Earth Mission

Sustainability Report 2021

Earth Mission

Wels Site, Upper Austria

Contents

Business Unit Solar Energy

25 gigawatts installed to date

33,300 gigawatt hours generated every year

This corresponds to the energy consumed by

8,325,000 four-person households (4,000 kWh each year).

100%

of new **suppliers** have been audited against social and environmental criteria.

6,204

employees participated in **training and further education programs**. On average

9.22

hours were invested in training and further education per employee.

Business Unit Perfect Charging

Battery chargers with a total output of

270 MW

have been installed in the intralogistics sector.

This roughly corresponds to the output of the run-of-the-river power plant in Aschach an der Donau, one of the largest of its kind in Austria.

3,153

Of which 83

400

of waste was disp

generate energy,

Energy mix:

87%

of the energy used comes from sustainable sources.

1.982 GWh from self-generated power. Due to the expansion of photovoltaic systems at Fronius sites an increase in self-generated power of 6% could be accomplished - this corresponds to more than 7% of total electricity demand.

49%

of the **fleet** are alternative fuel vehicles, including electric, hybrid, and hydrogen-powered vehicles. There are more than 218 electric charging points for cars and a hydrogen refueling system at our Austrian sites.

39%

fewer **kilometers traveled by air** compared to 2020

metric tons

of waste was repurposed

%

was recycled, 17% was reused, and 0.4% was composted

metric tons

osed, of which 98% was used to

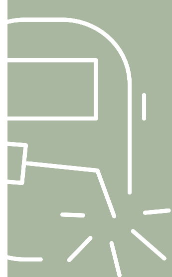
2% taken to landfill

37%

of all employees are women

Business Unit Perfect Welding

State-of-the-art, high-performance system solutions reduce the use of energy and production resources, which enables the saving of entire production cells.



LaserHybrid welding	vs.	MIG/MAG welding

Number of system solutions

1 : 5

Gas & wire consumption

1 : 5

Energy consumption

1 : 2

Requirement:
Production of 3,000 axle components per day; 200 days per year; two eight-hour shifts per day; weld seam length 12 m; comparison of two possible solutions with a service life of seven years.

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Reporting framework

Fronius International GmbH has prepared this report to inform its stakeholders about its sustainability activities and progress in 2021. The data relates to the period January 1–December 31, 2021. We published our first sustainability report in 2015 and our last report was issued in April 2021.

This edition of the report was prepared on the basis of the GRI Standards option "Core". The GRI Index in the appendix provides an overview of the GRI standards used in the report and the chapter containing the relevant disclosures.

The data and information in this report primarily relates to Fronius International GmbH and its 11 Austrian branches. For the sake of materiality, data from international subsidiaries has not been fully incorporated into this report. Key figures that pertain to the entire Fronius Group are indicated as such in the text and tables.

The report has not undergone any additional external audits by independent third parties, but the entire sustainability management system has been certified externally in accordance with ONR 192500.

Substantial changes

As part of our plans to ensure continued growth, a subsidiary was opened in Helsinki, Finland, within the last year. Besides this, there were no other substantial changes in terms of size, property, and supply chain compared to 2020.

We have once again expanded and improved on the previous year's report. For instance, we have updated our materiality analysis and added the new dimension "Importance to business" in line with the GRI standards.

We held workshops with in-house experts to check whether the list of material topics is complete. During the course of these workshops, new topics were added, some existing ones were renamed, and the material topics were subsequently reprioritized. We have adapted the structure of this report based on the results of the materiality analysis.

Dear Readers,

The whole world is sustainable – at least that is the impression. Sustainability has become kind of a trend for businesses over the last few years. But where do we draw the line? When are we actually still talking about accountability? And who may just appear as though they meet all applicable corporate social responsibility standards?
At Fronius we are trying our best to become more sustainable. We certainly have room for improvement and we constantly follow up on it. You can learn about the progress we have made over the last fiscal year in this report.

Let's start with the key takeaways:
Our holistic, sustainable company policy ensures that departments implement and follow sustainability programs. The sustainability management system continuously evaluates and monitors the goals and the measures to bring forward sustainability issues. During the past year, we went through a complex process involving numerous audits and interviews to have our sustainability management system externally assessed and subsequently certified to ONR 192500 through Austrian Standards International. We have been preparing for this key step since our foundation, building on the solid basis laid down by earlier generations.

For example, the decision was taken long ago to cease using fossil fuels completely at our Austrian sites and move to renewable energy sources for the purpose of decarbonization. In this report you can find further information on our progress.
Beyond the environmental aspects of sustainability, we will also look at social and economic developments. The Covid-19 pandemic and the resulting supply shortages continued to dominate our business in 2021. We rose to the challenge and placed a greater focus on team spirit in our family business.
We are now in a position to say with cautious optimism that we are on the right track when we continue prioritizing sustainable development over short-term gains.

After all, we want our world to be a livable place with stable social, environmental, and economic structures, both for us and for future generations.

This sustainability report will examine all these aspects in detail. This year's edition features our completely new corporate design for the first time. We hope you'll like it.

On that note, we hope you enjoy the read!

Elisabeth Engelbrechtsmüller-Strauß,
CEO / CFO / CSO

Thomas Herndler,
COO

Harald Langeder,
CTO

Volker Lenzeder,
CIO


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About Fronius

Passion for new technologies,
intensive research, and
revolutionary solutions:
the ethos of Fronius since 1945.

A family business with trad

Forward-looking for more than 75 years

When Günter Fronius developed the first battery charger in 1945, he laid the foundation for Fronius and its ethos: the continuous search for forward-looking solutions to the technical challenges of our time. Since then, we at Fronius have been continuously researching new technologies for converting and controlling electrical energy for welding technology, photovoltaics, and battery charging systems.

First steps

The history of Fronius began in 1945. In those days, charging vehicle batteries was not a simple matter – something that Günter Fronius was unable to accept. He began by repairing electrical appliances and built his first battery charger with 50 Hertz technology. The first company headquarters of the "Specialist repair shop for radios and electrical equipment" was an old military shed in Rankleiten, Pettenbach. This was also where the Fronius family lived.
With a small workshop next to the living room and his first employee, Andreas Schinker, Günter Fronius laid the foundations for an international enterprise.

First company headquarters / Andreas Schinker at the Express battery service / Günter Fronius developing the company

ition

Founders Friedl and Günter Fronius / Brigitte Strauß and Klaus Fronius / Elisabeth Engelbrechtsmüller-Strauß

Years of growth

In 1950, Günter Fronius expanded his product range to include welding transformers. Building on this technological basis, over the following decades Fronius grew into a substantial medium-sized company, which Günter Fronius handed over to his children, Brigitte Strauß and Klaus Fronius, in the early 1980s. They launched a program of growth and international expansion that led to the founding of subsidiaries all over the world. In 1992, the decision was also made to focus on solar energy as a “technology of the future”. And so, today, Fronius stands on three solid pillars: Perfect Welding, Solar Energy, and Perfect Charging.

Shaping the future

The program of geographical and technological growth introduced by Brigitte Strauß and Klaus Fronius has continued to this day. Fronius is now represented in 33 countries with 36 subsidiaries and sales partners in more than 60 countries, making it a globally recognized innovation and technology leader. Elisabeth Engelbrechtsmüller-Strauß, the granddaughter of the company’s founder, has been managing the company since 2012. The company is wholly owned by the private foundation G & K Privatstiftung of the Strauß and Fronius families.

The company’s objective remains
the same as ever:
To build a sustainable future through innovation,
top-quality products, and exceptional service.

Company profile

Business model

Fronius is passionate about new technologies, intensive research, and revolutionary solutions.

Our tireless ingenuity and profound quality awareness make Fronius an innovation leader in welding systems, solar inverters, and battery chargers.

We combine the values of a truly local family company with the vision of an international high-tech enterprise.

Perfect Wel

lding

With the Business Unit Perfect Welding, our goal is to produce the perfect arc for a consistently high welding quality. Fronius is the innovation leader when it comes to arc welding and the global market leader in robotic welding, focusing specifically on the automotive industry and its suppliers. We also offer welding solutions for the yellow goods and commercial transportation industries. The Welding Automation division creates custom automated complete welding solutions for container construction and offshore cladding, for example. Our portfolio is rounded off by power sources for manual applications, welding accessories, and a broad range of services.

We work very closely with our customers to find a custom solution for any welding challenge. People and their needs are at the heart of what we do, so every product and service combines top quality, security, user comfort, and health and safety. We put a special focus on repairability, recycling, and long service life as early as the development stage of our products to ensure a sustainable resource use.

Solar Ene

rgy

We harness the power of the sun to ensure a sustainable future for present as well as future generations through the provision of renewable energy.
The Business Unit Solar Energy has spent over two decades developing innovative products and solutions for converting and storing solar energy for electricity, mobility, heating, and refrigeration. Our portfolio includes inverters for private and commercial use as well as efficient charging solutions for e-mobility.
We are one of the first companies worldwide to offer a system solution for local generation, storage, distribution and reconversion of hydrogen. Our Solhub system provides a sustainable, turnkey mobility and energy solution to commercial users, such as logistics companies, businesses, and even municipal authorities.
Our digital tools guarantee an efficient energy supply and provide an integrated energy management system, ensuring smart control of energy flows and the flexible use of solar power. This allows a reliable power supply for our private and business customers. It thus reflects our vision of 24 hours of sun.

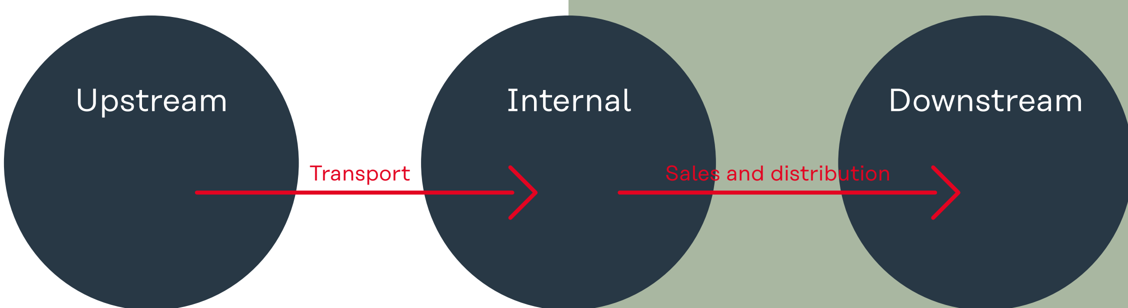
Perfect Cha

rging

The Business Unit Perfect Charging has been a leading expert in advanced and sustainable charging of traction and starter batteries for over 75 years. We inspire our customers to use solutions that combine efficiency and sustainability. To do so, we create smart products that are reliable and adhere to the highest levels of quality. Our goal is to produce tailored charging solutions with added value.

We offer everything from a single source, from premium charging technology for lead-acid and lithium-ion batteries to a comprehensive range of service and consulting solutions. By offering tailored integrated systems, we help our customers to reduce their electricity demand and thus decrease their costs and greenhouse gas footprint.

Value chain



Raw materials
e.g., semi-finished products, plastics

Components and systems
e.g., electronics, electrical engineering, mechanics

Equipment

Infrastructure
e.g., buildings, production facilities, software

Services
e.g., personnel services, marketing, waste management

Research and Development

Production
Mechanics, electronics, assembly

Intralogistics

Management
Finance, IT, purchasing, HR management, etc.

Products, projects and services
Perfect Welding,
Solar Energy,
Perfect Charging

Pre- and after-sales services
e.g., product demonstrations, commissioning, customer service, training, maintenance, repairs

At Fronius, we take a holistic view at our value chain, starting from the production of raw materials, through various refinement stages, all the way to the end user. We take a responsible approach and actively manage mechanisms, processes, and organizational units to supply customers and markets with sustainable products and services.

Sustainability plays an essential role in our value creation chain. In accordance with our strategic alignment, we take into account economic, ecological, and social factors in the organisation of our operational activities.

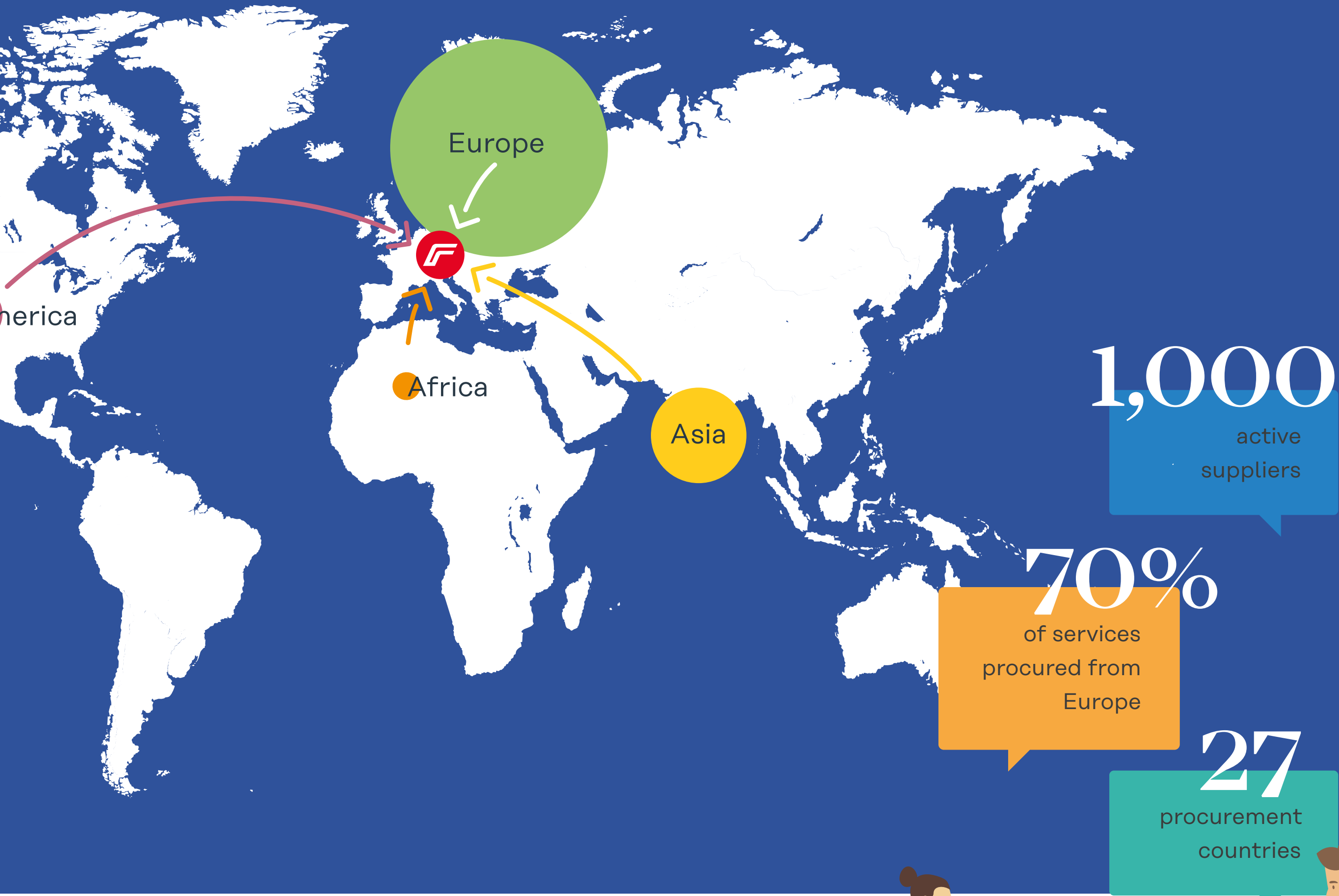
Upstream value creation

The upstream value chain for direct materials currently comprises around 1,000 active suppliers from 27 countries, whereby more than 95% of the sales partners are based in Europe. We procure raw materials, components, systems, and services across a variety of product groups. As we maintain a locally managed production structure with factories in Austria and the Czech Republic, the management of the flow of goods for the procurement of all direct materials is concentrated on these two countries.

In addition to the country of delivery (CoD), the country of origin (CoO) of the goods – i.e., the country where they are manufactured – also plays a crucial role. In terms of the CoO of the goods, around 70% of all services were procured from Europe, approx. 20% of which were directly from Austria. We collect all data centrally to ensure the greatest possible transparency in the supply chain.

Distribution of countries of origin of direct materials

Beyond the procurement activities for direct services, we also work very closely with suppliers who provide us with products for internal use, particularly equipment, infrastructure services, and other services. The standard criteria apply to supplier selection and management for these products and services. Individual consumables are also procured locally within the respective subsidiaries. This enables us to guarantee short transport routes and promote local value creation.



Internal value creation

Maximum efficiency and sustainable solutions are at the heart of our internal value creation processes, all of which we design and optimize ourselves. It is also important to us that the share of internal value creation concerning our end products is as high as possible. Our main activities center around the mechanical and electronic manufacturing of individual components and modules, the assembly of products, and the internal logistics processes required for this. These activities are grouped together at our sites in Austria and the Czech Republic. We usually develop our sites based on considerations regarding logistics as well as sales, job, and procurement markets.

Manufacturing works hand in hand with the other internal departments (such as Research and Development, Sales, Logistics, Purchasing, and IT) to offer our customers innovative and sustainable products and services.

Downstream value creation

We always make an effort to remain close to our customers due to our global distribution and service network and our international customer service and support. Even before customers decide to purchase from us, they can take advantage of product demonstrations and are given multiple opportunities to test our products. After purchasing, they receive support from Fronius, including professional installation and commissioning, briefing on the device, initial production support, product training, and webinars. Since maximum product service life is important to us, we thus perform the necessary maintenance and servicing work at our worldwide repair centers or with our certified Fronius Service Partners.

30,520

metric tons – total weight of goods distributed from Austria

Upstream and downstream goods transport		2018	2019	2020	2021
Total volume of transported products and materials	metric tons	25,436	26,746	25,871	30,520
		Share in metric tons			
Truck		18,441	19,719	17,833	23,233
Air freight		1,017	882	535	1,242
Sea freight		5,087	5,371	6,262	4,104
Rail freight		890	775	1,240	1,941

Distribution of products to our customers

Fronius locations

Fronius International GmbH, which is headquartered in Pettenbach, has 11 branches in Austria and is represented by 36 subsidiaries around the globe. The Fronius production facilities are based in Austria and the Czech Republic.

Thanks to our additional network of Fronius Sales and Service Partnerships in more than 60 countries, we can respond to the specific needs of our customers.

36

subsidiaries

Sustain-ability at Fronius

Sustainability is at the heart of what we do. We make socially, ecologically, and economically responsible decisions that will have the best possible impact on every stakeholder and the environment in the long term.

Living roof at the Wels site, Upper Austria

Our core values: Fr

Regularly updated, always sustainable
The Fronius Way is our corporate philosophy and has been guiding our business since 2003. It is not a fixed set of rules, rather a living document that is continuously evolving. Therefore we initiated a version numbering system when creating the Fronius Way 4. Both the management board and a group of over 30 employees from selected departments contribute new ideas to the Fronius Way. Together they adapt our philosophy to meet the ever-changing parameters while keeping our core values intact.

The current edition of the Fronius Way – version 4.2 – contains a streamlined version of our company's reason for being.

We inspire solutions for an exciting future

The new wording is shorter and catchier.
It expresses our passion for shaping the future with our sustainable innovations.
We have also made some key changes to our company goals, such as embedding the phaseout of fossil fuels at the highest level. People remain at the heart of what we do to achieve these goals, and technology is a means to an end.
Fronius Way 4.2 is available in 12 languages, and employees can access it at any time.

onius Way 4.2

Values that last for generations

Our core company values are the same today as they were years ago. They have developed over our 75-year history and underpin our daily work:

Community
... connects us. Fronius is a family business, after all, and every employee is a valued member of that family.

Innovation & creativity
... are what drive us. Whether the ideas are grand or small, we work as a team to foster the development of forward-looking solutions every day.

Sustainability
... is at the heart of what we do. We make socially, ecologically, and economically responsible decisions that will have the best possible impact on everyone involved and the environment in the long term.

Quality awareness
... shapes our attitude. We are not satisfied until every screw fits properly.
We are continuously striving to optimize our processes, skills, and products.

Cost effectiveness
... pays off. The prudent use of funds means we can invest our resources independently with future use in mind.

The Fronius Way is not just our foundation, it is the starting point for further developing the entire company at both strategic and operational level:
our Fronius vision of the future.

