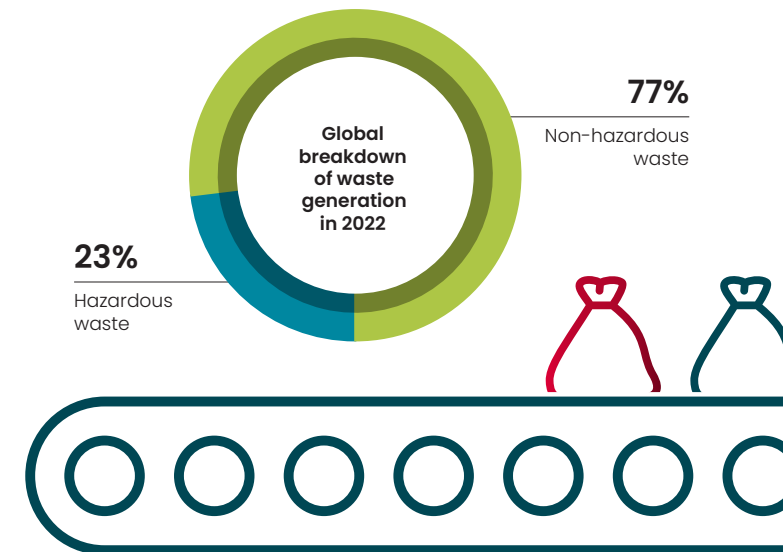
Conservation of resources is a top priority

Non-hazardous waste at FEV includes packaging, plastic film, wooden pallets, paper and residual waste. The waste classified as hazardous essentially concern the 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 exclusively 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, in tons (rounded)

Type of waste*	FEV HQ (AC/Alsdorf) 2021	FEV HQ (AC/Alsdorf) 2022	Treatment method	FEV global 2021	FEV global 2022
Waste oil, emulsions	20	7	Material recycling	46	26
Fuels	8	4	Energy recovery	29	40
Antifreeze	12	7	Material recycling	71	46
Other	10	21	mainly combustion	135	138
Total hazardous waste	50	38		281	250
Grease separator residues	9	16	Material recycling	14	20
Paper	102	117	Material recycling	179	175
Wood	26	30	Material recycling	51	55
Metals	91	51	Material recycling	153	115
Household-type commercial waste	116	99	Material recycling	439	373
Li-Ion batteries	4	2	Material recycling	19	10
Other	22	31	Partial recycling	78	82
Total non-hazardous waste	369	345		933	829
Total weight	419	383		1214	1079

*Waste types < 10% of the total weight are not taken into account here



The powerhouse for future mobility, software and energy solutions



feel evolution

Social responsibility



It is our employees worldwide who contribute significantly to FEV's business success with their knowledge, experience and motivation. As a responsible employer, 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.

5.1 People at FEV

During the reporting year, FEV employed around 6,800 people worldwide. This corresponds to an average of 6,777 FTEs in the period from January to December 2022, of which 4,510 came from Europe, 1,638 from Asia and 629 from America.

FEV strives to create a culture in which each individual can develop their full potential every day in a safe and attractive working environment. It is crucial to work together as equals and to create an atmosphere of partnership in which all employees are valued equally, regardless of their 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	
		2021	2022
Share of the workforce	Full-time employees	85.9%	85.1%
	Part-time employees	6.0%	6.1%
	Trainees/students	5.3%	6.8%
	Temporary workers	1.9%	2.0%
Gender ratio	female	14.9%	16.2%
	male	85.1%	83.8%
Age distribution	< 30 years	22.0%	29.3%
	30-50 years	64.1%	57.3%
	> 50 years	13.9%	13.4%

Trustworthy collaboration with employees

FEV maintains a trustworthy collaboration and a lively exchange with employee representatives at all levels. The common goal is to promote the well-being of employees in an open dialog and feedback process. Surveys are also used to involve the workforce directly in specific topics, allowing them to participate in the decision-making process.

