Sustainability Report 2021

FESTO

Title image
Our photovoltaic plant at the Jinan factory, China, is the largest in the world. With an expected output of 4,500,000 kilowatt hours, 4,200 tonnes of CO_2 could be saved.
→ More on this in Chapter 5.

Notice within the meaning of the General Act on Equal Treatment (AGG)
Where only the masculine form is used in this report, this is done for linguistic simplification purposes only. Based on our position and the principles of the General Act on Equal Treatment, the information provided refers equally to all genders. The use of only one gender form should not be a gender-specific discrimination, but only serves the purpose of better readability and better understanding of the pages and the formulations used on them.
→ The detailed report profile can be found on page 94.

Table of contents

Because the photographic material was taken during the coronavirus pandemic, the photographs of people were taken in accordance with the precautionary and protective measures in force and recommended at the time.

Keep up to date:
Visit **www.festo.com/responsibility**

Preface

Dear Readers,

A family-run company like Festo stands for responsibility – for customers, employees and society as a whole. The term ‘sustainability’ does not only shape the way we think and act, but is our aspiration to contribute to global sustainability with our competence in factory and process automation and our technical qualifications.

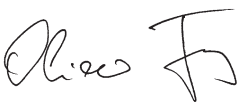
Automation from Festo helps vital resources to be used and preserved intelligently and new production technologies to be used efficiently. Automated production processes can relieve people in their daily work and improve health and nutrition. Digital training systems are contributing to new fields of work being opened up around the world. Automation also enables local-for-local production, shortening transport routes and value chains and reducing emissions.

We made further progress in implementing our Festo 2020+ sustainability strategy in 2021 and made extensive decisions on climate protection in particular.

All of our global production and logistics sites, the German sales locations and the company headquarters in Esslingen will already be climate-neutral by the end of 2023. All other Festo local sales companies in over 60 countries are set to follow by 2026. Festo will also increasingly generate the energy required at its locations using its own photovoltaic systems. Where energy consumption is higher than the potential provided by generating our own energy, green electricity will be used.

Our products, solutions and applications will also increasingly be developed with the aim in mind that they are themselves sustainable: in production, in operation and at the end of their product life cycle. Energy-efficient components do not just save costs over their service life, but also protect the climate.

I hope you enjoy reading the Corporate Responsibility Report 2021.



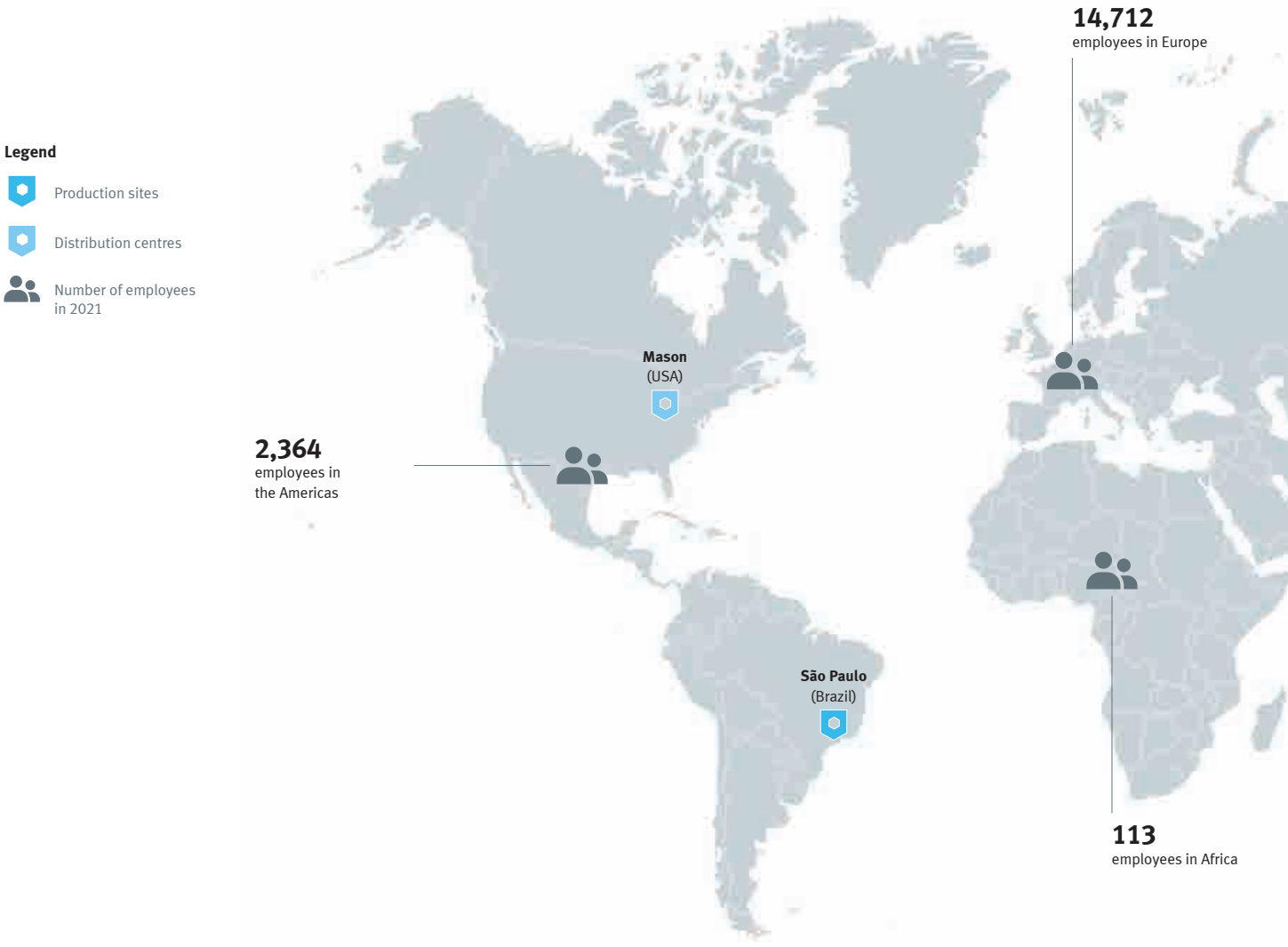
Oliver Jung
Chairman of the Management Board at Festo SE & Co. KG

→ GRI 102-14, GRI 102-16

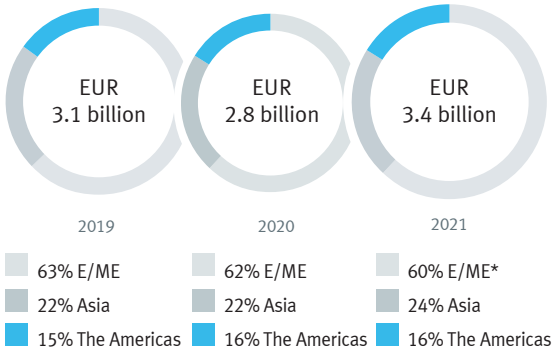
Festo in summary

As an independent family-run company in its third generation, Festo thinks and acts long term and with a sense of responsibility. Our company, Festo, stands for clear values, the highest quality and customer-oriented innovation.

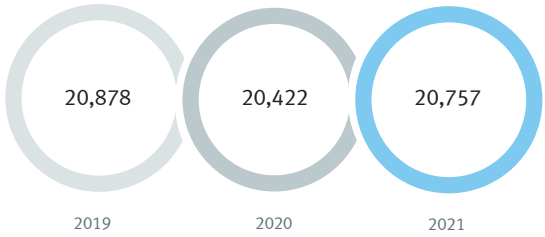
In the fields of industrial automation and technical training, Festo has set standards from its beginnings and has thus contributed to sustainable development in terms of the environment, business and society.



Total sales by region



Employees worldwide



Short delivery times, the right service and a high degree of flexibility – the demands of the global markets are constantly increasing. That is why we are where our customers are. With our own companies and 250 branches in 62 countries.

Africa

Nigeria
South Africa

The Americas

Argentina
Brazil
Canada
Chile
Colombia
Mexico
Peru
USA
Venezuela

Australasia

Australia
New Zealand

Asia

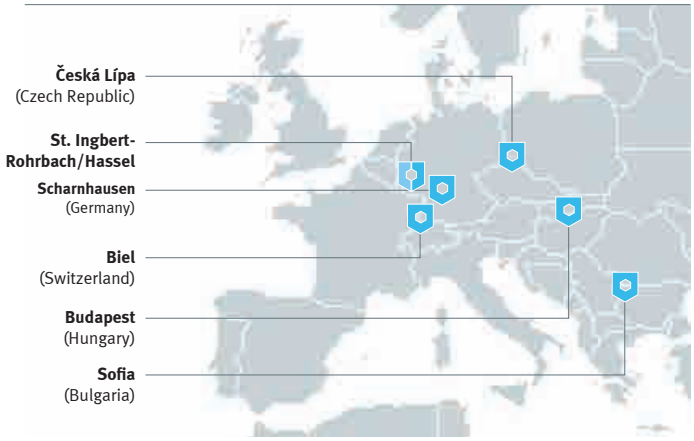
China
Hong Kong
India
Indonesia
Japan
Korea
Malaysia
Philippines
Singapore
Taiwan
Thailand
Vietnam

Europe/Middle East (E/ME)

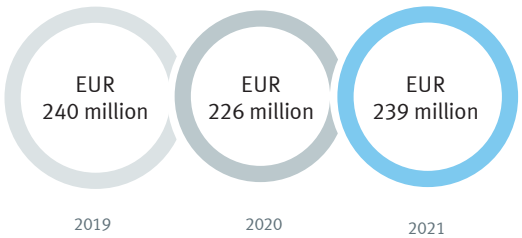
Austria
Belarus
Belgium
Bulgaria
Croatia
Czech Republic
Denmark
Dubai
Estonia
Finland
France
Germany
Greece
Hungary
Iran
Ireland
Israel
Italy
Jordan
Kazakhstan
Latvia
Lithuania
Netherlands
Norway
Poland
Portugal
Romania
Russia
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Turkey
Ukraine
United Kingdom

→ GRI 102-4, GRI 102-5, GRI 102-7, GRI 102-45, GRI 201-1

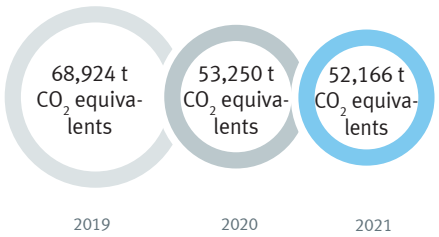
Europe



Research and development services



CO_2 emissions (scope 1 and scope 2)



1. Strategy and sustainability management

The United Nations (UN) has formulated 17 Sustainable Development Goals (SDGs), which are intended to ensure sustainable development worldwide on an economic, social and ecological level. These goals are aimed at everyone: politics, business, science – and every single citizen is called upon to make their contribution. For companies like Festo, transparency, a sustainability strategy based on the SDGs and systematic sustainability management are key elements on the way to achieving this goal.
→ GRI 103-1


3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
6 CLEAN WATER AND SANITATION
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

1.1 Industrial transformation as a business model

Digitisation, individualisation, education and climate protection are the driving forces behind industrial change and cover all stages of value creation – from development, production, logistics and energy supply to services.

The Festo Group is a leading global provider of automation technology and technical training and further education, divided into the Automation and Didactic business divisions. Important industry segments are automotive, food and packaging, electronics and assembly, biotech, pharma and cosmetics, chemicals and water, as well as – with growing importance – medical technology and laboratory automation (life tech), which have been in focus since the beginning of the pandemic. Festo also supports all automated process steps in the field of electromobility, from battery production to the production of electric vehicles.

The Automation business division

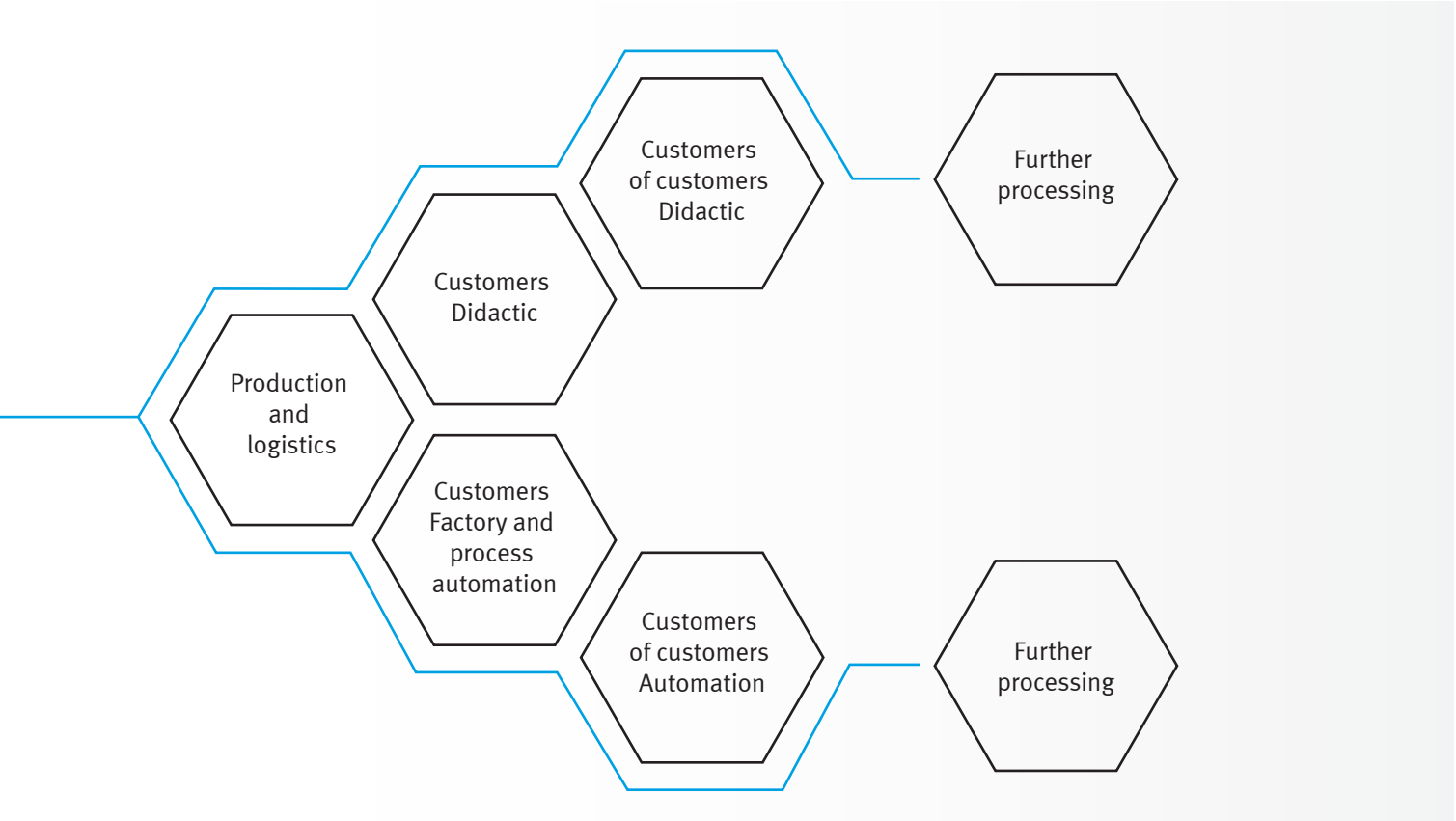
The Automation division offers a wide range of solutions for factory and process automation: the business purpose comprises the development, manufacture and sale of pneumatic and electrical components, technical systems and services as well as the transfer of knowledge for automation tasks such as control, regulation, positioning and handling of machines, apparatus and technical processes. In terms of customer solutions, the increasing demand for energy and resource efficiency and humanisation of work is becoming a competitive factor in all industry segments.

The Didactic business division

The group's activities in the Didactic division stand for technical basic and further training and, for more than five decades, have included the continuous development of professional, industry-oriented learning products and services relating to automation technology. The educational offerings focus on pneumatics, hydraulics, electronics and mechatronics as well as sensor technology, robotics, CNC and fieldbus technology.

Festo Didactic is a system partner of companies as well as private and public educational institutions to make and keep people fit for work through education and training and to allow them to participate in economic development.
→ GRI 102-2

The value chain in the automation sector is currently participating in the global industrial transformation processes. Automation technology is changing from components to smart components with software. Digitisation permeates all value creation processes and changes business models.



The speed of innovation is increasing. Virtual simulations create security for real investments. The use of artificial intelligence and new technologies such as piezo technology and superconductivity opens up new technical solution areas in industry for Festo. The main driver of business activities, apart from digitisation, is global growth.

The value-added chains of the Festo Group will become more international in the coming years. Nevertheless, globalisation is reaching its limits. The global trend towards 'local for local' is calling previous value-added chains into question and increasing the pressure on productivity in procurement, production and logistics at all locations around the world – for us and our customers. Online business is becoming increasingly important. With regard to supply chains, there were no significant changes at Festo in the reporting year. Nevertheless, we are increasingly trying to procure raw materials in the countries where production takes place.
→ GRI 102-10, GRI 102-48

Acquisitions
No acquisitions were made in 2021.
→ GRI 102-10

1.2 Sustainability strategy and management

Thinking in terms of generations to come and responsible and sustainable economic activity are deeply rooted in the corporate DNA, particularly in family companies such as Festo, and are expressed in the term 'corporate responsibility' (CR) and sustainability management. This chapter describes the further development of sustainability management and provides an outlook on the focal points of our 2020+ sustainability strategy.

At Festo, the tasks of the Corporate Responsibility department include the conception and implementation of an international sustainability strategy, sustainability management and CR reporting.
→ GRI 102-2, GRI 102-18

Development of the areas for action

The development of the areas for action (page 14) of our sustainability strategy is based on the identification of the Sustainable Development Goals that are relevant for our company. In the autumn of 2015, the United Nations General Assembly adopted the 17 SDGs. We at Festo are committed to supporting the goals formulated therein as part of our own sustainability strategy.