Material sustainability issues

The materiality analysis outlines the key economic, social, and environmental aspects of Fronius. It is carried out at regular intervals as part of an extensive process involving our in-house experts.

We updated the analysis again in 2021 and added another dimension – “Importance to business” – in line with the GRI standards. The materiality matrix now comprises three dimensions:

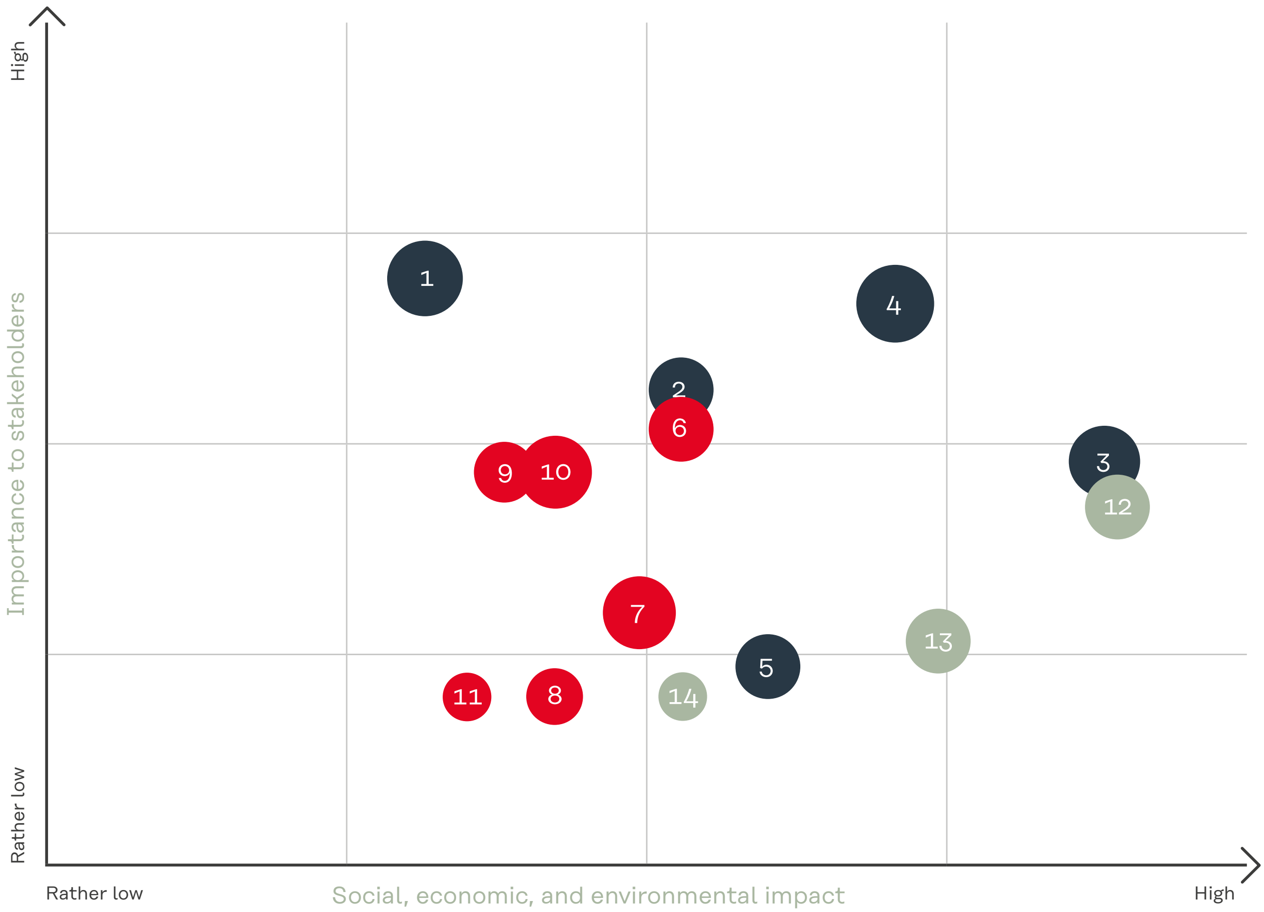
- the **social, economic, and environmental impact** of our business activities, including the **upstream and downstream value chain** (see X-axis),
- the **importance to stakeholders** (see Y-axis), and
- **importance to business** (shown as different bubble sizes).

The first step in the materiality analysis was the preparation of a list of topics based on relevant sustainability standards and regulations. Members of the internal sustainability network (see Chapter “Organization of sustainability management”) then checked the list to ensure that it was complete and pertinent. Compared to the materiality analysis of 2020, new topics were identified, and some were renamed. For example, we classified the following topics as material and included them in the report: “Business ethics and compliance,” “Diversity and equal opportunities,” “Customer health and safety,” and “Biodiversity and ecosystems.”

Lastly, the sustainability network used an online questionnaire in order to prioritize the selected topics based on their social, economic, and environmental impacts and their bearing on long-term business success (importance to business). Internal representatives of selected stakeholder groups then rated the topics (see Chapter “Stakeholder engagement”).

A total of 14 topics were classed as material. These are separated out into the three dimensions of sustainability: responsible business practices, social responsibility, and ecological responsibility. This report contains qualitative and quantitative disclosures for each of these topics in line with the GRI standards.

Materiality matrix



Responsible business practices	Social responsibility	Ecological responsibility
1. Economic performance	6. Employment and working conditions	12. Decarbonization and climate protection
2. Business ethics & compliance	7. Employee development	13. Resource conservation and cycles
3. Sustainable products & services	8. Diversity and equal opportunities	14. Biodiversity and ecosystems
4. Research and development, innovation	9. Occupational health and safety	
5. Sustainable procurement	10. Customer health and safety	
	11. Community engagement	

Our sustainability strategy

"It is our responsibility to make economically, socially, and environmentally balanced decisions. We have an obligation to consider the interests of everyone impacted by our actions."

(Fronius Way 4.2)

We redefined our company-wide sustainability strategy in 2021, taking our philosophy and our values as a basis. The priority areas are based on the results of the materiality analysis and the topics that make the biggest contribution to sustainable development.

Sustainability program

The company-wide sustainability strategy is implemented by sustainability management in line with the defined goals and annual measures. Its progress is continuously assessed. The following priority areas were defined in the first step:

Priority area	*KPI*	*Target value*	*Target year*
Decarbonization	Company facilities	1,778 metric t	2022
Diversity	Percentage of women in relation to the total workforce	38%	2022
	Percentage of women in leadership roles	18%	2022
Human rights	Number of preferred suppliers audited against sustainability criteria	31%	2022
Ethics	Number of training sessions on the Fronius Code of Conduct	85%	2022
Environment	Specific waste produced	0.21 metric t	2022

In addition to these goals, we also track the progress of several other KPIs so that we can continuously evaluate and manage our sustainability performance. By publishing this selection, we show our high priority developments for the first time. We strive for continuous improvement and are not satisfied with stagnation. We want to share this step with our stakeholders and give them more insights into our efforts and approaches.

Goals for sustainable development

The “Agenda 2030 for Sustainable Development” was adopted by all 193 Member States at the United Nations Summit in New York on September 25, 2015.

The Agenda contains 17 goals (Sustainable Development Goals – SDGs) and is a universal call to action to combat poverty, inequality, and climate change.

Fronius is aware of the social, economic, and environmental impacts of its business activities and its upstream and downstream value chain. We are making a major contribution to 7 of the 17 sustainable development goals with our measures and programs. Their impact was determined using the results of the materiality analysis.

SDG 3: **Good health and well-being**
The health and safety of employees is paramount to Fronius. Employees have recourse to medical check-ups and consultations from our occupational medical service and can consult with an in-house company psychologist, ensuring good physical and mental health. In addition, we run various campaigns and provide informational material to help raise our employees' awareness. We responded to the Covid-19 pandemic with a raft of measures based on guidelines from the Austrian government to curb the infection rates: These measures included running a large-scale immunization campaign, setting up an in-house testing center, developing health and safety policies for the company restaurants and meetings, and introducing guidelines on etiquette.

SDG 4: **Quality education**
Training and further education for our employees are equally important. We support every member of staff with tailored programs. These range from specialist training and online courses to personal development workshops and fascinating keynotes on current issues. At Fronius we also offer extensive apprenticeship programs in 16 skilled trades for a growing number of young men and women. Semi-skilled Fronius employees can also complete an apprenticeship in electrical engineering as part of a program to upgrade qualifications.

SDG 7: **Affordable and clean energy**
Fronius is in a position to make a major positive contribution to this goal. The Business Unit Solar Energy develops solutions for smart and efficient power generation and the use of solar energy for applications in the home and in industry. We are motivated by a vision of 24 hours of sun, a world in which the entire energy demand is covered by 100% renewable sources 24/7, 365 days a year. This requires power, heat, and mobility to be linked efficiently. Hydrogen plays a key role in this, which is why Fronius is researching and developing solutions to harness green hydrogen as a long-term storage medium for renewable energy.

SDG 8: **Decent work and economic growth**
Growing production volumes, ever-expanding manufacturing facilities, and the creation of new jobs are testament to the steady growth of Fronius. We are committed to creating attractive jobs that put our company values into practice and pledge to uphold human rights, secure essential working conditions and safe working environments, pay a fair wage, and support freedom of association and the right to collective bargaining. We value our employees as people, treat one another with respect, and actively acknowledge diversity as creating value. These and other practices are laid down in our Fronius Code of Conduct, and we expect our partners to also follow them. New suppliers are audited based on social and environmental criteria, and existing suppliers are subject to continuous monitoring.

SDG 9: **Industry, innovation, and infrastructure**

We are a major player in the local economy and procure most of our goods from Austria and Europe. Innovation is a key driver for Fronius, motivating us to work toward offering even more efficient and resource-conserving products and solutions to our customers. With our products we place particular emphasis on long service life, material and energy efficiency, repairability, and recyclability, thereby making electronic equipment more sustainable with several benefits, not least for the environment. Our goal here is to make our products ecofriendly and exceed the legal requirements on this. To do so, we develop methods and technologies to measure and reduce our environmental impact.

SDG 12: **Responsible consumption and production**

Fronius aims to minimize the environmental impact of its products and services, so we actively consider the origin, recyclability, and environmental footprint when choosing materials and components. We use insights from the life cycle assessment of our GEN24 Plus inverters for this. The inverters are subjected to a range of tests and inspections to ensure that the equipment has a long service life. This is the only way to guarantee that our products will withstand operating in harsh conditions. If necessary, all of our products can be repaired in our repair centers, and specific components can be replaced with original spare parts. If a device cannot be repaired, it will be taken to a waste management company that will prepare its materials for recycling. If possible, we use secondary materials to manufacture our products. The aluminum heat sink on the GEN24 Plus inverter is made out of 100% recycled material, for instance.

SDG 13: **Climate action**

Fronius takes its corporate responsibility seriously and has made the reduction of its direct and indirect CO_2 emissions a priority to help combat climate change. As part of our decarbonization road map, we are stepping up our use of renewable energy sources (geothermal, biomass, and photovoltaics) to meet our heat and power needs. We are also ramping up our own energy generation by expanding our photovoltaic systems, and we are making our buildings and processes more energy efficient as part of decarbonization efforts. Transport is the biggest contributor to greenhouse gas emissions, and we are combating this by switching our vehicle fleet to low-emissions vehicles, promoting the use of public transport, and pushing for freight transport by rail.

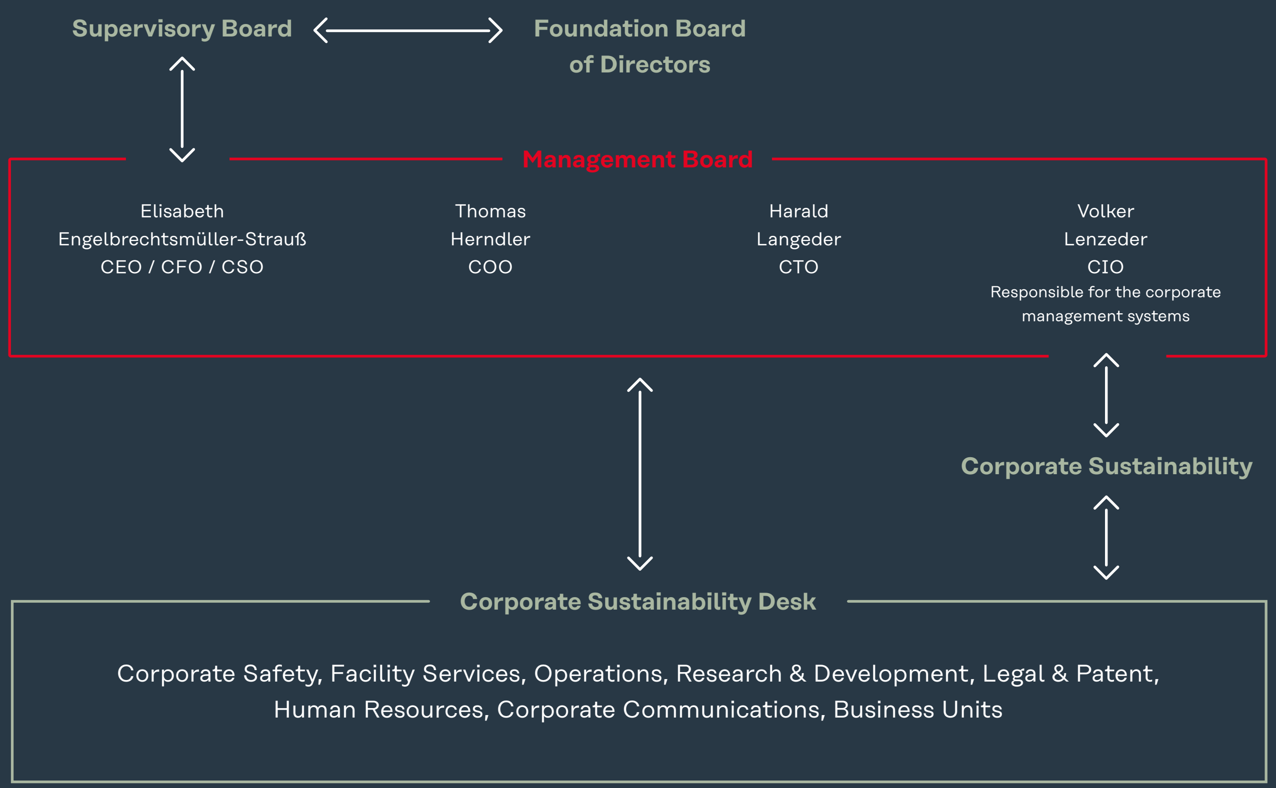
Organization of sustainability management

Responsibility for sustainability

Since sustainability is an important matter for Fronius it is a key responsibility of the management board. The management board in turn regularly updates the supervisory board and the foundation's board of directors about the progress in implementing the sustainability strategy.

The sustainability management system is part of the "Corporate Management Systems" of the CIO's corporate services department. The Corporate Sustainability team is responsible for developing strategy, managing activities, and implementing measures. It considers sustainability to be a cross-cutting issue that is relevant to all areas of the company.

A company-wide sustainability network, the Corporate Sustainability Desk (CSD), was set up in 2020 with 14 members from various departments with the goal to put sustainability matters into action.



The individual stakeholders regularly discuss sustainability-related topics.

The CSD members are responsible for the knowledge of legal requirements, stakeholder needs, and market trends, reviewing them in terms of their significance to Fronius, introducing them to the network, and if necessary, initiating their implementation. They keep in close contact with the decision-makers in their departments. The members report on their progress in monthly network meetings and set out the next steps together.

The CSD members also take part in interdepartmental working groups to work on sustainability-related topics, draw up company-wide sustainability goals, and define the corresponding measures. The members have identified the following areas for action:

Creating awareness

Fronius' contribution to sustainability can only be as great as the sum of the contributions of all our employees. We therefore have many ways of creating awareness to ensure we are working together to consciously make a difference.

Decarbonization

Climate change continues to progress, the average global temperature is rising, and extreme weather events are becoming more frequent. The Paris Agreement was adopted during the 2015 UN Climate Change Conference with the objective of mitigating climate change. Its goal is to keep the increase in global warming to below 2 °C. To achieve this, CO_2 emissions caused by humans must be reduced. Fronius takes its responsibility seriously and has made the reduction of direct and indirect CO_2 emissions a priority to make a contribution to combating climate change (more details in the Chapter on "Decarbonization and climate protection").

Infrastructure development and investments

We take all three dimensions of sustainability into account to ensure that decisions are made responsibly and with foresight. Defined processes support us in understanding how our social, ecological, and economic impact affects infrastructure development and investments and enable us to act accordingly.

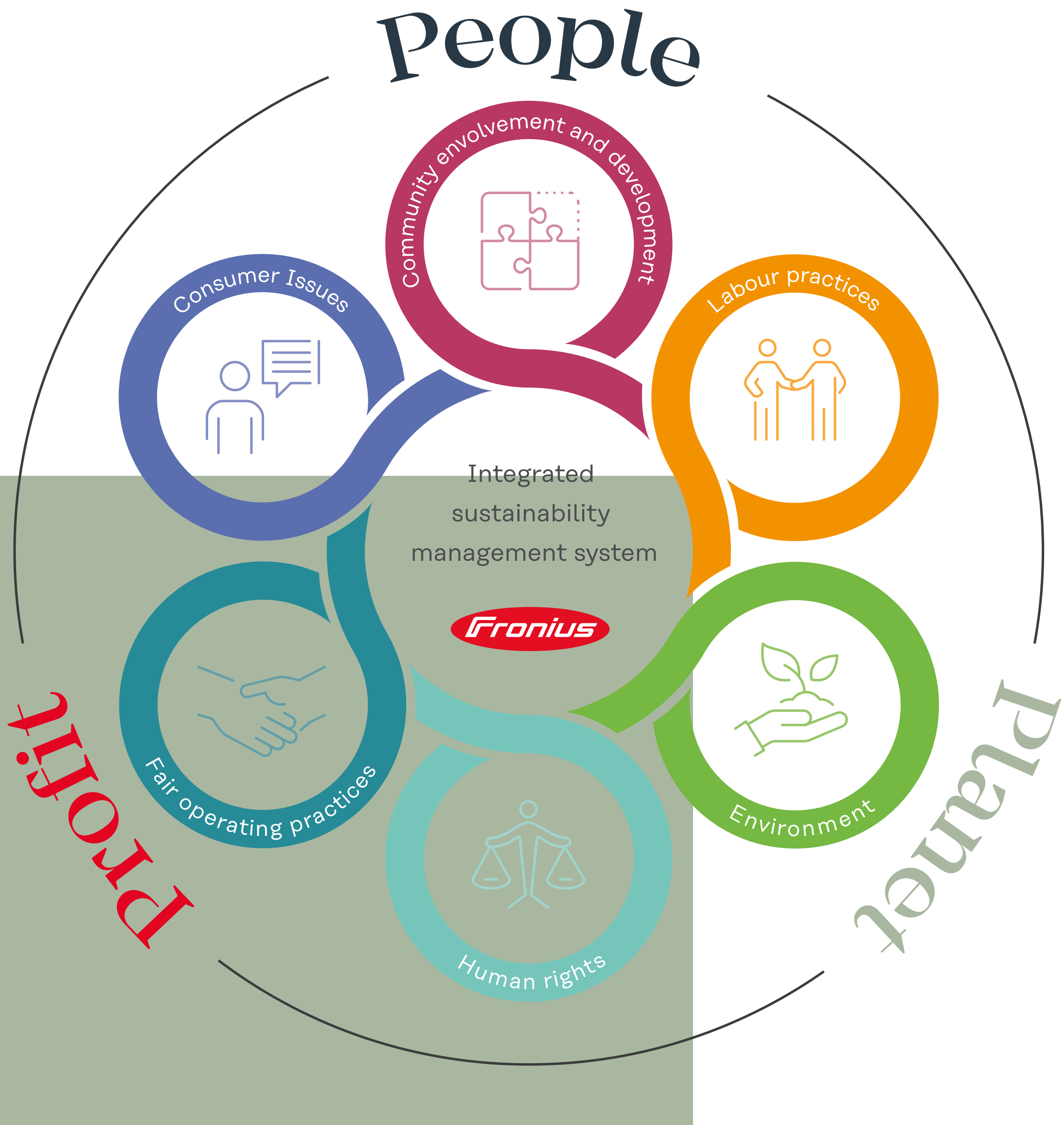
Sustainable products and services

Our innovations and research activities enable us to develop sustainable solutions for our customers. As a manufacturing company, we must take into account the entire value chain if we are to improve our sustainability performance (more details in the Chapter on "Research and development, innovation"). The social conditions our suppliers are operating in have a huge impact on both society and the local economy. We have strict requirements and work closely with our partners (see also "Sustainable procurement").