Throughout the company, it is important to actively involve the employees in the communication process. To ensure that all employees are always informed about current topics and planned changes, FEV uses various communication channels, including the intranet, regular meetings and video formats.

FEV is currently working on the introduction of standardized software for the administration of master data and learning management at Group level. This creates the technological basis for involving all relevant stakeholders at an early stage and taking their needs and requirements into account. The improved availability of global personal data also makes it possible to identify opportunities and risks at an early stage, optimize the global training region and reach large sections of the workforce with relevant content at all times.

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.

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

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:

- Annual leasing program for electronic devices
- Corporate benefits program with exclusive offers
- Fixed contingent of places at a childcare center
- Bike leasing program
- Use of the FEV Gym and company sports

New benefits

In order to continue supporting employees, FEV is currently working on the introduction of additional benefits, 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 measures are designed to create an environment in which employees can work happily and successfully and contribute jointly to value creation.



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 mobility. FEV has also adapted to the requirements of the modern work world and the changing needs of employees. In the reporting year and the following year, the company revised its employer branding and has since positioned itself on the labor market with an innovative strategy.

Feel evolution: The new employer branding approach

The employer profile is expressed in the new 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.

FEV employees act as authentic and credible brand ambassadors. A new “FEV Enthusiasts” network is created specifically for this purpose, which will consist of around 100 employees worldwide. These employees communicate FEV’s core messages and share their success stories via social media, at recruitment fairs or during the induction of new employees.

The network enables interested applicants to gain a realistic insight into the work world of FEV and to obtain unbiased information first hand. The aim is to attract the best talent in order to shape the future of mobility together with them.

The figures prove the success of the strategy: In the reporting year, around 12,500 people submitted job applications to FEV in Germany alone. Over the course of 2022, the company added 859 FTEs, with a total of 1,128 staff departures. This corresponds to a fluctuation rate of around 15 percent. During talent acquisition, personal contact is

capitalized. 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 dialog 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. Around 200 students were employed at FEV in 2022. Numerous graduate theses are also based on FEV projects every year. There is a close partnership with RWTH Aachen University. Stefan Pischinger heads the Chair of Thermodynamics of Mobile Energy Conversion Systems there. For many years now, he has regularly advised doctoral candidates who combine their research with practical applications at FEV. FEV also supports students from RWTH Aachen University and Aachen University of Applied Sciences within the framework of the German federal government’s “Deutschlandstipendium” scholarship program. In 2022, a total of eight scholarships were granted.



5.3 Qualification and advanced training

Innovative personnel development is the key factor for FEV's long-term value enhancement and innovative capacity. The internal transfer of know-how and up-to-date expertise secure our market position in the long term. Therefore comprehensive qualification has a high priority at FEV. In view of the structural change in the automotive sector, FEV is also committed to training employees in future-oriented areas and thus securing employment in the long term. This was achieved, among other things, through the "BX – Together for future" initiative, which was continued in the reporting year.

Digital FEV Academy: A world full of learning opportunities

The Digital FEV Academy is a central component of the advanced training strategy. The digital Learning Management System (LMS) is continuously being expanded and optimized. It offers FEV employees a wide range of advanced training opportunities, including specific specialist seminars, software training and soft skills training. In order to ensure that colleagues worldwide can participate, numerous modules are available in both German and English.

The Digital FEV Academy is divided into a general area and a personal area. In the general area, the FEV Academy catalog, employees receive a comprehensive overview of the advanced training courses on offer, including content, dates and registration options. The modules can be selected from four main categories:

- Specialist Academy
- Leadership Academy
- Project Management Academy
- Sales Academy

The foundation of the FEV Academy catalog is formed by interdisciplinary training courses, such as for soft skills. Lists of potential participants are used to determine the training needs. The program planning also takes into account experience, the number of new hires, and customer needs.

For example, the ongoing trend towards alternative mobility concepts has resulted in new training requirements and offerings.