Identification of key issues

The interests of both internal and external stakeholders were taken into account in the identification of topics. There are two groups within the external and internal stakeholders. 'Formative stakeholders' have concrete expectations of Festo as a company and also have a direct influence on its business activities.
In addition, there are 'other stakeholders' whose interests are taken into account but whose influence is considered to be rather limited. In concrete terms, these two categories are as follows:

Formative stakeholders

- Shareholders
- Customers and their customers
- Management Board
- Employees

Other stakeholders

- Suppliers
- Science
- Non-governmental organisations (NGOs)
- Supervisory institutions
- Local population
- Public
- State

→ GRI 102-40, GRI 102-42, GRI 102-43, GRI 102-44

In identifying the important SDGs and deriving areas of action, the results of the stakeholder analysis were supplemented by monitoring external changes in the areas of legislation, business and politics, technology, energy, environment and society.
On this basis, we regularly review our strategic orientation as well as our sustainability goals and measures. → GRI 102-31

The process resulted in an updated materiality matrix. In this, topics classified according to materiality are divided into the categories 'Watch list', 'Ongoing' and 'Focus area'.
→ GRI 102-46, GRI 102-47, GRI 102-49

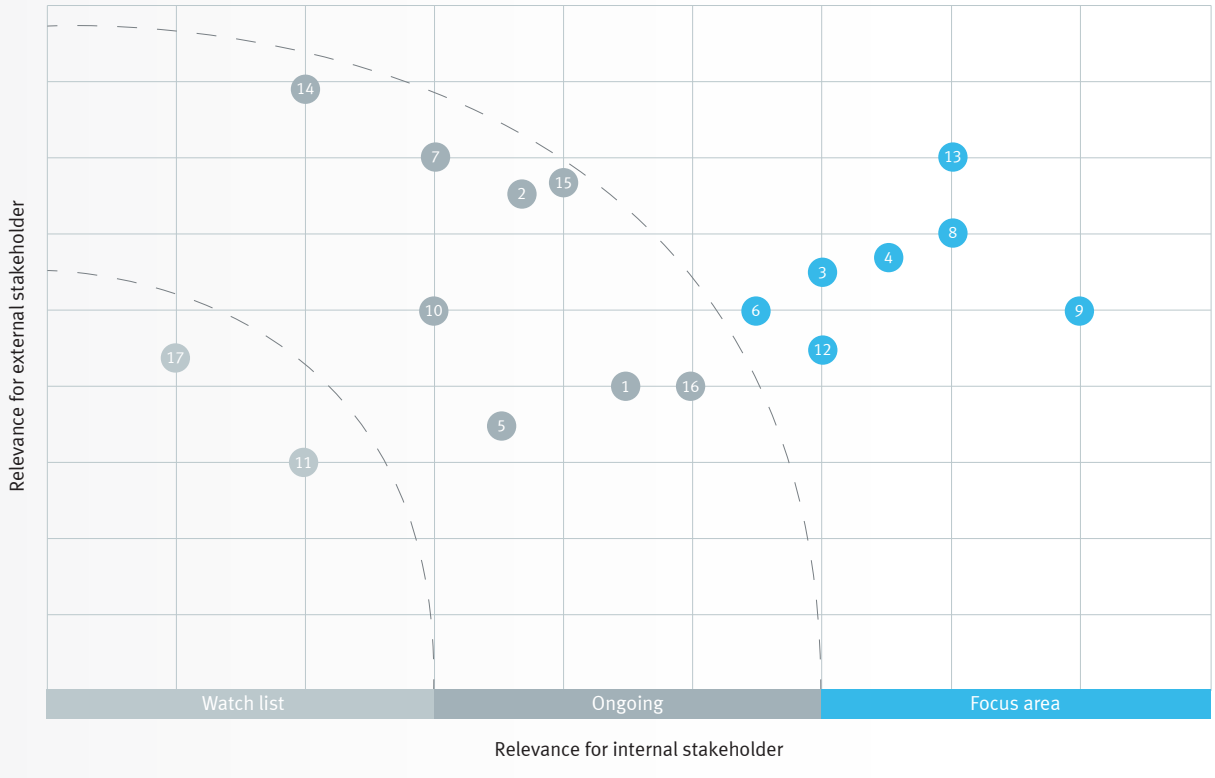
Topics relevant to Festo

Currently, the greatest opportunities for Festo to make an impact have been identified in the implementation of the following SDGs:

- Good health and well-being (SDG 3)
- Quality education (SDG 4)
- Clean water and sanitation (SDG 6)
- Decent work and economic growth (SDG 8)
- Industry, innovation and infrastructure (SDG 9)
- Responsible consumption and production (SDG 12)
- Climate action (SDG 13)

SUSTAINABLE DEVELOPMENT GOALS

Festo has very different influences on the 17 SDGs of the UN.
The goals to which we as a company can make a relevant contribution are highlighted above.



2020+ sustainability strategy
Our 2020+ sustainability strategy was adopted by the Management Board of Festo SE & Co. KG in March 2020 and is now subject to regular updating. Parts of the sustainability strategy are now part of the corporate strategy.

People at Festo
Within this area of action, we will continue to work on the long-term issues relating to the qualification and further development of our employees, the expansion of occupational health promotion and safety, and equality and diversity. Since 2020, the focus has been, and is, on measures to protect employees from Covid-19.
→ Chapter 3

Ethics and governance
One focus of the field of action ethics and governance is our global compliance management system. In addition, the integration of corporate due diligence obligations for human rights will be an essential component.
→ Chapter 4

Environment, energy and construction
In accordance with a resolution passed by the Management Board in December 2021, Festo will neutralise the direct (scope 1) and indirect (scope 2) CO_2 emissions associated with energy procurement in its global production network, headquarters and German sales company by the end of 2023. The other national Festo companies and Festo Didactic are to follow by the end of 2025.

We are guided by the scientifically defined target of limiting global warming to 1.5°C. We will achieve this by procuring CO_2-neutral green electricity as well as through measures to increase energy efficiency and expand our own renewable energy generation facilities at our sites, supplemented by the temporary participation in compensation projects. Data management and the expansion of the balance sheet framework will be a focus in 2022.
→ Chapter 5

As part of our ISO 14001-certified international environmental management system, we will also work to improve our environmental performance with regard to other environmental aspects such as water use and waste reduction.

Resource and material efficiency
Our measures focus on the entire value creation process. Projects to save materials in our products lead to a more careful use of resources in our procurement. Increasing the environmental compatibility of our packaging concept leads to lower environmental impact from the point of purchase to the customer.

Increasing the efficiency of resources and materials is a priority at our plants. The continuous reduction in the number of defective goods and the consistent fluid management in metalworking are just a couple of examples.
→ Chapter 6

Climate protection and energy efficiency
Delivering our products to our customers for their use on-site results in significantly higher CO_2 emissions compared to our manufacturing processes. That is why we will continue to expand our Energy Saving Services which will help our customers to reduce their energy consumption-related CO_2 footprint significantly in the next few years. This service is supplemented by advice on the energy-efficient planning and designing of our products.
→ Chapter 7

The development of energy-efficient and smart products and solutions is another important element in our efforts to help our customers increase their climate-friendly production. We also want to optimise our delivery processes with regard to the associated CO_2 emissions. Measures include the procurement and manufacture of our products centred around the sales market and the reduction of air freight by transferring it to rail or ship transport. We will report on the results of the individual projects.

Technical basic and further training and CER
Along with climate protection, technical basic and further training is the most important pillar in our efforts to become sustainable.
→ Chapter 8

Examples of our activities are:
- Learning solutions as the key to environmentally friendly innovations
- Making high-quality learning content accessible to as many people as possible with the Festo LX digital learning portal
- Getting young people excited about technical topics with Bionics4Education
- Promoting learning through competitions with numerous activities

Our activities relating to the areas of action in the reporting period of 2021 and their effects on procurement, our customers and society are explained in the following chapters with the help of corresponding GRI indicators.

2. Festo footprint

Sustainability can be divided into three areas: economy, ecology and social issues. A balance between these areas is important for sustainable development. In a globalised economy, companies must take responsibility for this balance, both in their own footprint and that of their suppliers. Festo faces up to this responsibility and represents this attitude along the entire value chain.

Through our involvement in various networks and initiatives, we communicate openly with a wide range of stakeholders and partners and are clearly committed to the defined standards and guidelines. This is because our responsibility does not end at our factory gates.

→ GRI 103-1


8 DECENT WORK AND ECONOMIC GROWTH
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS

2.1 Regional distribution of purchasing volume

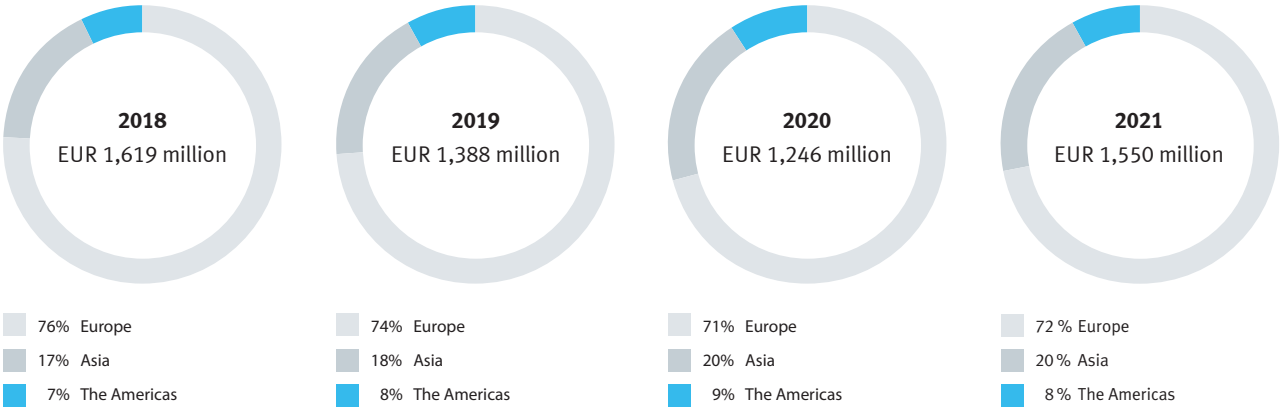
Industrial production has largely detached itself from the effects of the pandemic situation and is increasing in all regions. This is also reflected in Festo's direct and indirect purchasing volume (production materials and non-production materials), which increased to 1,550 million euros in 2021.

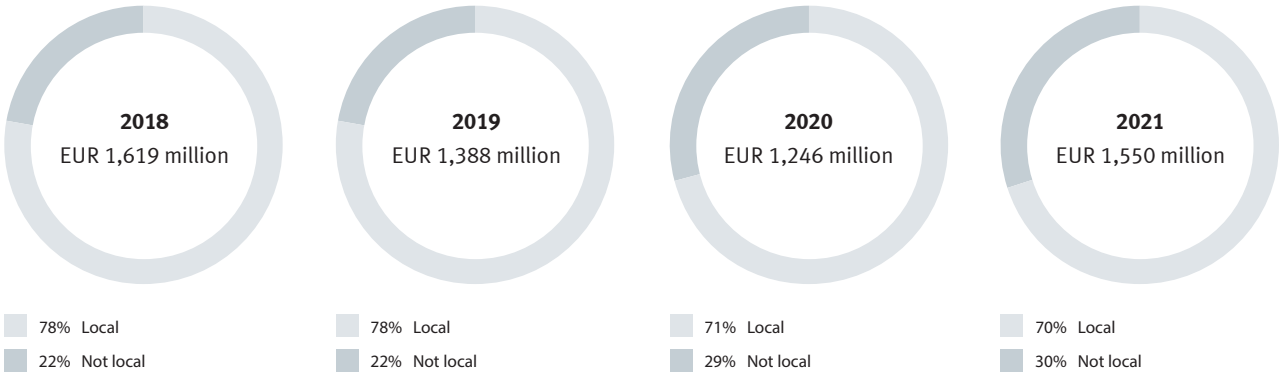
Non-production materials refer to all production plants (Festo Global Production Centres – GPCs), local sales companies and production materials.

→ GRI 204-1

Festo is constantly expanding its global supplier network, consisting of local and non-local suppliers. By 'local' we mean procurement within the country of the respective national Festo company. Compared to the previous year 2020, the number of local suppliers has remained constant in 2021.

The 'local for local' strategy will continue to be pursued in 2021 to enable a reduction in delivery times throughout the supply chain as well as a reduction in transport routes. The aim continues to be to increasingly procure goods in those countries where production takes place.





GRI 204-1: Regional distribution of the direct and indirect purchasing volume of the Festo Group

2.2 Sustainable procurement

Festo's purchasing structure is characterised by the procurement of semi-finished products, components and finished parts. Aluminium, steel, or stainless steel, and plastic are among the most important materials.

The products purchased by Festo have an ecological effect on several levels. In addition to the finite nature of resources, the consequences of raw material extraction and the resulting CO_2 emissions must be taken into account. For the year 2021, we have succeeded for the first time in estimating the latter quantitatively.

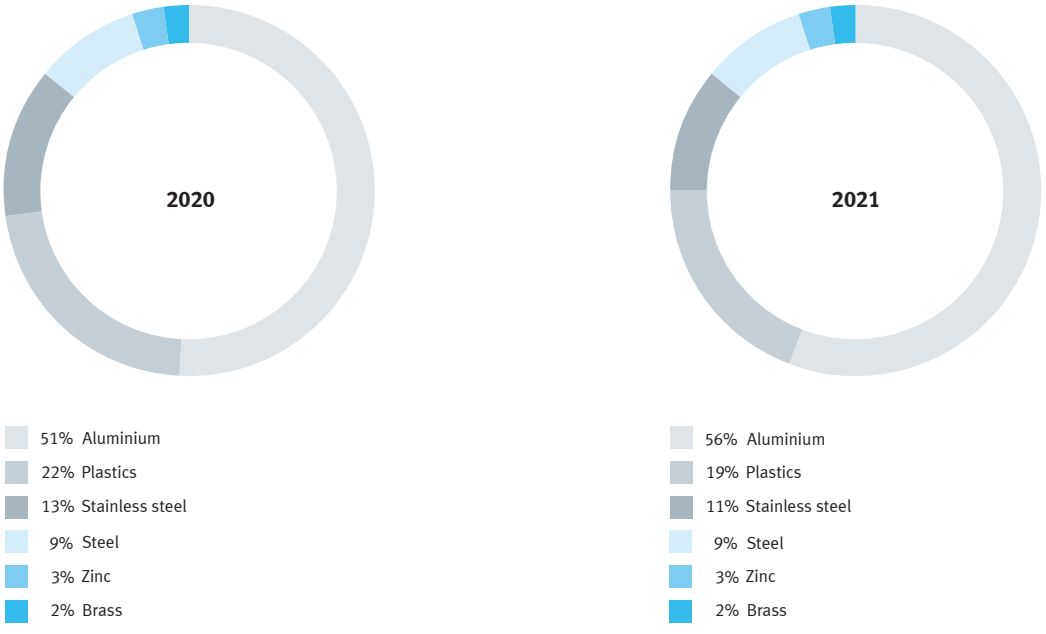
Due to increased incoming orders, the quantities purchased have risen compared to last year. The quantities of materials purchased in 2021 in tonnage have been visualised in the diagram below. → GRI 301-1

More than half of the raw materials purchased to manufacture our products are primary and secondary aluminium components (cf. chapter 6). Around 20 per cent relate to steel or stainless steel, 19 per cent are plastic granules or parts and 4 per cent are other metals.

Furthermore, prefabricated electrical components and electromagnets are used. In addition to production materials, non-production materials such as vehicles, IT infrastructure and operating materials as well as services must be taken into account.

The aluminium supply chain begins with the mining of bauxite. The raw material for aluminium production has adverse effects on the environment depending on the mining region. The great economic importance and the supply risk of bauxite led to bauxite being declared a critical raw material by the European Union in 2020. By sourcing secondary aluminium, we save up to 90 per cent of emissions and conserve bauxite stocks. → GRI 102-9

The CO_2 emissions during the production of individual materials differ considerably. Besides aluminium, purchased electronic components, stainless steel and new plants and buildings have the greatest impact. Preliminary calculations show a total amount in 2021 of 359,717 tonnes of CO_2 equivalents, which were generated during the production of purchased materials and the use of services. The quality of the data is improved continuously.



GRI 301-1: Distribution of the purchasing volume by materials

Environmental and social standards for suppliers
The commitment and monitoring of our suppliers for compliance with social and environmental standards is part of our corporate responsibility. At Festo, every supplier (100 per cent) is therefore evaluated and checked with regard to environmental and social criteria. → GRI 308-1, GRI 414-1

In 2021, the Code of Conduct for Business Partners (BP CoC for short) was rolled out globally. All suppliers must confirm compliance with our BP CoC with their signature.

By signing this document, our suppliers undertake to demand compliance with these agreements from their suppliers as well. If the responses are not satisfactory, appropriate action is taken. Festo is careful not to accept any supplier with a risk.
→ GRI 308-1, GRI 414-1

Evaluation according to environmental criteria
All our suppliers go through defined processes in which they are evaluated according to various criteria. A distinction is also made for technologies and production processes with higher or average environmental impacts. For suppliers with a higher environmental impact, certification according to ISO 14001 (or the Eco-Management and Audit Scheme – EMAS) is required. Alternatively, Festo will conduct an environmental audit at the supplier's premises. Due to Covid-19, no environmental audits of suppliers could be carried out in 2021.