The overarching goal of the management system is to continuously improve sustainability performance in these areas along the entire value chain.

Sustainability management system

As a means of ensuring that sustainability is firmly embedded in all areas of the company, Fronius decided to introduce a Corporate Social Responsibility (CSR) management system in accordance with ONR 192500 (based on ISO 26000), which obtained external certification in 2021. This required Fronius to define the focus of its social responsibility, identify stakeholder needs, identify the relevant areas for action, and set priorities in this regard. Fronius focuses on the following areas for action as part of its CSR management system:

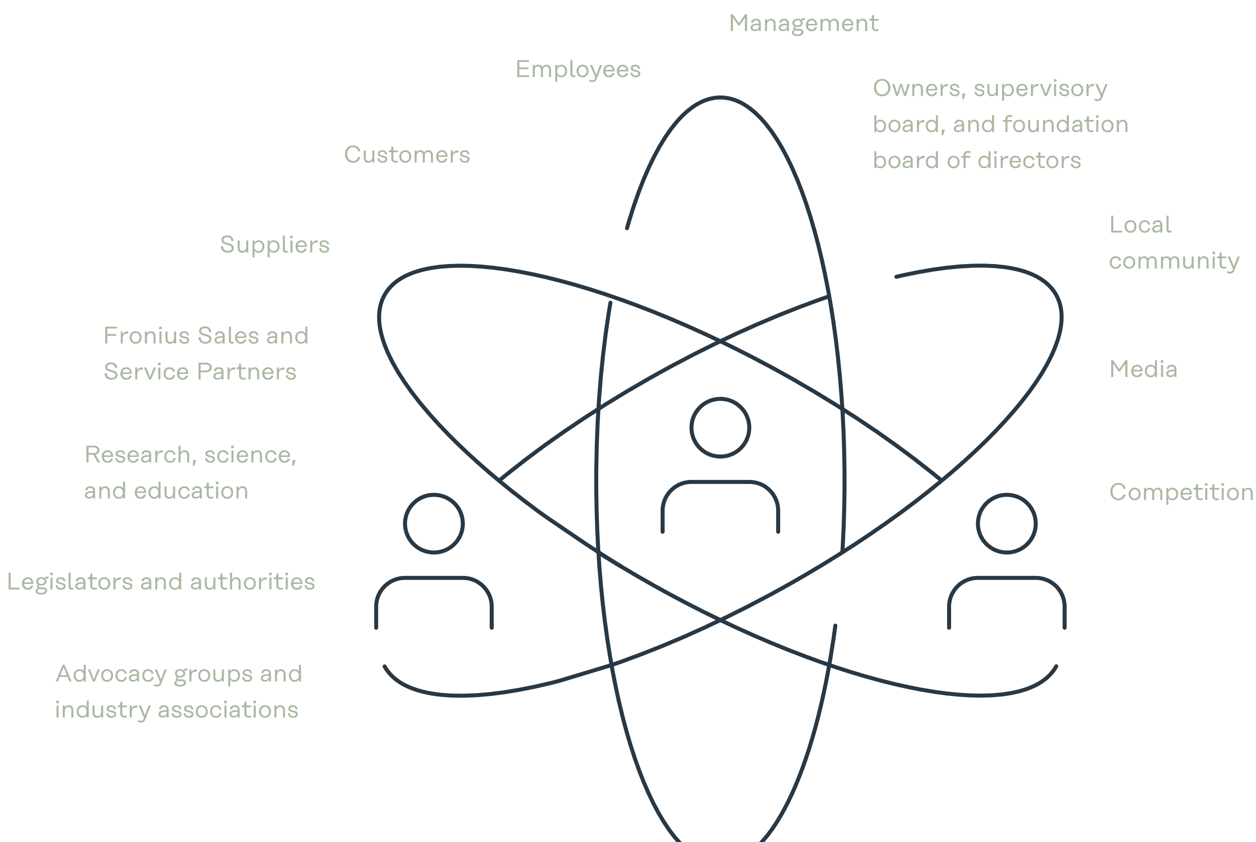


Stakeholder engagem

Holding an open and constructive dialog with our internal and external stakeholders is extremely important to Fronius.

It is crucial to understand and consider stakeholders' interests and expectations when making assessments and decisions. By engaging in dialog, we can identify relevant and sensitive topics from which we can draw key conclusions for our activities.

The importance of the individual stakeholder groups is regularly reviewed, most recently as part of a workshop held with the Corporate Sustainability Desk in 2021. Workshop participants reviewed the list of stakeholder groups to check for its completeness and assessed their importance based on the dimensions "Impact of Fronius on stakeholder groups" and "Influence of stakeholder groups on Fronius." A total of 12 stakeholder groups were identified, and their interests and expectations are now represented in various forms of dialog.



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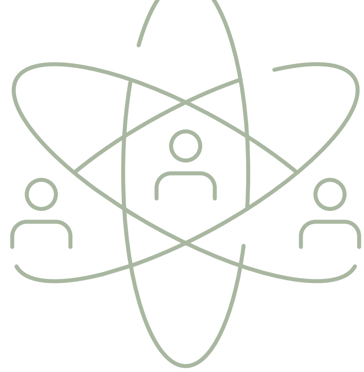
In dialog with our stakeholders

Below is a selection of the interests and forms of collaboration and dialog with the relevant stakeholder groups.

Stakeholder groups	Stakeholder interests	Forms of stakeholder dialog
Employees	- Safe and healthy workplaces - Job security - Fair pay - Social security benefits - Opportunities for development - Modern working environments, including equipment and infrastructure - Respectful corporate culture - Work-life balance	- Internal communication channels (intranet, employee magazine, etc.) - Annual employee appraisals - "Great Place to Work" employee survey - Employee information from the management board - Works council information - Information events for employees
Management	- Regular updates on strategy, targets, business development - Corporate culture that applies to the Fronius values - Further development of management systems	- Strategy workshops - Management review - Leadership workshops
Owners, supervisory board, and foundation board of directors	- Regular updates on strategy, targets, business development - Ensuring compliance with legislation	- Meetings of the supervisory board and the foundation

Stakeholder groups	Stakeholder interests	Forms of stakeholder dialog
Customers	- High-quality, affordable, innovative, and safe products - Delivery reliability - Quick responses to queries - Product training/workshops	- Customer service and support - Organization of (virtual) trade fairs - (Digital) workshops - Annual discussion around sustainability/carbon footprint - Product training/webinars - EcoVadis rating - Answering questionnaires for supplier self-assessment - On-site/remote audits - Providing data and information about products (e.g., life cycle assessments)
Suppliers	- Long-term business relationships - Clear terms - Holding discussions and negotiations on equal terms - Reliability	- Supplier on-site audits - Dialog events (e.g., supplier day) - Annual discussions and regular meetings
Fronius Sales and Service Partners	- Long-term business relationships - Meeting the expectations of installers/end customers - Support from Fronius - Expert after-sales service - Training schemes - Fair pricing - Delivery reliability	- Customer service and support - Organization of (virtual) trade fairs - (Digital) workshops - Product training/webinars
Research, science, and education	- Long-term partnerships - Industry insights	- Working with research and educational establishments - Sponsorships with higher technical institutes - Working with specialist advisory councils to share knowledge and experiences



Stakeholder groups	Stakeholder interests	Forms of stakeholder dialog
Legislators and authorities	- Compliance with general legal/ official requirements	- Responsible lobbying work - Managing approval of permits - Regular discussion with the mayors of the communities where Fronius has its sites
Advocacy groups and industry associations	- Participation in initiatives and industry associations - Representing industry interests - Developing industry standards	- Membership of various national and international associations - Proactive collaboration on position papers - Sharing knowledge and experiences in working groups
Local community	- Transparent communication about activities that impact local communities and taking into account their interests at an early stage - Supporting the community - Creating jobs in the local area - Paying the appropriate taxes	- Regular dialog with local residents - Open house - Career fairs
Media	- Prompt information about important developments	- Press releases - Interviews - Communication through social media
Competition	- Fair competition	- Informal dialog on current trends and challenges in the industry

Employee **Birgit Schwarze**
on the culture at Fronius:

“At Fronius, we’re passionate about taking sustainable action at every level — a commitment we take home too.”

Supplier **HMS Industrial Networks AB**
on its long-term partnership with Fronius:

“At HMS Networks we have a long lasting and value generating business relationship with Fronius. We are in regular exchange with Fronius on important issues for both our companies, including a joint company audit at HMS’s site in Halmstad (Sweden) and an in-depth interview on current sustainability topics.”

Customer **Gerlinde Witzgall, IBC Solar,**
speaking as part of the 2021 developer meeting:

“We expect Fronius to create even greater transparency in its entire value chain. The company needs to ensure that it can trace the materials used, rethink existing business models, and keep engaging in dialog with partners.”

Karsten Schischke, Fraunhofer IZM
on Fronius LCA GEN24 Plus:

“With this life cycle assessment, Fronius has created an impactful environmental audit of the GEN24 generation of inverters. I have the impression that the team responsible for the assessment worked very hard. I’m sure that the solid results will result in a feedback loop that improves product development, increasing the products’ sustainability performance.”

Employee **Klaus Forstner**
on the Fronius values:

“Fronius doesn’t pay lip service to sustainability just because it’s in vogue right now. Quite the opposite, in fact. The company has deeply embedded sustainability in the organization, and it underpins our actions. Laying groundwork like this requires you to be bold and have a vision, both of which I see every day when I go to work.”

Customer **Sebastian Geier, IBC Solar,**
on what makes Fronius inverters special:

“We value the great quality and long service life of Fronius inverters, and we are impressed that they can be repaired by simply replacing components.”

Customer **Colin Chapman, CJ Lang**
(wholesaler for Spar Group, Scotland)
on the Selectiva 4.0 battery charger:

“Besides quality and design, the main reasons for choosing this product were its energy efficiency and lower emissions. Plus the battery chargers are much smaller than our old ones.”

Hannes Krempl, Fohnsdorf Training Center,
on Fronius Virtual Welding:

“The Fronius welding simulator enabled us to increase both the quality and the cost-effectiveness of the training. We don’t need gas, wire, or metal sheets, saving roughly 230 euros in material costs per trainee, despite the increased arc time. Including a virtual component guarantees that the welder training will be enormously effective while at the same time fewer resources will be used.”

Fronius is a member/supporter of various initiatives and industry associations, some of which focus on sustainability-related topics.

A selection:

Involvement in the **Upper Austrian “Energy Transition Leaders Initiative”** as a pioneering company in cooperation with the OÖ Energiesparverband

Member of **respACT – Austrian business council for sustainable development**, the leading business platform for CSR and sustainable development

Member of the **“Resource and energy efficiency” expert group of the association Industrie 4.0**, a platform for smart production

Member of **VÖSI (Verband Österreichischer Sicherheitsexperten)**, the advocacy group for security, health and safety, environmental protection, and fire safety at work

Partner company involved in **Cleantech-Cluster Oberösterreich**, the platform for companies working in environmental and energy technologies to increase their visibility, competitiveness, and capacity to innovate

Member of **SolarPower Europe**, a member-led association for the solar PV sector, supporting the latest European sustainability initiatives, such as the development of the eco-design directive and the energy label for PV systems

Member of **Hydrogen Europe**, the umbrella organization for the European hydrogen and fuel cell sector, developing the European public-private partnership for hydrogen

Supporter and member of the **Renewable Hydrogen Coalition**, a network of start-ups, investors, and companies to promote renewable hydrogen solutions at European level

Member of the **VNL (Verein Netzwerk Logistik)**, the Austrian logistics business network, sharing experiences and information regarding the challenges of the transport and logistics sector, including its sustainable design

Member of the **specialist advisory council Circular Globe**, a European initiative by Quality Austria and the Swiss Association for Quality and Management Systems (SQS), promoting an assessment model and label for the circular economy

Member of **StEP Up**, a platform for the sustainable increase in the competitiveness of manufacturing businesses in Austria

Respon-sible business practices

… pay off. The prudent use of funds means we can invest our resources independently with future use in mind.

Geothermal probes at the Thalheim site, Upper Austria

Economic performance

Company figures for the whole of the Fronius Group as of December 31, 2021

- 36 international Fronius companies
- 153 apprentices
- Sales Partners in more than 60 countries
- 6,100 employees
- 1.366 active patents
- 89% export rate
- EUR 995 million in Group sales

Sustainable company growth

Fronius takes responsibility for the impact of decisions and activities on society, the economy, and the environment. Honesty, fairness, and integrity underpin our actions.

Since we manage our risks with foresight and take a holistic view of the effects on people and the environment we are steadily becoming more resilient in times of crisis. Although 2021 was a challenging year, Fronius proved itself to be a stable and reliable partner to its customers and suppliers.

For example, we encountered severe supply bottlenecks that heavily impacted us through problems in the global supply chain. We responded to this issue by communicating and working closely with customers. Our long-term, solid business relationships allowed us to find solutions to challenges quickly and collaboratively. Our supplier structure involving numerous local partners and networks also provided support in this matter. We can now proudly say that even though we had a shortage of primary materials, which delayed the manufacturing of some products, we have not used any reduced working hours scheme to date. Through our actions we could also aid our employees to successfully cope with the crisis.

We promote innovation with sustainability in mind. This makes our high-quality products and services even more cost efficient. Since our products have a long service life and can be repaired easily not only protects the environment but also benefits our customers. This increases both our performance and our competitive advantage – the prerequisites for the future success of our company.

We are making a number of investments to ensure that we can cover the increasing demand for our products over the coming years. We have 6,100 employees worldwide, around 4,060 of which work in Upper Austria alone, making us a major employer and investor in the region. And we are continuing to grow: the expansion of our production site in Sattledt began in 2021, with plans to add a total of 47,000 square meters. We also entered the Finnish market in the past year by opening a Fronius subsidiary in Helsinki.

Business ethics and com

The Compliance department is being introduced at Fronius International GmbH in 2022, with the aim of setting up and developing a Group-wide compliance management system.

The main steps include risk analyses in individually pre-defined risk areas and, derived from this, targeted compliance measures, such as guidelines, training, and the establishment of suitable processes to ensure compliance with legal requirements in all departments.
The compliance management system also involves regularly monitoring the measures taken and continuously improving them, as well as regularly reviewing any new potential risk areas.

Compliance with statutory requirements
All business activities and decisions are underpinned by compliance with the applicable laws and internal and external regulations. No infringements of environmental or social laws and regulations were reported in 2021.

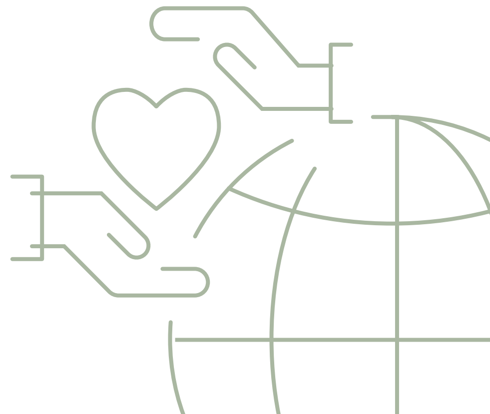
Fronius Code of Conduct
Fronius carries out its business activities in line with the highest ethical standards and requires all employees to act in accordance with these standards of personal and professional integrity. We also expect our business partners to follow this Code of Conduct, acting with integrity and in compliance with the law. This applies to all business partners in the supply chain.
The Code of Conduct is available on our website for all stakeholders to access and is published on internal platforms and notices. The Code has also been adapted for all subsidiaries with country-specific provisions and can be accessed on the local websites. All employees are given training from their direct managers on how to use the Code of Conduct.

pliance

Anti-corruption and anti-bribery
Fronius explicitly opposes all forms of corruption and bribery. Criminal offenses notwithstanding, we examine any benefits accepted or granted to check whether they are appropriate and are not detrimental to our public image.
We have drawn up extensive measures to prevent corruption and bribery, including raising awareness among employees by sharing information about the Fronius Code of Conduct and requiring them to complete training on compliance matters.
We are also working to set up a whistleblowing system to ensure any breaches of compliance are identified at an early stage and the necessary remedial actions can be taken.
Our approach to dealing with risks, including corruption and bribery risks from suppliers and business partners, is laid out in the Chapter “Sustainable procurement.”
There were no confirmed cases of corruption in 2021.

Fair competition
Our long-term interests are protected by a transparent, fair and professional conduct in the market. Our mode of contact ensures a stable and sustainable competitive advantage.

Political involvement
Any involvement in politics is done in a responsible and transparent way; public political processes are not hampered by unfair practices or undue influence. Fronius did not make any donations to political parties in the form of financial contributions or gifts in kind in 2021.



Data privacy and information security
Guidelines and work instructions on how to handle personal data regulate compliance with the applicable data protection laws (specifically the EU General Data Protection Regulation) in the company. We have also set up systems for auditing new and existing data processing operations, introducing new software tools, concluding data processing agreements, and complying with data subject rights (such as requests for information and requests to have data deleted). Representatives from the IT, Risk Management, and Legal departments handle data protection matters together as part of a core data protection team and collaborate closely with a representative of the management board. The information security management system and the information security guidelines show in detail how to protect physical and electronic data and the systems needed for data processing. We are currently in the process of introducing an information management system certified to ISO 27001.
Data privacy and information security are not only crucial for our internal business processes and data processing activities, but for our products too. Suitable, state-of-the-art measures are implemented in line with the level of protection required for the data to be processed and the associated risks. Measures for the early detection, processing, and prevention of cyberattacks have been drawn up due to increasing levels of cybercrime. Employees are kept up to date about possible risks and shown how to take preventative action.

Employee training on compliance matters
We offer regular trainings for our employees on compliance matters, such as anti-corruption, data protection, and antitrust and competition laws, to keep their knowledge up to date. If employees are directly involved in situations that could have legal implications stemming from antitrust and competition legislation, we offer extra, more in-depth training to prepare them fully for these scenarios. These courses cover the basics regarding the statutory requirements of antitrust and competition law and include practical examples that reference the existing distribution channels at Fronius.
All employees are encouraged to complete online training on the content of the Code of Conduct. A total of 2,607 employees passed this online training in 2021, which is around 72% of the workforce with an e-mail account. Employees that do not have an e-mail account were trained by their direct managers using a handout.
We have increased our target for training participation to 85% for 2022 so we can continue to raise even more awareness of the Code of Conduct.

Whistleblowing system

In 2021, we laid the groundwork for a whistleblowing system to be set up as part of the compliance management system, following the provisions of the EU whistleblowing directive. The whistleblowing system is intended to give employees and external parties alike the opportunity to report any breaches of law within the company. Anonymous reports can also be submitted using the channel planned for this.

As soon as the national law comes into force in Austria, this channel will be activated and information about it will be made available to potential whistleblowers.

Sustainable products and

Whether it's custom battery chargers, revolutionary welding processes, or complete solutions for solar energy, there is one thing we are always striving to do: use energy to create a better world.

l services

“With our spirit, enthusiasm for innovation, and our expertise in energy conversion, we create sustainable innovative solutions. They offer our customers added value and convey safety, independence, sustainability, and modernity. This, together with our readiness to perform and to change, makes us a successful business and helps make the world a good place to live.”

Fronius Way 4.2

We promote innovation with sustainability in mind. For us, developing sustainable products means creating high-quality, repairable, and recyclable solutions that have a long service life and not only protect the environment but also bring greater benefits to our customers.

