

**FRIWO**

Facts, data, figures.

2022 Sustainability Report





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# 2022 Sustainability Report

## Foreword

Dear shareholders, dear readers,

FRIWO is a globally active group of companies, some with more than 50 years of history behind them. As an internationally active product and system provider, we develop and manufacture power supplies, charging technology and digitally controlled drive solutions. In addition to high-tech chargers, battery packs and power supplies, the company's product range also includes intelligent components and systems for electric drive systems.

Entrepreneurship with a long-term perspective has always been a key element of our corporate culture, even if this was not previously explicitly stated. Our focus on innovation and material efficiency makes environmentally-friendly products economically viable and enhances our competitiveness and fitness for the future. FRIWO attaches great importance to responsible raw material and energy management, and we are therefore continuously improving our internal processes. At the same time, our customers benefit from custom solutions that facilitate intelligent, environmentally-friendly use of electrical energy.

Through its actions and products, FRIWO Group pursues a number of goals: ensuring long-term company growth, offering customers outstanding products, providing employees with the best possible working conditions and opportunities, minimising our impact on the environment, being a market leader in the segments we serve, and permanent profitability. Sustainability thus means offering the right products and services and safeguarding living standards and quality of life for all of us.

We work daily to maintain the best possible balance between the economy, ecology and society. To achieve this, we observe and analyse markets, identify trends, develop products, and make our company effective, efficient and fit for the future. Focusing on sustainability in the way we run our business significantly increases our productivity and international competitiveness. This enhances our attractiveness for shareholders and limits our impact on people, the environment and resources.

Though it's not something we have explicitly stated or publicly reported previously, the companies making up the FRIWO Group have for many years been operating sustainably. We now wish to devote more attention to ensuring consistent communications on this issue and to collecting a broader range of relevant data. This is the FRIWO Group's first standalone sustainability report. It contains a wide range of facts and product examples. Much has already been achieved with respect to sustainability; there is still much that we will continue to improve.

We will in future report on this process in detail and transparently. Despite our long and successful company history, the need to realise attractive, high-performance products without neglecting our responsibilities towards nature and society is a constant challenge. In our 2023 financial year we continue to work on this with the utmost dedication, and hope that you will join with us in tackling and overcoming these challenges.



Rolf Schwirz  
Chairman of the Executive Board



Tobias Tunsch  
Member of the Executive Board

# 1 Sustainability at FRIWO

## 1.1 Core values

Thinking and acting sustainably are key factors for business success. This means balancing the interests of all of the various stakeholders involved in or affected by the business process. In doing so, FRIWO is discharging its responsibilities towards society and contributing to ensuring that future generations will also be able to enjoy a functioning society, economy and environment.

FRIWO makes a substantial contribution to sustainability by developing and manufacturing high-quality, high-performance components for electrification, thereby reducing greenhouse gas emissions. At the same time, FRIWO is also highly focused on maximising its efficiency in order to minimise energy losses. A future area of focus will be on using recyclable materials.

## 1.2 Business model

FRIWO is an internationally active, innovative provider of high-performance power supply and drive systems. As well as chargers, battery packs and power supplies, the product portfolio also includes components for electric drive systems. FRIWO offers a full range of powertrain components – from displays and motor controllers to battery packs and control software – from a single source, achieving high levels of added value.

FRIWO products cover a wide range of applications. A unique selling point is our many years of charging technology experience and expertise – particularly in the demanding electromobility, mobile power tool and garden tool markets. For power supplies, our main areas of expertise are medical technology and health applications, and industrial automation. FRIWO electric drive components are primarily deployed in electromobility applications such as electric scooters.

In terms of manufacturing, FRIWO's strength lies in its optimised combination of in-house production and highly reliable suppliers. Most of our manufacturing is carried out at a number of factories on an industrial estate near Ho Chi Minh City in Vietnam. FRIWO also has a smaller manufacturing site at the company's headquarters in Ostbevern, where we manufacture battery packs and small runs of standard products, sometimes in collaboration with Polish suppliers. With advanced development centres, manufacturing and sales organisations in Europe, Asia and North America, FRIWO is present in every major market around the world, giving us industry-leading technology expertise. The FRIWO brand stands for innovation, safety, quality and efficiency globally.

### 1.3 Reporting

This sustainability report covers the following Group companies:

- FRIWO AG, Ostbevern, Germany
- FRIWO Gerätebau GmbH, Ostbevern, Germany
- FRIWO Vietnam Co. Ltd., Bien Hoa City, Vietnam
- FRIWO Power Solutions Technology (ShenZhen) Co. Ltd., Shenzhen, China
- FRIEMANN & WOLF INDIA PRIVATE LIMITED, Bangalore, Karnataka, India

The information and data has been structured based on the Global Reporting Initiative (GRI) classification. This report also meets in full the requirements for non-financial statements set out in Sections 315b and c in conjunction with Sections 289b to e of the German Commercial Code (*Handelsgesetzbuch*, HGB) and in Regulation (EU) 2020/852 of the European Parliament. This means that it includes the information required by the German Non-Financial Reporting Directive Implementation Act (*CSR-Richtlinie-Umsetzungsgesetz*) on key environmental, social and employee matters, respect for human rights, and anti-corruption and bribery matters.

FRIWO manages its operational activities through the use of financial metrics and performance indicators. There are no non-financial performance indicators of significant relevance to business operations (Section 289c(3)(5) of the HGB). Consequently, there is no direct relationship between the amounts reported in the consolidated financial statements pursuant to Section 289c(3)(6) of the HGB and the five non-financial aspects set out in Section 289c(2)(1 to 5) of the HGB.

The Supervisory Board has audited the sustainability report (which also represents the consolidated non-financial report for the 2022 financial year for the FRIWO Group and FRIWO AG) and verified that it is lawful, proper and appropriate in accordance with Section 171(1)(4) of the German Stock Corporation Act (*Aktiengesetz*). In accordance with Section 317(2)(4) of the HGB, the report has been submitted to the auditor, but the content has not been reviewed. FRIWO is committed to transparency for stakeholders and reports on all aspects of the business and corporate environment with sustainability relevance.