The personal area allows employees to view their individual training history, document assigned training courses and apply for external specialist training. On average, FEV Europe employees invested around ten hours in advanced training in 2022. With the ramp-up of advanced training offers after the coronavirus crisis, the number of hours of advanced training has increased significantly compared to the previous year (2021: six hours). In future, the evaluation will also be based on gender distribution.

The LMS is currently fully available to employees of FEV Europe, FEV Group and FEV.io. With the roll-out of a new Learning Management System, all employees worldwide will soon have access to the complete range of advanced training offers.

Training needs are determined annually as part of employee performance reviews. In the engineering area alone, FEV Europe conducts performance and development reviews with around 600 employees per year.

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

Marcus Mülleneisen, Managing Director FEV EVA



With the help of global partnerships, FEV promotes the acquisition of knowledge and the further development of its employees. In 2023, the cooperation with LinkedIn Learning will be launched to make the wide range of high-quality learning resources available worldwide.

Mentoring program and talent promotion: Together to success

In 2022, the concept for a global mentoring program was also developed. In future, it will be open to a total of 100 participants and will be supervised by internal mentors from all management levels. The program gives employees access to valuable knowledge and extensive experience, enabling them to plan their professional advancement in a targeted manner.

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 at the plant workstations in particular. 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 well beyond the legal requirements. In view of the different national legal situations, responsibility for occupational health and safety lies with the individual entities. In Germany, the hazards are predominantly found at the main locations. That's why they have already been operating management systems certified by the Verwaltungs-Berufsgenossenschaft (VBG; the German Administrative Professional Association) there 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.

Occupational health and safety management according to the ISO 45001 standard is part of an integrated management system that includes all business processes and guarantees effective procedures. It is subject to continuous improvement in accordance with the VBG model. FEV has set itself the goal of collecting, assessing and reporting valid accident figures at all locations worldwide in the future.

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: The fact that this strategy is working is demonstrated by the fact that accident figures have been declining for years. The

Objective: Recording and evaluation of accidents within the FEV Group

self-imposed target of fewer than five accidents at work per 1,000 full-time employees was consistently met in the years 2019 to 2022. With an accident rate of 2.7, the figure in 2022 was again below the target value, although significantly more colleagues resumed office work as the coronavirus restrictions were lifted to a large extent.

By contrast, the commercial sector in Germany registers an average of around 21 reportable accidents per 1,000 employees each year. However, FEV recorded a relatively significant increase in the accident severity rate, the number of days absent per accident event, in 2021. This was due to two serious commuting accidents that resulted in prolonged absences from work. 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.

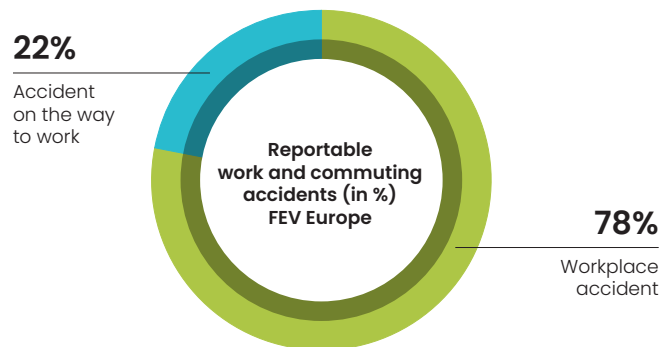
Accident rate per 1,000 employees (number) FEV Europe

	2021	2022
Accident rate	4.8	2.7
Target	< 5	< 5

Accident severity rate (lost workdays) FEV Europe

	2021	2022
Accident severity	10.5*	7.4
Target	< 10	< 10

* Value correction due to incorrect calculation (information in the 2021 report: 18)



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.