For dealers (distributors), the certification of the actual manufacturer is used. → GRI 308-2

Evaluation according to social aspects
Since the introduction of the sustainability audit in 2017, a total of 270 suppliers from 31 countries worldwide have been checked using social criteria. No negative effects were found.
→ GRI 414-1, GRI 414-2

The Festo Group is guided by the principles of the Business Social Compliance Initiative (BSCI) to establish an ethical supply chain. Festo will not tolerate any infringement.
→ GRI 407-1, GRI 408-1, GRI 409-1

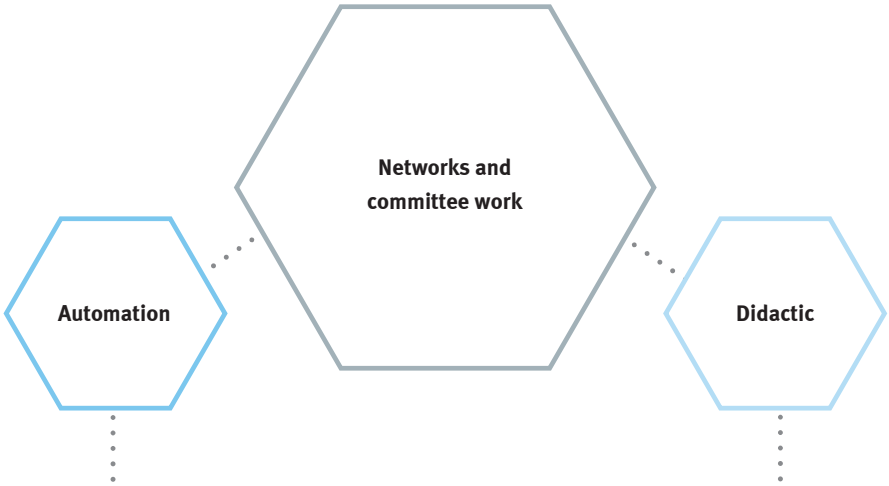
The existing supplier self-assessment was expanded in 2021 with regard to evaluation according to social aspects, resources and material efficiency and the use of conflict minerals.
→ GRI 308-2, GRI 414-1

Dealing with conflict minerals
In order to support the sustainable use of conflict minerals, we disclose the smelters from which the raw materials for our products come within the framework of the Responsible Business Alliance. By filling out the Conflict Minerals Reporting Template (CMRT), we are helping to create the necessary transparency to continuously increase the proportion of certified smelters worldwide. Festo expects its business partners to comply with all applicable regulations regarding conflict minerals.
→ www.festo.com/compliance

2.3 Networks and committee work

Partnerships and networks mean significant added value for mutual exchange and working across corporate boundaries. Our Automation and Didactic business divisions work both nationally and internationally as part of various committees and associations concretely on the issue of sustainability. An allocation is shown in the chart below.

→ GRI 102-12, GRI 102-13



- 5G Alliance for Connected Industries and Automation (5G-ACIA)
- Working group for Business and Human Rights of the German Engineering Federation (VDMA)
- Stuttgart CSR network
- Various employer associations
- European industry umbrella organisation ORGALIM (indirectly via VDMA and ZVEI)
- EuropElectro (representing the interests of European industry in China)
- Fraunhofer Institute for Production Systems and Design Technology
- ISO and IEC standardisation committees for automation technology
- Industry 4.0 platform
- Stiftung KlimaWirtschaft – German CEO alliance for climate and economy
- SustaiNet – business network
- VDMA Blue Competence sustainability initiative
- German Electrical and Electronic Manufacturers' Association (ZVEI)

- ADEA – Association for the Development of Education in Africa
- German-African Business Association
- CIRP – Collège International pour la Recherche en Productique – International Academy for Production Engineering
- Didacta Association
- Don Bosco Tech Africa
- European Institute of Innovation & Technology (EIT)
- iMove
- German Asia-Pacific Business Association
- Eastern Europe Business Association of Germany
- Industry 4.0 platform
- UN organisations such as UNESCO, UNIDO, UNICEF, UNHCR
- VDMA
- WEF – Advanced Manufacturing and Production
- Worlddidac
- WorldSkills Africa
- WorldSkills international

3. People at Festo

In order to live up to our mission and promise every day, the development of a sustainable workforce is a must. We therefore see lifelong learning as an essential part of our corporate culture. We put people at the centre and create the foundations for a secure and trusting relationship. At Festo, protection of labour, corporate health promotion and respect for valid employee rights form the basis for this. We offer fair and performance-related pay as well as flexible working models to improve work–life balance. This is because a healthy, motivated and efficient workforce is the guarantee for success for every company. → GRI 103-1

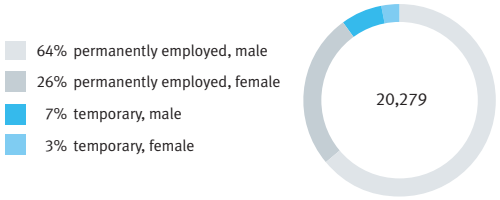
3.1 Staff development

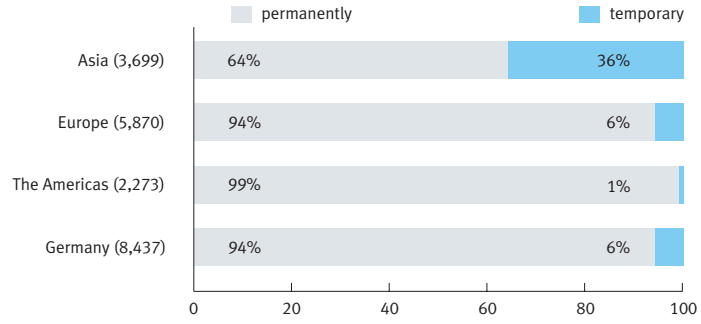
Committed, performance-oriented, qualified and adaptable employees are one of the prerequisites for Festo's business success. We therefore strive to attract, retain and develop the best employees. In 2021, the Festo Group had a total of 20,757 employees in 62 countries worldwide. → GRI 102-8

Employment contracts by gender and region

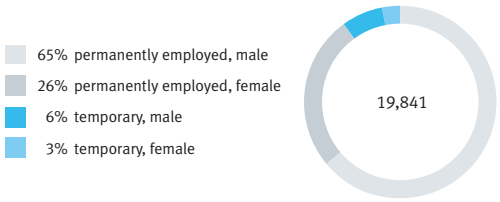
The total number of permanent and temporary employment contracts is shown in the graphic below. There are also activities carried out by trainees and students that do not fall into these two categories. In 2019, this number was 599, in 2020 the number was 582 and in 2021 the number increased to 753. → GRI 102-8

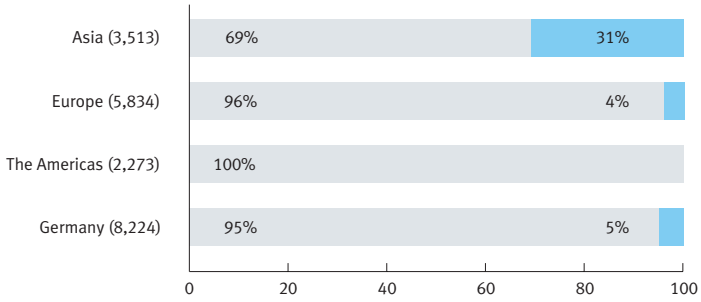
Employees by gender and region in 2019



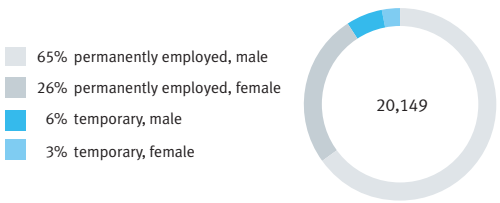


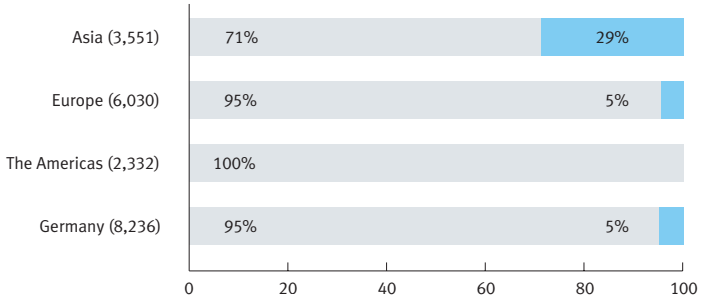
Employees by gender and region in 2020





Employees by gender and region in 2021





GRI 102-8: Information on employees and employment by gender and region

New employees and employee turnover

The following shows both the total number of new employees and employee turnover by gender, age group and region. In 2020, there was a reduced employee turnover due to the pandemic. In 2021, the employee turnover is at the same level as before the pandemic.
→ GRI 401-1

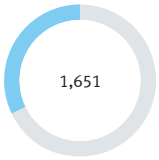
Attractive employer

All in all, various programmes and measures help Festo to position itself as an attractive employer. With solutions such as working remotely and new concepts for the 'new normal', we offer our employees further attractive options for individual organisation of their working hours.

New employees in 2020

69% male
31% female

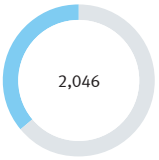
Employee turnover in 2020



68% male
32% female

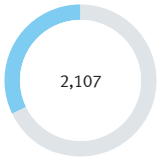
GRI 401-1: New employees and employee turnover by gender in 2020

New employees in 2021



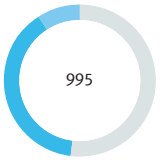
64% male
36% female

Employee turnover in 2021

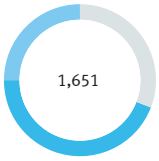


68% male
32% female

GRI 401-1: New employees and employee turnover by gender in 2021

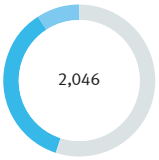


52% ‹ 29 years
39% 30–49 years
9% › 50 years

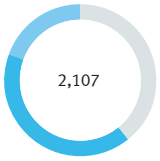


31% ‹ 29 years
44% 30–49 years
25% › 50 years

GRI 401-1: New employees and employee turnover by age in 2020

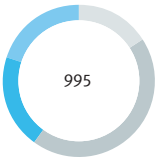


55% ‹ 29 years
36% 30–49 years
9% › 50 years

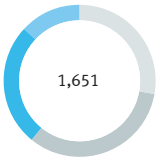


39% ‹ 29 years
41% 30–49 years
19% › 50 years

GRI 401-1: New employees and employee turnover by age in 2021

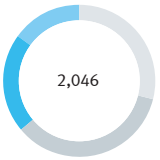


16% Germany
44% Europe
20% Asia
20% The Americas

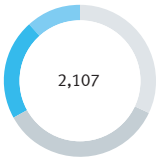


28% Germany
33% Europe
26% Asia
13% The Americas

GRI 401-1: New employees and employee turnover by region in 2020



29% Germany
35% Europe
21% Asia
15% The Americas



33% Germany
36% Europe
22% Asia
12% The Americas

GRI 401-1: New employees and employee turnover by region in 2021

Our offer of individual organisation of working hours goes beyond the models regulated by law in some countries (part-time work, parental leave and care leave). Self-determined and flexible working enables a better work–life balance in the age of digitisation. In this context, mobile work is a format in which the work tasks can also be fulfilled outside the company premises.

All employees in Germany – regardless of whether they work part-time or full-time – receive fair overall remuneration and attractive social benefits such as:

- Limited places in nurseries for children of employees.
- Family service and social counselling by external counselling partners.
- Holiday care for children of employees.
- Company pension scheme.
- Social fund for special financial burdens (*Freud- und Leidkasse*).
- Variety of sports and health offers.
- Further training (face-to-face and e-learning) and innovative learning offers.
- Options for bicycle leasing with employer subsidy.
- Subsidised canteens or meal subsidies for our branch offices.
- Discounts on various discount portals and with regional partners.
- Discounts on local public transport at the Esslingen site.
- Special leave (e.g. wedding, moving house or birth of child).

→ GRI 401-2

Total remuneration and collective agreement

The total remuneration package consists of a monthly basic salary, a performance-related remuneration component and a number of additional benefits such as a company pension scheme. This enables fair remuneration for personal performance and promotes employee motivation. Remuneration is based on tasks or activities and is therefore independent of gender.

→ GRI 405-2

The appreciation and responsibility towards our employees is reflected in good remuneration and working conditions, which at least meet all relevant local and legal requirements. In Germany, the companies Festo SE & Co. KG, Festo Didactic SE, Festo Polymer GmbH and Festo Vertrieb GmbH & Co. KG are subject to the collective agreement of IG Metall.

→ GRI 102-41

3.2 New working world: ‘new normal’

The coronavirus pandemic has also changed the world of work. Working from home has been the order of the day for many employees at our German locations since March 2020. However, what will the world of work look like after the coronavirus pandemic? Will employees spend every working day back in the office? How will you be able to work most efficiently in the future and where will which task be completed most effectively?

The concepts of new work, ‘new normal, new work’, deal with precisely these questions. Remote work, working digitally, working models, office concepts, etc. are just a few keywords that also influence Festo. As an attractive employer, Festo is therefore already working on its first pilot projects.

Four pilot projects

Festo is currently running four pilot projects in which colleagues are testing a possible working model of the future: flexibly switching between remote and in-person work. The idea is to work without a fixed workplace, with bookable work options in different zones – e.g. a quiet work zone, a communication zone or a meeting zone.

The pilot projects will test whether such a flexible working model makes sense for the first time – and, above all, what needs to be taken into account in everyday working life. The biggest change will probably affect one’s own desk one day: there should only be a few workplaces that are permanently designated to certain people. For example, colleagues that reliably work in the office almost every day. With the first pilot projects, Festo hopes to gain insights into what an office working environment could and could not look like in the future.

Revolving mobile and in-person work

Mobile work has established itself as an important supplement to working in the office. And also among the participants of the pilot project, the tendency is clear from the start: in future, the majority want to intermittently take advantage of mobile work and therefore not be permanently present in the office. In the pilot areas, Festo is therefore currently testing the shared-desk model and standardised equipment such as a docking station and monitor.

Social solidarity

However, social and collegial solidarity should not be underestimated as part of the transformation of the world of work. Therefore, the question is: how can Festo manage to combine ‘the best’ of both worlds and integrate this into everyday work on a long-term basis?

Findings from pilot projects influence the new normal at Festo

Regular feedback opportunities will be held to record and reflect on the experiences of the colleagues in the pilot projects: how will the shared desk work, for example? What (perhaps still unforeseeable) obstacles are there?

The pilot projects were carried out in coordination with industrial safety, the works council and in accordance with the specifications for occupational health and safety.

3.3 Diversity

In our globally active company, employees and business partners of different nationalities, cultures, religions and approaches to life come together. Respect, tolerance, appreciation, fairness and openness are the basic requirements for this cooperation.

Diversity by nationality

We are convinced that mixed teams can work more creatively and efficiently than homogeneous groups. In terms of origin, we continue to benefit from the cultural diversity of our workforce. In 2021, employees from 105 nations successfully came together at Festo. This diversity helps us, as a company active in more than 60 countries, to understand the specific needs of our customers worldwide. You can find more on diversity by nationality in the top chart on the right.

Diversity by age and gender

In 2020, a total of 1,176 people were employed in senior management (levels E, F1 and F2) worldwide. This corresponded to about 6 per cent of the total workforce. In 2021, the number of people in senior management remained constant. The charts on the following page show the diversity of management bodies and employees by age and gender.

→ GRI 405-1

Against the backdrop of demographic change and the promotion of diversity within the company, we have been encouraging our managers since 2020 to evaluate female employees and younger junior staff in terms of their potential and a next career step and prepare them for our talent management programme.

Women@Festo – the women's network at Festo

Women@Festo is a network of women for women within Festo Germany. The women's network, human resources and the 'Work and family of the works council Esslingen' committee conducted a survey on equal opportunities in May 2021. The aim was to find a status quo. In addition, the survey results were subsequently discussed in a workshop with 160 female colleagues, the Women@Festo network, the head of Personnel and the works council, and possible fields of action were defined.

The first immediate measure was and is to improve communication on the offers already provided by Festo for its employees. The format 'Women@Festo asks …' was implemented here. Other measures will follow. The survey was directed at all female employees at the Esslingen locations with access to a PC. The Esslingen colleagues currently without access to a PC and the colleagues at the Saarland locations will be interviewed at a later date for technical reasons. In total, over 1,300 women were contacted and 666 took part in the survey.

Proud@Festo – the LGBTIQ network at Festo

Proud@Festo is the LGBTIQ network (lesbian, gay, bisexual, transgender, intersex, queer) at Festo. The aim is to network LGBTIQ people and staff who uphold the visibility of diverse characters and lifestyles and for a tolerant life together. Specifically, it is about:

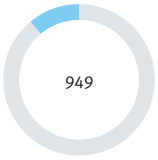
- Promoting visibility and acceptance.
- Enable networking.
- Being a point of contact for employees and management.
- Providing impetus on LGBTIQ issues in the company.
- Supporting the Festo Corporate Responsibility.
- Representing Festo in the context of LGBTIQ beyond company borders.

Festo Group total	Festo SE & Co. KG	Asia	Europe	The Americas
105	72	28	77	31
nationalities	**nationalities**	**nationalities**	**nationalities** (without SE & Co. KG)	**nationalities**

GRI 405-1: Diversity by nationality in 2021

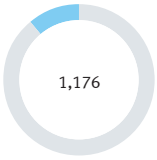
Management bodies

By gender in 2019



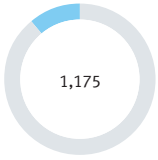
89% male
11% female

By gender in 2020



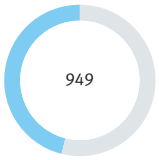
89% male
11% female

By gender in 2021



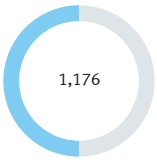
89% male
11% female

By age in 2019



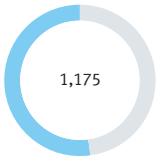
0% ‹ 29 years
54% 30–49 years
46% › 50 years

By age in 2020



0% ‹ 29 years
50% 30–49 years
50% › 50 years

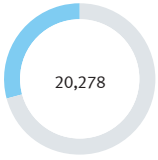
By age in 2021



0% ‹ 29 years
48% 30–49 years
52% › 50 years

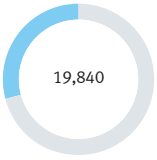
Employees

By gender in 2019



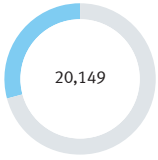
71% male
29% female

By gender in 2020



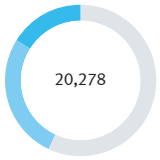
71% male
29% female

By gender in 2021



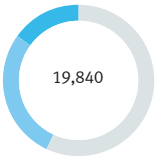
70% male
30% female

By age in 2019



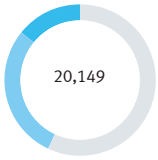
16% ‹ 29 years
57% 30–49 years
27% › 50 years

By age in 2020



15% ‹ 29 years
57% 30–49 years
28% › 50 years

By age in 2021



14% ‹ 29 years
57% 30–49 years
29% › 50 years

GRI 405-1: Diversity by gender and age

Discrimination
Festo rejects, without exception, any form of discrimination, harassment, degradation or other disparagement as well as the preferential treatment of employees or business partners on the basis of their ethnic origin, gender, religion, world view, political view, disability, age, sexual identity or other ethical, social and legally protected characteristics. Our managers and employees should be aware of their role model function here and ensure a working environment free of discrimination and harassment.