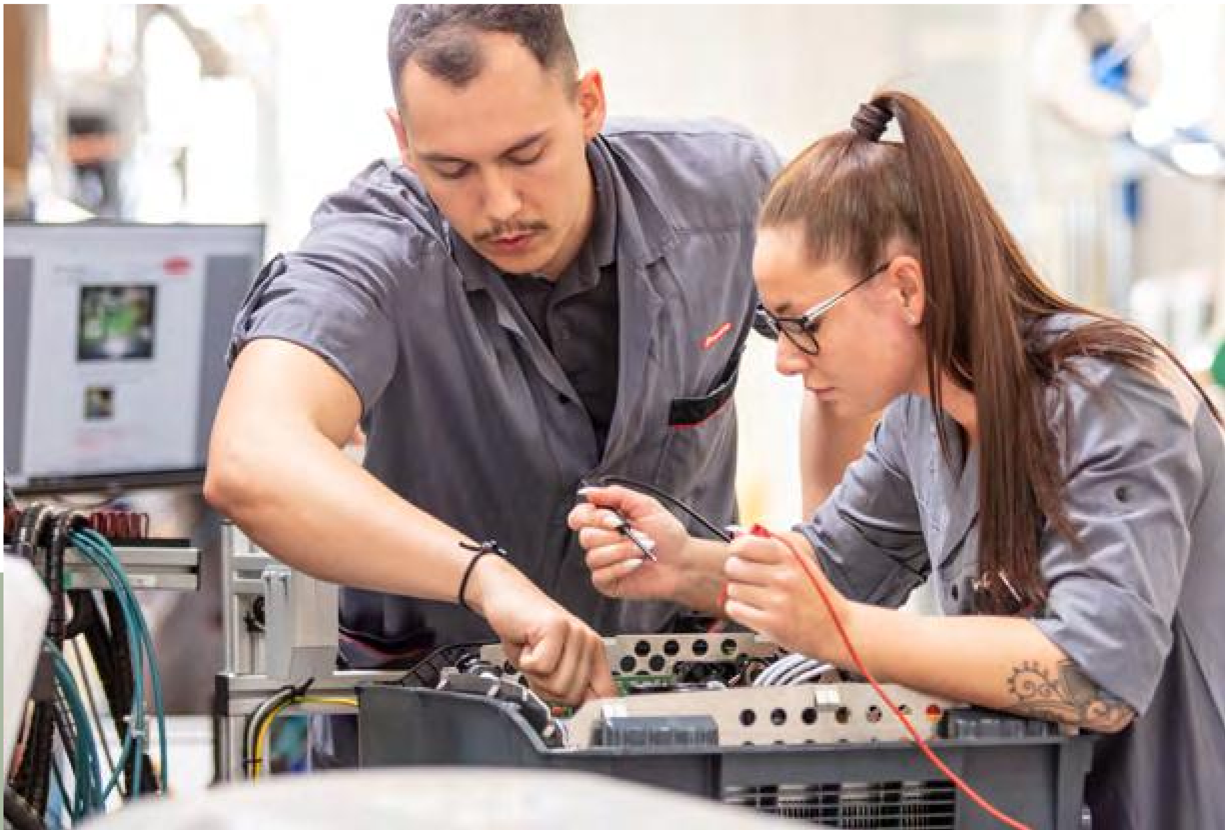
Quality awareness
At Fronius, quality awareness is not simply a phrase that gets thrown around but a corporate value that we live by. We don't just test our products two or three times: during the development phase we subject them to a total of 13 different robustness tests. This is the only way for us to guarantee a long service life, including the operation under harsh conditions. In addition, the products are easy to repair, and the individual components are easy to replace.
Welding is not only carried out in garages, but also in the freezing cold of Alaska or the salty air of an offshore platform.
Our inverters run in the cellars of private households, in hot and humid jungle climates, and in photovoltaic systems in the desert. Our battery charging systems are also frequently subject to dust, dirt, and moisture, or a fluctuating grid quality with little or no respite.
Our products are subject to rigorous testing: impact and drop withstand, low temperature performance and durability, dust and salt spray tests are but a few of the 13 testing processes carried out during the development phase. All of these tests go far beyond the specifications laid down in standards. It is no coincidence that our solutions impress with their quality and long service life.
For almost 30 years, Fronius has also been using an ISO 9001 certified quality management system to guarantee the highest possible quality of its products. This standard defines the minimum requirements for a quality management system, which is at the same time subject to a continuous improvement process. Quality awareness for this is something we instill in our employees through regular training. This is the only way to build up customer trust and satisfaction, ideally for generations to come. We want customers to recognize that our products are characterized by sustainability, increase productivity, maximize the energy yield, and lower operating costs.
This video shows the Fronius Robustness Tests:
Fronius Robustness Test – YouTube

Long service life & ease of repair
Nothing lasts forever – even the very best products are susceptible to a certain degree of wear. Even though it is rare for our products to cease working perfectly, it is still important to us that we repair products quickly, to a high standard, and in a sustainable way when required.
We are therefore drawing up service concepts as early as the product development stage to guarantee the future repairability of our products. Thanks to our global network of repair centers and certified Fronius Service Partners, we are able to avoid long travel and transport routes and guarantee rapid repairs. Our 4,000 m² Repair


Fronius
Schweiss-MAX
KOMBI-S
220V
0
380V

Center in Steinhaus provides the perfect conditions for professional and high-quality repairs with original spare parts.
We regularly repair devices that are now over 20 years old. If a device can no longer be repaired, we disassemble it, separate out the components, group them into categories, and forward them to waste management companies that prepare the materials for recycling.

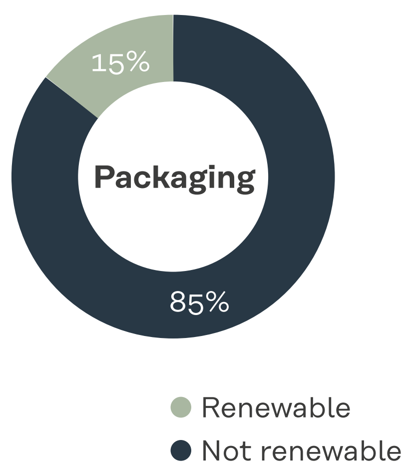
Recyclability
We consider the repairability and recyclability of our products at the end of their life cycle already in the stages of material selection and product development. If possible, we use secondary materials to manufacture our products. For example, the aluminum heat sink on the GEN24 Plus inverter is now made from 100% recycled material, which emits 35% fewer greenhouse gases compared to primary aluminum.
We work with waste management companies to continually optimize our devices and increase their use of secondary materials.



Sustainable packaging
At Fronius we make sure we select suitable packaging materials and use them sparingly, ensuring our products are protected from damage during transport while minimizing our environmental footprint. We take into account the following sustainability-related factors:

- Environmental footprint of the packaging material over its total life cycle
- Potential for reuse and recycling of the packaging material
- The amount of packaging needed to offer the device optimum protection and the effect on the volume and weight of the packaging

The choice of packaging material depends on the product itself and its specifications.
If in doubt, we must choose the most appropriate packaging material for each individual series.
We also make sure that we reduce the amount of materials used for the outer packaging. The sizes of the boxes have been better adapted to the products, and where possible, the boxes are reused for shipping. Reusable systems are currently in operation for internal transport to subsidiaries and replacement items in particular.
In 2021, we reused around 22 metric tons of cardboard packaging that was intended for disposal.



Perfect Welding

Our welding systems are of an impressively high quality and can be dismantled, repaired, and recycled when necessary. We aim to help our customers optimize their processes with all of our products and services, enabling them to save time, energy, and materials.

Focus on inverter technology
Fronius welding systems boast super energy efficiency. We are the first manufacturer to integrate inverter technology based on transistors, which reduces power consumption by around a third and results in a raw material saving of approx. 80%.

iWave series
We added a smart, high-end power source to our range with the launch of the iWave series. The Multiprocess PRO option allows to bundle all arc welding processes in one device and offers superior quality with TIG (tungsten inert gas) welding, MIG/MAG gas-shielded arc welding, and electrode welding. Incorporating new technologies, the iWave series has a positive impact on people and the planet. It combines ergonomics and ease of use in one eco-designed housing and connects to the welding helmet via Bluetooth, providing optimal occupational safety.

The new iWave in use

Plasma cleaning technology as a sustainable and efficient alternative
With the Acerios hot active plasma technology, Fronius offers a sustainable alternative to chemical cleaning processes, which practically require the whole component to be immersed in chemicals. The technology developed by Fronius removes residues quickly and effectively with pinpoint precision. The applications for hot active plasma range from aluminum and steel to plastic, glass, and ceramic. The Acerios system generates a plasma flame with a temperature of up to 1,000 degrees Celsius. Depending on requirements, entire surfaces or specific areas can be treated, which immediately conserves resources. Another environmentally friendly aspect of this technology is that it does not require harmful cleaning additives.

Welding data management with web-based software solutions
Transparency and safety coupled with productivity, time-saving operation, and efficient use of materials are common requirements in welding environments. This requires welding data to be recorded for documentation and analysis purposes. With WeldCube, we provide a complete software solution to ensure seamless documentation and analysis of each individual weld. This enables customers to optimize their consumption of energy and auxiliary materials and minimize the risk of manufacturing faults.

Precision cleaning of material surfaces with the Fronius hot active plasma technology

Solar Energy

At Fronius Solar Energy, our ideas and activities have always been sustainable. All our solutions harness the power of the sun to help our private and business customers transition from fossil fuels to a zero-emissions energy supply. Our products convert, store, and distribute solar energy efficiently, making our vision of 24 hours of sun a reality for all, regardless of the time of day or the season.

Fronius GEN24 Plus
We developed GEN24 Plus for home use. This hybrid inverter makes the power supply sustainable as it can be operated with the connected solar storage system. This unlocks many more possible applications, from electricity and mobility to heating and cooling, and it can be used as a backup power supply in the worst-case scenario.
The solutions required for this are also part of the Fronius Solar Energy range and can be seamlessly integrated into existing PV systems.

Fronius Wattpilot
We developed the Fronius Wattpilot charging solution for charging electric vehicles, and by extension promoting zero-emissions mobility.

Fronius EMIL
Travel powered by solar energy produces zero emissions and little noise. This is why we develop PV-optimized solutions for electric vehicles using green hydrogen that we generate entirely from solar power and store. Fronius is providing the smart infrastructure for tomorrow's CO_2-free mobility already today – whether for private transport, company fleets, logistics, or heavy trucks. Developed in particular for our commercial and industry customers, the Fronius EMIL solution saves infrastructure costs and ensures that the available solar energy ends up in the electric vehicle's battery. This saves CO_2 emissions.

Fronius Emil – The smart charging infrastructure for the mobility of the future

Fronius Ohmpilot
The Fronius Ohmpilot allows self-generated electricity to be used to heat water smartly and efficiently. The consumption regulator ensures that the excess energy from the PV system goes straight into heating water.

Fronius Tauro
The Fronius Tauro is the ideal sustainable solution for commercial applications and large-scale PV systems. The robust inverter achieves maximum yields, even under the harshest conditions, while keeping operational costs for the whole system very low. This makes the energy transition worthwhile even for commercial users, adding “cost effectiveness” to its features alongside “zero emissions.”

Fronius Solhub
We have spent over two decades researching and developing solutions to harness hydrogen as long-term storage for renewable energy. Today we are pioneers and innovation leaders when it comes to using green hydrogen from solar energy.
Our research culminated in the Fronius Solhub, a system solution for generating, storing, distributing, and reconverting solar-generated hydrogen. The system provides a sustainable mobility and energy solution for commercial and industrial enterprises and local authorities. The Solhub secured Fronius the overall win at Energy Globe Austria 2021 and made it to the top 5 at the Energy Globe World awards in the Fire category.



The online tools enable users to conveniently monitor, control and maintain Fronius devices from a smartphone or PC.

Fronius software solutions

All Fronius products can be conveniently monitored, controlled and maintained from a smartphone or PC. Fronius Solar.web provides a constant overview of the system, and our support apps Solar.start and Solar.SOS provide quick and reliable support for commissioning and servicing, such as maintenance, troubleshooting, and ordering spare parts. These digital tools with their variety of applications help make the vision of 24 hours of sun a reality.

Solar Energy figures

	2019	2020	2021
Delivered megawatt AC nominal output power	**3.400**	**3.657**	**3.414**
Total output of previously installed GW AC nominal output power	**17,3**	**21**	**25**
Amount of energy generated yearly in Terawatt hours	**24,2**	**29,4**	**33,3**

Perfect Charging

Our vision is to achieve carbon-neutral intralogistics.
We made major progress toward this goal in 2021, having supplied over 60,000 battery chargers from the Selectiva, SelectION, and Acctiva product families.

Reliable technology with a long service life
Our battery chargers are very efficient, compact, and durable and are constructed with an efficient use of materials. An average failure rate of less than 0.3% is testament to the high production quality of our products. The sophisticated, high-quality design of the charging solutions makes them much more recyclable and easy to assemble and dissemble. This enables users to make their intralogistics extremely flexible and save resources.

Technological progress with Selectiva 4.0 battery chargers
Selectiva 4.0 battery chargers use our proprietary Ri charging process, guaranteeing extra cool and efficient charging. This extends the battery life by up to 15% and reduces the amount of power consumed for the charging process by up to 30%.

With our new 96 V and 120 V Selectiva 4.0 range, we are helping customers in heavy-duty logistics operations work their way toward sustainable and electric intralogistics. Our battery chargers deliver power reliably, even when the outside conditions are challenging. This area of application has mainly been the domain of diesel forklifts until now.

Flexible charging solutions for individual requirements
Our battery chargers grow with the needs of our customers and flexibly adapt to the different voltages of forklift batteries. New software updates can be easily installed, extending the useful life of our chargers. Upgrade kits also adapt previous generations of battery chargers so that they can charge new technologies and continue to be used in the future.

Battery chargers from the Selectiva 4.0 and SelectION series

Research and development, innovation

At Fronius, we develop solutions for tomorrow and beyond. Innovation and creativity are core corporate values that we put into action with our extensive research and development work: from the initial idea, to development, all the way through to series production.

Our innovative spirit is reflected not only in our 1,366 patents, but also in the number of R&D employees. At the end of December 2021, 784 members of staff were employed in our Research and Development department.

The development of sustainable products and services is an important part of our sustainability strategy, and we focus on very specific requirements during the development process. We place particular emphasis on ensuring that the product has a long service life, uses materials and energy efficiently, and can be repaired and recycled. Using sustainable components and recycled materials to manufacture products is also important. This creates electronic equipment that is even more efficient, benefiting not only our customers but also the environment. An example of this is Acerios, the Fronius hot active plasma technology for targeted surface cleaning. We also use additive production technologies, such as 3D plastic printing and selective laser melting (SLM), for prototyping with minimal waste and energy consumption.

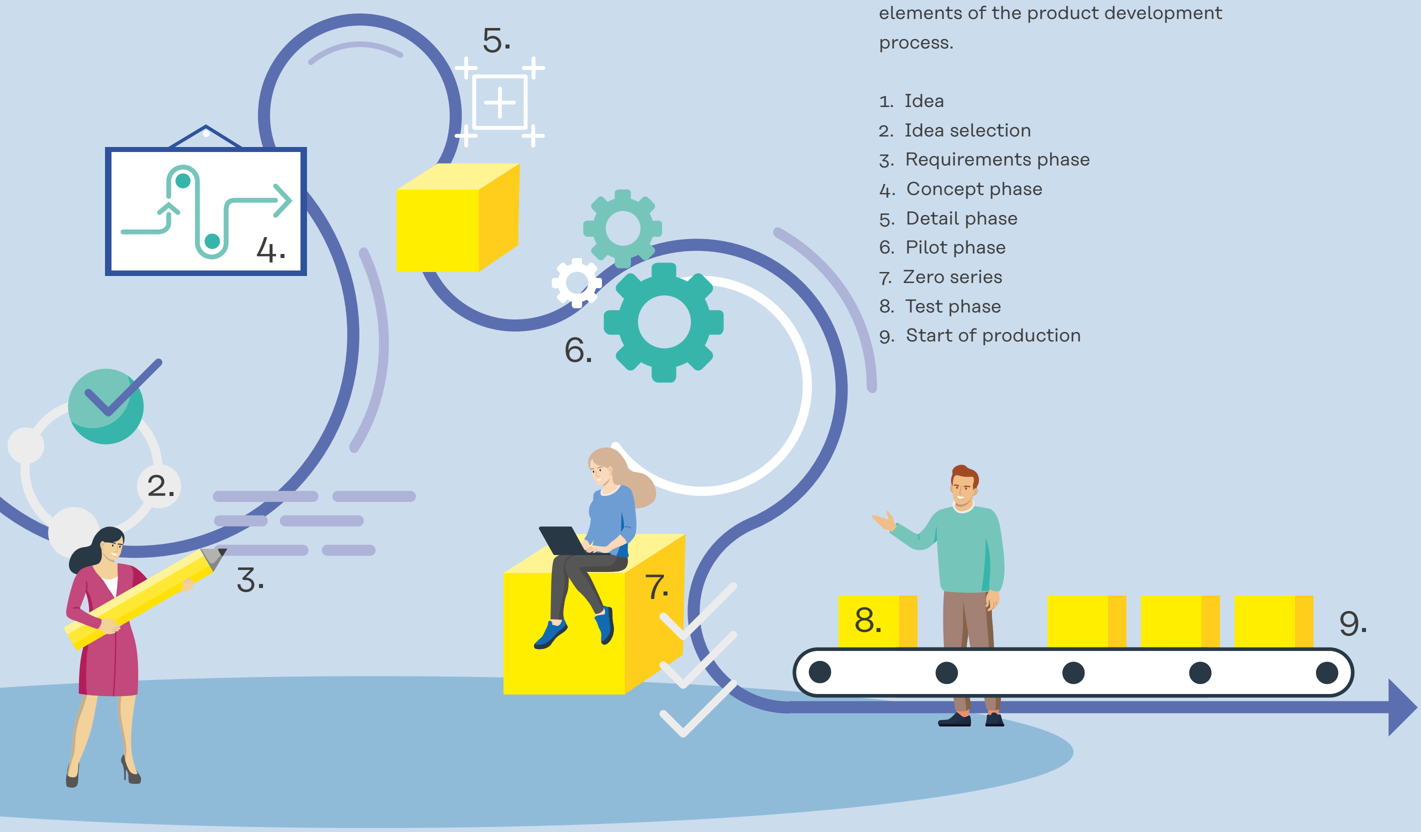
Sustainability by Design

Fronius is committed to contribute to a high-quality circular economy with products that have a particularly long service life, focusing on continued efforts to optimize their repairability and recyclability.

The main goal of our “Sustainability by Design” program is to make our products ecofriendly beyond legislative requirements. To do so, we develop methods and technologies to measure and reduce the environmental impact of our products.

<u>We take the following steps to achieve our goal:</u>

1. We generate, collect, and analyze data about our products.
2. We perform further life cycle assessments on our products.
3. We use data-based analyses to optimize the sustainability and circularity of product-service systems.
4. We work with upstream and downstream companies and customers.



The diagram (1–9) shows the individual elements of the product development process.

1. Idea
2. Idea selection
3. Requirements phase
4. Concept phase
5. Detail phase
6. Pilot phase
7. Zero series
8. Test phase
9. Start of production

Materials database
In 2021, we started the roll out of a database that enables efficient supplier communication about collecting and managing product-specific material and substance data. The software DataCross allows us to map substance data specific to each supplied item and each component along the supply chain using standardized processes. Providing in-depth communication about material data helps greatly with implementing the ever-increasing requirements from national and international environmental legislation (REACH, RoHS, etc.), with the aim to gradually replace harmful substances and to drain them out of the system.

Developer meeting with a focus on sustainability
The 2021 developer meeting was all about decarbonization, cradle-to-cradle, and sustainable product development. The program was full of diverse keynote speeches, panel discussions, customer talks, and virtual market stalls with technical presentations from the business units and the Research and Development department. Sustainability Days were organized in the run-up to the developer meeting, featuring keynote presentations on nutrition, consumption/living and mobility.

Fronius GEN24 Plus life cycle assessment
The project team behind the "Sustainability by Design" program examined the sustainability of Fronius products. Therefore an extensive life cycle assessment was carried out for the Fronius GEN24 Plus inverter.
This life cycle assessment was audited by the renowned Fraunhofer Institute for Reliability and Microintegration (IZM) in line with the ISO standards for life cycle assessments (ISO 14040/44).

The results were compiled in a white paper, which can be accessed here.
Key results from the life cycle assessment:

Manufacturing components accounts for a major portion of the inverter's carbon footprint. The aluminum heat sink uses 100% recycled materials, cutting its environmental impact by a third compared to virgin materials.

Electricity generated by 100% renewable energy sources is used for manufacturing. Fronius' in-house PV systems generate around 2,000 MWh a year.

We are mindful of the environmental impact of transport and do not use air freight within Europe. We prefer to use sea freight for intercontinental transport, with rail freight used for the preliminary transport leg.

The GEN24 Plus has a high efficiency rate of 97% during operation. Even with this high level of efficiency, losses of 3% are responsible for a significant share of the carbon footprint (around 35%) throughout its entire service life.