Non-financial aspect	HGB	Key fields of action	Section
Environmental matters	Section 289c(2)(1)	▪ Promoting e-mobility	4.4
		▪ High efficiency and lower energy consumption	5.2
		▪ Improving the circular economy	5.1
Employee matters	Section 289c(2)(2)	▪ Education and training	6.3
		▪ Occupational health and safety	6.5
		▪ Diversity	6.6
Social matters	Section 289c(2)(3)	▪ Product quality and safety	4
		▪ Stakeholder dialogue	8.3
Respect for human rights	Section 289c(2)(4)	▪ Respect for labour and human rights	7
Anti-corruption and bribery matters	Section 289c(2)(5)	▪ Compliance management	8.1
		▪ Sustainability in risk management	8.2



## 2 Corporate development

### 2.1 Head office

FRIWO's head office, founded in 1971, is located in Ostbevern (North Rhine-Westphalia) near Münster. Alongside administrative, management and sales functions, the main focus of head office activities is on research and development, building prototypes and the manufacture of smaller production runs. Ostbevern is also where we undertake the specialised manufacture of battery packs. These are interconnected packs of multiple battery cells protected with a special sheath, making them easier to handle.

As one of only a few companies in the sector, FRIWO has a German manufacturing facility on the site of its head office and can produce 'Made in Germany' products. The production facilities in our flexible manufacturing department feature a high degree of automation. A major advantage of manufacturing in Germany is that it enables last-minute assembly and packing of standard products, enabling very short lead times for European customers. Ostbevern is also home to FRIWO's European logistics centre. At our German site, the company is also ISO 9001 (quality management systems), ISO 13485 (quality management systems for medical devices) and ISO 14001 (environmental management systems) certified.

### 2.2 History

In 1971, FRIWO invented and developed the world's first plug-in power supply. Roughly ten years later, FRIWO had already become Europe's largest manufacturer of small power supplies and chargers. In 2013, FRIWO's turnover for the first time exceeded €100 million. Through acquisitions and by opening an advanced manufacturing facility in Vietnam, over a 50 year period FRIWO has developed into a software-oriented high-tech provider with an international presence. Today, FRIWO offers a full range of electric powertrain components from a single source – including compatible, performance-boosting software. Today, FRIWO also stands for outstanding quality in the medical technology field.

## 3 Sustainability management

### 3.1 Requirements

FRIWO stands for the pioneer spirit, the power to innovate, extensive engineering expertise, short decision-making pathways and a worldwide skills network. In total, across all of our sites, the company employs more than 2,500 people. FRIWO's strengths are in research and development combined with extensive experience from working with customers and from close collaboration with our suppliers. At the same time, FRIWO benefits from decades of manufacturing expertise, enabling it to meet a wide range of special product requirements.

In view of the sometimes high degree of product specialisation, FRIWO maintains regular and intensive dialogue with customers to enable it to adapt product design to customer preferences and to optimise the manufacturing process for quality and cost. To maximise security of supply and ensure the best possible quality, FRIWO has grown steadily and, in addition to end devices, today also manufactures key components in-house. In pursuit of vertical integration, in addition to the main factory for the manufacture of power supplies and chargers, our Vietnam site (ISO 9001 and ISO 14001 certified) now also hosts supplier factories – since 2017 in-house winding material manufacture, since 2018 in-house cable assembly and since 2019 in-house injection moulding facilities.

### 3.2 Material sustainability topics

The selection and weighting of the topics in this non-financial statement is based on the principle of materiality. To determine material topics, FRIWO regularly analyses insights from stakeholder dialogue, employee experiences and insights arising in the course of our day-to-day business, and current market developments, especially in relevant industrial sectors. This is complemented by insights from our analysis of our competitors and other comparator companies.

Three dimensions are considered in evaluating the significance of these topics for the enterprise.

- Impact: To what extent do FRIWO's sustainability-related business or other activities impact on the environment (inside-out perspective)?
- Business relevance: To what extent does a particular sustainability issue impact on FRIWO's business development from a market and/or stakeholder perspective (outside-in perspective)?
- Stakeholder relevance: How important is FRIWO's behaviour with respect to a particular sustainability issue in shaping stakeholder expectations and stakeholder decision-making with respect to FRIWO?

The answers to these questions help to clarify the significance and therefore materiality of individual issues and topics arising from FRIWO's operations and actions from a sustainability perspective. Topics identified through this process as significant have been included in this report.

### 3.3 Sustainability organisation

At FRIWO, responsibility for sustainability management and its results lies with the CFO. The CFO chairs an ESG (environmental, social, governance) committee, which includes the head of finance/management accounting and the head of the project management office. This committee coordinates all major sustainability-related measures and activities within the enterprise.

### 3.4 Market expectations

For industrial products, reducing energy consumption and power losses in electrically-operated components is an important quality criterion. This is in addition to its role in reducing greenhouse gas emissions. Buyers also attach importance to products of unobjectionable origin, meaning that there should be no problematic links in the supply chain. Against this backdrop, sustainability is becoming an increasingly crucial factor for business.

Key stakeholders such as employees, customers, investors, regulators and business partners no longer judge companies solely on their creditworthiness and profitable growth. Social and environmental factors are now just as important. Given this, FRIWO is reacting to the changing expectations of market participants and other stakeholders by modifying its products and processes and setting new business goals which take account of sustainability requirements.

Over the next few years, FRIWO expects sustainability to become an even more important distinguishing feature in the marketplace. In terms of sustainability, there is currently no clear leader in our sector. Sustainable innovation will, however, be a key factor for medium to long-term commercial success. FRIWO is working to further embed sustainable behaviours within the company.

## 4 Business areas and products

FRIWO divides its product portfolio into four areas: tools, industrial, medical and e-mobility (T-I-M-E). In all four segments, we deal in power supply and charging system products with very high performance standards.