The General Act on Equal Treatment (AGG) transposes four EU directives into German law. In 2021, the intranet site of the internal AGG complaint offices was launched. In addition, there was a training offensive for all members of the complaints offices.

The aim was to establish a common understanding and to better understand the legal side as well as to discuss the process-related structures. Festo Germany is also committed to the 'Respect – no room for racism' campaign.

In addition, the topic of discrimination is repeatedly addressed and discussed in various courses (such as part of the course on compliance) and also among managers.

At Festo in Germany, incidents of discrimination can be submitted to a specially established complaints office. There is an established process for this, which is laid down in a regulatory agreement between the company and employee representatives. The principles and procedures of the AGG are taken into account. Internationally, incidents of discrimination can be reported on the whistle-blower portal.

In 2021, one case was reported, processed and closed in Germany. Following a complaint, the responsible manager is made aware of their responsibilities. → GRI 406-1

Inclusion at Festo
By signing the inclusion agreement, the Festo Group in Germany would like to support the requirements set out in the employer duties defined in the German Social Code, book 9. The design options of severely disabled people and the representation of their interests are taken into account and actively promoted by the company. We see the inclusion of disabled people, especially severely disabled people and their equal rights in working life, not only as a legal obligation, but also as a social obligation, the fulfilment of which is the joint responsibility of all those involved.

Inclusion is actively promoted in the following business processes and structures: recruitment and employment of severely disabled people, working time and mobile work, company promotion and qualification, workplace and work organisation, health management, prevention and company integration management. The objectives of this agreement are occupational and social inclusion and the provision of the necessary framework conditions for the participation of severely disabled people in working life at Festo. This commitment is also expressed in the Festo Group's Code of Conduct.

Compliance with the measures is jointly reviewed by the company management and the representatives of the severely disabled and the works council on the basis of the agreed measures and prepared in the annual progress report.

3.4 Training

The coronavirus pandemic was also a decisive factor for training at Festo in 2021.

New normal in training

In 2021, the first virtual sustainability day for second-year commercial trainees was held. Information relevant to the company on sustainability and company environmental management was conveyed interactively. Virtual 'at-home work placements' were continued in 2021. The training content was taught using the Festo Learning Experience (Festo LX) digital platform.

International training

As a global company, we also undertake responsible training activities in other countries – over and above the standards found there.

Vocational education systems worldwide were also aligned with the German dual work–study system in 2021. For example, the dual bachelor programme in electrical engineering was put in place in China. The first students have already started their training.

We have been training in India for three years. This year, two female CNC turning and milling apprentices already took the second and third place in a national competition and qualified to compete at federal state level – the preliminary competition for Worldskills.

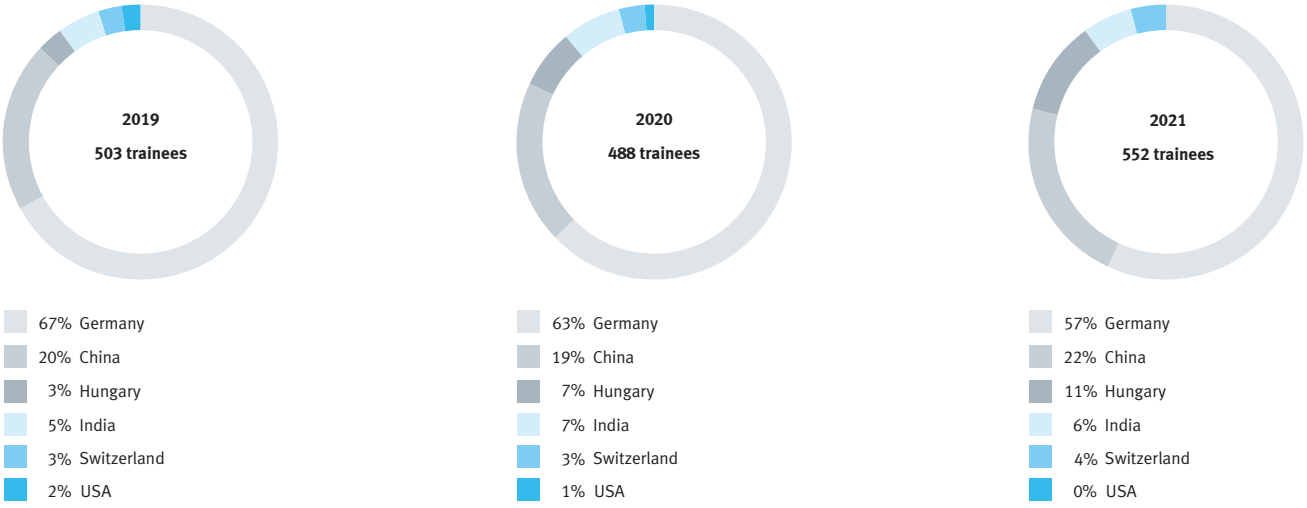
In Germany, two federal performance centres for mechatronics (Esslingen) and Industry 4.0 (Rohrbach) were opened. Our trainers use their expertise to prepare the participants of the German national team for the world championship of professions.

Trainees worldwide

The charts below show apprentice numbers worldwide throughout 2019–2021. Declining numbers of trainees in the countries are due to fluctuations in demand (including changes in occupational profiles). The total number of Festo trainees has remained almost constant on an international level. The figures for 2019 and 2020 were corrected because the definition of trainees was refined and there were isolated fluctuations.

Investment in training

In Germany, investments in our training amounted to around EUR 11 million in 2018, just under EUR 10.7 million in 2019, EUR 9.8 million in 2020 and approximately EUR 9.9 million in 2021.



Trainees worldwide in 2019–2021

3.5 Further training

Lifelong learning is anchored in Festo's DNA. At Festo, employees benefit from the combination of in-person training and e-learning (e.g. so-called LearningTubes or external online courses).
Due to the coronavirus pandemic, the face-to-face courses were conducted in 2021 in compliance with the applicable hygiene regulations.

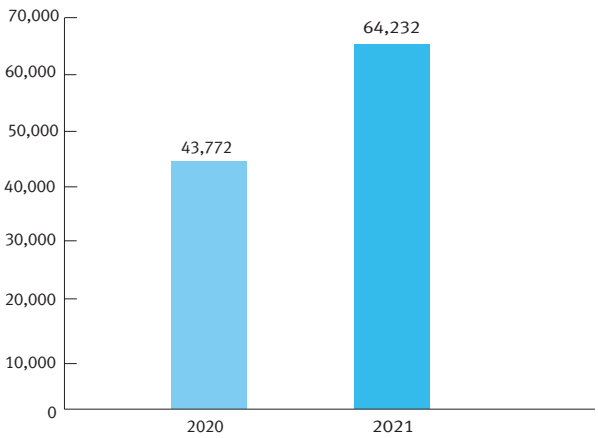
Since the Learning Campus was introduced in 2020, Festo no longer distinguishes between individual internal learning facilities. The Learning Campus is now the central platform for all learning offers at Festo worldwide. The aim is to offer employees a high level of flexibility to be able to further develop their skills.

Learning Campus users worldwide increased from 43,772 (2020) to 64,232 (2021). This number refers to participants who can also access learning content several times on different days. It must be taken into account that digital learning times currently cannot be surveyed in a measurable way. → GRI 404-1

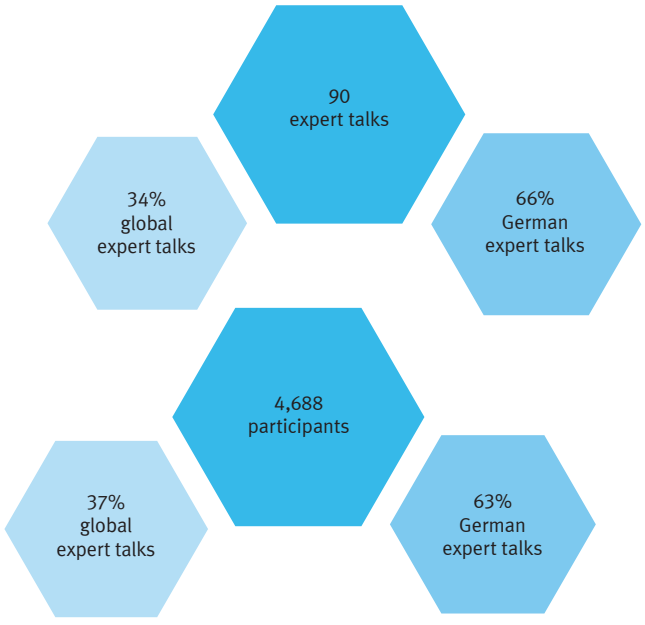
The advancement of digitisation and the challenges posed by the coronavirus have led to an intensification of virtual training at Festo. Since 2021, current Festo-specific topics such as 'Sustainable at Festo' or 'Reduce CO_2 footprint' have been communicated as part of global expert talks. The large number of over 4,600 participants shows that we are cutting edge.

There are also the LearningTubes. Here, colleagues can produce instructional videos designed to impart knowledge in small sequences. In 2021, an external digital training programme was made available to all employees. By the end of 2021, over 4,700 employees had already registered. → GRI 404-1

In addition, Festo Didactic has developed a digital learning portal called Festo Learning Experience (Festo LX) to be prepared for the future of learning and to create individual learning experiences for teachers and learners. The synergy effects of the different training formats have a positive impact on the learning culture at Festo.



GRI 404-1: Number of users of the Learning Campus worldwide



GRI 404-1: Distribution of number and participants of the expert talks

Professions in transition: capability shift
Tasks change, new skills become necessary and professions change. In future, development engineers will have to deal more with digitisation, electronics development, lightweight construction, function integration or energy efficiency. Capability shift is a process that Festo is already supporting today with specific measures. Depending on how comprehensive the individual further training needs are, there are different approaches such as 'upskilling', where skills can be acquired on the job, or 'reskilling' for employees who need completely new skills for their job.

The Festo Learning Centre and Festo Didactic are closely involved in these approaches. Cooperations with external universities or other educational institutions have also been planned. The goal is to position Festo for sustainable success with future-relevant competencies within the company.
→ GRI 404-2

In addition to the capability shift, another programme to improve employees' competences is the PeopleExcellence programme, which aims to systematically develop and improve the employability of staff. → GRI 404-2

Changing leadership: Leadershift@Festo
Festo's goal is to increase the maturity level of leadership worldwide. The activities in the Leadershift@Shopfloor initiative were therefore successfully continued in 2021. Alongside team leaders, the focus was now also on the target group of value stream leaders worldwide. The Leadershift@Sales initiative was also launched. Another initiative, Leadershift@BU/R&D, focuses on managers from the business units and research and development.

Parallel to the unit-specific initiatives, we have also made progress in designing collective group programmes to develop our managers. We are targeting middle management in 2022. These measures are complemented by the global introduction of 360° feedback, in which all Festo managers receive direct feedback from their employees, colleagues and superiors, allowing for one to reflection on one's own strengths and areas of development and forms a sound basis for the individual further development of every manager.
→ GRI 404-2

WeGebAU qualification programme
WeGebAU stands for 'Weiterbildung Geringqualifizierter und -beschäftigter älterer Arbeitnehmer in Unternehmen' (further training of low-skilled and marginally employed older employees in companies). It is a support programme of the German Federal Employment Agency and serves to provide vocational training for employees. It is supposed to improve employees' employment opportunities and skills and to counteract the shortage of skilled workers. Low-skilled workers with or without vocational qualifications are eligible for support.

The condition is that they have been doing a semi-skilled or unskilled job for at least four years and can no longer carry out the job they have trained to do. These are vocational training programmes that are shortened to two thirds of the regular training duration. After passing the examination, a recognised vocational qualification is obtained. The difference between the regular salary and the vocational training salary is compensated by the German Federal Employment Agency.

At Festo, the support programme was first introduced in 2017 with two employees and since then, ten employees have started vocational training – mainly as industrial mechanics.

3.6 Safety at work

For Festo, safety, especially health and safety at work, is an elementary part of its corporate philosophy. The maintenance and implementation of the technical safety requirements serve to protect our employees and the company's values.

In Germany, the Occupational Safety department supports and advises all areas in establishing a safety-conscious occupational safety culture. Internationally, occupational health and safety management in the regions is managed independently at the respective locations. In the plants, local experts are thus responsible for all operational processes. On the part of the central Security department at the headquarters, control and networking is carried out. Thanks to the Festo network for occupational safety, the specialists are in continuous exchange and make use of the given synergies.

The global safety standards are anchored in the integrated management system and written down in an international manual. They are continually and proactively being revised and are based on internationally applicable standards, regulations and Festo's requirements. In addition to the legal requirements, results from audits carried out and influences from the Festo network also ensure that everything is up to date.

The aim is to continuously reduce the risk of accidents and health impairments. In this context, Festo has already implemented the ISO 45001 occupational health and safety management system at its Budapest, São Paolo and Shanghai locations. This process is to be continued. In addition, numerous events and campaigns were initiated with a view to improving occupational safety.

Accident frequency rate worldwide

The accident frequency rate is calculated using the number of occupational accidents per million hours worked. The scope of calculation for the accident frequency rate worldwide in 2021 includes accidents in our global production (excluding indirect areas). All accidents are documented and analysed. However, the vast majority of accidents have a minor impact.

The accident frequency rate worldwide in 2021 was 11.15 accidents per million hours worked. Continuous raising of awareness for the topic of industrial safety is being widely worked on.
→ GRI 403-9

Days of absence due to accidents in Germany

The number of days of absence due to accidents at Festo's German locations in 2021 was 1,081 days, which is lower than in the previous year. → GRI 403-9

Accident statistics in Germany take into account accidents at work that result in at least one day of absence. At present, gender-specific differences are not being reported on and so they are not taken into account in the evaluation of occupational safety. This is also not planned for the future.
→ GRI 403-9

Industrial safety during the pandemic: vaccination campaign
Covid-19 also had a firm hold on us in 2021. But the development of vaccines gave everyone some hope. Festo also supported by administering vaccines and had already set up its first vaccination centres in mid May – just as the company doctors were integrated into the German vaccination strategy. At the beginning of June, the first colleagues in the Festo vaccination centres in Scharnhausen, Berkheim and Rohrbach were able to receive their coronavirus vaccination.

The vaccination team was also available for the second vaccination, as well as for the booster vaccination from December onwards. Alongside the company doctors and their assistants, the vaccination centres were supported by colleagues from industrial safety and by our company paramedics. Festo company doctors administered a total of 4,141 vaccinations.

In addition to the vaccination campaign, the coronavirus pandemic was countered with a number of other measures, for example, a multitude of risk assessments and the resulting hygiene concepts, or even the issuing of Covid-19 self tests for every employee to use in the office on a voluntary basis.

In addition, the nationwide introduction of 3G rules (fully vaccinated, recovered or tested negative) at all German locations was implemented immediately. Consistently keeping track of internal contacts in case of infections as well as the internal extension of quarantine regulations beyond the legal requirements were important components of the measures.

Before

After

Healthier working at the Rohrbach site
How high is the ergonomic strain at workplaces in production and logistics? How can the employees there be supported on an ergonomic basis? To answer these questions, the so-called EAWS system was put into action at the CSC Rohrbach logistics centre in 2021.

The software calculates the workplace's ergonomic strain and displays the results using the traffic-light principle: for example, red means that employees at a workplace have to move heavy weights at a very high frequency. This lead to a new crane system with a telescopic arm and a vacuum suction cup was installed to support the employee during handling. The EAWS post-assessment then changes to green.

The method with the EAWS tool also includes pulling and pushing, stress on the upper limbs, awkward postures, etc. and not just one type of stress. Medical training is not required, as the system independently evaluates the stress on the areas of the body.

By the beginning of October, all commercial workplaces in Rohrbach were examined, a map with the traffic-light system was created and measures were developed. At the end of 2021, jobs in production and at the Wiebelskirchen plant were also assessed. A corresponding investigation at the Hassel plant is planned until June 2022.

3.7 Holistic health promotion

Corporate health promotion (CHP) at our German locations can look back on a successful year in 2021. With our numerous online health offers, we have also been able to encourage many international colleagues to adopt a health-conscious lifestyle.

More than 2,500 colleagues took part in our measures on exercise, ergonomics, stress management, resilience, relaxation, sleep and nutrition in 2021.

Online nutrition workshops

There was especially a high demand for the online nutrition workshops, in which scientifically well-founded knowledge was conveyed and everyone then cooked together. Five free online nutrition workshops were held throughout the year.

Virtual health centre

Our virtual health centre was launched in February 2021. In addition to a live online course, the platform provides an extensive media centre with almost 100 resources on the topic of health.

World Diabetes Day action week

World Diabetes Day is on 14 November. Due to the widespread concern in Germany, we took advantage of this day to make our employees aware of this issue as part of an internal action week. We broadened the existing programme with the following offers: various events such as online talks on the topic of diabetes, individual online nutrition consultations, online nutrition workshops, preventive medical check-ups by the company doctors, stress analyses, online exercise units as well as a motto week in the canteens with one diabetes dish per day.

Photo: © OISHII Ernährungscoaching GbR

4. Ethics and governance

In order to achieve the goals of sustainable development, binding ethical and governance standards must be set and adhered to worldwide. Therefore, as part of our compliance, we commit ourselves to always act fairly and in accordance with applicable laws as well as applicable specifications, standards and guidelines. Legally compliant business processes and compliance with anti-corruption laws play a central role, as does respecting UN human rights and the National Action Plan for Business and Human Rights (NAP).

→ GRI 103-1


8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

4.1 Compliance

Compliance means ensuring adherence to laws and internal rules, to which the company independently undertakes to adhere. For Festo, upholding integrity and responsibility towards people and the environment is elementary. At all our locations, we attach great importance to acting ethically, legally and in accordance with the rules.