Compared to replacing the whole inverter early on, every repair process modeled creates major environmental benefits, with the biggest benefit stemming from disassembling and recycling the six heaviest components.

Depending on the scenario in question, the results of the life cycle assessment indicate that buying a GEN24 Plus inverter has the following benefits for sustainability:

It allows between 1,640 and 16,932 kg CO_2e to be offset, which is the equivalent of up to 15 flights from Vienna to New York.

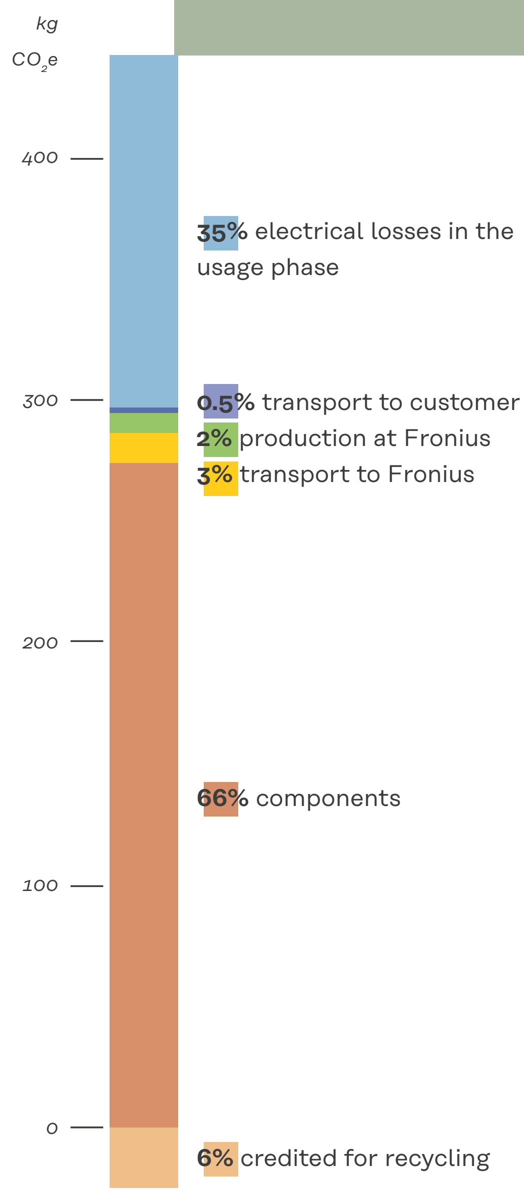
The CO_2e payback time is between 0.8 and 3.7 years. After this time the inverter is climate positive.

The environmental benefits exceed the environmental impact by a factor of between 5.3 and 26.

The energy payback time is between 0.9 and 2.2 years.

Environmental impact of the Symo GEN24 5.0 Plus

Shown as CO_2e kg for 20 years of service life, in Germany, broken down by product phase (raw materials and materials, production, use, end of life)



Perfect Welding

We aim to be the innovation leader with our products and services, including the area of sustainability. Thus we continually optimize Fronius power sources and welding systems so that they conserve resources when in operation.

Digitalization meets welding technology

Innovative software solutions
Digitalization influences joining technology in many respects and is a crucial factor in sustainability. We develop software solutions that improve the performance of welding systems in terms of their speed, weld seam quality, and ease of use. Special documentation software records the welding parameters while software-based analyses of the filler wire and shielding gas mean that materials can be used efficiently. Our cloud applications and networking enable us to evaluate usage data so that weaknesses can be identified and resolved quickly. Systems are analyzed and serviced remotely in real time, significantly reducing the number of service callouts. The evaluations are used for smart maintenance planning and condition analysis, preventing components that could still work perfectly from being preemptively replaced.

Solar Energy

We are motivated by a vision of 24 hours of sun, a world in which 100% of the entire energy demand is covered by renewable sources 24/7, 365 days a year. This requires power, heat, and mobility to be linked.

More efficient, more compact, and a longer service life
Our experts in Research and Development are continually working on making our devices more material efficient, using alternative materials, extending their service life, and optimizing performance. We are working with our partners to research the use of new semiconductor materials that can significantly reduce losses from the battery, especially during off-peak load periods such as nighttime, and achieve fewer losses than technologies currently on the market.

UV resistance tests in Florida and California

We also design our devices smaller and lighter by using smart design concepts that directly impact the use of materials in our products.
We work with Polymer Competence Center Leoben to improve the long service life of our devices in outdoor locations. Housing parts are subject to tests, studies, and simulations with the aim of making inverters and other system components (e.g., Fronius Wattpilot) more durable and long lasting. We aim at giving mechanical parts the same 20-year service life that we aim for when designing the electronics. The goal is to achieve this durability with demanding cases of application too.

Perfect Charging

Shaping the future means thinking beyond charging and helping to make carbon-neutral intralogistics a reality. We aim to break new ground together with our customers. Thus our experts in Research and Development are working hard to create innovative concepts for power supply to mobile energy storage devices of tomorrow. The focus lies on using sustainable energy sources and optimizing overall costs.

Harnessing digitalization – making optimization possible
New technologies and increasing levels of digitalization present challenges and opportunities for our industry. Systems are increasingly networked together, while the Internet of Things (IoT) and artificial intelligence (AI) are leading the way. Our goal is to offer our customers future-proof solutions with added value. We have laid the foundation for this with the digital connectivity solution Charge & Connect, which provides users with information about the energy consumption of forklift fleets and enables them to identify potential areas to optimize at an early stage. The insights from this data serve as the basis for the next development steps. This enables us to support our customers in increasing their efficiency and due to a more sustainable operation, now and in the future.

Digitalization solution Charge & Connect

Sustainable procurement

As an international company, we harness the opportunities of global procurement while ensuring that we exercise due diligence. This is guranteed by continuously developing internal processes and complying with the legal requirements and voluntary social and environmental standards applicable to Fronius.

The life cycle assessment carried out (see Chapter “Research and development, innovation”) shows that a large part of our environmental impact comes from upstream value creation (extracting raw materials and processing them into intermediate goods and components). We are thus depending on the sustainable conduct of our suppliers. As a result, we focus on continually assessing, monitoring, and mitigating social and environmental impacts in the entire supply chain. New and existing suppliers are subject to ongoing assessment, monitoring, and development based on standardized methods as part of our supplier management system.

Supplier evaluation/qualification

New suppliers undergo an extensive evaluation process at Fronius. They register on a platform and disclose information about their company and product range.

New suppliers are also audited against set criteria, including social and environmental criteria such as:

- Existing certifications and management systems
- Existing Code of Conduct and acceptance of the Fronius Code of Conduct
- Existing sustainability report
- Adherence to material compliance standards
- Compliance with environmental protection and social security legislation, including the corresponding international standards

From the initial contact to the final approval of a supplier, data is systematically collected and checked against criteria that are important to Fronius.

Supplier audit 2021

Share of new suppliers that were audited against environmental criteria 100%

Share of new suppliers that were audited against social criteria 100%

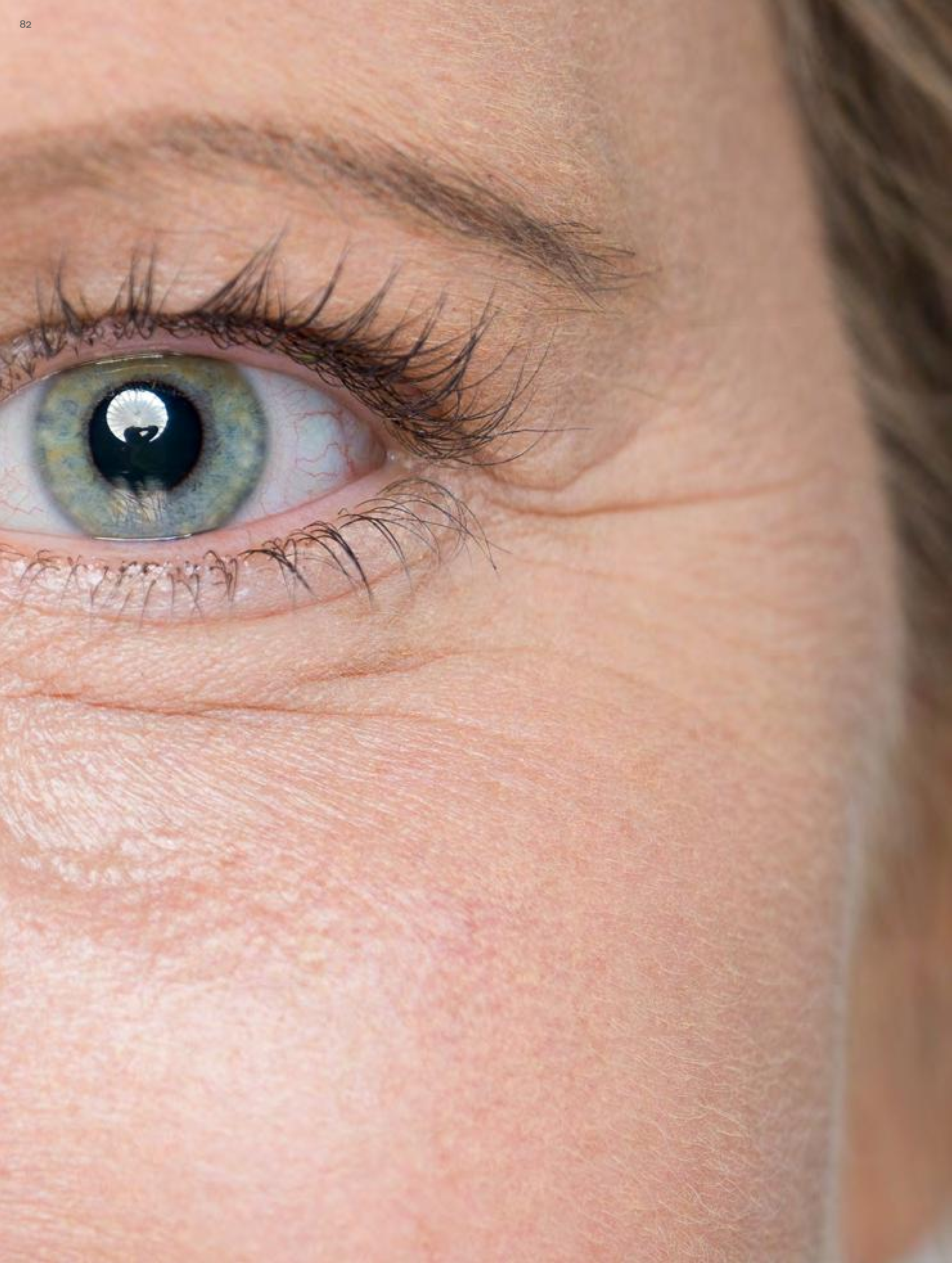
Compliance with the Code of Conduct
As part of the evaluation process, all business partners are required to confirm that they comply with the Code of Conduct, which is subsequently an integral part of the contract.

Supplier risk monitoring
In 2021, we started to set up a systematic risk management system for the early detection and assessment of risks in the supply chain. By using external software and by mapping supplier structures, we can immediately identify sustainability risks and violations throughout our international supply chain and deal with them in the interests of due diligence.
We reduce our risks of social and environmental violations due to a focus on European markets, which implies that political conditions are ususally stable.

Comprehensive assessment of logistics partners
All our logistics partners with ongoing contracts are subject to a structured, regular assessment process based on defined criteria. This supplements the conventional methods of assessing suppliers with an extra system that has been explicitly created for logistics partners. In addition to measuring general performance, their approaches to sustainability are also assessed. Should these deviate from the high standards expected by Fronius, we work with the affected partners to introduce improvement measures. This enables us to continuously develop our transport processes with sustainability in mind.

Supplier audits
Existing suppliers are also regularly audited by Fronius. We request information from them as part of a supplier self-assessment, including details on sustainability, such as their existing certifications. This information is then audited. This has shown that over half of our main suppliers (i.e., those who share more than 80% of the procurement volume for direct materials) have already implemented certified management systems (e.g., to ISO 14001) that promote socially and environmentally responsible production.
For more critical suppliers, we also carry out on-site audits to check their compliance with social and environmental criteria.

Material compliance processes
Additional processes were established in 2021 to ensure all material compliance standards with a bearing on our products are followed in a more consistent and transparent manner. Newly drafted guidelines for suppliers are a core part of this and provide thorough information about relevant regulations, laws, and expectations from Fronius. There is also a software platform for centrally storing and evaluating all compliance data at product level.



Social
responsibility

Community connects us.
Fronius is a family company, after all,
and every employee is a valued member
of that family.

Employment and working conditions

With their knowledge, skills, attitude, and motivation, our employees represent the potential and power behind our growth.

We are aware that it is our activities and corporate culture that makes Fronius attractive in the long term and creates a sense of purpose. For us, this means that our employees are hired, deployed, and developed according to their strengths, skills, and interests.

Therefore it is important that we continuously further develop this personal and technical potential and use it effectively across all departments and around the world. Instead of having fixed career paths, we support individual development of employees according to their strengths and encourage them to find their own paths.

Managers encourage and support this development. They are role models for our belief in values, commitment, and the pursuit of goals.

We recognize our responsibility toward communities and society, and we set our priorities as part of the Fronius Way 4.2. As a family business, Fronius thinks in terms of generations and takes a conscientious approach to resources, meaning that it can offer secure jobs. This will enable Fronius to continue to push boundaries in the future.

Employment structure

	2018	2019	2020	2021
Number of employees				
Total	3,147	3,616	3,776	4,129
of which are women	35%	36%	36%	37%
of which are men	65%	64%	64%	63%
Employees by region				
Austria	84%	81%	80%	78%
South-east Europe	10%	12%	12%	13%
Germany	2%	2%	2%	2%
Turkey	1%	1%	1%	1%
Other regions	3%	4%	4%	6%
Full-time employees				
Total	2,677	3,139	3,297	3,629
of which are women	29%	30%	30%	32%
of which are men	71%	70%	70%	68%
Part-time employees				
Total	470	477	479	500
of which are women	70%	72%	72%	71%
of which are men	30%	28%	28%	29%
New employees				
Total	1,001	1,118	833	1,064
of which are women	39%	41%	41%	41%
of which are men	61%	59%	59%	59%
New employees by age bracket				
24 and under	49%	51%	58%	53%
25–34	29%	28%	25%	28%
35–44	14%	13%	11%	10%
45–54	8%	7%	5%	7%
55 and over	1%	2%	0%	1%
Employee turnover[1]				
Rate	10.1%	10.2%	9.7%	9.8%
Number of temporary staff[2]				
Total	251	243	155	132

as of December 2021

Figures including temporary employees (interns, seasonal workers, etc.) and apprentices; figures pertain to Fronius International GmbH (Austria)

[1] Rate of employee turnover, excluding temporary employees

[2] At Fronius, temporary employees mainly work in Production

Respecting human rights

At Fronius, we place a premium on respecting human rights, and it is a guiding principle in what we do. Fronius is committed to ensuring decent and safe working conditions, paying a fair wage, respecting freedom of association and the right to collective bargaining, and taking a zero-tolerance approach to child labor, forced labor, and discrimination.

Flexible working models

We design our working conditions to fit with specific target groups with the best possible balance between employee expectations and company requirements. In addition to established working models (e.g., flextime, shift work), there are increasingly more flexible forms of work that play a role and are always taken into consideration at Fronius in the interests of sustainability.

Company benefits

Working at Fronius is so much more than performing daily tasks. We aim to support the fulfillment, health, wellbeing, and social networking of all employees with our company benefits.

A small selection of our company benefits is detailed below and in the corresponding chapters:

Extensive opportunities for training and further education
(see Chapter "Employee development")

Perks and special offers for employees:
Fronius offers its employees a great number of perks and special offers. For instance, everyone receives a food subsidy of 40% in the Fronius company restaurants. Fronius encourages employees to use public transport to travel to work by covering the ticket costs (see Chapter "Decarbonization and climate protection"). There are also regular employee special offers for purchasing Fronius devices with favorable terms, motivating our employees to take an eco-friendly approach at home as well.
The Lumina PV special offer gives interested employees the opportunity to receive support from selected specialist partners and the Fronius Lumina PV team on their journey to installing their own PV system. Fronius pays the procurement costs for the PV system, helping every employee to achieve their own personal energy transition.

Events for employees:
Fronius supports efforts to strengthen the community outside of the immediate work environment with initiatives such as field trips of departments and team-building activities. It also organizes summer festivals and events to celebrate anniversaries, completing apprenticeships, and year-end closing.
“Our community is the foundation of the Fronius corporate culture and thus a major factor in the success of the organization.” (Fronius Way 4.2)

Childcare facilities
(see Chapter “Diversity and equal opportunities”)

Health-promoting measures
(see Chapter “Occupational health and safety”)

Well-balanced meals:
Eating good, healthy food has a positive impact on well-being, and this requires high-quality ingredients. That is why we place a premium on the quality, freshness, and origin of the food used in our company restaurants. You can taste the quality..

“The Fronius company restaurants are supplied by handpicked suppliers, meaning we can ensure that we receive high-quality food instead of ready-made products. We focus our efforts on providing well-balanced, flexitarian, and highly nutritious meals.”

(Thomas Weinberger, Head of Catering)

Guest chefs regularly come to showcase their skills and culinary finesse in the Fronius company kitchen, such as Thomas Neuburger from meat substitute producer Hermann Fleischlos, who treated employees to delicious vegetarian dishes.

Great Place To Work®

Trust

Employee satisfaction

The independent Great Place to Work institute ran a full survey of employees in 2021. On this occasion, employees in the 17 subsidiaries were surveyed for the first time in addition to those in Austria. Another first was the exclusive online format of the survey.

The response rate was 78% in Austria and 80% globally. This high level of participation demonstrates just how willing employees are to collectively work toward further improving the corporate culture. Compared to the last survey undertaken in 2018, the Trust Index increased to 74% (+5%), meeting the criteria for the Great Place to Work certification in Austria. We are delighted that 14 out of 18 countries gained recognition and can now proudly display the Great Place to Work label.
The survey results showed us that we are on the right track. We made strong progress in all five survey areas and aim to continue this success. The key is to be transparent about the results and to engage closely with employees.

Employee development

The knowledge and skills of our employees form the basis for our growth. Fronius places great emphasis on continuously developing personal and technical skills.

All managers and employees are responsible for continuous professional and personal development in various shapes. The Human Resources Development department supports these learning processes, promotes learning, and helps trainees to apply their newly-gained knowledge to their everyday work. In addition to external professional training partners, we have many in-house trainers who help share knowledge effectively with various target groups.

We have a wide and diverse range of personal development opportunities, from internal and external specialist training to management and personal development workshops, as well as tailored Fronius programs.

The digital training trend caused by the Covid-19 pandemic continued at Fronius in 2021 and has proven to be a very successful training method.

Further development of skills

Every employee or employee group is given opportunities for continuous development (online or in-person courses, internal or external) depending on needs and circumstances.
In 2021, a total of **6,204** participants attended personality, leadership, specialist, process and strategy training courses as well as expert lectures.

Fronius education program
The Fronius education program is one of the most important tools for training and further education. It provides motivation and answers on the subject of resilience in the company. It also encourages the further development of individual employees while still providing conventional training sessions on topics such as project management and business facilitation. The program is rounded off with keynotes and talks by experts.
For instance, we welcomed Olympic gold medalist Felix Gottwald and climate expert Volker Quaschning as speakers in 2021.
Employees enthusiastically participated in the education program in 2021,
with a total of **1,502** trainees and 92 sessions.

59% in-person training sessions, 41% online training sessions
Basis: 92 training sessions from the Fronius education program

Program to upgrade qualifications
In 2021, we set up a program to upgrade qualifications for semi-skilled employees to tackle the skills shortage. The training program, which is fully funded by Fronius, is aimed at driven employees who want to complete an apprenticeship in electrical engineering in ten months.

Leadership training
Fronius trains its managers as part of a multi-day program and provides further support for them in their (new) roles. Managers also take part in internal workshops, training sessions focusing on managerial issues, and individual coaching sessions.
A worldwide manager program on developing Fronius management culture and networking was delivered online for the first time.
Our aim with all of these measures is to help develop strong leaders and collectively shape the management culture.