### 4.1 Tools

Efficient fast chargers with high charging power guarantee short charging times and ensure that battery-powered hand and garden tools are ready to use more often and more quickly. FRIWO power supplies make work easier for electrical tool users and enable shorter processes. The use of modern communication interfaces enables the charging process to be monitored and controlled, and enables communication with the device storage, enabling the consumer to view remaining battery capacity, the number of charging cycles performed or remaining runtime.

In everyday operation, tool chargers and batteries need to meet very demanding requirements. In addition to work performance, consideration also needs to be given to external factors such as water and dirt. By properly encapsulating the electronics, FRIWO protects power supply solutions from dust and moisture ingress even in the most demanding environmental conditions. Thanks to patented housing technology developed in-house, FRIWO components are robust and powerful, with only a negligible increase in tool weight.

FRIWO's development expertise is particularly helpful when it comes to developing solutions for use in sterile environments, such as hospitals. Our convection cooling system, developed in-house, means that devices no longer require a cooling fan. Getting rid of an error-prone component also extends the life span of the device.

### 4.2 Industrial

Special requirements necessitate the use of outstanding power supply solutions. Innovative solutions from FRIWO provide reliable power even under extreme environmental conditions. This is important where the operating environment creates conditions requiring high shock, moisture or temperature resistance, but it's also important for preventing production downtimes without having to install complex monitoring systems.

Standard power supplies are poor at managing issues such as short-term power surges and fluctuating loads. Sudden spikes in demand for power have damaging effects on their function and life span. As an expert in the development of customer and application-specific power supplies, FRIWO provides technical solutions for demanding scenarios like these.

FRIWO components offer top performance in multiple areas, including energy density and installation space, dust and moisture-resistant housings, and electrical safety in the event of a fault. This is essential to be able to operate devices safely in the intended area – for example in an environment where there is an explosion risk or in a damp or wet room.

### 4.3 Medical

FRIWO products help ensure security of supply for high criticality applications. Medical technology requires a continuous, stable power supply. With more than a billion power supply components manufactured (power supplies/chargers), FRIWO provides this certainty. FRIWO's medical power supply solutions are designed for the most demanding conditions. Thanks to the patented housing, this means that severe impacts and falls in circumstances such as hectic emergency treatments, for example, will not impair device function. Patients are protected from leakage current, which cannot exceed ten microamperes – a figure which puts us in the first division compared to our competitors. Finally, our power supplies are equipped with redundant systems and battery-powered fuse solutions.

In addition to safe products, FRIWO also develops innovative concepts to make day-to-day medical life simpler. In the field of inductive charging systems, for example, FRIWO already offers contactless energy solutions with power transfer of up to 150 watts and parallel data communication. The use of inductive charging systems makes it possible to develop completely closed medical devices – a major advantage in sterile workplaces.

And it goes without saying that FRIWO is certified to DIN ISO 13485, an international standard that sets out requirements for a comprehensive quality management system for the design and manufacture of medical devices. That means we follow set guidelines for design, development, manufacture, installation, servicing and distribution. This also requires detailed, seamless documentation to guarantee unquestionable traceability of products and components.

### 4.4 E-mobility

Transporting people and goods using electric drive systems is currently viewed as a core element of a sustainable, climate-friendly transport system. From a technical perspective, innovative power supply and drive systems are a key driver for ensuring the success of e-mobility. Selecting and carefully coordinating individual components is essential for realising an effective and above all efficient overall system.

As a systems supplier, FRIWO offers digitally controllable drive solutions designed to work perfectly together from a single source. FRIWO supplies all required components for a modern electric powertrain, including control and service software. The portfolio includes a globally unique modular system consisting of display, motor controller, battery pack and charger with digital control and monitoring options.

Thanks to software developed in-house by FRIWO, it is possible to control the behaviour of each component individually. This enables the function of each component to be configured according to your requirements. That means that vehicles can be configured for individual usage profiles which can be changed at any time. But FRIWO also offers maximum efficiency and minimal energy losses at rest. In the near future FRIWO will also have developed solutions able to realise zero standby power. Complying with a wide range of safety concepts, FRIWO devices feature high charging power, ensuring very short charging times.

## Innovative e-mobility power supply and drive systems

**DISPLAY.** A weatherproof display ensures good readability both indoors and outdoors, even in direct sunlight. The display provides all important information needed by the driver. Displays from any manufacturer can be integrated into the FRIWO system via a CAN bus. Drivers of vehicles with no inbuilt display can use the Emerge EV smartphone app as a substitute display.

**VEHICLE CONTROL UNIT.** FRIWO vehicle control units (VCU) connect the vehicle to all of the power, drive and control components. The VCU is used in complex vehicle electrical systems to control vehicle functions or as a gateway between separate CAN buses. It handles tasks such as analysing and controlling the lighting system or protecting the vehicle from theft. In shared e-scooter rental schemes, for example, the VCU establishes the connection required to rent the vehicle. Communication interfaces such as USB, WiFi and Bluetooth enable a range of uses.

**DRIVE UNIT.** FRIWO offers complete drive units as well as separate very high performance motor controllers which are fully compatible with motors from other manufacturers. These two components can be configured to work perfectly together and enable the drive to be used in a wide range of applications. In the FRIWO system, the motor can be controlled via either an accelerator pedal and brake or a CAN bus.

**MOTOR CONTROLLER.** In developing its motor controllers, FRIWO has placed particular emphasis on robustness during continuous outdoor use under all climatic conditions. Over more than five million test kilometres driven by over 4,000 electric scooters in rental use, our controllers have proven their ability to meet the most varied of requirements. Every kilometre travelled has enabled FRIWO to collect more experience and continuously improve the product. FRIWO controllers have even proven their class in motor sport. Two complete seasons racing in the FIA WEC LMP1, including the 24 hours of Le Mans, are testament to the longevity of FRIWO motor controllers even in high performance applications.