Compliance management system (CMS)

Festo has a zero-tolerance policy. This means that every violation will receive an appropriate sanction. In order to systematically ensure the avoidance of legal and reputational risks, Festo set up a compliance management system back in 2012, which controls and monitors the activities required to prevent legal violations. This is continuously expanded worldwide. → GRI 102-17

In 2021, to ensure and further raise awareness, 4,369 employees worldwide were trained in the issue of compliance. These training courses are conducted by Corporate Compliance, the Regional Compliance Officers and the 62 Local Compliance Officers, among others.

Whistle-blower portal

We have been offering our whistle-blower portal, which complies with EU Directive 2019/1937, since 2016. Here, employees and business partners worldwide can anonymously and safely report any misconduct or violations of our Code of Conduct or the applicable law without fear of reprisals. You can find the link and additional information on the whistle-blower portal at → www.festo.com/compliance

Regular review of CMS and business partners

Observance and implementation of the compliance regulations are subject to regular audits by the group auditing department. In addition, our compliance management system has been regularly audited by external auditors since 2015. No legal proceedings have been initiated due to anti-competitive behaviour or the formation of cartels and monopolies. → GRI 206-1

Since 2020, Festo has systematically checked selected business partners for regulatory requirements with the help of Dow Jones. This also ensures that we enter into ethically sound business relationships.

The sales partners of our Didactic business division go through the Dow Jones business partner check as an additional preventive measure against corruption risks. In the course of business initiation, potential future sales partners are subjected to a tool-supported due diligence process. Risks are systematically identified, recorded and mitigated where possible.

The audit process and its results are documented in the tool. The Compliance Officer of Festo Didactic is responsible for conducting the Didactic sales partner check. The respective Didactic managers are responsible for implementing the recommended measures.

Guidelines for internal and external documents
Our compliance guidelines include both internal and external documents and are accessible to every employee. At the turn of the year 2020/2021, our Supplier Code of Conduct was replaced by the Code of Conduct for Business Partners (BP CoC). Festo's expectations with regard to compliance with laws and standards as well as human rights and the commitment within the supply chain are set out in excerpts via the BP CoC to our business partners. Since then, this document has been mandatory for all our business partners.

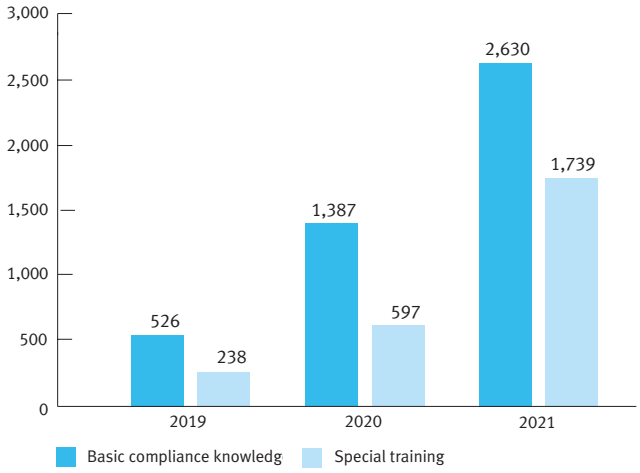
Both the Code of Conduct and the Code of Conduct for Business Partners are available for download in several languages on our corporate website.
→ www.festo.com/compliance

Compliance training offer
The Festo compliance training offer consists of basic compliance knowledge, special training and mandatory web-based training.

The central focus of the basic compliance knowledge is on the contents of the Code of Conduct as well as the internal compliance regulations. Basic compliance knowledge was also provided in 2021 in web-based training and at onboarding events at the Esslingen headquarters and in almost all national Festo companies. Within the framework of the special training courses, further focus areas of compliance are addressed in depth.

Compliance guidelines 2021
→ GRI 102-16

1) Code of Conduct
2) Code of Conduct for Business Partners
3) Anti-Corruption Policy
4) Antitrust (Antitrust Law)
5) Exclusion list of industries:
   Arms and nuclear industry
   → GRI 102-11



GRI 205-2: Information and training in anti-corruption strategies and measures

4.2 Human rights

Festo is fully committed to the values set out in the United Nations International Bill of Human Rights and expects the same from its business partners.

This covers all 30 articles of the Universal Declaration of Human Rights, the SA 8000 standard of Social Accountability International together with the eight core labour standards and the Declaration on Fundamental Principles of the International Labour Organization (ILO) – namely the freedom of association and the right to collective bargaining, the elimination of all forms of forced labour, the abolition of child labour and the elimination of discrimination in respect of employment and occupation.

On 16 June 2011, the UN Human Rights Council adopted its Guiding Principles on Business and Human Rights. These refer to all states as well as transnational and other business enterprises – regardless of their size, sector, location, ownership or structure.

To realise human rights, all actors depicted must fulfil their responsibilities. The primary duty rests with states to protect and implement human rights. Businesses should ensure that they respect human rights in all their activities. With the help of complaint mechanisms, both states and companies must ensure that human rights violations can be identified and that those affected are guaranteed remedial measures in the event of harm.

The chart on the right expands on our current measures to implement the Act on Corporate Due Diligence in Supply Chains (LkSG). In addition, we conduct system-based audits (embargo, sanctions list and goods list audits as well as a critical end-use audit) as part of our export control.

SustaiNet business network

We have been part of the SustaiNet business network since July 2021. There, together with seven other companies and the sustainability consultancy Sustainable Thinking, we are working in four teams to develop practical solutions in line with the LkSG and to build sustainable supply chains. In this way, we can continue to integrate sustainable action into our daily business.

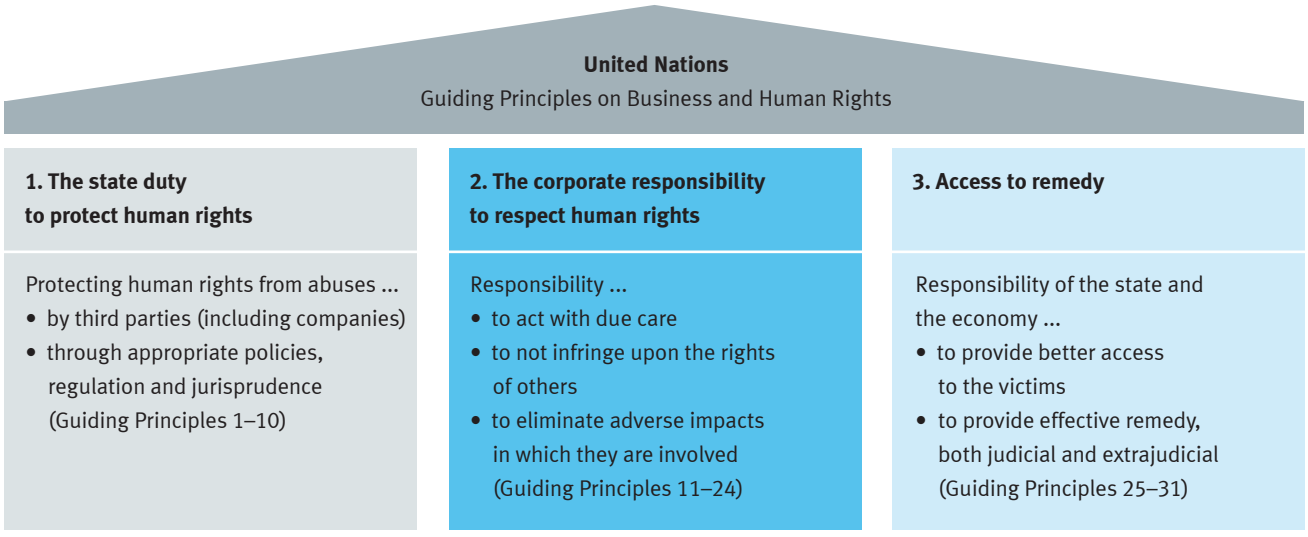


Chart based on the 'protection, respect and remedy' analytical framework

Measures and effectiveness monitoring
Since 2010, Festo has systematically addressed the issues of human rights and child labour with its direct suppliers in the international production network. Compliance with human rights and the prohibition of child labour are firmly agreed via the Code of Conduct, the Code of Conduct for Business Partners and as part of supplier audits. The existing supplier self-assessment was expanded in 2021 with regard to evaluation according to social aspects, resources and material efficiency and the use of conflict minerals.

1. Policy statement
Festo is committed to respecting human rights. The corporate duty of care for this is laid down in the Code of Conduct and the Code of Conduct for Business Partners.

2. Risk analysis
Since 2020, we have been working on a methodology to systematically assess human rights risks in the value chain. The aim is to identify risk countries in purchasing in order to take appropriate further steps. In 2021, selected business partners were systematically reviewed to check they meet regulatory requirements. This ensures that we enter into ethically sound business relationships. A human rights impact assessment as part of the Act on Corporate Due Diligence in Supply Chains has not yet been carried out at the Festo Group's business locations.
→ GRI 412-1

3. Complaint mechanism
A whistle-blower portal has been an integral part of the Festo compliance management system since 2015. Complaints or information about human rights violations can be reported anonymously. The next step would be a systematic processing of the complaint. → See Compliance, page 40

4. Reporting
As part of the sustainability report, the core elements of the Act on Corporate Due Diligence in Supply Chains are reported on annually. The GRI Index explains the corresponding key performance indicators (KPI) on the topic of human rights.
→ GRI 407-1, GRI 408-1, GRI 409-1, GRI 414-1, GRI 414-2 page 20
→ GRI 412-1 page 42
→ GRI 410-1, 411-1, 413-2 page 92–93

Current measures to implement the Act on Corporate Due Diligence in Supply Chains (LkSG).

5. Environment, energy and construction

Environmental protection, energy management and sustainable construction are closely linked with one another. Because besides treating the environment with care, the economic and efficient use of energy in the face of advancing climate change is a key task of the current era. The use of renewably generated electricity – whether through in-house generation using photovoltaic technology, wind and water power or by purchasing green electricity from a corresponding supplier – already has an enormous influence on the emissions of many companies' CO_2 balance sheets. At Festo, this is one of many examples of how cross-departmental climate management strategically counteracts the global increase in energy and resource consumption. After all, climate protection begins within your own four walls.

→ GRI 103-1


6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
13 CLIMATE ACTION

5.1 Environmental management

Society and industry face the challenge of conserving resources and counteracting climate change. This is because our energy consumption causes emissions and we need a reliable supply of resources for the production of consumer goods and industrial products.

This is also relevant for Festo's production. We have therefore established environmental management systems at all existing production plants and certified them according to ISO 14001. We continuously increase our energy and resource efficiency and minimise CO_2 and pollutant emissions from our production.

These measures also help us to reduce production costs, meet the demands of our stakeholders and be prepared for new legal requirements.

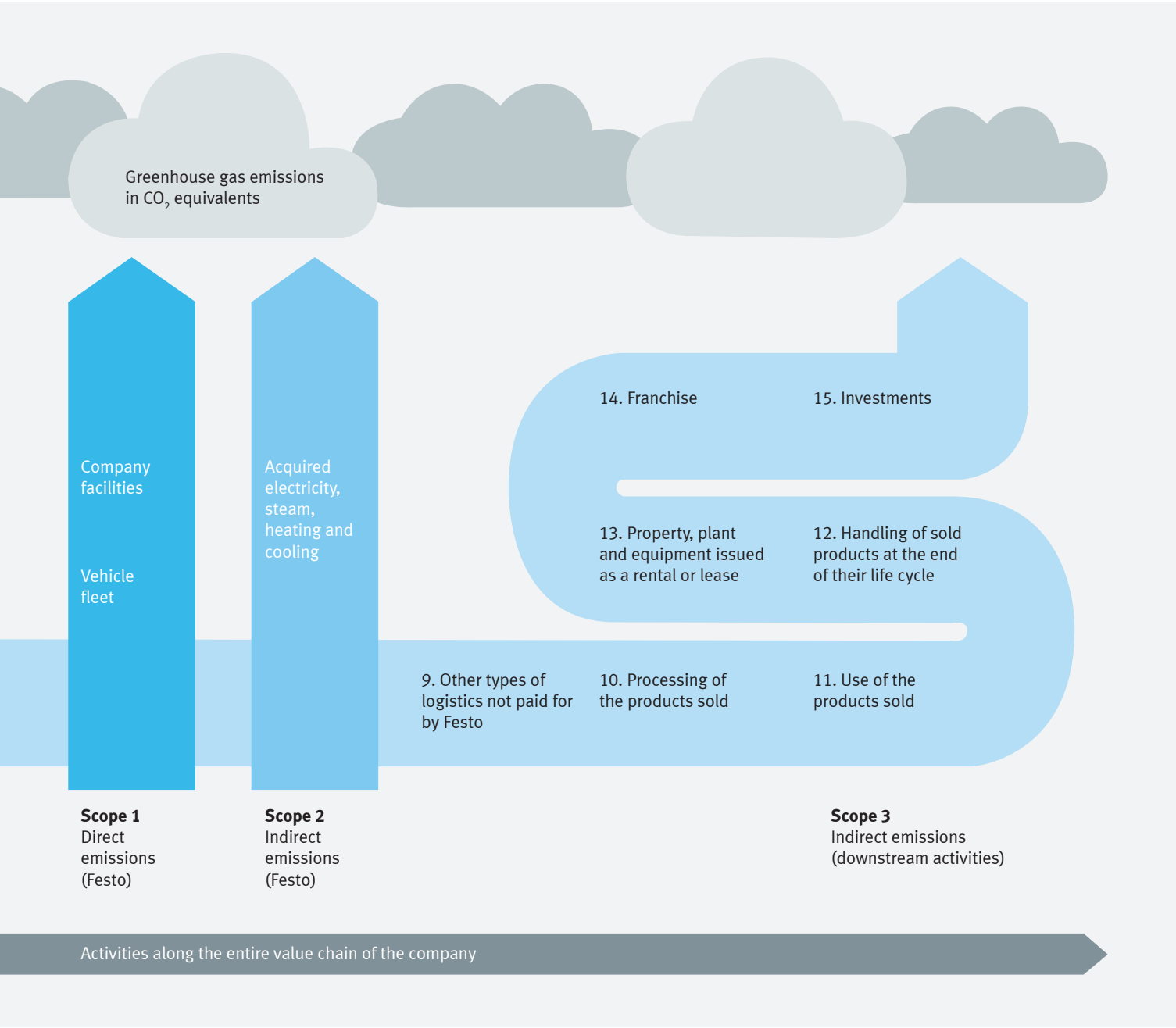
Recording of emissions according to the Greenhouse Gas Protocol

The Greenhouse Gas Protocol (short: GHG Protocol) is considered the most widely used international standard for recording and accounting for greenhouse gas emissions. It breaks down emissions into scope 1 emissions (direct emissions), scope 2 emissions (indirect emissions from final energy purchases such as electricity and district heating) and scope 3 emissions (other indirect emissions along the value chain).

Festo on the way to climate neutrality

Festo will massively reduce its carbon footprint over the next few years. As a result, by the end of 2023, all our production and logistics sites as well as the German sales locations and the corporate centres in Esslingen will be carbon neutral in terms of scope 1 and 2. Festo will thus make its contribution to compliance with the <2°C target of the Paris Agreement at an early stage.

Graphic based on the GHG Protocol


Greenhouse gas emissions in CO_2 equivalents
Company facilities
Vehicle fleet
Acquired electricity, steam, heating and cooling
9. Other types of logistics not paid for by Festo
10. Processing of the products sold
11. Use of the products sold
12. Handling of sold products at the end of their life cycle
13. Property, plant and equipment issued as a rental or lease
14. Franchise
15. Investments
Scope 1 Direct emissions (Festo)
Scope 2 Indirect emissions (Festo)
Scope 3 Indirect emissions (downstream activities)
Activities along the entire value chain of the company

Primary energy consumption and scope 1 greenhouse gas emissions

Among the primary energy consumptions→ GRI 302-1a, we document the fuel oil and natural gas consumption in the operation of our buildings and aluminium processing operations. This also includes the fuel consumption of the vehicle fleet in Germany, which is predominantly leased. We report on the CO_2 emissions caused by this in scope 1. Our production processes do not cause direct emissions of other greenhouse gases (e.g. process emissions).

Unlike in previous reports, fuel consumption and emissions from logistics between some of the European plants are no longer included in this category. In accordance with the requirements of the GHG Protocol, we will report these in scope 3.4 as soon as the database is complete and the methodological issues have been clarified. The emissions of cooling agents from cooling and refrigeration plants are negligible compared to CO_2 emissions – they are not reported.

In 2021, the primary energy demand was 89,127 megawatt hours, an increase of 6.0 per cent compared to the average of the three previous years. Several effects are expressed here: at the European locations, the colder and longer winter of 2020/2021 caused a higher primary energy demand. At the same time, an economic recovery took place at almost all locations after the first year of the pandemic in 2020 and in some cases there was some overcompensation for the declines in the previous year.

This led to an almost 20 per cent increase in stationary primary energy demand in Europe. The further expansion of our new plant in Jinan (China) brought a further increase in primary energy consumption. As in the previous year, the energy demand of the company's own vehicle fleet remained at an exceptionally low level. The outsourcing of part of the logistics from reporting described above exaggerates the effect.

Scope 1 emissions → GRI 305-1 are essentially derived from primary energy consumption. Only a shift between the various energy sources such as fuel oil, natural gas, diesel and petrol can lead to slight deviations. The influencing factors are correspondingly identical with those of primary energy consumption.

Scope 1 emissions are shown in the second diagram on the right and amounted to 18,767 tonnes of CO_2 equivalents in2021.

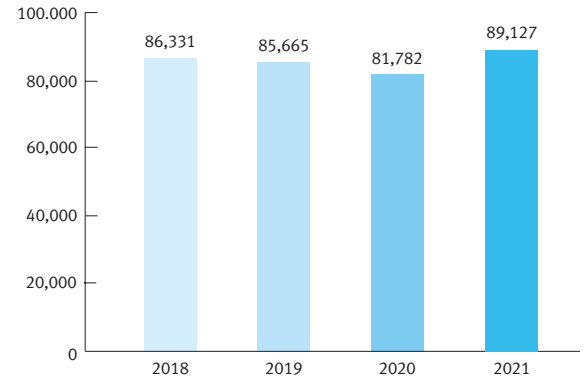
Final energy consumption and scope 2 emissions

Festo obtains its final energy→ GRI 302-1c almost exclusively in the form of electricity. Two locations are heated with district heating in an environmentally friendly manner. The associated emissions are reported in scope 2.