Average numbers of hours spent on training and further education, in total[1]	9.2
Average numbers of hours spent on training and further education, employees	8.5
Average numbers of hours spent on training and further education, managers	15.4

[1] Based on average number of employees in 2021

Apprenticeships

Taking into account the apprenticeships started in 2021, we are now training 160 apprentices in a total of 16 teaching professions at Fronius. A total of 51 young men and women began training for specialist roles in the past year.
Fronius uses hands-on on-site learning to train technical specialists. In the future the company-specific module system will also help apprentices achieve their training goals. The module system is broken down into general and specific modules based on the teaching profession. It delivers well-structured training on personal, technical, digital, and Fronius-related skills. There is a coordinator for each teaching profession, a role introduced in 2021, who is responsible continuously improving the quality of the module system and providing one-to-one support in the training network.
Apprentices complete several training sessions that focus on sustainability as part of the general module. This includes workshops on the topics of waste management, resource conservation, environmental footprint, and general social and economic sustainability issues.

Green Peers –
Apprentices as climate ambassadors
Six apprentices showed great commitment in 2021 by taking part in the "Green Peers – Apprentices as Climate Ambassadors" project from the Upper Austria Klimabündnis (Climate Alliance). Together with young people from other companies, they learned more about climate protection and how to adapt to climate change. They will now share this knowledge with the rest of the company in their roles as climate ambassadors.

Christoph Fleischanderl, trainee technician under the Duale Akademie dual course system, is impressed by Fronius' development opportunities and innovative spirit. Upon completion of his apprenticeship, he wants to help design sustainable technologies in the Research & Development department.

Fronius Green Peers after the certificate awarding ceremony in front of the Linz Landhaus. They were inspired by the workshops and discussions, turning them into climate ambassadors for the company.

153 apprentices in total (as of December 31, 2021)
16 teaching profession in 13 groups

Teaching profession	F	M
Electronics engineer	2	41
Electrical engineer		17
Mechatronics engineer	2	25
Metal worker	4	20
Design engineer		1
Media specialist	1	
IT technician	2	7
Application developer – coding		3
Industrial business management assistant	7	5
Purchaser	1	2
Finance and accounting assistant	2	
Company logistics specialist	4	4
Chef	2	1

Annual employee appraisals

The annual Fronius employee appraisals take place once a year between managers and employees, whereby they both set aside time to discuss how they work together, reflect on their performance, and set new goals. We encourage Fronius managers to attend training titled "Employee appraisals as a management tool" to ensure that the discussions are productive. The guidelines that are provided create a framework, suggest questions to ask from various perspectives, and provide space for performance appraisals. The managers discuss personal strengths, identify potential for development, and draw up measures for personal and professional further development.

As is tradition, a tree was decorated with words expressing hopes and thanks to the Fronius management board at the start of the apprenticeships and was then planted at the Sattledt site, acting as a symbol of the lasting impact of the education and the collective growth achieved during the training period.

On-the-job learning is at the heart of training at Fronius. Preparing trainers well for their work in the departments, giving them support and a network, are essential for quality training.

Diversity and equal opportunities

At Fronius we see diversity as an opportunity and nurture the different skills, perspectives, and experiences that our employees have.
We welcome people regardless of gender, age, and cultural, national, or ethnic backgrounds, and we give them targeted support.

"With regard to people, we look at the whole person, respect individuality, and value the diversity that this brings."

Fronius Way 4.2

Supporting people with specific requirements

At Fronius we are particularly mindful of employees with specific requirements, such as reintegrating employees after a long-term absence due to illness or creating part-time working models and special conditions for the work environment.

Supporting gender equality

At Fronius we are committed to inspiring more women to work at our company. Around 37% of positions were filled by women in 2021. The share of women in leadership roles is around 13%. We are taking targeted measures to give women equal opportunities in the recruitment process to boost the share of women across the workforce, including management positions. We have set ourselves the target of employing women in at least 38% of the total workforce by 2022 and increasing the share of women in leadership roles to 18%. We implemented the first targeted measures to boost the number of women in the company in past year..

“To yourself” training
For the first time, we are offering the “To yourself” training as part of the Fronius education program, which aims at strengthening self-awareness, self-management, and self-confidence among women in particular. In this workshop women were given targeted encouragement to apply their skills and potential more effectively.

Supporting young women
When it comes to apprenticeship guidance, we encourage young women to start an apprenticeship in a technical or commercial field. Women are welcome to join any teaching profession here at Fronius. We are particularly delighted by the strong increase in women in technical jobs. Out of our current cohort of 153 apprentices, we work with 27 women, 10 of whom are training in technical roles (as of December 31, 2021). The days of action organized by Fronius, such as Girls Day, PowerGirls, and taster events about little-known professions, are received with great interest among young women and give them strong career guidance. There are no barriers, and we always seek to break down any that do exist in people’s minds. We have had countless positive experiences in youth development, giving us the confidence and motivation to continue promoting this openness with our youngest employees.

Supporting work-life balance

Home office
Working from home is very popular, and this new way of working has been an option at Fronius since May 2020. There are various benefits to working from home: improved work-life balance and a reduced impact on the environment and climate (less commuting means fewer pollutants and greenhouse gas emissions).
At Fronius, we place great importance on finding the right balance between working from home and the office and developing individual solutions together with our employees. Community and team spirit define us. We value the ongoing exchange between our employees, which is sometimes neglected when working from home. An ergonomic working environment cannot always be guaranteed at home either. In order to find the right balance, employees can spend up to 50% of their weekly working time working from home, depending on the scope of their duties and responsibilities.

Kindergarten care
At Fronius, children are in the best hands. At the company kindergarten, which is open throughout the year, children from the age of 15 months are looked after in two toddler groups and one kindergarten group. Parents can also cover their holiday time in August with the summer kindergarten.

School break program for elementary school children
Parents often find it difficult to find the right childcare for their children in the summer or to share holiday time between both parents. We once again worked with the educational specialists from the Upper Austrian branch

of the Hilfswerk charity in 2021, organizing an excellent school break program for a whole five weeks. We offered fun afternoon barbecues, an informative workshop on waste, and exciting activities around insects and solitary bees. Due to the huge interest in the school break program for elementary school children, it is now a permanent part of the Fronius employee benefits.

Managing periods of leave
Individual circumstances surrounding temporary leave (e.g., for children, education) are taken into account wherever possible and supported through various working time models.

Anti-discrimination

Discrimination has no place at Fronius on account of our fundamental values laid out in the Fronius Way 4.2. More specifically, the Code of Conduct states:

"Discrimination in any form will not be tolerated. This includes all forms of discrimination based on beliefs and convictions, cultural, religious, or political backgrounds, different sexual orientations, as well as different mental and physical attributes and abilities."

Our employees can choose from any of the following options to report inappropriate behavior, ensuring that cases are handled with the utmost confidentiality and care:
– Informing the Legal department, or
– Informing the management board, or
– Informing their direct manager

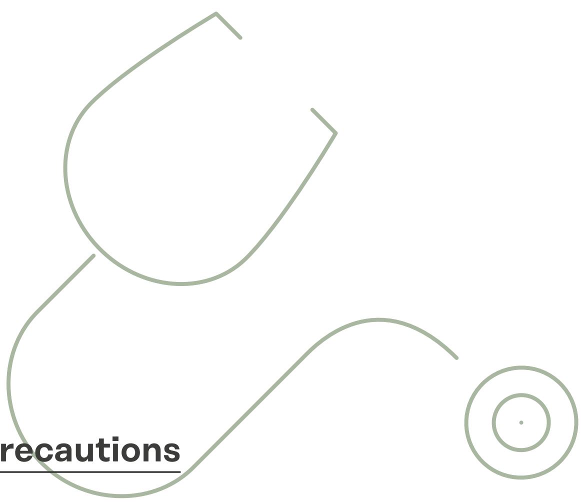
In the interests of anti-discrimination, Fronius ensures that it pays fair wages in line with market rates and based on the demands of the job and the employees' personal performance. Wages are, of course, not based on gender. There is an annual review process involving salary reporting with the works council that is an extra safeguard in this respect.

Occupational health and safety

Nothing was more of a priority than health in 2021 – the health of every individual and of our society. “Stay healthy” was both the motto and the biggest challenge.

Even without a global pandemic, health plays an important part in our lives.
We take the health and safety of our employees extremely seriously. This is anchored in the core values of our corporate strategy, the Fronius Way 4.2.

“With regard to people, we look at the whole person, respect individuality, and value the diversity that results. We attach great importance to health and safety, and we pay careful attention to people in our surroundings.”



Covid-19 precautions

The principle “prevention instead of cure” applies in medicine, a concept that is all the more relevant in these times. We accordingly took a number of measures in line with legal requirements: we procured disinfectants and masks; set up an in-house testing center; developed health and safety policies for meetings and all areas of the company, which were adapted as the situation changed; modified and digitalized work processes; and introduced guidelines on etiquette. All areas of the company are consulted as part of weekly health and safety inspections and involved in defining the measures.
In addition to free tests for all employees, there were also several in-house campaigns to promote vaccination and free anti-body testing, in which many employees participated. The in-house company psychologist also provides care for sick and isolated employees.

Occupational health and safety management

All Fronius sites in Austria are certified in accordance with the ISO 45001 occupational health and safety management system, which regulates occupational health and safety matters. The internal changeover process plays a key role here and is used in various situations, such as relocating employees, changing workplaces, and setting up and switching machines and systems. We factor in health and safety as early as the planning stage for implementation projects. A workplace evaluation is carried out later in the process, which involves systematically assessing the hazards and devising targeted measures on this basis. Our basic policy is to prevent risks, and we use the "STOP" principle. If hazards cannot be mitigated through technical or organizational measures, we require personal measures to be taken, such as safety instructions or wearing personal protective equipment. When selecting this equipment, we take into consideration its visual appeal in addition to its protective efficacy to ensure greater uptake.

Implementing high standards and continuous improvements helps to prevent workplace accidents. A comparison with the industry as a whole reveals that we have fewer accidents than other companies. However, every accident at work is still one too many, and we are always implementing measures to reduce incidents in the workplace. One particularly successful measure was an awareness-raising initiative among employees to inform them on the proper report of critical situations, which are situations that may pose a health and safety risk. By raising awareness in the departments, we are preventing accidents from occurring. We review immediate daily safety performance data from the production departments with the "Accident-free days" KPI.
Guided by the management system, Occupational Health Management (OHM) pursues the following objectives:

- **Safeguard and promote the health of all employees**
- **Secure and increase the company's productivity**
- **Have a positive influence on the company's attractiveness as an employer**

"Occupational health and safety" continuous improvement process

Occupational health and safety is a top priority at Fronius. As a result, we added the category "Occupational health and safety" to our continuous improvement process (CIP) in the past year. Employees in Production have the opportunity to contribute to improving health and safety in processes and production workflows through an in-house platform. A total of 26 suggestions for improvements were submitted in 2021, 16 of which have already been implemented in our operations.

Accident statistics

Accident statistics	2018	2019	2020	2021
Number of workplace accidents [1]	58	51	83	68
Number of fatal workplace accidents	0	0	0	0
Number of hours worked	4,752,734	5,756,362	6,072,558	6,050,120
Accident rate [2]	12.2	8.9	13.7	11.2
Accident severity [3]	4.7	2.7	3.9	3.1

[1] Accidents with at least one working day lost, excluding travel accidents
[2] Number of workplace accidents / Number of hours worked x 1,000,000
[3] Working days lost / Number of hours worked x 1,000,000

Company health campaign

Fronius offers its employees a series of protective and preventive measures as part of safeguarding and promoting health at work.

Occupational medical service
All employees have access to medical examinations and advice from qualified physicians. The occupational healthcare team is responsible for advising and supporting all employees and managers, including safety representatives and staff representatives, with regard to health protection, promoting health in relation to working conditions, and the fair organization of work.

Vaccinations
Several internal Covid-19 vaccination campaigns were organized at Fronius sites in 2021. Employees had the opportunity to register for their vaccinations using an in-house portal. A total of 2,317 vaccines were administered at vaccination centers at eight different sites. Fronius employees could also accept the offer of a flu vaccination and more than 200 free tick-borne encephalitis vaccines were administered.

Exercise
Physical and mental well-being are extremely important to health. We therefore encourage employees to keep moving, particularly during activities that involve holding the same posture for prolonged periods. Activities such as yoga, back support exercises and so forth have a positive effect and are offered by Fronius either at a low price or even free of charge. Moreover sessions for amateur runners were organised giving participants advice on how to run efficiently and how to boost their health through running.

Fit for the shift
Fitness gurus Andreas Koller and Ingo Vogl returned in 2021 to share facts, tips and tricks with production employees on the subject of "shift fitness." Lifestyle matters such as nutrition, exercise, sleep, shift work, and social interaction were presented from a medical perspective and in a comedic way, creating several lightbulb moments among the audience as well as inspiration for day-to-day (working) life. Due to the pandemic, the program was recorded on video and made available to all managers and employees concerned.

Mental health

A company psychologist is available to help employees maintain their mental health, particularly now during times of crisis. In 2021, numerous members of staff were supported through difficult situations in over 100 hours of direct consultations. We also offer biofeedback, an innovative method for treating stress and pain.

Assessing mental stress in the workplace
Poor working conditions have a significant impact on employee health. Work-related mental stress is one of the main causes of illness and absences from work. It arises through the various conditions and demands that affect employees in the workplace, such as the design of the workplace and workstations, the design and use of tools, the use of working materials, the type of work processes and workflows and their interactions. In addition to causing human suffering, these stresses also bring about high costs.
Employers are required by law to carry out regular company-wide assessments of mental stress in the workplace.
We carried out an enquiry at the sales sites in Austria in 2021, with around 500 employees taking part.

Customer health and safety

Product safety is a top priority at Fronius. We only sell equipment that is safe to use as intended and meets safety requirements applicable to national sales markets.

Fronius devices are subject to a number of tests and audits as early as the development stage, with one of the goals being to safeguard the health and safety of users. We provide comprehensive information on how to use devices properly and safely in the operating and installation instructions, including warnings about the risks in case the instructions are not followed. We also offer our customers tailored product demonstrations and video instructions on how to commission devices, training sessions and webinars, as well as one-to-one consultations. Fronius also offers after-sales support with annual safety inspections of the devices.

Perfect Welding

It is hard to imagine a future without manual welding. Regulations worldwide are being increasingly strengthened due to welding's link with particular health and safety risks. Welding involves risks such as electric shock, flying sparks, flash burn, and inhalation of harmful welding fumes and gases. There are many aspects to health and safety with welding, ranging from reducing the harmful impact of welding fumes to designing ergonomic equipment.

We are aiming at combatting some thoughtlessness among specialists, firstly at product level and then through greater PR work. Our ultimate goal is to raise awareness about the potential risks associated with welding and provide suitable preventive measures.

We provide answers to the following questions: What measures can be taken to prevent and eliminate risks? How are these measures properly implemented? Welding helmets with a fresh air supply, extraction hoods, and extraction tables reduce exposure to fumes, for instance, and special fume extraction torches neutralize the welding fumes right at the source. All these measures protect workers and others around them.

We are striving to make this multi-faceted, highly skilled profession even safer for future generations.

Solar Energy

Our photovoltaics solutions meet the highest standards of safety, minimizing risks such as electric shock when the device is in operation. We have also implemented concepts and technologies that make operating and handling the devices even safer. For example, special consideration is given to the design of the connection area on an inverter during the device's development stage to ensure that there is enough room for handling. In addition, the plug connections between the PC boards are designed to make it practically impossible to reverse the polarity or switch the plugs. This helps prevent installation and repair errors.

Fronius also offers an extensive range of training opportunities to learn how to properly commission and operate Fronius systems, with webinars and in-person and online training sessions. A total of 1,354 training events (digital and in person) were held in 2021 with 28,706 participants.

Perfect Charging

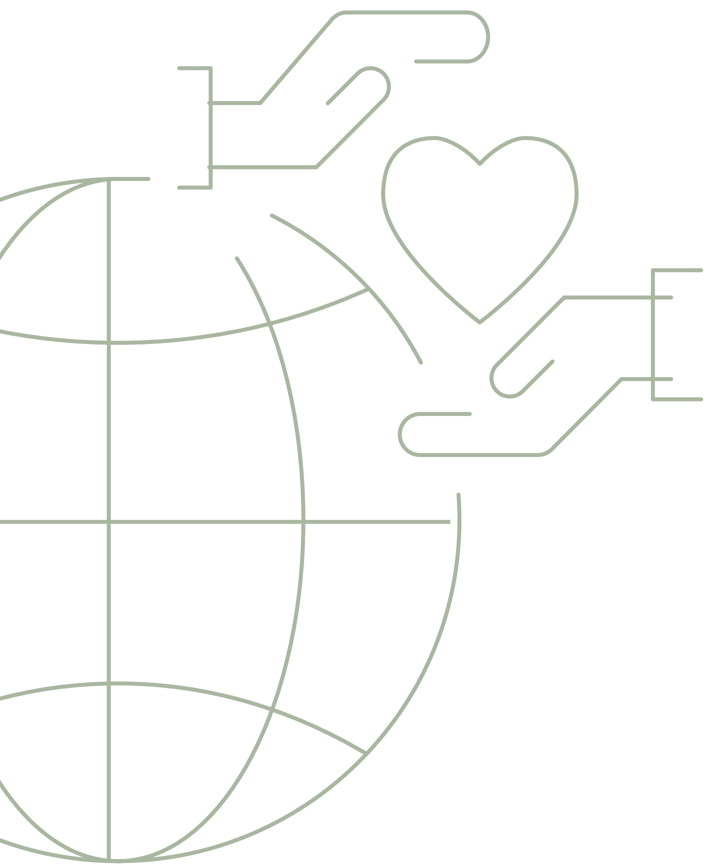
Safety is the number one priority when charging traction batteries. Following all safety requirements minimizes the risk of accidents, such as electric shock or the inhalation of harmful gases and vapors.
We inform our customers about the safety measures they need to take, for example we recommend ventilation of charging spaces in line with standards, the implementation of an external start/stop function and to avoid sparks between charging contacts.

Our experts continue to offer support after the charging infrastructure has been commissioned by performing regular safety inspections.
Data from our digital solutions (I-SPoT Viewer and Charge & Connect) help to identify application errors and devise specific training measures.

Charging station with changing table

Community engagement

At Fronius, we take a responsible conduct of business seriously.



Fronius International GmbH and its subsidiaries demonstrate great commitment, making an active contribution to creating a more sustainable future. We primarily center our community engagement around local initiatives in areas where we operate and where we have the biggest impact through our business activities. These initiatives focus on access to affordable, reliable, and sustainable power for all. We aim at increasing living standards for our communities by facilitating access to health and education infrastructure.
From the smallest fundraiser to international campaigns and collaborations: every contribution counts.

That is why we are investing in...

...education
...the public good
...climate action

Our investment in education

Fronius Austria works with educational establishments
Fronius maintains various different relationships with a number of Austrian educational establishments. Encouraging and supporting pupils and students, building an extensive network, and engaging young people in our company at an early stage are extremely important to us. We want to build a bridge between theory and practice and make an active contribution to the future of the younger generation. Fronius sponsors a business IT class at the polytechnic college in Vöcklabruck and an IT class at the polytechnic college in Grieskirchen. We support the students all the way through to their final exams.

By helping to identify joint priorities, we prepare the next generation for the needs of the economy. We are also a sponsor for the charitable organization "Teach for Austria," which places lateral recruits in schools with a high dropout rate. This is intended to facilitate and enrich school for children whose parents do not place any emphasis on education. The organization has a clear mission to show the young generation new perspectives and boost their confidence in their abilities.

Fronius Austria supports the project Twiga Sun Fruits
Local, seasonal produce is very popular in the Fronius company restaurants, so employees will be all the more surprised that dried organic pineapple from Uganda will soon be added to the range of snacks available at the Austrian sites. This is due to our collaboration with Twiga Sun Fruits GmbH, an organization helping to combat poverty in one of the world's poorest countries.
Three quarters of Uganda's workforce work in agriculture. Much of their produce decays due to the lack of processing options, ongoing climate change and heavy rainfall caused by climate change. On top of this, 82% of the rural population in Uganda only have limited access to water and no access to electricity. As a result, Twiga Sun Fruits is investing in a fruit dehydrator that can be powered by solar energy. This is where Fronius comes in:
we are providing an inverter including our extensive know-how, while our partner Victron Energy provides the off-grid and back-up systems. This collaboration is also coupled with an educational mission, one of the main reasons that we joined this project. It aims at training the rural population in sustainable farming in accordance with European standards and certifications. Twiga Sun Fruits especially offers opportunities for women, since a regular income for women in Ugangda means independence and regular money for children's school fees. Moreover, Fronius employees packed backpacks with notepads, pencils, and crayon sets, worth a total of EUR 6,500, for the 300 children of the cooperative. Combined with the import of dried organic pineapple for our company catering and range of merchandise, we can start a cycle that enables the people in Uganda to make a decent living.