**BATTERY PACK.** FRIWO battery technology has been used in large e-scooter rental fleets in major European cities such as Berlin, Munich, Paris and Bordeaux since 2013. Our battery packs have demonstrated safe continuous operation and long service life over a distance of more than five million kilometres and more than 150,000 hours of charging. Ensuring a high level of safety and continuous vehicle availability 24 hours a day requires a robust battery management system. Frequent battery changes in rental fleet vehicles places significantly greater strain on the battery contacts. Together with a leading connector manufacturer, FRIWO has therefore developed a custom connector system that guarantees up to 3,000 fault-free battery swap cycles.

**CHARGERS.** With half a century of experience, FRIWO is the perfect partner for innovative charging technology. Our expertise enables optimum solutions for customer-specific requirements, irrespective of power output, temperature monitoring, cooling or battery control. A market leader in e-bike charging technology, FRIWO has long had an excellent understanding of the requirements for optimising power supplies for light electric vehicles. Common requirements for chargers include short charging times, ease of handling, excellent service life and safety during use. Nowadays, it's taken as read that custom green electric mobility products will feature highly efficient charging systems with minimal standby losses. FRIWO's long-term goal is zero standby power. As an innovative enterprise, FRIWO is also constantly thinking about the future of electromobility and is working on new energy supply concepts. In the long-term, the future of charging infrastructure may belong to contactless energy transmission, a field in which FRIWO has already realised highly efficient systems.

**ENABLE TOOL APPLICATION.** Electric vehicles need servicing too. Through our Enable Tool application, FRIWO provides the digital infrastructure needed to establish, grow and operate dealer and service networks. From development and mass production of electric vehicles to workshop fault analysis, the FRIWO app records all relevant vehicle states and the technical operating history.

## Power supply solutions

FRIWO power supplies represent high performance innovation, absolute safety, outstanding quality and maximum efficiency in minimal installation space. Designed for maximum vibration, shock and temperature resistance and with a long service life, our built-in power supplies set new standards. Requiring minimal installation space, our power supplies are top rated in terms of efficiency and standby losses.

**FOX.** FRIWO's FOX range offers high efficiency and low standby losses. Extremely low leakage currents, MOPP protection class, a patented interchangeable IP42-rated adapter system, a long service life, robust housings for industrial use and attractive product design enable their use in even the most demanding environments. Charger efficiency has now reached 97 percent. This means that nearly all of the input energy is transmitted to the storage device, with only an extremely small proportion being lost during the transformation process.

FRIWO chargers possess the same outstanding characteristics as our power supplies. Sophisticated charging technology guarantees energy-efficient charging and minimal standby losses. We can create custom solutions in areas such as mobile tools, garden tools, medical technology or electromobility without difficulty.

In addition to power supplies and chargers, FRIWO also produces battery packs, consisting of multiple batteries for supplying mobile power. As a systems supplier, this means that FRIWO is a one-stop supplier of key components for deploying electrical energy.

FRIWO also offers a range of other components, such as our LED driver range, a custom power supply solution for lighting systems. With minimal enclosure footprints and in a range of formats, they provide maximum design freedom. A range of different adapter systems enable the products to be used worldwide and deliver considerable logistics savings. Power cables featuring a range of connector systems further simplify international use, and reduce the materials required. This also facilitates reuse within a circular economy.



## 5 Environment

### 5.1 Production process

As a systems supplier for power supply and drive solutions, FRIWO supplies a wide range of products, ranging from chargers (for IT equipment right through to starters for industrial manufacturing facilities) to battery packs and from power supplies to components for electric drive systems such as motor controllers. On top of this we also offer services such as software for optimising the interplay between the above products (developed by us in-house). FRIWO operates development centres, manufacturing sites and sales organisations in Europe, Asia and North America. FRIWO is DIN ISO 9001 (quality management systems), DIN ISO 14001 (environmental management systems) and DIN ISO 13485 (quality management systems for medical devices) certified. Our customers include well-known global companies from the stated industries.

While FRIWO works constantly to improve the performance of its products, it also attaches great importance to continuously improving the sustainability of every link in the value chain. This approach encompasses quality and product design, material procurement and manufacturing, logistics processes and applications. Optimisation measures are identified through product life cycle analysis, because for FRIWO manufacturing safe, efficient products and solutions is at the heart of everything we do.

Against this backdrop, FRIWO focuses on manufacturing processes that are as energy-efficient as they are low-energy. Other than the materials processed during manufacture, the most important manufacturing input is electricity. Water does not play a significant role in our manufacturing processes. Hazardous substances are barely used during manufacture and almost no special protective measures are required. Storage of fuel oil is the one area where we have taken comprehensive steps to prevent damage to the environment. An environmental committee at FRIWO has compiled usage guidelines for all relevant cases.

Production volume			
	2020	2021	2022
Total number of FRIWO products manufactured*	8,412,455	9,415,769	13,833,910

\* Because our ability to estimate the number of products produced in the previous periods is limited, this figure is based on the volume of products sold.

All of our development and manufacturing processes have also been optimised for sustainability. For example, FRIWO tries to purchase used rather than new measuring instruments and product tests are combined to save resources. We also look at the efficiency and yield of precursor products. Currently, FRIWO is also examining whether it is possible to manufacture housings for electrical and electronic components from recycled rather than new materials without impacting on quality and performance.

### 5.2 Energy consumption

Over the course of 2021, FRIWO brought significant areas of previously outsourced production back in-house, especially at our Vietnam site. As a result, the manufactured volume increased significantly (by 12%) to approximately 9.4 million units. The insourcing of manufacturing processes also initially led to an increase in energy consumption. Since then, improved processes have drastically reduced our energy requirements. The energy consumption per manufactured unit (product) in the year covered by this report was just 0.62 kWh, compared to 0.91 kWh two years previously.

In the year covered by this report FRIWO also achieved massive savings on heating oil at its German site, with reduced levels of heating contributing to a 40% drop in heating oil use compared to the previous year. Electricity consumption was broadly unchanged, but this is against a backdrop of a significant increase in production volumes. Consequently, there was a significant decrease in total energy consumption per unit of product manufactured.