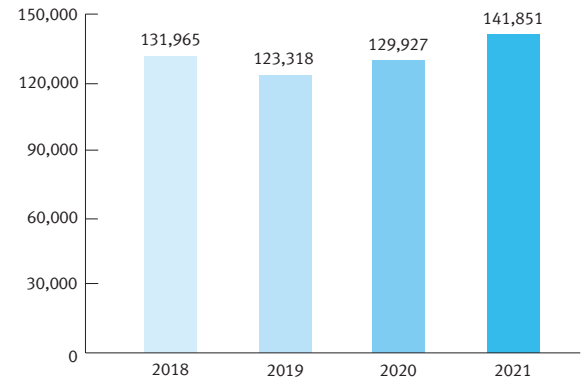
Final energy consumption was determined by two contrasting developments. A number of measures had the effect of reducing consumption. These included a further 67,250 square metres of manufacturing area were converted to energy-saving LED lighting. At the company headquarters in Esslingen, a now obsolete refrigeration system was replaced by a highly efficient absorption chiller. In contrast, the economic recovery and the expansion of production at the new Jinan plant had a significant impact on consumption. As a result, final energy consumption was 141,851 megawatt hours, 11 per cent higher than the average of the previous three years.

The development of scope 2 emissions is more positive. In contrast to the previous year, emission-free green electricity was able to be purchased for the German locations throughout the entire calendar year. As a result, scope 2 emissions fell by a further 6 per cent vis-à-vis the previous year to 52,167 tonnes of CO_2 equivalents, despite the increase in consumption described above. In the reporting year, preparations were also made for the global purchase of green electricity from 2024 at the latest.

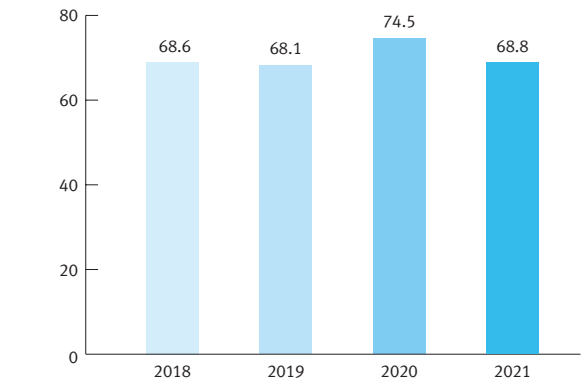
The total energy demand (primary and final energy) related to turnover fell to 68.8 megawatt hours/million tonnes. Euro back to the 2018 level. The negative effects of the pandemic were able to be compensated. However, a general increase in energy efficiency is not evident based on this reference figure. In contrast, the decoupling of emissions from scopes 1 and 2 from turnover continued. The relative greenhouse gas emissions amounted to 15.5 tonnes of CO_2 equivalents/million euros in turnover. This development is primarily due to the purchase of green electricity. We therefore expect it to continue with the global roll-out of green electricity purchasing in the coming years.



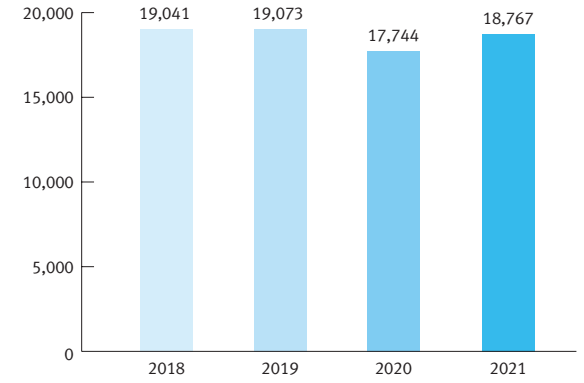
GRI 302-1a: Primary energy (fuel oil, diesel, gas, MWh)



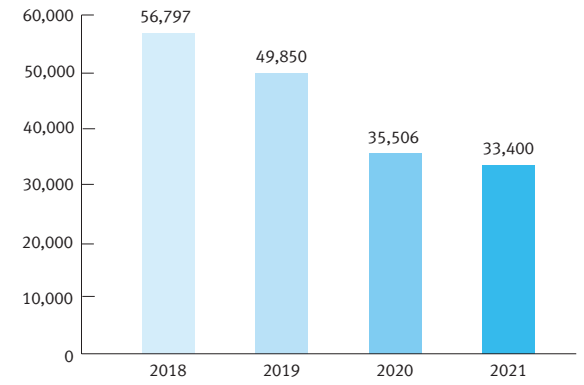
GRI 302-1c: Final energy (electricity, district heating, MWh)



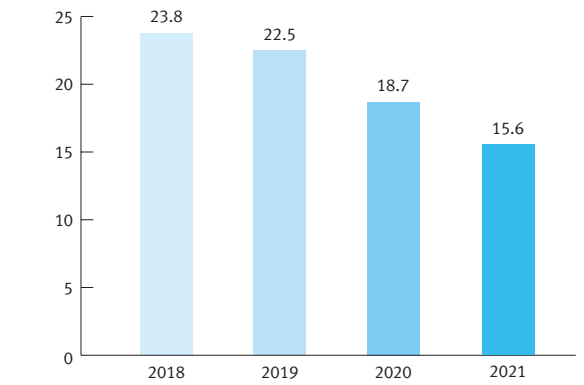
Energy consumption in relation to sales (MWh/EUR millions)



GRI 305-1: Direct greenhouse gas emissions (scope 1, t CO_2 equivalents)



GRI 305-2: Indirect energy-related greenhouse gas emissions (scope 2, t CO_2 equivalents)



Greenhouse gas emissions (scope 1 and scope 2) in relation to turnover (t CO_2 equivalents/EUR millions)

Scope 3 emissions

The scope 3 emissions→ GRI 305-3 as Festo's indirect greenhouse gas emissions along the value chain generally far outweigh scope 1 and scope 2 emissions.

According to the Greenhouse Gas Protocol, they are typically four times higher than scopes 1 and 2 emissions combined in the manufacturing industry. The GHG Protocol distinguishes 15 categories in this area.

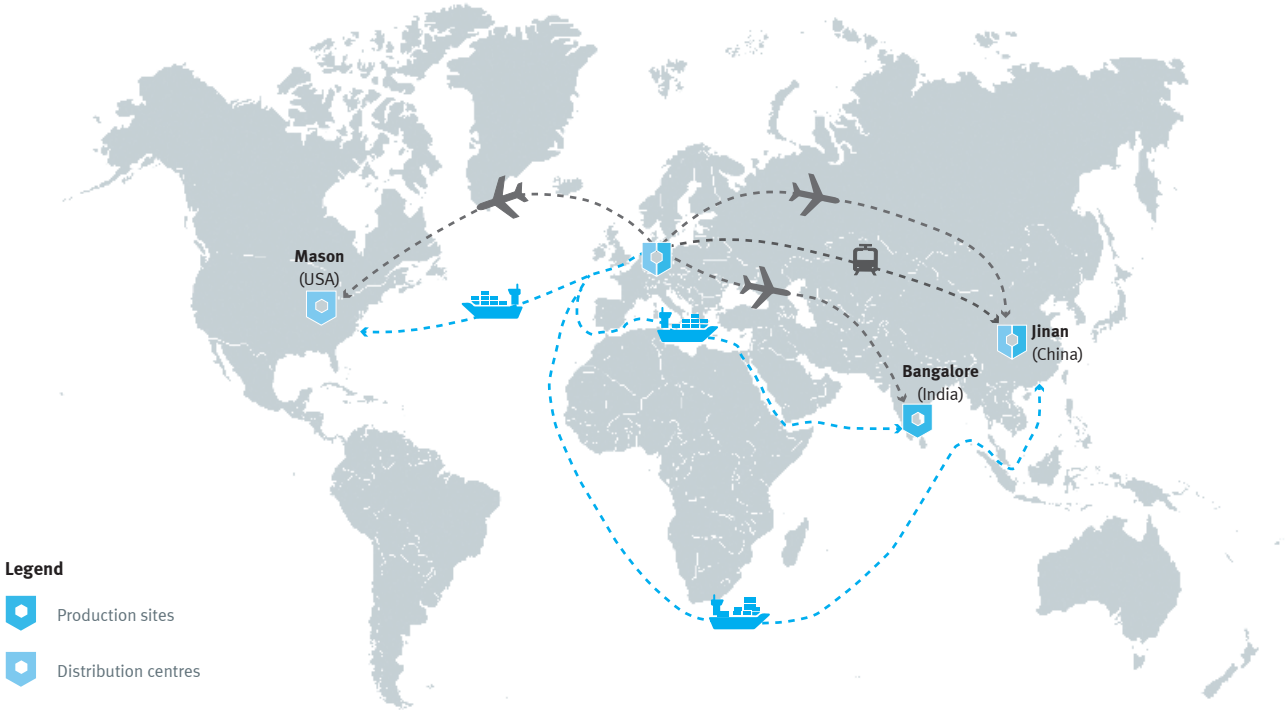
After previously taking a selective look at scope 3 emissions, we began to look at the individual categories in detail in the reporting year. Based on this, we will assess the materiality of the categories for Festo and determine which categories we will report on regularly in the future.

We assume that the majority of our scope 3 emissions are generated during the use phase of our products by our customers. They are classed as scope 3.11. The corresponding methodology for recording this reference data is currently under development.

Festo's network of supplier logistics, internal logistics between the plants and delivery logistics is complex. The need to be able to supply our customers worldwide within the shortest possible time requires a high proportion of air freight and makes the logistics network intensive when in regard to emissions. In 2021, we carried out analyses for three regionally significant delivery locations as to how air freight can be shifted to sea freight and transport emissions reduced by increasing inventories of high-volume products. The results will be implemented successively in the coming years. The figure below illustrates this schematically.

Environmental compliance

Festo has not committed any serious infringements of environmental law. However, small fines for breaches of regulations (for example in the transport of dangerous goods) cannot be ruled out. Non-sanctioned, short-term exceedances of wastewater and emission limit values may occur. Appropriate countermeasures are always taken. Wherever there are reporting obligations to the authorities in connection with exceedances, these are carried out. → GRI 307-1



Shift from air to sea freight by increasing inventories of high-volume products

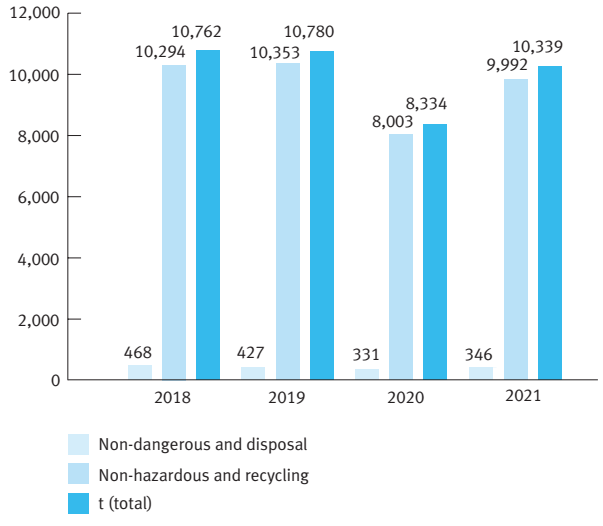
Waste indicators and transport of waste
Operation of production plants and buildings is always associated with the generation of waste. For this reason, for many years, we have been striving at all our locations to avoid waste or, if this is not possible, to recycle. The legal regulations applicable at the respective location are always fundamental for us.

Over the last four years, our locations have produced an average of around 12,109 tonnes of waste per year worldwide. The amount of waste increased by 22 per cent compared to 2020, but was slightly below the levels before the pandemic. Around 83 per cent was non-hazardous and 17 per cent hazardous waste. The recycling rate for all waste categories has been above 92 per cent for years.
→ GRI 306-3

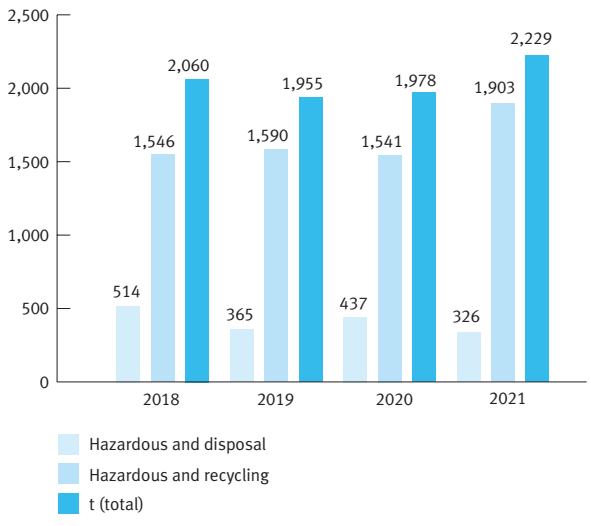
We have achieved this high level through a large number of group-wide and local measures, such as returnable packaging, low-waste production methods, separate and process-related waste collection, and ongoing measures to promote environmental awareness among the workforce.

We collect our waste at our locations and make it available for collection. The few types of waste that cannot be recycled, thermally recycled, composted or incinerated are deposited in landfills at local waste disposal facilities.

Our waste is disposed of exclusively by qualified waste disposal companies. We do not export or import waste.
→ GRI 306-5



GRI 306-4 and 306-5: Waste by type and disposal method for non-hazardous waste



GRI 306-4 and 306-5: Waste by type and disposal method for hazardous waste

Water consumption and wastewater

The Festo Group's water consumption was 303,269 cubic metres in 2021, almost a fifth higher than the average of the previous three years. With proportions of the total consumption of 33 per cent and 31 per cent, sanitary facilities and production were responsible for almost two-thirds of total water consumption. The proportion for production rose disproportionately due to the commissioning of an anodising plant in Jinan (China). The remaining proportions were distributed between cooling, mainly through evaporative cooling systems (20 per cent), and canteen operations. The irrigation of green areas and some other processes are less important.

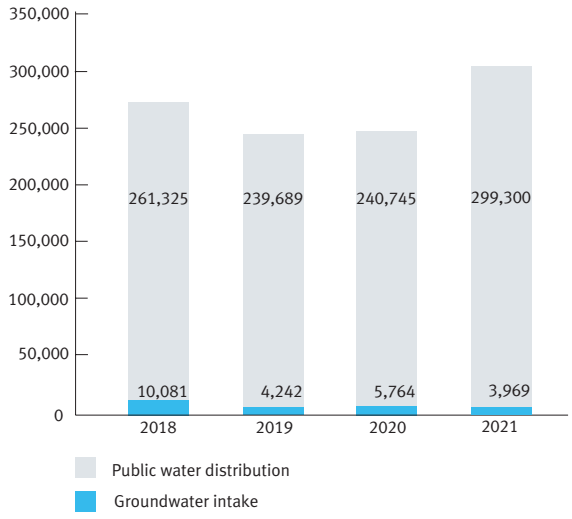
In all areas, we are implementing measures to continuously reduce consumption. Our own buildings are equipped with water-saving fittings throughout. Wherever possible, we optimise the production processes that generate wastewater and reuse the wastewater for other purposes.

In 2021, an evaporative cooling system was replaced with a hybrid cooler with minimal water consumption as part of the conversion of the cooling provision at the company headquarters. This saves between 3,000 and 4,000 cubic metres of water every year.

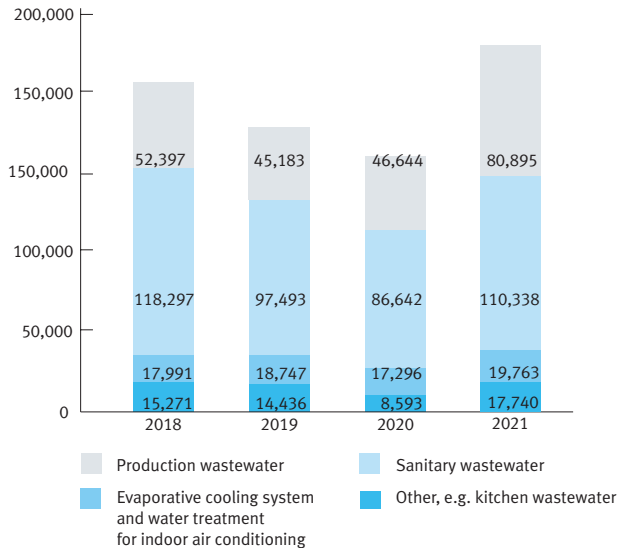
The diagram on the bottom left shows the water intake by source from 2018 to 2021. → GRI 303-3

We only discharge contaminated wastewater into the public sewer system. Our production wastewater is treated for process-specific pollutants before it is discharged. We hold the necessary permits for all treatment plants and monitor the treatment and pollutant parameters. With the exception of unpolluted rainwater, we do not discharge any wastewater into natural waters or groundwater.

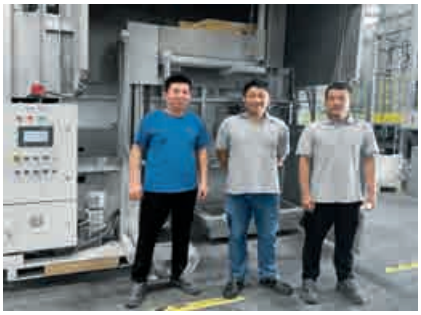
The diagram on the right shows the wastewater discharge by quality and discharge location from 2018 to 2021. → GRI 303-4



GRI 303-3: Water intake by source: public water distribution (m^3) and groundwater intake (m^3)



GRI 303-4: Wastewater discharge in terms of quality and discharge location (m^3)



Environment week in India
5 June is international World Environment Day. In June 2021, the production site in India used World Environment Day as an opportunity to organise an 'environment week' with various activities to protect the environment and promote environmental awareness.

Activities during the 2021 environment week included:
- Identifying potential environmental improvements within the factory in moderated workshops.
- Tips and tricks for environmental protection at home.
- Planting trees on the Festo Bangalore site.

Older employees planted trees at the Bangalore site, employees from different functions participated in the environmental kaizen activities and shared environmental activities and memories from their personal lives.