Our investment in the public good

Fronius Turkey donates inverter to young boy with autism
Fronius Turkey helped a boy with autism fulfill his biggest wish in 2021. Due to his interest in electrical and electronic products, Fronius teamed up with system partner Kayzer Energy to present him with a PV system featuring a Fronius IG TL 3.0 inverter. The boy will be sharing his experiences with the photovoltaic system on a YouTube channel in the future.

Fronius Canada creates affordable, sustainable housing for immigrants
In 2021, Fronius Canada worked with local installer Terralta and the aid organization Habitat for Humanity to build affordable, sustainable housing in Medicine Hat, a city in Alberta. Habitat for Humanity helps underprivileged communities across Canada by creating affordable, sustainable housing for immigrants who want to buy their first house. Fronius Canada provided Primo 3.8 inverters for the rooftop photovoltaics systems on the houses. These systems save the families around EUR 782 a year in energy costs and cuts their annual CO_2 emissions by over 4.4 metric tons.

FroniuSolidarity committee provides humanitarian aid
The FroniuSolidarity committee is composed of employees from Fronius Brazil. Its mission is to provide humanitarian aid to those in need and foster a sense of solidarity in society.
In 2021, the committee supported a children's home — a shelter for children and young people in precarious circumstances — with monthly donations. This financial support covers the basic needs of the children and young people, such as food, clothing, and toys, and it helps them access education and the healthcare system.
Fronius Brazil also organized a winter campaign. The committee teamed up with aid organization Irmãos de Rua (loosely translated as “Street brothers”) to distribute blankets, clothing, and food to people experiencing homelessness on the streets of São Paulo.

Fronius Poland runs for a good cause
A team from Fronius Poland participated in the Poland Business Run during the year under review. The event is the country's biggest charity run that aims at supporting an active lifestyle for people with disabilities and help them enter the world of work. Taking part in the Poland Business Run helped support over 103 people with motor impairments, such as providing prosthetics, wheelchairs and funding for visits to rehabilitation centers.

Fronius Germany donates money to help a hospice for children and young people
The youth hospice Kinder- und Jugendhospiz Mitteldeutschland is a very special place, with a heartwarming atmosphere. It is located in Tambach-Dietharz (Thuringia) and is a haven for families across Germany. There are currently 50,000 children and young people living with terminal illnesses in Germany. Nursing and teaching staff at the hospice devote a lot of time, love, and care, to help families in the hospice to regain their strength after a usually draining care routine. The staff supports the children and their families from the day they receive the diagnosis, helping them with the care and nursing process over the years.
Moreover the hospice continues to assist families for a long time after their beloved children have passed.

Fronius Deutschland GmbH is supporting the Kinder- und Jugendhospiz Mitteldeutschland for the second time by donating money. The idea to support the hospice was suggested by a group of Fronius Germany employees. In 2021, the children and young people living in the hospice received Christmas presents in addition to the financial donations.

Fronius Thailand sets up employee welfare fund
Fronius Thailand is supporting employees who have worked at Fronius for over a year with a company welfare fund.
This helps employees with long-term planning, including increasing job stability in the future.

Our investment in climate action

Fronius China raises awareness about the impact of climate change

Fronius China participated in the “We Value Climate Change Perspectives” project in 2021, which was launched by the Sustainable Behaviour Research Group at Fudan University. The project highlights the impacts and risks of climate change for individuals and companies.

Employees from the Fronius purchasing department took part in a workshop where they were encouraged to think about the risks and consequences of climate change and rate them based on their importance. The goal of the workshop was to raise awareness on the topic.

Fronius Italy provides information about the benefits of using renewable energy

Fronius Italy set itself the goals of raising public awareness about renewable energies and sharing expertise and insights about technical solutions and governmental regulations on the energy transition. With this in mind, “Fronius Earth Mission Italy” was born. Information events and training activities were held to demonstrate the opportunities of the energy transition and highlight potential solutions, such as energy communities and collective self-consumption, a super bonus of 110% (a tax cut of 110 percent to support energy retrofits), and the ESG approach (set sustainability criteria for assessing capital investments). The activities are specifically aimed at public administration, building managers, local government, private companies, universities/schools, sales partners, installation companies, and planning companies.

Fronius India designs a new sustainable headquarters

In 2021, Fronius India celebrated the one-year anniversary of its new headquarters in Pune, India. The building was designed to be sustainable and ecofriendly, with features including:

- Installing a 110 kW photovoltaic system on the roof of the warehouse
- Commissioning a biogas facility for recycling food waste
- Swapping plastic packaging for certified sustainable paper packaging
- Reducing single-use plastic in the administration buildings
- Switching to energy-efficient lighting
- Campaigns to raise employee awareness about energy consumption

Fronius Australia promotes access to clean energy

The Australian bush fires in summer 2019/2020 were a wake-up call for many about the ravaging effects of climate change. In response to the immense destruction, the REC Group (an Australian photovoltaics solutions provider) developed the REConstruct program to give the affected communities reliable access to clean energy for free. Fronius Australia supported this program by installing PV systems at the Clifton Creek Primary School, the Granite Belt Neighbourhood Centre, and the Balmoral Community Centre.

Fronius USA provides free PV-generated power for e-charging stations

Fronius USA operates two electric vehicle charging stations that are powered by photovoltaics. These stations are part of ChargePoint, a network of e-charging stations in the US. ChargePoint users can use its app to find charging stations and charge their vehicles for free with Fronius PV-generated power. Fronius USA is thus contributing to the local community and promoting the use of clean transport.

Sustainable technology is now being used at Fronius India.

Fronius Australia supporting the installation of PV systems at schools

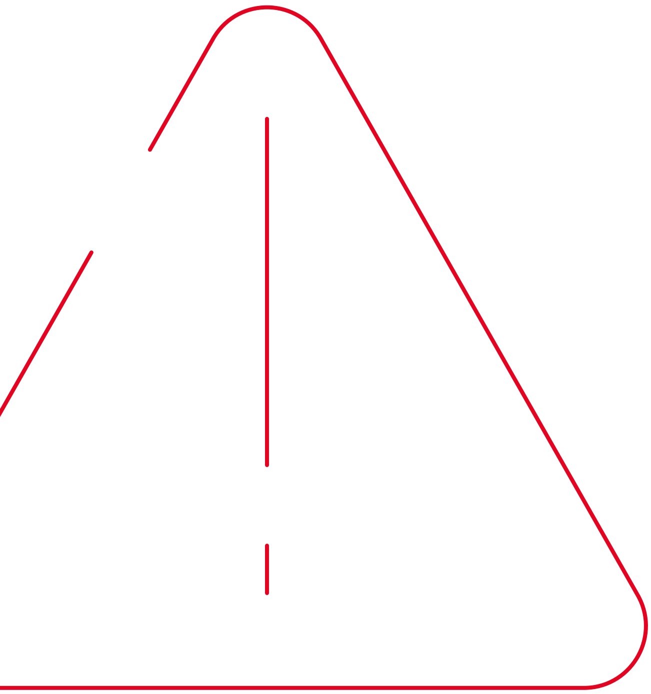
Ecological responsibility

We want to set an example with our sustainable vision and innovative developments and save our planet's resources as effectively as possible.

Founding community Pettenbach, Upper Austria

Decarbonization and climate protection

The scientific community agrees that greenhouse gases need to be reduced to net zero worldwide by 2050 to prevent the worst effects of climate change.



Climate risks and opportunities
In addition to addressing the environmental footprint of our business activities, we also focus on the risks and opportunities presented by climate change and its actual and potential impact on our business activities, strategy, and financial planning. We anticipate that climate change will directly affect Fronius.

Stakeholders across the world are being encouraged to contribute their share to reduce greenhouse gas emissions.
In response, Europe has set itself extensive targets to cut emissions by 55% by 2030 and become carbon neutral by 2050. Austria is going one step further and has pledged carbon neutrality no later than 2040..
At Fronius, we are making major progress toward attaining our carbon-neutrality target. Decarbonization is a core part of our sustainability strategy. As an industrial company, we are aware of the effects of our business activities on climate and environment. We take care not to waste energy and resources in any areas and thus are eager to reduce our greenhouse gas emissions. We want to set an example with our sustainable vision and innovative developments and save our planet's resources as effectively as possible.

In terms of climate-related risks, it is expected that the demand for energy-intensive products will fall, energy costs will rise, and extreme weather events will damage infrastructure and make energy supplies more volatile. These impacts may also lead to escalations in some countries and disrupt our supply chain, as shown by the pandemic.
The road to carbon neutrality also presents many opportunities for Fronius, however.
We provide innovative, efficient products that help make the energy system more sustainable, something that is likely to be in much greater demand in the next few years.
We save on costs for energy and materials by investing in energy-efficient technologies and using our resources carefully.

Energy management

In an effort to limit climate change through its energy management system, Fronius set itself the goal of moving away completely from fossil fuels and switching to renewable energy sources at its Austrian sites, including further energy efficiency measures. These are our targets in detail:

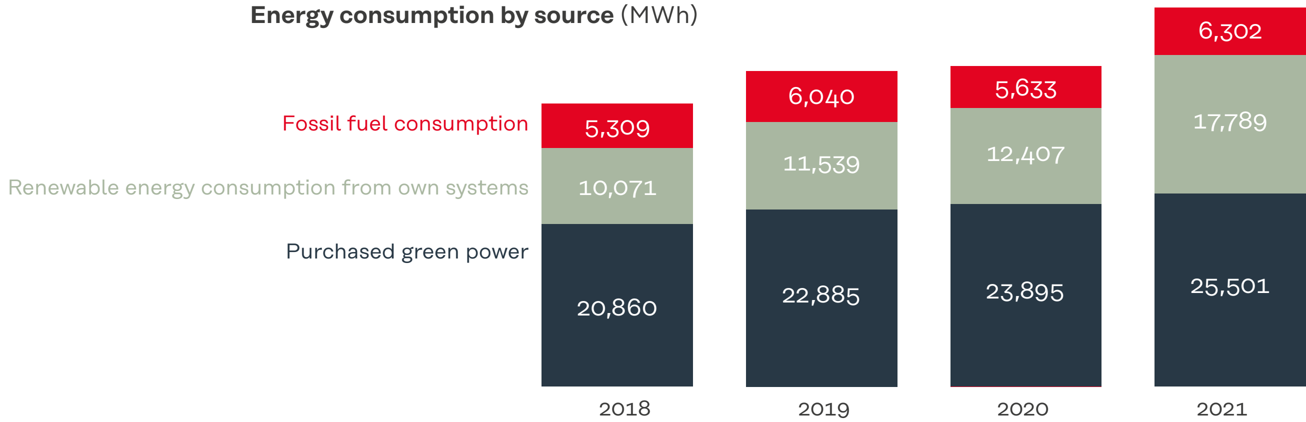
1.
Converting to renewable energy sources
Since the introduction of the environmental management system in 2014, which includes energy management, we have been able to significantly improve our ecological performance. Now, 87% of the energy we use comes from renewable sources, of which 16% is from geothermal energy, 16% from biomass, and 4% from photovoltaics, plus 51% from purchased green power. This green power meets strict criteria for renewable energy set out in the “CMS Standard Erzeugung EE” from TÜV Süd.
As part of our decarbonization roadmap, we are working toward the goal of fully replacing oil and natural gas with renewable energy by 2024.

2.
Expanding our photovoltaic systems
Fronius aims at the highest possible energy production by using photovoltaic systems. To this end, the capacity of the photovoltaic system at the Steinhaus site was expanded from 52 to 136 kilowatt peak (kWp) in 2021. This expansion increased our self-generated electricity output by 6% to 1,982 gigawatt hours compared to the previous year.
This means that the photovoltaic systems at our Austrian sites have a power output of 2.2 megawatt peak (MWp), and the goal is to increase this to over 3 MWp by the end of 2024.

3.
Increasing energy efficiency
Our conscious decision to use new and resource-conserving technologies is embedded in all areas of the company. We continuously implement measures to optimize our energy consumption.
Despite these measures, however, our total energy consumption increased by 18% in 2021 compared to the previous year. The heating period in spring 2021 was one of the contributing factors as it was considerably longer than usual. Recommissioning a property at the Pettenbach site also increased energy demand.
The apprentice project “Young Resources” launched at the start of 2022. The project challenges apprentices to take a closer look at resource use in production. They look for pressure leaks and measure the energy use of low-power equipment to identify potential areas where energy can be saved. These measures combined could significantly reduce our environmental footprint. The start of the project was delayed from 2020 until 2022 due to the Covid-19 pandemic.

Our approach to energy management applies to all sites of Fronius International GmbH but in particular to the production sites in Sattledt and Pettenbach, the research and development site in Thalheim, and the sales site in Wels.
An internal energy monitoring tool was rolled out in 2021 with the aim of continuously monitoring and analyzing daily energy use

Energy consumption by source (MWh)



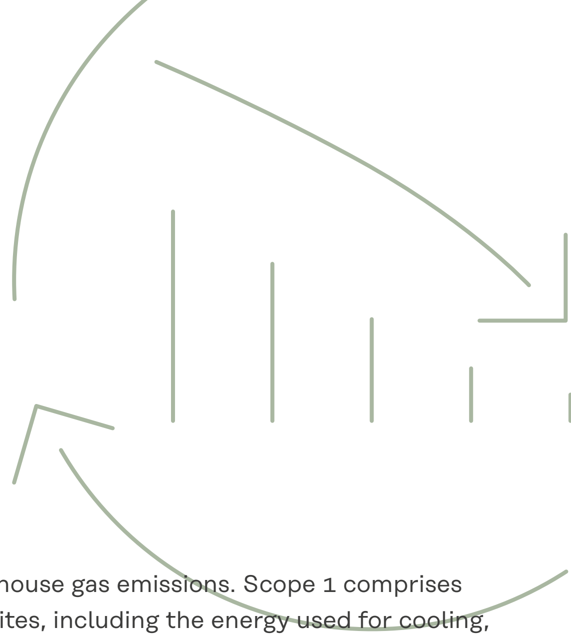
and flows at site, building, area and meter level. Automated data collection enables us to manage and optimize energy input and consumption in a targeted way.
Regular internal audits are also carried out in order to identify and evaluate energy issues and energy consumption. Experts perform an energy audit every four years to improve the current situation and identify possible energy-saving measures. The results are summarized in an energy report containing detailed documentation of our energy consumption and measures to increase energy efficiency, which are devised based on the audit.

Energy consumption of all Fronius International sites	**2018**	**2019**	**2020**	**2021**
Total energy consumption in MWh	36,240	40,464	41,935	49,592
Fossil fuel consumption in MWh	5,309	6,040	5,633	6,302
Fuel oil in MWh	263	335	125	315
Diesel[1] in MWh	314	289	217	192
Gasoline[1] in MWh	1,289	1,730	1,794	1,981
Natural gas in MWh	3,443	3,686	3,497	3,814
Renewable energy consumption from own systems in MWh	10,071	11,539	12,407	17,789
Photovoltaics	445	924	1,741	1,833
Geothermal energy	4,982	5,600	4,904	7,884
Biomass	4,644	5,015	5,762	8,072
Purchased green power in MWh	20,860	22,885	23,895	25,501
Specific energy consumption in MWh / metric ton product volume	2.89	2.76	2.52	3.15

Yield from own photovoltaic systems	**2018**	**2019**	**2020**	**2021**
Total PV output in MWh	1,096	1,195	1,865	1,982

Energy consumption of Fronius subsidiaries	**2018**	**2019**	**2020**	**2021**
Total energy consumption in MWh	-	27,475	37,716	30,096

[1] Due to better quality data and calculation methods, the diesel and gasoline consumption figures for 2018–2020 have been retroactively corrected to ensure that they can be compared with future figures.



Reducing greenhouse gas emissions

At Fronius, we record our direct and indirect greenhouse gas emissions. Scope 1 comprises the energy consumption emissions directly at our sites, including the energy used for cooling, heating, and processes, and the fuel consumed by our fleet. Scope 2 includes indirect emissions from the use of purchased electricity, as the emissions are produced by the energy suppliers. Other indirect greenhouse gas emissions that are produced outside of our company fall under Scope 3.

Greenhouse gas emissions Scope 1 and 2

Building services

Our continued growth increases the demand for more space. In an effort to use our spaces with optimal efficiency and minimum impact on the climate, we make sure that we use alternative energy, heating, and cooling systems throughout. Moreover, we are committed to take a number of other impactful measures: replacing heating and hot water pumps, retrofitting spaces for greater thermal efficiency, using waste heat from laboratories, optimizing building services systems (e.g., hydraulic adjustment), eliminating pressure leaks, and switching to LED lighting.

The major projects planned for 2022 are the replacement of the existing oil heating system at the Steinhaus site with a pellet heating system and the decommissioning of the wood-chip heating system and oil heating system (which is used to compensate for spikes in loads) at the Sattledt site. New ice storage tanks, which will be put into operation, will be used as an alternative as part of the northward expansion of the Sattledt site. Two ice storage tanks supply several heat pumps that are used for heating and cooling the site. The system has a diameter of 20 m and a depth of 5 m, making it one of the biggest in Europe.

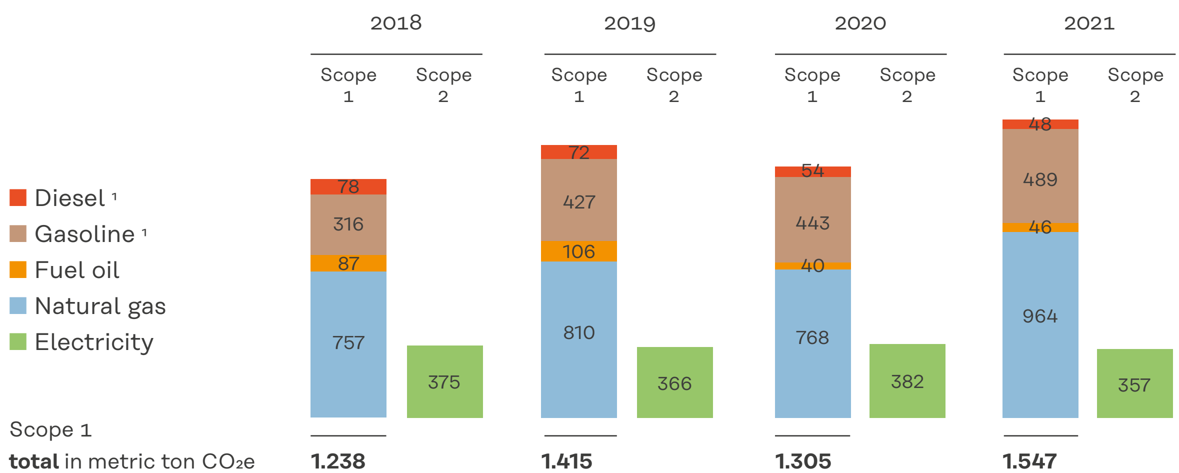
Fleet

The Fronius fleet is increasingly replaced with low-emissions vehicles. Almost every new vehicle purchased is electric or a plug-in hybrid. In the end of 2021, around half of the vehicles have alternative fuel engines, including electric, hybrid, and hydrogen.

We set an additional goal of phasing out diesel vehicles. At the end of 2021, the last diesel car was removed from the fleet. We are observing ongoing developments with regard to alternatives for diesel commercial vehicles.

The number of e-charging stations is also growing. With more than 218 e-charging stations for cars and a hydrogen refueling system – all exclusively powered by our photovoltaics systems – green energy can be sourced at all the Austrian sites. Another 90 e-charging stations are planned to be installed by 2024. There are also separate e-charging stations for e-bikes at the sites. In 2021 alone, our photovoltaic systems generated 1,982 MWh, which is enough to cover around 8.6 million kilometers based on an average consumption of 0.23 kWh for every kilometer traveled in an electric vehicle.
We provide this energy to our employees and customers with electric and hydrogen vehicles free of charge.

The Scope 1 emissions increased again in 2021 in comparison to 2020. This is primarily due to the increased consumption of oil and gas owing to the longer heating period in spring 2021. The Scope 2 emissions decreased by 7% compared to 2020.



[1] Due to the improvement in data quality data and calculation methods, figures for the greenhouse gas emissions from diesel and gasoline consumption have been corrected for 2018-2020 in hindsight to ensure that they can be compared with future figures.