Energy and energy efficiency			
	2020	2021	2022
Total number of FRIWO products manufactured*	8,412,455	9,415,769	13,833,910
Total energy consumption (kWh)	7,619,717	9,119,467	8,533,143
Energy consumption per product (kWh)	0.91	0.97	0.62
Primary energy consumption**: heating oil in kWh	1,076,730	1,302,883	749,475
Secondary energy consumption: electricity in kWh	6,542,988	7,816,584	7,783,668
Hours of production	4,342,322	4,097,868	4,899,369
Energy consumption per hour of production (kWh)	1.75	2.22	1.74

\* Because our ability to estimate the number of products produced in the previous periods is limited, this figure is based on the volume of products sold.

\*\* Germany only

The energy supply (including heating) at our headquarters in Germany is composed exclusively of electricity and heating oil. No gas or district heating is used. Measures which contributed to the reduction in electrical energy consumption include selectively switching off lights, reduced air-conditioning output and optimised shift planning in the production department. Although FRIWO does not operate an ISO 50001 energy management system, it does conduct regular energy audits.

### 5.3 Greenhouse gas emissions

As a result of our reduced energy consumption, both scope 1 and scope 2 emissions (-33% and -3.5% respectively) were lower in the year covered by this report than in the previous year. Changes to our production strategy after mid 2020, in particular bringing some previously external manufacturing in-house, meant that FRIWO's scope 2 emissions increased in 2021. Productivity increases, better machine utilisation, improved shift planning and other specific greenhouse gas emissions reduction measures contributed to a reduction in absolute and especially per unit CO<sub>2</sub> emissions in 2022.

Greenhouse gas emissions			
in tonnes	2020	2021	2022
Scope 1* – direct emissions	299.4	362.3	242.4
Scope 2 – indirect emissions from purchased energy	3,505.5	5,963.0	5,757.4
Scope 1 and scope 2	3,804.9	6,325.3	5,999.8
Scope 2 in kg per hour of production	0.81	1.45	1.17
Scope 2 in kg per product sold	0.42	0.63	0.42

\* Germany only

In Germany, FRIWO has pushed forward with the electrification of the company car fleet. We installed additional charging points on company premises. In 2022, newly acquired vehicles were converted to a hybrid drive system.

## 5.4 Water use

In the year covered by this report, we used 10% less water than in the previous year. The increase in water use in 2021 compared to the previous year is primarily due to changes in our production strategy commencing in mid 2020, in particular bringing some external production in-house. The significant increase in water consumption in the year covered by this report was in part a consequence of the nationwide lockdown in Vietnam. To ensure that there was no disruption to production during this period, FRIWO temporarily set up onsite accommodation on company premises to accommodate employees overnight on the production sites. Water consumption in 2022 fell back as a result of specific measures aimed at reducing water consumption and the end of government restrictions.

<b>Water consumption</b>			
in m <sup>3</sup>	2020	2021	2022
Water consumption	27,593	58,884	53,083

## 5.5 Waste

The increase in waste volumes in 2022 is due to a one-off initiative to scrap inventory (materials and components) that had been sitting in the stores for a prolonged period due to product changes, order cancellations, etc. This inventory clearance will not be repeated in 2023, and a decrease in waste volumes and residual materials is therefore to be expected.

<b>Waste and recycling</b>			
in tonnes	2020	2021	2022
Total waste	246.0	203.5	246.8

Over the last few years, FRIWO has succeeded in gradually reducing the amount of packaging in purchased products and materials. FRIWO strives to use packaging with a low environmental impact, such as returnable or reusable packaging. FRIWO does not generate any hazardous waste.

## 6 Employees

### 6.1 Staff development

In managing human resources at FRIWO, staff skills and staff personal development are of crucial importance. One objective is to boost motivation among the workforce, as motivated employees are a key factor in ensuring commercial success. To realise this, FRIWO offers an attractive working environment, fair wages, additional benefits and numerous opportunities for personal and professional development.

FRIWO attaches great importance to training and educating its employees and developing talented individuals. Their potential and skills are very important to the business. That encompasses both general skills and education programmes and individual talent management. We also discuss what training our employees would like to access at our annual staff performance reviews. Uniform, company-wide quality standards align training programmes to the individual needs of staff members.

Every member of the workforce has access to staff development activities. Targeted individual support which takes account of all company and employee-related factors also enables staff to take on any suitable role at FRIWO. A key element of this approach is targeted support for promising young specialists and managers. FRIWO is evolving from administering work to shaping work.

### 6.2 Workforce structure

On December 31, 2021 FRIWO employed 2,182 people. 20 people left the company over the course of 2022. On December 31, 2022, across all of our sites we employed a total of 2,501 people.

Number of employees*			
	2020	2021	2022
Total employees	2,608	2,182	2,501
Women	1,434	1,227	1,389
Men	1,174	955	1,112
Employees with a disability	6	6	8

\* Number at year end

Employee age distribution			
Number of employees by age group*	2020	2021	2022
Under 30	1,631	1,303	1,285
30 – 50	882	814	1,147
Over 50	95	65	69
Average age	29.0	29.1	29.5

\* At year end

Length of service			
	2020	2021	2022
Average length of service in years*	16.6	13.8	13.7

\* Excluding Vietnam

### 6.3 Education and training

In 2022, 108 employees in Germany took advantage of a total of 864 hours of training courses, an average of 8 training hours per employee. Training was subject-oriented, in areas such as accounting, IT and quality management, and also included soft skills such as communication and presentation techniques, and language courses. FRIWO provides training in excess of statutory requirements and in 2022 started six new traineeships.

Over the year covered by this report, FRIWO once again conducted numerous compulsory training courses for all staff for whom the content was relevant to their activities. These covered office occupational safety, the German General Act on Equal Treatment (*Allgemeines Gleichbehandlungsgesetz*), IT security, data protection, corruption prevention, gift etiquette, invitations, grants and sponsorship.