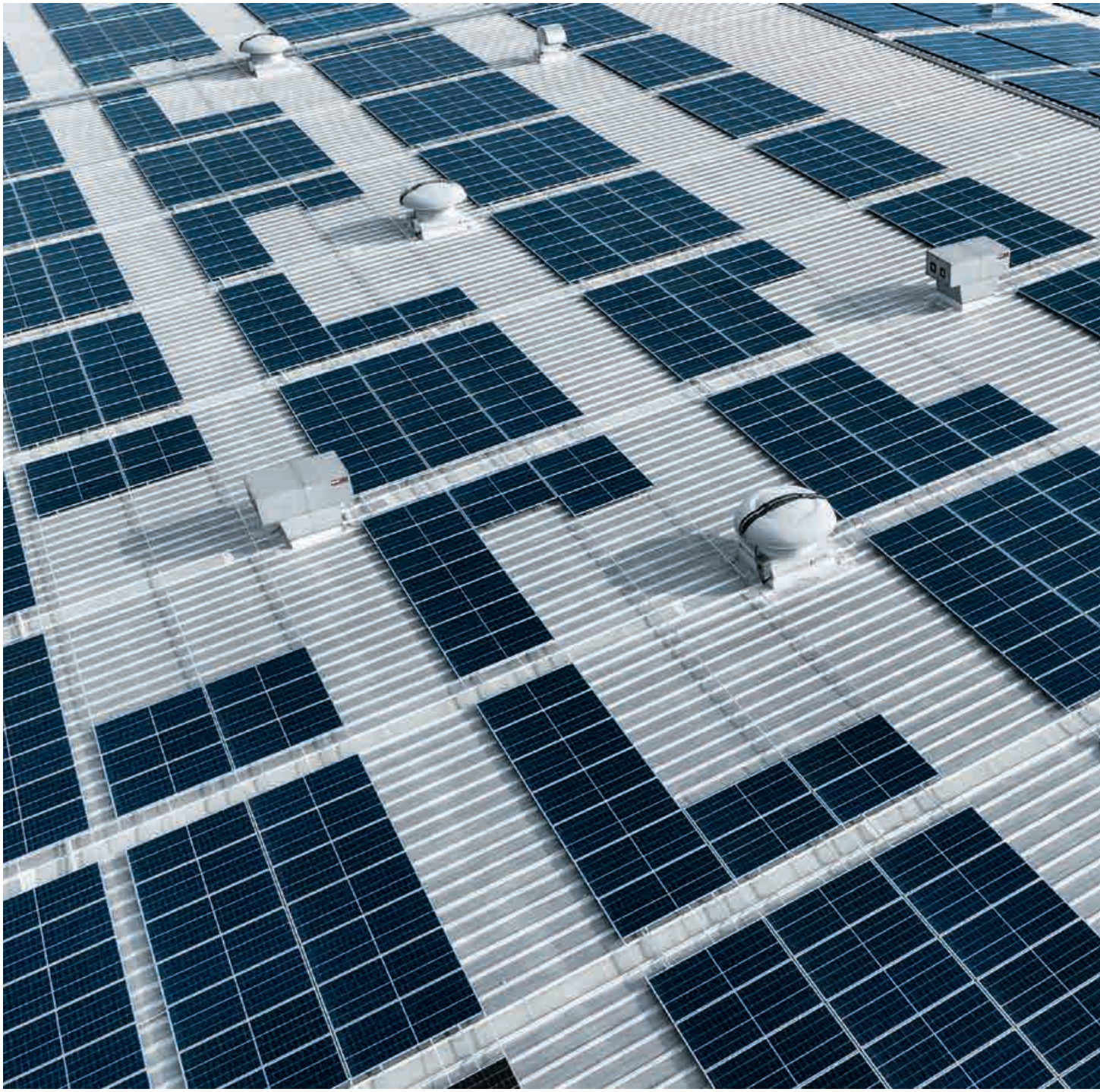
The environment week is just one example of many measures at the India site to protect and promote ecology and make a significant contribution to sustainable development in the process.

Bicycle leasing in Germany
In order to motivate employees to commute to Festo using other means of transport other than by car, we are working on new mobility concepts. Cycling is seen as an important part of the mobility concept as it can improve sustainability, health and performance. In this context, Festo Germany has been offering the option of bicycle leasing since 2021.

This is designed together with an external contractor who supports the leasing of bicycles with processes for selection, ordering and implementation. The instalments are paid by the employees as part of a gross salary conversion, and Festo supports this with a monthly subsidy. We expect up to 400 employees to participate covering an average of 1,200 km per year. This can save 480,000 kilometres driven by cars.

Culture of innovation: CIP World Cup
At the end of 2021, the CIP World Cup – the internal competition between all Festo plants for the cleverest improvement ideas – was held online for the second time. A total of 30 ideas from 13 plants worldwide were submitted in three categories. The continuous improvement process (CIP) plays an important role in Festo's culture. It's about the small ideas that can be implemented directly without the need for big projects and years until the changes become evident. It is precisely these small improvements that make a big difference to the whole company at the end of the day.

One category of the competition was 'Environment, safety and ergonomics'. The winners were the Jinan plant and the environment. Aluminium casting produces slag as waste, which has to be disposed of. Through the clever use of a collection container under the collecting bowl, excess liquid aluminium can be collected. Cooled into blocks, it can be used again in the next casting process. Every month, only four instead of five tonnes of slag have to be disposed of.



5.2 Photovoltaics

Festo's own renewable energy generation is also an important building block on the way to carbon neutrality in scopes 1 and 2. In addition to the use of geothermal energy, we see great potential above all in the use of solar energy to generate electricity.

After seven photovoltaic plants were established in the past with a total area of almost 7,000 square metres and an output of 570 kilowatt peak capacity, we were able to commission our largest photovoltaic plant by far at the Jinan plant in China on 8 November 2021. With an area of approximately 18,590 square metres and an output of 4,200 kilowatt peak capacity, we expect CO_2 savings of up to 4,200 tonnes per year. In the seven weeks after the inauguration to the end of the year, 514,400 kilowatt hours of electricity were generated in real terms and 484 tonnes of CO_2 were saved.

At our plant in Pieterlen, Switzerland, another plant was commissioned with a projected annual electricity production of 280,000 kilowatt hours.

The decision to achieve climate neutrality for Festo's international production network, its headquarters and the German sales company by the end of 2023 and subsequently for the entire Festo Group by the end of 2025 has set the course for new investments in further photovoltaic plants. In 2022, we will build three new plants in China and Germany, respectively. Two more are to be built in both Hungary and India, respectively. The investment volume amounts to more than EUR 4 million, and the expected CO_2 savings to over 3,000 tonnes per year.

6. Resource and material efficiency

Earth Overshoot Day took place on 29 July 2021. It is the date on which humans have used up all the natural resources that our planet can regenerate and sustainably provide within one year. For industry, this means assuming holistic responsibility for its products. Even in the early stages of product development, the focus must be on material efficiency and resource conservation. This is because the course for a sustainable life cycle – from production to use and disposal of the products – is already set here. At Festo, we also understand holistic product responsibility to include all other measures that ensure product quality and safety such as brand protection and the active combating of product piracy. → GRI 103-1


12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION

6.1 Packaging

Packaging is necessary to protect high-value products during their storage and transport. Finding the balance between sufficient protection, limiting packaging costs and the environmental compatibility of the packaging concept is no easy task. The continuous development and optimisation of our packaging concept is a challenge for the areas concerned at Festo.

Festo strives to achieve the highest possible proportion of packaging made from renewable materials. These include materials made of wood, paper, cardboard and corrugated cardboard. In 2021, this was just under 97 per cent for our largest distribution centre.

In addition, we aim to limit the proportion of packaging in our shipping volume. This amounted to a good 19 per cent – also for Germany – in 2021. The values are likely to be in this order of magnitude internationally as well.

Customer complaints received in individual cases about too much packaging material are unfortunately justified. Therefore, we try to find sustainable solutions whenever possible. The complaints are mostly due to an automatic packaging installation with limited standard sizes. Internally, our goal is to reuse packaging that has been received. We can measure this percentage in our plants in China – the reuse rate there is more than 80 per cent.

6.2 Use of aluminium

The environmental impact of primary aluminium is significantly higher than that of remelted secondary aluminium. Since 2019, we have been recording the proportion of secondary aluminium in our internationally procured aluminium volume in order to be able to identify positive or negative developments. In 2021, the balance sheet was completed by two aluminium fractions (plus 1,663 tonnes), which have a high proportion of secondary aluminium. Overall, a welcome increase to 78 per cent was observed in the secondary share (2020: 72 per cent). Due to significantly higher purchasing volumes (from 10,155 tonnes in 2020 to 18,275 tonnes in 2021), the carbon footprint still increased to approximately 69,300 tonnes (2020: 44,800 tonnes).

As aluminium is our most important raw material, we are working to keep this raw material in circulation. Possibilities for recycling aluminium briquettes in our Hungarian plant as well as the procurement of aluminium produced using renewable energy are currently being examined.

6.3 Scrap reduction in the plant

The reduction of rejects in our manufacturing processes is an important quality management project. This also contributes directly to improving resource efficiency and reducing waste. Unfortunately, the positive trend of a decreasing number of parts to be scrapped could not be continued in 2021. Worldwide, 20 per cent more parts had to be removed from the value creation process. However, this increase is lower than the 26-per-cent higher production output, so that a positive decoupling of the development can be seen. Compared to the base year of 2019, the number of scrapped parts was still reduced by a good 3 per cent.

6.4 Consideration of applicable guidelines and laws

The processes involved in product approvals are described in internal guidelines. Festo must comply with applicable law so that the products are considered safe. There are different regulations and laws on product safety around the world to allow products to be placed on the market. This requires the respective certifications in the various regions.

→ GRI 102-11, GRI 416-1

Statutory regulations that must be complied with are, for example, EU Directive 2011/65/EU (RoHS 2), EC Regulation 1907/2006 (REACH Regulation), the corresponding mandatory entries in the SCIP database, the requirements of the EC Packaging Directive 94/62/EC and the requirements of the EC Battery Directive 2006/66/EC. All regulations and directives aim to prevent prohibited ingredients being contained in a material at a concentration above the permitted limit.

The limit values for the regulated ingredients vary from one regulation to another and are embedded in Festo's internal guidelines. Festo's products are labelled in accordance with legal requirements with regard to their origin, composition and use. The corresponding label describes, for example, when a product was manufactured and in which factory so that traceability is guaranteed.

6.5 Ecological life cycle of our products

The main impact category of our products is the so-called Product Carbon Footprint (PCF). As part of a project, we tested different software solutions that enable us to generate PCFs for our wide range of products. The selection process was able to be completed in 2021 and integration into our processes is planned for 2022.

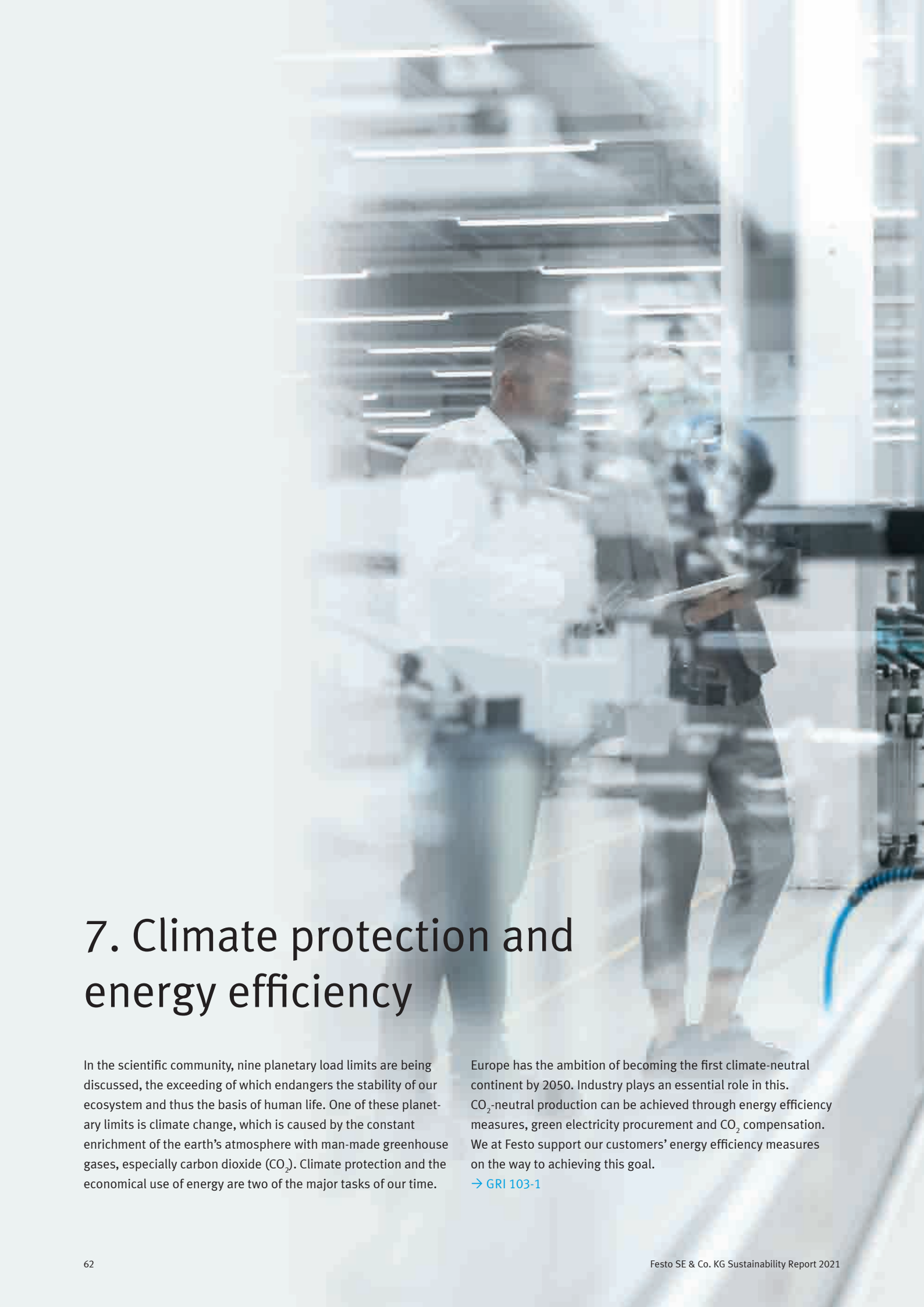
For the first time, we have also started to account for the carbon emissions of purchased production materials. The results of this first rough analysis should provide us with starting points as to which materials have the highest CO_2 savings potential.

With the help of this PCF software, we will be able to provide our customers with the information they want on a much larger scale. At the same time, the software can show us the improvements that will be achieved, for example, by our consistently continued lightweight-construction activities in 2021. The focus of our lightweight construction measures in 2021 was on building up internal expertise on the principles of lightweight construction.

When using our products, instructions and descriptions provide advice on possible misuse, information on maintenance, cleaning, care and disposal. They help the user to avoid expensive and climate-damaging costs and at the same time extend the service life of the products.
→ GRI 417-1

Festo supports the so-called ‘culture of repair’ with instruction videos that clearly explain how, for example, spare parts kits can be changed independently.

You can watch the videos on our channel at www.youtube.com/FestoService.



7. Climate protection and energy efficiency

In the scientific community, nine planetary load limits are being discussed, the exceeding of which endangers the stability of our ecosystem and thus the basis of human life. One of these planetary limits is climate change, which is caused by the constant enrichment of the earth's atmosphere with man-made greenhouse gases, especially carbon dioxide (CO_2). Climate protection and the economical use of energy are two of the major tasks of our time.

Europe has the ambition of becoming the first climate-neutral continent by 2050. Industry plays an essential role in this. CO_2-neutral production can be achieved through energy efficiency measures, green electricity procurement and CO_2 compensation. We at Festo support our customers' energy efficiency measures on the way to achieving this goal.

→ GRI 103-1


9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
13 CLIMATE ACTION

7.1. Energy efficiency

Climate change is also a central challenge for manufacturers of automation technology. Typical automation components occupy a special position in the field of sustainability, as they are usually only used together with other components and thus influence the respective system in which they are installed.

We consider the reduction of CO_2 emissions at an early stage in the development of products. In 2020, a field of action was anchored in the corporate strategy for this purpose. An interdisciplinary team was tasked with ensuring the reduction of CO_2 emissions in the products and their use by the customer through various activities.

To implement an automation task, the machine builder generally has various pneumatic and electrical automation solutions at their disposal. The purchase of a solution and the decision to implement drive technology are directly linked to environmental effects in the utilisation phase. Basically, criteria such as dynamics, force, adjustability, load stiffness and above all profitability play an important role in the decision. In many cases, a sensible combination of both technologies can also be the optimal solution.

Advice on energy efficiency

To pass this knowledge on to the customer, we offer the following energy efficiency consulting services directly at our customers' premises:

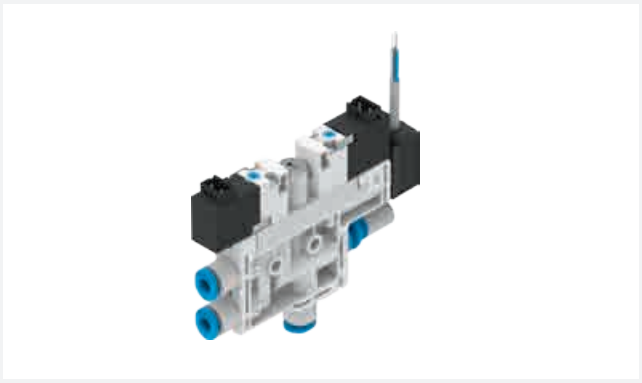
- Workshops to raise awareness among employees.
- Energy efficiency analyses of production plants.
- Calculations of the total cost of ownership (TCO) to compare pneumatic and electric drive systems.

New online tool for CO_2 reduction: technology comparison between electric and pneumatic drive technology

A brand-new addition to the portfolio is the TCO CO_2 tool, with which we are providing our customers with a free online tool that transparently shows the parameters of the electric and pneumatic drives in order to give our customers information on CO_2 emissions as early on as the product selection stage. The energy consumption of the drive components during use and the influence on the total cost of operation are shown.