	2018	2019	2020	2021
Greenhouse gas emissions, Scope 1 and 2 in metric t CO_2e	1,613	1,781	1,687	1,904
Specific greenhouse gas emissions in metric t CO_2e/metric t product volume	0.13	0.12	0.10	0.12

Source for emission factor: Federal Environment Agency 2021

Reducing greenhouse gas emissions

Greenhouse gas emissions Scope 3

Scope 3 includes emissions caused by upstream and downstream goods transport, business trips, employee travel, and other emissions.

Upstream and downstream goods transport
Upstream and downstream material and goods transport is carried out by commissioned transport companies. Fronius avoids air freight within Europe, and we have created incentives for intercontinental transport to our subsidiaries to encourage the use of sea freight instead of air freight.
The products and materials transported by air freight in 2021 amounted to around 23,200 metric tons in total, a 132% increase compared to the previous year. This rise is primarily brought about by better access to data from transport service providers. By contrast, transport by sea freight was reduced by 35%. We continued to ramp up rail transport, particularly in Austria and as the preliminary transport leg for sea freight. As a result, rail transport rose by 57% compared to the previous year.

Business trips
As an international company, a significant proportion of our emissions are produced by business trips. As a result of the pandemic, the number of business trips and the distances traveled fell significantly. Meetings, customer calls, training sessions, and other events were increasingly held online.
Our employees need to be present in particular circumstances (e.g., technical assignments). In these circumstances we aim to use public transport more for business trips. We cover the costs of discount cards and clubs for employees that regularly travel for business. An upgrade to first class may be booked for longer journeys (over 200 km) to make the trip as comfortable as possible.
The newly created Travel Management department at Fronius constantly investigates new options for reducing our carbon footprint, and it always casts for innovative ideas and partners in the air

Upstream and downstream goods transport: transported products and materials in metric t	2018	2019	2020	2021
Total	25,436	26,746	25,871	30,520 [1]
Truck	18,441	19,719	17,833	23,233
Air freight	1,017	882	535	1,242
Sea freight	5,087	5,371	6,262	4,104
Rail freight	890	775	1,240	1,941
Greenhouse gas emissions in metric t O_2e	8,293	7,917	7,050	8,946

[1] The availability of data for transported products and materials is constantly improving. Data is available for a total of 94% of Fronius-commissioned transport in 2021.

transport and mobility industry.
In 2021 we registered fewer flights once again. Total kilometers traveled by air were down 39% compared to 2020, while kilometers traveled by car rose by 26%. This increase is largely brought about by the decrease in air travel and the 9% increase in employees in 2021. Greenhouse gas emissions generated by business trips fell again by 21% in total in 2021, an absolute reduction of 171 metric tons CO_2.

Employee travel
At Fronius, we are aiming to make our employees' travel habits more environmentally friendly. We want to make it even more attractive to use public transport to get to and from work. Thus Fronius covers the costs for weekly, monthly, or annual tickets for commuter routes to and from work since September 1, 2021.
We are also committed to improving public transport connections and hold regular dialog with the Austrian national railway operator (ÖBB), the transport authority for Upper Austria (Oberösterreichischer Verkehrsverbund – OÖVV), the State of Upper Austria, and community representatives. Our goal is to make commuting to work by public transport as quick and convenient as possible for our employees.

For shorter commutes, we encourage our employees to walk, cycle, or use a scooter. The annual Fronius Bike-to-Work day aims to motivate employees to get on their bikes. More than 140 employees took part in the 2021 edition and covered over 2,700 kilometers. The enthusiastic employees were rewarded with a free breakfast as a thank-you gift for taking part.
Fronius once again supported the "Oberösterreich radelt zur Arbeit" (Upper Austria cycles to work) campaign in the past year, with employees past year collectively covering over 32,000 kilometers by bike.

Business trips
Distance in 1,000 km

	2018	2019	2020	2021
Total	14,094	15,891	5,957	5,898
Plane	11,213	11,848	2,306	1,410
Car [1]	2,573	3,554	3,452	4,345
Train	308	490	199	143
Greenhouse gas emissions in metric t O_2e	5,076	4,025	1,090	919

39% fewer kilometers traveled by air; a total of 171 metric tons CO_2 were saved compared to 2020.

[1] Due to improved data quality and calculation methods, the data for travelled kilometers by car has been corrected for 2018-2020 in hindsight to ensure that it can be compared with future data.

Resource conse
and cycles

Fronius is aware of the ecological impact of its operations and continuously implements improvement measures for a more sustainable future.

In 2014, Fronius introduced its environmental and energy management system according to the internationally recognized ISO 14001 standard. Complying with this standard means that we systematically take account of our overall impact on the environment, are able to implement targeted improvements and minimize our environmental risks.
Since the introduction of the environmental management system, we have significantly reduced our emissions, optimized our waste management, and used our resources more efficiently.

Material and raw material usage

Through close collaboration between the Product Development and Production departments, we develop efficient and sustainable production processes, thereby saving valuable materials and energy.

	2018	2019	2020	2021
Total material/raw material usage in t	17,095	17,620	18,371	18,344
Semi-finished products	11,593	11,800	13,382	12,352
Raw material	2,995	2,953	3,045	3,968
Packaging	1,701	2,066	1,285	1,475
Auxiliary materials and consumables	806	801	659	549
Specific material consumption in metric t / metric t product volume	1.36	1.20	1.10	1.17

Water consumption

Climate change is increasing water scarcity and diminishing water quality in many regions, including areas where Fronius subsidiaries are located.
All washrooms and irrigation systems at Fronius International GmbH sites have been optimized. The site in Sattledt has an 800 m^3 rainwater collection tank that is used for extinguishing fires and watering the gardens.
Water consumption increased in 2021 due to the increase in employees and the recommissioning of a property at the Pettenbach site.

	2018	2019	2020	2021
Total water consumption in m^3	39,800	38,673	33,650	38,587
From municipal water supply	37,575	36,944	32,341	36,651
Surface water/rainwater	372	1,729	474	812
Groundwater	1,853	0	835	1,124

Waste management and circular economy

Fronius has set itself the target of avoiding waste wherever possible and to reuse as much unavoidable waste as possible. Our measures reduce the use of valuable and rare materials as well as their extraction, which can be extremely energy intensive and damaging to the environment. Within the scope of the environmental management system, all waste produced at the sites of Fronius International GmbH is subjected to continuous monitoring. At present, 73% of our waste is recycled – these materials are prepared for reuse by our waste management companies. This makes an important contribution towards reducing our environmental impact.

Approximately 50 different types of waste are collected and either sent for recycling or disposal.

Waste produced broken down by disposal method (rounded):

73% reuse

15% recycling

0.3% composting

11% incineration

0.2% landfill

Waste disposed of: 11%, waste recycled: 89%

	2018	2019	2020	2021
Non-hazardous waste in metric t	2,871	3,190	3,170	3,202
Reuse	2,217	2,344	2,223	2,321
Recycling	189	232	518	509
Composting	110	77	0	12
Incineration	355	510	406	352
Landfill	0	26	23	7

	2018	2019	2020	2021
Hazardous waste in metric t	259	330	352	352
Reuse	134	215	250	286
Recycling	35	52	71	25
Composting	0	0	0	0
Incineration	30	63	29	41
Landfill	61	0	1	0

As a manufacturer and distributor of products, Fronius must comply with numerous legal regulations and obligations. To ensure our packaging is collected and recycled in an environmentally friendly manner, we participate in a collection and recycling system. An authorized company returns and recycles the packaging from all products sold in Austria which amounted to 234 metric tons in 2021. Besides this collection and recycling system, we also make use of the comprehensive recycling service for the electrical equipment and batteries we have distributed in Austria. In 2021, this amounted to 1,292 metric tons.

We use a variety of campaigns to raise awareness about waste prevention, reduction, and sorting. A waste sorting quiz and a series of articles in our sustainability blog proved particularly successful.

Continuous improvement process

The continuous improvement process (CIP) is a method of regularly and consistently improving our processes and products over the long term. An internal platform gives employees the opportunity to submit suggestions for improvements, including sustainability matters. The CIP team takes up these suggestions and holds regular meetings to develop them further based on the CIP problem-solving schema. Due to this process numerous measures were introduced to reduce waste, energy consumption, and rejects, for instance. As a way of showcasing the successful CIP actions, there is a CIP blog, displays on the TV screens in the Production department, and annual CIP Oscar awards.

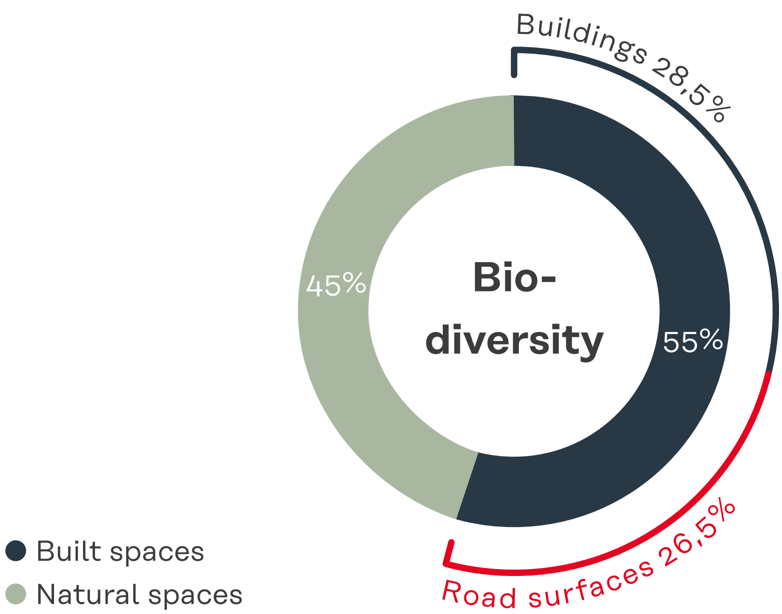
Biodiversity and ecosystems

Biodiversity loss is one of the biggest challenges of our time alongside climate change.

Biodiversity has an influence on the climate, supports nutrient cycles, produces biomass, and sequesters carbon. Even water supply and quality are dependent on it. A wide range of animal and plant organisms is responsible for pollinating plants and filtering and retaining water in soil. Although the causes of biodiversity loss, such as habitat fragmentation, soil sealing, intensive farming, greater levels of pollution, climate change, and invasive species, are widely known the situation continues to deteriorate. Austria is one of the leading countries in Europe when it comes to soil sealing. The Austrian national 2030 biodiversity strategy, which was still in the development phase at the end of 2021, sets out a specific 10-point plan for protecting and restoring biodiversity in Austria.

Preserving biodiversity is an important issue at Fronius. We improve land use at all our sites and offer essential habitats for flora and fauna. We boost the number of natural spaces at the Fronius sites with living roofs, a green vertical garden inside and outside, a wildflower meadow, and several raised beds for herbs. In Sattledt there are also seven beehives, which are looked after by the facility team and which supply the company restaurant with delicious homemade honey.

At Fronius, the ratio of natural to built environments is relatively equal, with 45% of the total consisting of natural spaces.
We still have much more work to do, however, in the next few years we will take more targeted measures to support biodiversity at our sites.



Vertical garden at the Wels site, Upper Austria

GRI Index

GRI		Chapter	Page	Comments
GRI 102: General Disclosures 2016				
102-01	Name of the organization	About this report	9	
102-02	Activities, brands, products, and services	Company profile	16-23	
102-03	Location of headquarters	Company profile	30-31	
102-04	Location of operations	Company profile	30-31	
102-05	Ownership and legal form	About this report; A family business with tradition	9; 15	
102-06	Markets served	Company profile	28-29	
102-07	Scale of the organization	Economic performance	54	Key figures on total capital, broken down into equity and debt, are published in the management report.
102-08	Information on employees and other workers	Employment and working conditions	86	
102-09	Supply chain	Company profile	26-27	
102-10	Significant changes to the organization and its supply chain	About this report	9	
102-11	Precautionary principle or approach	Material sustainability issues; Our sustainability strategy; Goals for sustainable development; Decarbonization and climate protection	36-37; 38; 39-41; 112-113	
102-12	External initiatives	Goals for sustainable development; Stakeholder engagement	39-41; 51	
102-13	Membership of associations	Stakeholder engagement	51	
102-14	Statement from senior decision-maker	Foreword of the management board	10-11	
102-15	Key impacts, risks, and opportunities	Material sustainability issues; Goals for sustainable development; Decarbonization and climate protection	36-37; 39-41; 112-113	
102-16	Values, principles, standards, and norms of behavior	Our core values: Fronius Way 4.2	34-35	
102-18	Governance structure	Organization of sustainability management	42-43	
102-19	Delegating authority	Organization of sustainability management	42-43	
102-20	Executive-level responsibility for economic, environmental, and social topics	Organization of sustainability management	42-43	
102-21	Consulting stakeholders on economic, environmental, and social topics	Stakeholder engagement	47-49	
102-40	List of stakeholder groups	Stakeholder engagement	46	
102-41	Collective bargaining agreements			100% of employees and workers are covered by a collective agreement.

GRI		Chapter	Page	Comments
102-42	Identifying and selecting stakeholders	Stakeholder engagement	46	
102-43	Approach to stakeholder engagement	Stakeholder engagement	36; 46-49	
102-44	Key topics and concerns raised	Material sustainability issues; Stakeholder engagement	36; 47-49	
102-45	Entities included in the consolidated financial statements	Company profile	30-31	
102-46	Defining report content and topic boundaries	Material sustainability issues	36	
102-47	List of material topics	Material sustainability issues	37	
102-48	Restatements of information	About this report	9	
102-49	Changes in reporting	About this report	9	
102-50	Reporting period	About this report	9	
102-51	Date of most recent report	About this report	9	
102-52	Reporting cycle	About this report	9	
102-53	Contact point for questions regarding the report	About this report	8	
102-54	Claims of reporting in accordance with the GRI Standards	About this report	9	
102-55	GRI content index	GRI Index	130	
GRI 201: Economic performance 2016				
103-1 103-2 103-3	Management approach	Economic performance	54-55	
201-1	Direct economic value generated and distributed			Key figures on economic value are published in the management report.
GRI 204: Procurement practices 2016				
103-1 103-2 103-3	Management approach	Company profile; Sustainable procurement	26; 80-81	
204-1	Proportion of spending on local suppliers	Company profile	26-27	

GRI		Chapter	Page	Comments
GRI 205: Anti-corruption 2016				
103-1 103-2 103-3	Management approach	Business ethics and compliance	56-59	
205-2	Communication and training about anti-corruption policies and procedures	Business ethics and compliance	57-59	
205-3	Confirmed incidents of corruption and actions taken	Business ethics and compliance	57	
GRI 301: Materials 2016				
103-1 103-2 103-3	Management approach	Resource conservation and cycles	120-123	
301-1	Materials used by weight or volume	Resource conservation and cycles	120	
301-2	Recycled input materials used	Sustainable products and services	64	
301-3	Reclaimed products and their packaging materials	Sustainable products and services; Resource conservation and cycles	65; 122-123	
GRI 302: Energie 2016				
103-1 103-2 103-3	Management approach	Decarbonization and climate protection	114-115	
302-1	Energy consumption within the organization	Decarbonization and climate protection	115	
302-2	Energy consumption outside of the organization	Decarbonization and climate protection	118-119	
302-3	Energy intensity	Decarbonization and climate protection	115	
302-4	Reduction of energy consumption	Decarbonization and climate protection	115	
302-5	Reductions in energy requirements of products and services	Sustainable products and services	66-73	
GRI 303: Water and effluents 2018				
103-1 103-2 103-3	Management approach	Resource conservation and cycles	121	
303-3	Water withdrawal	Resource conservation and cycles	121	

GRI		Chapter	Page	Comments
GRI 304: Biodiversity 2016				
103-1 103-2 103-3	Management approach	Biodiversity and ecosystems	126-128	
304-2	Erhebliche Auswirkungen von Aktivitäten, Produkten und Dienstleistungen auf die Biodiversität	Biodiversity and ecosystems	126-128	
GRI 305: Emissions 2016				
103-1 103-2 103-3	Management approach	Decarbonization and climate protection	112-113; 116-119	
305-1	Direct (Scope 1) GHG emissions	Decarbonization and climate protection	116-117	
305-2	Energy indirect (Scope 2) GHG emissions	Decarbonization and climate protection	116-117	
305-3	Other indirect (Scope 3) GHG emissions	Decarbonization and climate protection	118-119	
305-4	GHG emissions intensity	Decarbonization and climate protection	117	
305-5	Reduction of GHG emissions	Decarbonization and climate protection	117-119	
GRI 306: Effluents and waste 2020				
103-1 103-2 103-3	Management approach	Resource conservation and cycles	122-123	
306-2	Waste by type and disposal method	Resource conservation and cycles	122-123	
GRI 307: Environmental compliance 2016				
103-1 103-2 103-3	Management approach	Business ethics and compliance	56	
307-1	Non-compliance with environmental laws and regulations	Business ethics and compliance	56	
GRI 308: Supplier environmental assessment 2016				
103-1 103-2 103-3	Management approach	Sustainable procurement	80-81	
308-1	New suppliers that were screened using environmental criteria	Sustainable procurement	80	

GRI		Chapter	Page	Comments
GRI 401: Employment 2016				
103-1 103-2 103-3	Management approach	Employment and working conditions	84-89	
401-1	New employee hires and employee turnover	Employment and working conditions	86	
GRI 402: Labor/management relations 2016				
103-1 103-2 103-3	Management approach	Employee development	90-91; 93	
402-1	Minimum notice periods regarding operational changes			In the form of a monthly internal mailing to all employees, the Fronius management board provides transparent and direct information about the overall and market situation, challenges and opportunities facing the company, the business units including their strategies, and general activities and projects.
GRI 403: Occupational health and safety 2018				
103-1 103-2 103-3	Management approach	Occupational health and safety	98-101	
403-1	Occupational health and safety management system	Occupational health and safety	99	
403-2	Hazard identification, risk assessment, and incident investigation	Occupational health and safety	99	
403-3	Occupational health services	Occupational health and safety	100	
403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational health and safety	100	
403-6	Promotion of worker health	Occupational health and safety	100-101	
403-9	Work-related injuries	Occupational health and safety	100	
GRI 404: Training and education 2016				
103-1 103-2 103-3	Management approach	Employee development	90-93	
404-1	Average hours of training per year per employee	Employee development	91	

GRI		Chapter	Page	Comments
404-2	Programs for upgrading employee skills and transition assistance programs	Employee development	91	
404-3	Percentage of employees receiving regular performance and career development reviews	Employee development	93	
GRI 405: Diversity and equal opportunity 2016				
103-1 103-2 103-3	Management approach	Diversity and equal opportunities	94-97	
405-1	Diversity of governance bodies and employees	Employment and working conditions; Diversity and equal opportunities	86; 95	
GRI 406: Non-discrimination 2016				
103-1 103-2 103-3	Management approach	Diversity and equal opportunities	97	
406-1	Incidents of discrimination and corrective actions taken	Diversity and equal opportunities	97	
GRI 412: Human rights assessment 2016				
103-1 103-2 103-3	Management approach	Business ethics and compliance; Employment and working conditions	56; 87	
412-2	Employee training on human rights policies or procedures	Business ethics and compliance	58-59	
GRI 413: Local communities 2016				
103-1 103-2 103-3	Management approach	Community engagement	104	
413-1	Operations with local community engagement, impact assessments, and development programs	Community engagement	105-109	
GRI 414: Supplier social assessment 2016				
103-1 103-2 103-3	Management approach	Sustainable procurement	80-81	
414-1	New suppliers that were screened using social criteria	Sustainable procurement	80	

GRI		Chapter	Page	Comments
GRI 415: Public policy 2016				
103-1 103-2 103-3	Management approach	Business ethics and compliance	57	
415-1	Political contributions	Business ethics and compliance	57	
GRI 416: Customer health and safety 2016				
103-1 103-2 103-3	Management approach	Customer health and safety	102-103	
416-1	Assessment of the health and safety impacts of product and service categories	Customer health and safety	102-103	Currently, the percentage of product categories whose health and safety impacts have been verified is not recorded. However, the devices undergo a large number of tests and inspections during their development and manufacture in order to limit their impact on the health and safety of users.
GRI 419: Socioeconomic compliance 2016				
103-1 103-2 103-3	Management approach	Business ethics and compliance	56	
419-1	Non-compliance with laws and regulations in the social and economic area	Business ethics and compliance	56	

Earth

Mission

Fronius