Education and training			
	2020	2021	2022
Number of traineeships*	18	16	16

\* Number at year end

## 6.4 Competitive pay rates and performance-related pay

All FRIWO employees receive a competitive salary consistent with market pay rates that meets national industry standards. Pay is based on the role, responsibilities and job description, and not on personal characteristics such as gender or origin. In addition to a fixed base salary, a variable, performance-related component operates as an incentive to performance. Levels of pay are regularly reviewed and adjusted where necessary as part of personal development interviews. To ensure fair pay at all times, FRIWO regularly compares its pay rates with reference pay rates from its sector and markets.

## 6.5 A high level of occupational health and safety

At FRIWO, employee health and safety is the number one priority. A safe, healthy, appropriately protected and productive working environment with a strong safety culture can be taken as read. All employees are under an obligation to carry out their job safely and to immediately report any circumstances that pose a risk to health, safety or the environment. FRIWO has set up an occupational safety committee and appointed a number of safety specialists. An occupational health physician visits the company regularly. All sites are ISO 9001 certified (quality management systems).

Occupational safety			
	2020	2021	2022
Number of accidents in the workplace*	4	4	1
Sickness absence rate (%)	3.4	3.7	3.8

\* Involving an absence of more than one day, FRIWO Gerätebau GmbH and FRIWO AG only

## 6.6 Workforce diversity

For FRIWO, diversity doesn't just mean equal opportunities and tolerance. It also means equal and fair treatment and pay for all employees regardless of their individual characteristics. For FRIWO, diversity means above all valuing alternative ways of thinking, perceptions and value systems. Open, respectful, intercultural communication promotes mutual understanding and helps to prevent the creation of diversity-related barriers to professional development.

Diversity is not necessarily a single topic. FRIWO understands diversity primarily as a plurality of opinions and a diversity of perceptions and approaches, generally arising from cultural differences and differences in life experiences, attitudes and education – irrespective of any other individual characteristics, which at FRIWO do not serve as selection or assessment criteria. At FRIWO, no staff member is advantaged or disadvantaged as a result.

## 7 Respect for labour and human rights

For FRIWO, respect for internationally recognised labour and human rights goes without saying. Our guiding principle is the United Nations Guiding Principles on Business and Human Rights, codified by the signatory states in the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR).

It goes equally without saying that FRIWO respects human rights as required by the German Supply Chain Due Diligence Act (*Lieferkettensorgfaltspflichtengesetz*). FRIWO also explicitly aligns the company's labour policy with the basic principles and corresponding conventions of the International Labour Organisation (ILO), and requires the same of its suppliers.

### Supply chain monitoring

In selecting suppliers, FRIWO takes into account compliance with environmental and social standards and respect for labour and human rights. A significant proportion of the raw materials required for the manufacture of components for e-mobility come from developing and newly industrialised countries. For critical raw materials in particular, sustainability along the length of the supply chain is crucial. FRIWO's supply chain includes companies that are at risk of non-compliance with supply chain requirements. To ensure that labour and human rights are respected, FRIWO goes to great lengths to obtain satisfactory information and binding declarations.

FRIWO expressly commits to respecting, observing and implementing the 30 articles of the United Nations Universal Declaration of Human Rights and the eight basic principles (conventions, core labour standards) of the ILO. This commitment applies both to our own workers – irrespective of the nature of their employment – and to workers in the supply chain.



**Freedom of association and protection of the right to organise (ILO Convention no. 87 of 1948)****Right to organise and collective bargaining (ILO Convention no. 98 of 1949)**

- FRIWO protects the freedom of workers, without distinction, to establish and, subject only to the rules of the organisation/trade union concerned, to join organisations/trade unions of their own choosing without previous authorisation.
- FRIWO protects the right of workers to organise, i.e. their right to unionise and to carry out their activities freely and without restriction or interference. This means protection from all acts aimed at impeding these activities.
- FRIWO is always open to collective bargaining, i.e. negotiations with one or more trade unions on wages and working conditions (collective agreement).

**Abolition of forced labour (Convention no. 105 of 1957)**

- FRIWO condemns any form of forced labour, i.e. forced labour (a) as a means of political coercion or education or as a punishment for holding or expressing specific political views or views ideologically opposed to the established political, social or economic system, (b) as a method of mobilising and using labour for purposes of economic development, (c) as a means of labour discipline, (d) as a punishment for having participated in strikes, or (e) as a means of racial, social, national or religious discrimination.

**Prohibition of discrimination in respect of employment and occupation (Convention no. 111 of 1958)**

- FRIWO prohibits any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation.
- With this in mind, FRIWO has adopted an internal anti-discrimination policy.

**Abolition of child labour (Convention no. 182 of 1999)**

- FRIWO undertakes to eliminate from its supply chain any form of child labour that endangers the physical, moral or mental well-being of children. This includes all work that makes children physically ill or exposes them to sexual abuse, such as working with dangerous machinery or tools.
- FRIWO supports initiatives that remove children from all work of the above kind and work towards their rehabilitation and social inclusion while at the same time striving to meet the needs of their families; this includes free basic education for children.

FRIWO therefore recognises all employment standards which are based on the core labour standards developed by the International Labour Organisation (ILO). These standards guarantee employees the freedom to organise and the right to collective bargaining, prohibit forced and compulsory labour and child labour, and prohibit discrimination in respect of employment and occupation.

## 8 Corporate governance

### 8.1 Compliance and transparency

FRIWO has established an effective system of governance, risk management and compliance (GRC) to ensure that we are able to reliably achieve our stated corporate and sustainability goals and thereby to deal with market and operational risk and uncertainty in a professional manner. The system ensures an efficient use of resources for this purpose and comprehensive information sharing within the company.

Compliance includes compliance with legal requirements, voluntary commitments and internal company guidelines. Compliance includes in particular anti-corruption and bribery measures, both of which are in contravention of the vast majority of national and international legal regulations. FRIWO expressly condemns all such acts, including facilitation payments (both in respect of public officials and in dealing with business partners and customers).

Key aspects of our compliance management system are determined by and the responsibility of the full Management Board. The Executive Board regularly updates the Supervisory Board on compliance-related issues. The Compliance Officer is appointed by the FRIWO AG Executive Board and reports to the full Management Board.