One particularly challenging issue arises from the technological transformation: The transition from classical powertrain systems to electric motors has also 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**: **Substitution** protective measure – **Organizational** protective measure – **Personnel** protective measure. 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
- Bike leasing options
- Company sports clubs
- Memberships with Urban Sportsclub and Egym Wellpass
- Reintegration measures, e.g., after prolonged illnesses
- Electric height adjustable desks

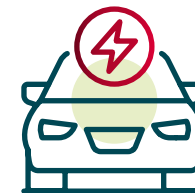
Regular events are also held and consultations by professional partners are provided. Ergonomics consultations, for example, are used to design the working environment according to individual needs and to reduce the risk of work-related illnesses. Site medical officers provide occupational health care 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 also 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 (ASA), 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 becoming increasingly 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.

Well-protected throughout the pandemic

The importance of holistic health and occupational safety management has been demonstrated during the COVID pandemic. FEV had already formed an international corona task force at the beginning of the pandemic and created a comprehensive package of measures to protect employees worldwide from the virus and avert the risk of infection in close coordination with the local authorities. Where the work allowed it, employees worked from home and held virtual meetings in place of in-person appointments. These experiences have led to lasting changes. The pandemic has also triggered a digitalization boost at FEV and accelerated the introduction of new flexible and collaborative working models.

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

In order to underpin its commitment to diversity and inclusion, FEV is planning to introduce a system of key figures that records numerous diversity indicators. It is designed to help set clearly defined goals and take effective measure to improve diversity within the organization. Regular data collection, analysis and reporting in the sustainability report document the progress achieved in a transparent and measurable manner.

FEV ensures that equal pay is paid for work of equal value throughout the company. To this end, various pay scales were introduced in the form of company 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. The overall proportion of women at FEV Europe in 2022 was just 12.3 percent. The proportion of women in

managerial positions rose to 3.9% – a pleasing increase compared to the previous year.

FEV is committed to interesting young women and girls in STEM subjects. An important initiative in this context is the ongoing participation in the German Girls' Day for many years, which gives school-girls the opportunity to gain insights into technical professions and practical experience.

Further measures are planned for 2023 to strengthen diversity and gender equality within the company. Among other things, FEV will sign the Diversity Charter, an initiative that publicly documents the company's commitment to diversity and inclusion. The company also wants to draw attention to the importance of women in the automotive industry with its own events to mark International Women's Day. In addition, a regular global "Diversity Talk" is introduced to promote dialog and the exchange of experiences within the global workforce.

Governance

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. Analogous to the Code of Conduct, 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.

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

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 and guidelines are just as important for performance and customer proximity.

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. The Supply Chain Due Diligence Act defines the obligations to be fulfilled. In order to fulfill these requirements, FEV relies on effective IT systems in addition to certificates: SAP S/4Hana as an ERP system and the online supplier portal COUPA. 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 mere adhering to laws and internal regulations. Organizational provisions that enable the workforce to fulfill their responsibility towards employees, business partners, society and the company are a key component. The commitment to ethical, loyal and sustainable behavior is anchored in the FEV Code of Conduct.

The focus is on the following aspects:

- Fight against corruption, particularly in the area of sales and foreign business with a low CPI (Corruption Perceptions Index)
- Competition
- Information security and data protection
- Insider information
- Technical compliance/functional security
- Export control
- Anti-discrimination
- Environmental protection and occupational health and safety

Compliance management with system

FEV promotes the compliance culture with a group-wide Compliance Management System (CMS). In this way, the company ensures that internal and external requirements are implemented, reported, checked and, if necessary, adapted.

All measures are based on defined FEV Group policies that set out the specific responsibilities and duties of the various departments. The policies and guidelines formulate minimum requirements that the subsidiaries of the FEV Group must implement.