The Compliance Officer supports the Executive Board in grouping and supervising compliance measures implemented by the Executive Board. The role includes specifying and developing compliance-related aspects of the FRIWO corporate ethics policy and conducting compliance training. The Compliance Officer also deals with compliance-related enquiries and compliance case work for the FRIWO Group. In overseas subsidiaries of the FRIWO Group, the executive directors of the individual subsidiaries are responsible for maintaining and ensuring compliance. They can appoint local compliance managers who are responsible for local implementation and management of compliance activities. Compliance managers act as expert contacts for compliance-related issues within a subsidiary and report to the Compliance Officer.

#### **Compliance management system**

FRIWO's management attaches the utmost importance to compliance with laws and regulations across the Group and with adherence to internal company guidelines and requirements (corporate compliance). At FRIWO, proper conduct, integrity, and fair treatment of our business partners are a matter of top priority. FRIWO has set itself the goal of using preventive measures to effectively prevent financial crime and actions harmful to the company. In addition to FRIWO's online whistleblowing system, a key element of FRIWO's compliance management system is compliance training. This training is aimed at ensuring that staff in all departments adhere to regulations at all times, and at emphasising the importance of anti-corruption measures and compliance with competition and capital market law.

FRIWO's core compliance framework consists of our code of ethics and our anti-corruption guidelines. The code of ethics sets out a binding framework for complying with legal requirements and for conducting ourselves with integrity. It applies group-wide and both to actions taken within the enterprise and to our dealings with business partners and customers. As well as rules relating to competition law and anti-corruption measures, the code also includes rules on data protection, conflicts of interest, intellectual property protection and insider trading. The code of ethics is regularly updated to take account of legislative changes and is subject to continuous further development.

FRIWO expressly encourages all staff, as well as third parties such as business partners and customers, to raise any compliance concerns openly and to report any potential misconduct without delay. We have a dedicated point of contact for this purpose. This can be used to report suspected breaches of the FRIWO code of ethics or legal regulations in confidence by email. In 2022 – as in previous years – FRIWO was not made aware of any breaches of our compliance obligations.

#### **Whistleblowers**

If they suspect actions are being performed which are harmful to the company, employees are encouraged to contact either their line manager, the HR manager or the Compliance Officer at their discretion. In addition, FRIWO enables all whistleblowers to report information using FRIWO's protected electronic whistleblowing system. This online communication system enables whistleblowers to report information on the exposure of harmful acts at any time (in their own name or anonymously at their discretion). The system is accessible from any internet-enabled PC and operates as an electronic mailbox. It enables whistleblowers to enter into a confidential online dialogue with a staff member responsible for dealing with their whistleblowing allegation. All reports are carefully reviewed and, where allegations are substantiated, further measures initiated.

## 8.2 Sustainability as a component of risk management

Socio-ecological risks are a component of FRIWO's risk management system. The system is designed to enable risks to be identified and countermeasures taken at an early stage. The risk management system is explored in detail in the *Chancen- und Risikobericht* (opportunities and risks report) section of the Annual Report. Within the Group, the risk management system is the responsibility of the members of the Executive Board and the operational managers who report to them.

Risk analysis has identified climate change as a significant non-financial risk for FRIWO. Climate change will lead to sudden changes in market conditions, supply chain disruptions as a result of extreme weather events, rising energy and supply costs, and a deterioration in manufacturing conditions as a result of significant changes in temperatures and weather conditions.

At the same time, climate change also creates new opportunities for FRIWO. As a supplier of essential components for electromobility, generally considered a positive force for reversing climate change, FRIWO is a market leader in the fast-growing, future-focused field of e-mobility applications. FRIWO's customers in this field currently include a number of international enterprises. Many of these customers are leaders in their industries. We enjoy long-standing, stable, enduring relationships with them. We frequently develop a wide variety of components jointly with these customers to ensure that the solution we bring onto the market employs the optimum technology.

### 8.3 Stakeholder dialogue

FRIWO maintains a close dialogue with key stakeholders such as employees, customers, suppliers and investors. We are gradually intensifying our dialogue with other stakeholder groups. Employee perceptions, morale and needs are surveyed at all of our sites on an ongoing basis. Senior managers maintain a dialogue with FRIWO AG shareholders via a range of forums (AGM, investor events, direct personal contacts) and take note of their suggestions and wishes. Individual FRIWO companies maintain close contacts with customers and other business partners and share detailed information on their business purposes.

## 9 EU taxonomy

The EU taxonomy is a classification system developed by the European Union (EU) that classifies economic activities that meet certain set criteria as environmentally friendly. The objective of the EU taxonomy is to promote investment in businesses that carry out environmentally sustainable activities. The EU taxonomy is intended to help implement the European Green Deal and in particular to help make the EU climate neutral by 2050.

In accordance with Article 8 of Regulation (EU) 2020/852 of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088, FRIWO publishes information on how and to what extent its economic activities qualify as environmentally sustainable under Articles 3 and 9 of the Regulation.

Following an in-depth audit of its economic activity on the basis of Delegated Regulation (EU) 2021/2139, FRIWO has identified the following activities as being classified under the EU Taxonomy as contributing to the twin objectives of climate change mitigation and climate change adaptation:

3.3: Manufacture of low-carbon technologies for transport (including low-carbon vehicles)

3.6: Manufacture of other low carbon technologies

For the 2022 financial year, we are required to report the proportion of economic activity that is both taxonomy-eligible and taxonomy-aligned. Economic activity is expressed in terms of turnover, capital expenditure and operating expenditure. In addition, we also provide qualitative information on the absence of negative effects of our economic activity on other objectives and areas that require protection.

Economic activity of FRIWO within the meaning of the EU Taxonomy Regulation: turnover					
Year	Turnover		Contributes substantially to EU environmental objectives*	Harms other EU environmental objectives***	Minimum safeguards****
	Total	Taxonomy-eligible proportion	Taxonomy-aligned proportion**		
<b>2021</b>	<b>€100.5 million</b>	<b>€31.8 million</b>	–		
Tools		0.2 %	–		
Industrials		1.8 %	–		
Medical		5.2 %	–		
E-mobility		24.4 %	–		
Σ		31.6 %	–		
<b>2022</b>	<b>€184.9 million</b>	<b>€87.6 million</b>	<b>€79.0 million</b>		
Tools		0.1 %	0 %	An audit of economic activities found no breaches of EU objectives.	All economic activities satisfy the minimum safeguards.
Industrials		1.3 %	0 %		
Medical		3.3 %	0 %		
E-mobility		42.7 %	42.7 %		
Σ		47.4 %	42.7 %		

\* Climate change mitigation, climate change adaptation

\*\* Not a component of mandatory reporting in 2021

\*\*\* Sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems

\*\*\*\* Satisfying minimum safeguards criteria in respect of occupational safety and labour and human rights

### Reporting on turnover:

The revenues to be analyzed in the year covered by this report, amounting to €184.9 million, are based on the revenues detailed in the consolidated annual report (*Konzernlagebericht*) in particular in the *Umsatzentwicklung* (trends in turnover) section. An internal working group analysed the economic activities described in the Annex to the EU Taxonomy Regulation and identified two economic activities of relevance to FRIWO (3.3 and 3.6). They then analysed the extent to which the manufacture of low-carbon technologies for transport would be feasible without the product supplied by FRIWO. If it were feasible only with the FRIWO product, this would be classified as contributing substantially to the economic activity, in this example the manufacture of low-carbon technologies for transport. In addition, they analysed the FRIWO product portfolio to determine the extent to which our products satisfy the “low-carbon technology” criterion. To identify taxonomy-eligible turnover, based on the above analysis they then determined which products or what product-specific proportion of turnover can be apportioned to economic activities listed in the Taxonomy Regulation. They then used the technical screening criteria for each activity to determine which taxonomy-eligible turnover was taxonomy-aligned.

FRIWO has sold a range of LED drivers used in energy-saving LED systems and which therefore contribute to reduced carbon emissions (3.6), and can therefore be defined as taxonomy-eligible.

Other product solutions that are taxonomy-eligible are the FOX product range, which features high efficiency and low standby losses, meets existing efficiency standards and boasts extraordinarily low leakage currents and a long service life, thereby delivering significant efficiency gains and reduced carbon emissions in relevant areas of application (3.6). All turnover from the e-mobility division at FRIWO can be classified as taxonomy-aligned turnover (3.3). Electromobility is classified as a climate-friendly alternative to conventional means of transport. In this context, FRIWO charging technology is a necessary component for operating these alternative transport technologies and contributes substantially to EU environmental objectives.

Economic activity of FRIWO within the meaning of the EU Taxonomy Regulation: capital expenditure					
Year	Capital expenditure		Contributes substantially to EU environmental objectives*	Harms other EU environmental objectives***	Minimum safeguards****
Business area	Total	Taxonomy-eligible proportion	Taxonomy-aligned proportion**		
<b>2021</b>	<b>€2.6 million</b>	<b>€0.0 million</b>	–		
∑		0.0 %	–		
<b>2022</b>	<b>€5.9 million</b>	<b>€0.0 million</b>	<b>€0.0 million</b>		
∑		0.0 %	0.0 %	An audit of economic activities found no breaches of EU objectives.	All economic activities satisfy the minimum safeguards

\* Climate change mitigation, climate change adaptation

\*\* Not a component of mandatory reporting in 2021

\*\*\* Sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems

\*\*\*\* Satisfying minimum safeguards criteria in respect of occupational safety and labour and human rights

### Reporting on capital expenditure:

All major projects relating to property, plant and equipment and intangible assets were analysed to see if they were taxonomy-eligible. Because some definitions in the EU Taxonomy Regulation are still pending and some formulations are ambiguous, application of the framework requires in some areas a degree of individual interpretation. Where this applies, we have in all cases taken into account supplementary information issued by the European Commission. In this context, FRIWO was unable to identify any significant taxonomy-eligible capital expenditure that could be unambiguously attributed to economic activities based on Delegated Regulation (EU) 2021/2139.



Economic activity of FRIWO within the meaning of the EU Taxonomy Regulation: operating expenditure					
Year	Operating expenditure*		Contributes substantially to EU environmental objectives**	Harms other EU environmental objectives****	Minimum safeguards*****
Business area	Total	Taxonomy-eligible proportion	Taxonomy-aligned proportion***		
<b>2021</b>	<b>€18.1 million</b>	<b>€2.1 million</b>	–		
∑		11.7 %	–		
<b>2022</b>	<b>€19.7 million</b>	<b>€2.8 million</b>	<b>€2.8 million</b>		
∑		14.2 %	14.2 %	An audit of economic activities found no breaches of EU objectives.	All economic activities satisfy the minimum safeguards

\* Including research and development salaries

\*\* Climate change mitigation, climate change adaptation

\*\*\* Not a component of mandatory reporting in 2021

\*\*\*\* Sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems

\*\*\*\*\* Satisfying minimum safeguards criteria in respect of occupational safety and labour and human rights

### Reporting on operating expenditure:

Research and development expenditure (see the section *Forschung und Entwicklung* [research and development] in the consolidated annual report) was analysed to determine whether it was taxonomy-eligible and taxonomy-aligned. €2.8 million was spent on research and development for the development of electric drive systems, i.e. the development of system solutions for two-wheeled electric vehicles as an alternative to conventional vehicles with internal combustion engines. Our audit found that this could be defined as taxonomy-aligned expenditure (9.1 in conjunction with 3.3).

**Concluding note:**

Because, as noted above, some definitions in the EU Taxonomy Regulation are still pending and some formulations are ambiguous, application of the framework sometimes requires a degree of individual interpretation. Once the final regulation has been published and applied, corresponding information may, in future years, differ significantly from the information set out in this report.

Ostbevern, March 2023



Rolf Schwirz  
Chairman of the Executive Board



Tobias Tunsch  
Member of the Executive Board