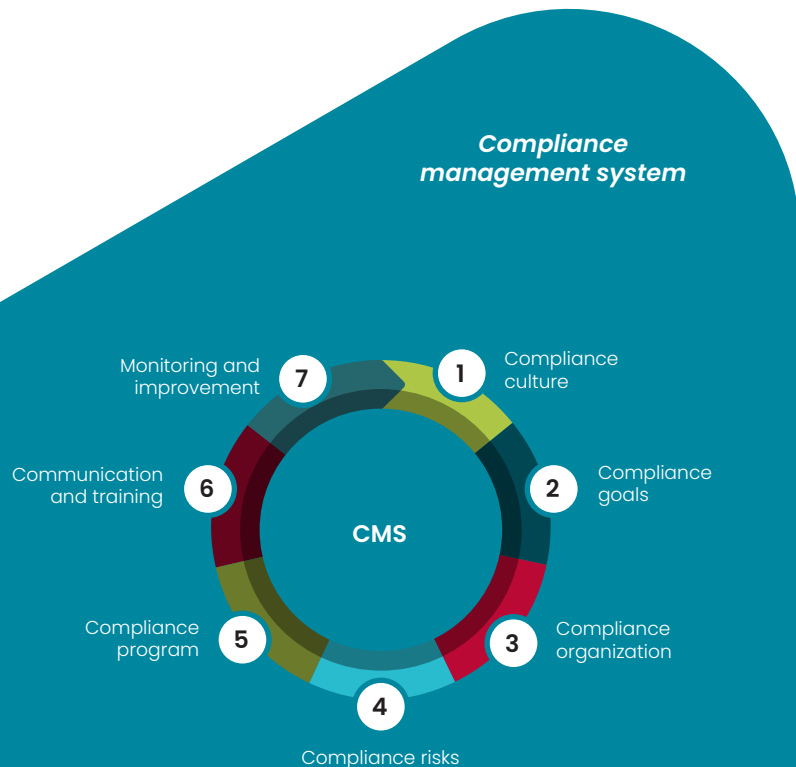
Among other things, FEV has issued a Group guideline that provides information on corruption and makes it clear where the line is to be drawn between permissible and prohibited behavior in the high-risk area for corruption. The guideline describes principles and standards that must be observed in all cases, especially when negotiating, concluding and extending contracts.

It also applies to the maintenance of customer relationships and networking activities. In cases of doubt and if questions arise, employees are required to contact the respective manager or the Group's legal consultation. Incidents must be reported to the compliance officer or compliance manager in the respective company. The Chief Compliance Officer is informed of the current status of the CMS at regular intervals by means of reports.



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 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.).

For example, sponsorship campaigns must only be carried out outside of ongoing projects under clearly defined conditions and rules. Suppliers are also expected to implement the obligations in their own supply chain.



Worldwide CMS organizational structure

Responsibility for the FEV Group's Compliance Management System lies with the Executive Board; the Chief Compliance Officer (CCO) is responsible for implementation. This is supported by Regional Compliance Officers for America, Europe and Asia. Responsibilities within the individual FEV companies are also defined in accordance with the Group guidelines. As part of the 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.

The basic principles are clearly outlined and explicitly set out in the Code of Conduct: FEV does not tolerate any harassment, retaliation, intimidation, victimization or reprisals against whistleblowers, i.e., persons who express concerns regarding FEV. No significant fines or other sanctions due to violations of applicable law are known for the reporting year.

Technical Compliance Officer as a neutral function

The Global Managers working in the technical compliance function act independently outside the operating business units. This enables technical compliance to be managed independently of project interests and ensures neutrality in the evaluation and project decisions. Systematic project monitoring is carried out on a global level

in a continuous exchange between the technical compliance team and the operational areas. In this way, technical compliance risks can be significantly minimized and violations of technical compliance can be prevented. The key steps of the technical compliance process are anchored in a project management gate process and are implemented by the responsible project managers.

Technical Compliance Committee as an advisory body

A Technical Compliance Committee advises and makes decisions at regular intervals on general orientation and important technical issues. In cases where the legal situation is not clear or the regulations leave room for interpretation, the state purpose serves as a guideline. This guarantees the greatest possible vehicle safety and environmental compatibility as well as responsible action in the implementation of technically feasible mobility solutions.

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 at the highest level of 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 encourages reports from employees, customers, suppliers or third parties in order to identify, prevent and stop possible legal violations in connection with the FEV Group. FEV is aware of the fact that reports are sometimes of a sensitive nature and that if they are released to the public, both the whistleblowers and the persons concerned, the third parties mentioned in the reports and the entire FEV Group may suffer considerable damage, including existential damage. Against this background, FEV acts extremely responsibly in dealing with such reports.

Employees are encouraged to contact their manager if they have any indications of possible violations of laws or guidelines – alternatively to the Chief Compliance Officer of the FEV Group, the Compliance Officer or Compliance Manager of the respective company or to the external Compliance Ombudsman of 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 the 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 drives 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 can catch fire, drives can accelerate unintentionally, assistance systems can steer a vehicle in the wrong direction. Data theft can 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.

One of the central tasks of management is

- 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 gradually transferred 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 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 European 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



About this report



The present Sustainability Report was compiled for the 2022 financial year (January through December) and with reference to the European Sustainability Reporting Standards. It is FEV's second Sustainability Report. The report was commissioned by the Executive Board of FEV Group GmbH. All content was carefully reviewed by the departments in the context of a defined approval process and then examined and approved by the Executive Board after a final analysis. FEV reports on the status of current and planned environmental, social and business activities with regard to company-wide sustainable development. Furthermore, FEV provides an overview of its numerous projects and activities in the area of sustainable drive technologies and mobility concepts, the overall importance of which is increasing. This Sustainability Report refers to the entire group of companies, including the data mentioned in this report, unless otherwise stated.

FEV was not obliged to issue a Sustainability Report in the 2022 financial year, because FEV is not subject to the reporting obligation for non-financial reporting according to Section 289b of the German Commercial Code (HGB). Nevertheless, FEV would like to inform the external and internal stakeholders about the full scope of its sustainable development activities. With a view to future reporting obligations, FEV has already based this report on the new European standards (European Sustainability Reporting Standards) and applied the principle of double materiality, among other things. 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.

This report has not been subjected to an external audit and is also not part of the management report.

This Sustainability Report is also available as a PDF in English and German at www.fev.com.

ESRS Content Index

FEV reported the information listed in this ESRS Content Index for the period from January 1, 2022 through December 31, 2022 with reference to the ESRS.

ESRS 2: General Disclosures

ESRS disclosure requirement	Reference	Comments
BP-1: General basis for preparation 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 EI: Climate change

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

ESRS SI: 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	
SI-1: Policies related to own workforce	Chapter 5	Strategies are described in connection with the specific impacts
SI-2: Processes for engaging with own workers and workers' representatives about impacts	Chapter 5.1	
SI-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
SI-4: Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	Chapter 5	Measures are described in connection with the specific impacts
SI-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
SI-6: Characteristics of the undertaking's employees	Chapter 5.1	
SI-8: Collective bargaining coverage and social dialogue	Chapter 5.1	
SI-9: Diversity metrics	Chapter 5.5	
SI-10: Adequate wages	Chapter 5.1	
SI-11: Social protection	Chapter 5.1	
SI-12: Persons with disabilities	Chapter 5.5	
SI-13: Training and skills development metrics	Chapter 5.3	

SI-14: Health and safety metrics	Chapter 5.4	
SI-15: Work-life balance metrics	Chapter 5.1	
SI-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

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Many FEV employees collaborated on this Sustainability

Report 2022. We will gladly answer your questions and forward them as necessary to the relevant technical departments.

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Disclaimer

We took great care in compiling the information and data on

which this report is based. All report contents have been reviewed by the persons specifically responsible for them. Nevertheless, we cannot entirely exclude the possibility of errors. 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 was published in February 2024 with the title "FEV Nachhaltigkeitsbericht 2022" (FEV Sustainability Report 2022).

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innovation to
help the world
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