Upgrade or replace

In addition to deciding on the right drive technology, the intelligent use of other Festo components can reduce energy consumption in systems. Here are some examples of how automation can be made more efficient:



OVEL vacuum generator

Smart products like the OVEL vacuum generator with integrated pressure reduction. The combination of vacuum generation and monitoring in one compact unit is ideal for highly dynamic, decentralised handling applications.

The optimal technology can be selected depending on the application. The customer enters only a few parameters of their application and the CO_2 & TCO Guide generates and visualises cost- and energy-efficient suggestions from Festo's portfolio of conventional drives. A pneumatic and electric actuator are each compared for each proposal, so that the customer can select the optimum product for their requirement.

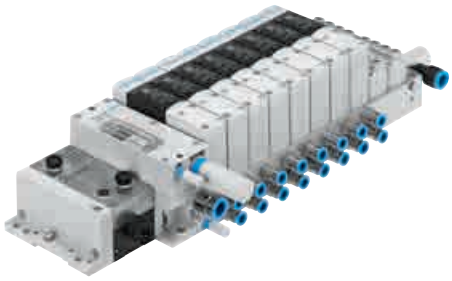
For each variant, the customer is shown the CO_2 emissions per year, as well as the acquisition and TCO costs. Based on this information, our customers can decide which parameters they think are most important and which drive technology they should select.

New website also on the topic of energy efficiency
The new online tool can be found on our new website. The user-oriented design, intuitive operation and clear focus means that our customers should be able to find their way around better and be given a comprehensive overview of the topic of sustainability and energy efficiency. → www.festo.com/energieeffizienz

More energy efficiency through Festo AX AI-based software
When using pneumatic components, the aim is to reduce compressed air consumption through efficiency technologies and thus lower the CO_2 emissions indirectly associated with the electricity mix in use. Festo offers AI-based monitoring of machines and systems for this purpose. The Festo AX AI software solution comes into play here.

Essentially, we always solve the same challenge for our clients: we continuously monitor machine data and analyse it with our AI model, which has learned the good condition of a component, process or machine. The AI algorithms then recognise deviations from the normal state and can also predict them. Just by analysing the data with Festo AX, users can increase productivity, avoid quality losses or optimise the energy consumption of a machine, process or component. 'Predictive Energy' not only saves energy costs, but also reduces CO_2 emissions.

Energy efficiency modules of the MSE6 series
Some working cycles allow the energy supply to be stopped temporarily. For this purpose, the energy efficiency modules of the MSE6 series constantly monitor the compressed air consumption and shut off the compressed air in non-production periods after a defined waiting time.



VTEM Motion Terminal
Digitised pneumatics for energy-efficient operation: the VTEM Motion Terminal uses piezo valves with up to 90 per cent less energy consumption in the preliminary stage of the valve and motion apps for energy-efficient control.

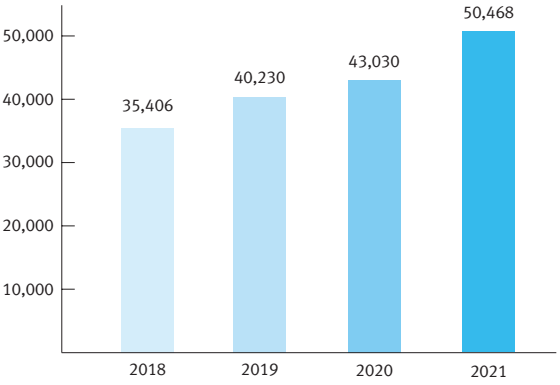
7.2 Festo Energy Saving Services

On the way to achieving CO_2-neutral factories for our customers, cross-company solutions for industry that go far beyond our own product portfolio are necessary. Currently, the greatest leverage Festo, as a component supplier, has in terms of climate protection is the reduction of scope 3 emissions – specifically in the use of the products sold by the customer (→see pages 46–47, GHG Protocol, scope 3, category 11).

This requires specialists with the expertise to optimise the entire pneumatic system. Festo Energy Saving Services, a customised service programme in accordance with DIN EN ISO 11011 (compressed air energy efficiency audit), are based on this holistic approach. This serves to identify and best exploit compressed air savings potential at the customer's premises, which also optimises their entire energy management system in accordance with DIN EN ISO 50001.

Documented savings potential

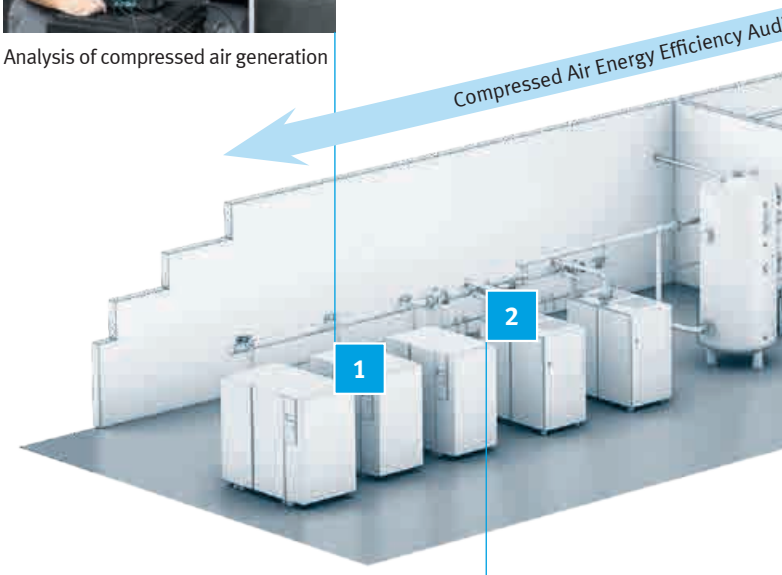
The focus is on the Festo Compressed Air Energy Efficiency Audit, which is available around the globe and is carried out by our specialised auditors. In 2021, 149 projects were carried out worldwide with a calculated CO_2 savings potential totalling 7,438 tonnes. This amount is comprised of the leakages determined by means of concrete leakage detection and the total potential savings estimated by the Compressed Air Energy Efficiency Audit for the first time. We have been able to demonstrate a CO_2 savings potential of 50,468 tonnes of CO_2 in customer projects since 2012.→ GRI 302-5



GRI 302-5: Cumulative identified savings potential through the use of Festo Energy Saving Services by our customers (t CO_2)

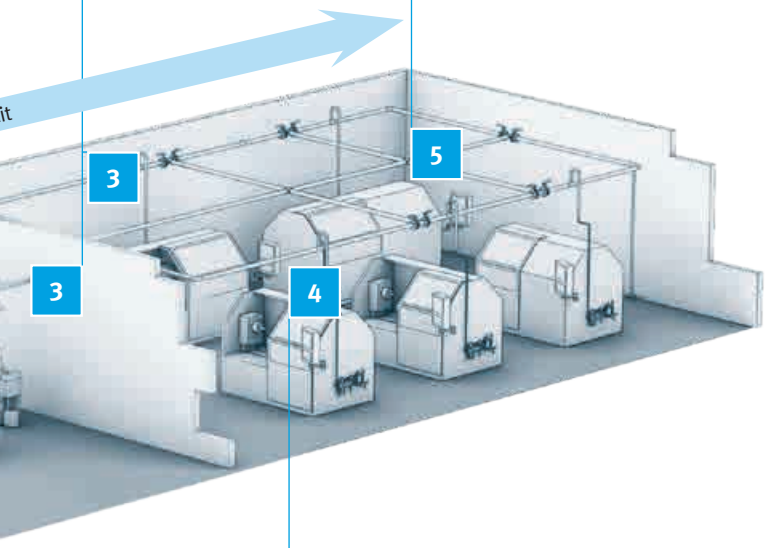
Analysis of compressed air distribution

Analysis of compressed air generation



Analysis of compressed air preparation

Concept for monitoring system



Analysis of pneumatic applications

Festo Compressed Air Energy Efficiency Audit
With the audit, the customer immediately recognises weak points and knows which measures will pay off for their compressed air system. Our auditors examine both the compressed air generation (1) and the compressed air preparation and quality (2), as well as the compressed air network (3). They also carry out exemplary leakage detection on selected pneumatic systems, investigate potential savings and check pneumatic efficiency (4). To round off the audit offer, a concept for a monitoring system can be prepared for the client as required (5).

Finally, a detailed report is produced with precise documentation of the data and priority-weighted recommendations for action to optimise compressed air energy efficiency and its savings potential. The documentation also includes the CO_2 emission values of the compressed air system that many companies require for inclusion in their sustainability report, for example in accordance with GRI or GHG, and that they use in their climate strategies.

Festo Energy Saving Services portal
In 2021, the web-based Festo Energy Saving Services portal was introduced, where the results of the Festo Compressed Air Energy Efficiency audit can be documented and tracked online. This digital solution is an important step towards faster implementation of compressed air energy efficiency measures and their monitoring in real time. The faster optimisation measures, such as the reduction of pressure drops or the elimination of located leaks, are initiated by the customer, the more CO_2 emissions and compressed air costs can be saved in total.

Directly to the portal → https://energysavingservices.festo.com

8. Technical basic and further training and corporate educational responsibility

Megatrends such as climate change and digitisation influence many areas of life. As a result, technical basic and further training are also changing. It is essential for sustainable development and paving the way to a more sustainable future because technical basic and further training teaches skills and abilities to approach challenges in a solution-oriented manner and to shape the future in the interest of future generations. Festo Didactic makes an important contribution to the technical qualification of future generations and current employees with its comprehensive range of training courses and worldwide projects and partnerships. → GRI 103-1


4 QUALITY EDUCATION
6 CLEAN WATER AND SANITATION
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
17 PARTNERSHIPS FOR THE GOALS

8.1 Energy innovation

Sustainability and efficiency are a challenge for everyone. Now more than ever, we are becoming aware of the fragility of our planet. Critical environmental challenges must be addressed without compromising social and economic development. The energy demand is skyrocketing; we must rethink the energy landscape to cater to the needs in a sustainable way.

Time is running and every action counts. Governments elaborate national agendas and participate to international meetings to coordinate efforts and set global goals. They develop the legislative framework and implement policies related to sustainable development and ecology.

A growing number of corporate citizens set themselves sustainability goals and adopt new tactics to achieve them. Private citizens are sensitized to environmental issues and increasingly inclined to change consumption patterns.

Environmental-friendly innovation through relevant skills development

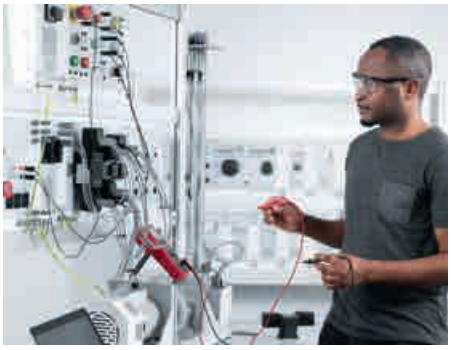
Nowadays, the quest for sustainability and efficiency permeates all job profiles. Success largely lies on education: people must be qualified to reflect and take good decisions that take into consideration energy and environmental issues. Environmental thinking must be instilled in every future and current worker.

For example, the manufacturing workforce must be able to monitor, measure, and manage energy – especially electricity – consumption and waste in various systems and technology applications. The electrical workforce needs to understand, install, operate, troubleshoot small-scale renewable energy production systems to turn sun and wind into electricity for local consumption, whether for domestic, commercial, or industrial sites. Power engineers integrate technologies that will improve the electrical power grid efficiency, reliability, and sustainability, like power electronics devices and renewable energy sources. Digital and environmental-friendly technologies enable HVAC workers to make buildings more energy-efficient. Process engineers can leverage smart instrumentation and control devices to improve resource efficiency.

Giving tools to build the right skills

Relying on its sound expertise in factory and process automation and didactic, Festo offers learning solutions that build competencies in energy efficiency, resource-efficient processes, renewable energy production and storage, water technology, power grid modernization, industrial electrification, eMobility, building system technologies, and more.

Centralized in the digital portal Festo Learning Experience, learning content not only covers technical skills; but it develops also soft skills that are necessary to work in multidisciplinary teams, such as problem-solving and decision-making skills, creativity, and communication.



8.2 CO_2 monitoring in ongoing production

Continuously monitoring and optimising energy consumption is an important issue due to climate change. Together with CESMII, Plattform Industrie 4.0 and Microsoft, Festo and Festo Didactic have worked to visualise the latest developments on all aspects of smart manufacturing and the administration shell. CESMII is an important initiative of the US government and an important partner in international collaborations for Industry 4.0.

The demonstration is geared towards important issues that our industry and education clients are worried about. One is energy efficiency, or to be exact, CO_2 efficiency. Another is digitisation, beyond the boundaries of the company, into the cloud. The cloud is relevant because when accounting for CO_2, emitters come from different sources, including suppliers and customers. The consolidation of data can only be implemented sensibly using the cloud.

A Festo Didactic training factory representing the production process with typical industrial technology was selected as the demonstrator. The system now continuously measures the consumption of the individual stations, namely of the electrical energy and compressed air.

This data is communicated to the gateway via OPC UA (standard for data exchange as a platform-independent, service-oriented architecture). Several measurements can be combined in the gateway. From there, the consumption figures are sent to the Microsoft Azure cloud. The MQTT protocol (open network protocol for machine-to-machine communication) is used here, and even with messages every second in the demo.

The Azure cloud is the right place to store, aggregate and account for consumption figures, along with many other sources of data. For example, conversion factors for energy can be included that are updated daily. For the respective machine, the values are then interoperably available in the standard of the administration shell again, together with, for example, the digital label and data sheets.

These values can be accessed from different systems. CESMII uses the same initial definitions to describe a smart manufacturing profile for key energy variables and to visualise it using dashboards. The project demonstrates the interoperability of both approaches. Other large industrial partners also use the models that have been developed.

8.3 Festo Learning Experience (Festo LX)

To ensure inclusive, equal and quality education and to promote lifelong learning, appropriate learning solutions are needed. These should be affordable so that equal access is created. Learning portals are ideal for providing learning content.

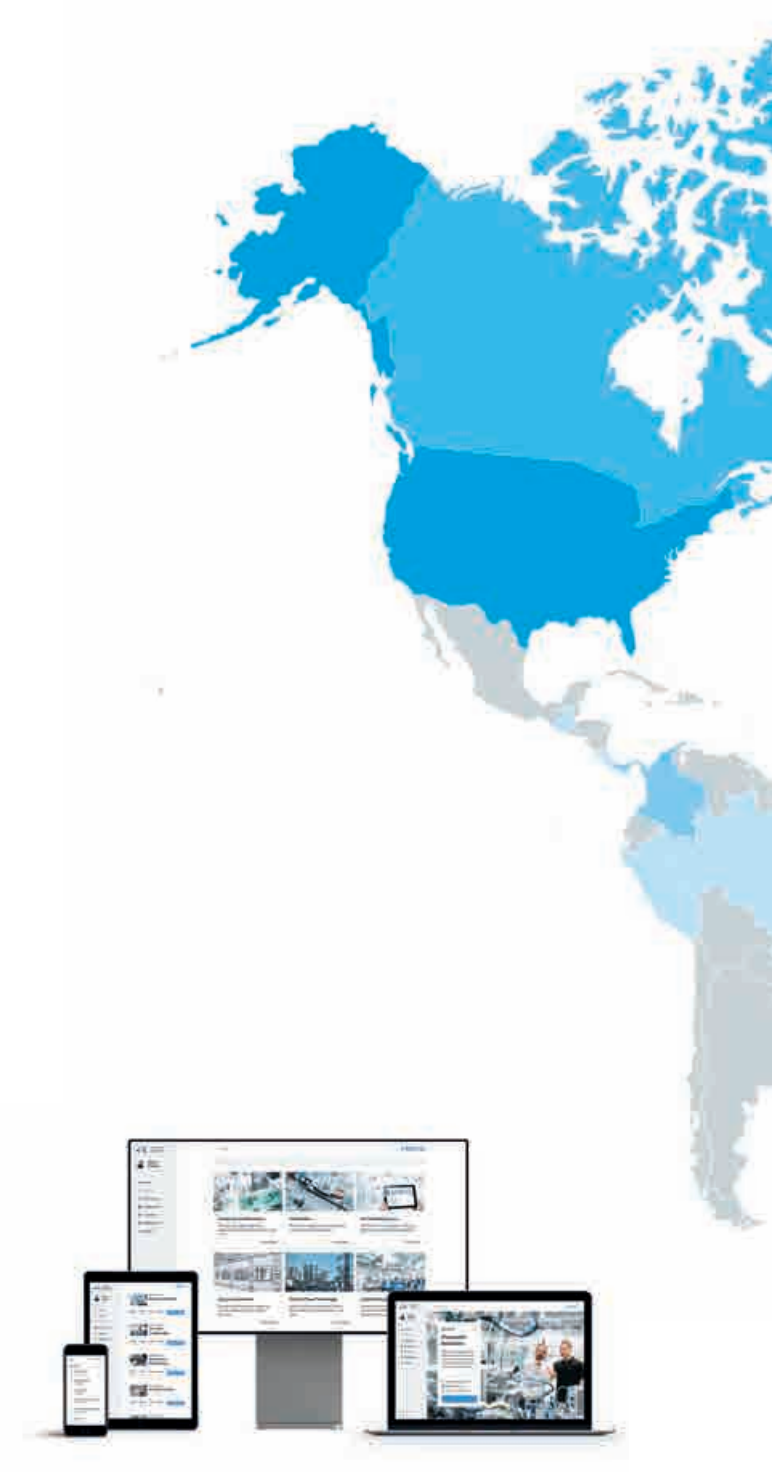
Digital learning

Festo Didactic offers a holistic approach to technical basic and further training with its Festo Learning Experience (Festo LX) digital learning portal. Festo LX clearly focuses on the needs of learners and teachers and offers a broad portfolio of technical training content – from STEM topics to Industry 4.0. This content can all be accessed no matter where and when. Festo LX is based on a micro-learning approach with so-called multimedia learning nuggets (i.e. small learning units). These can be worked on in a modular way and combined into individual learning paths. With the LX Creator, teachers can create their own learning nuggets with their content. This can create unique learning experiences for education and industry clients.

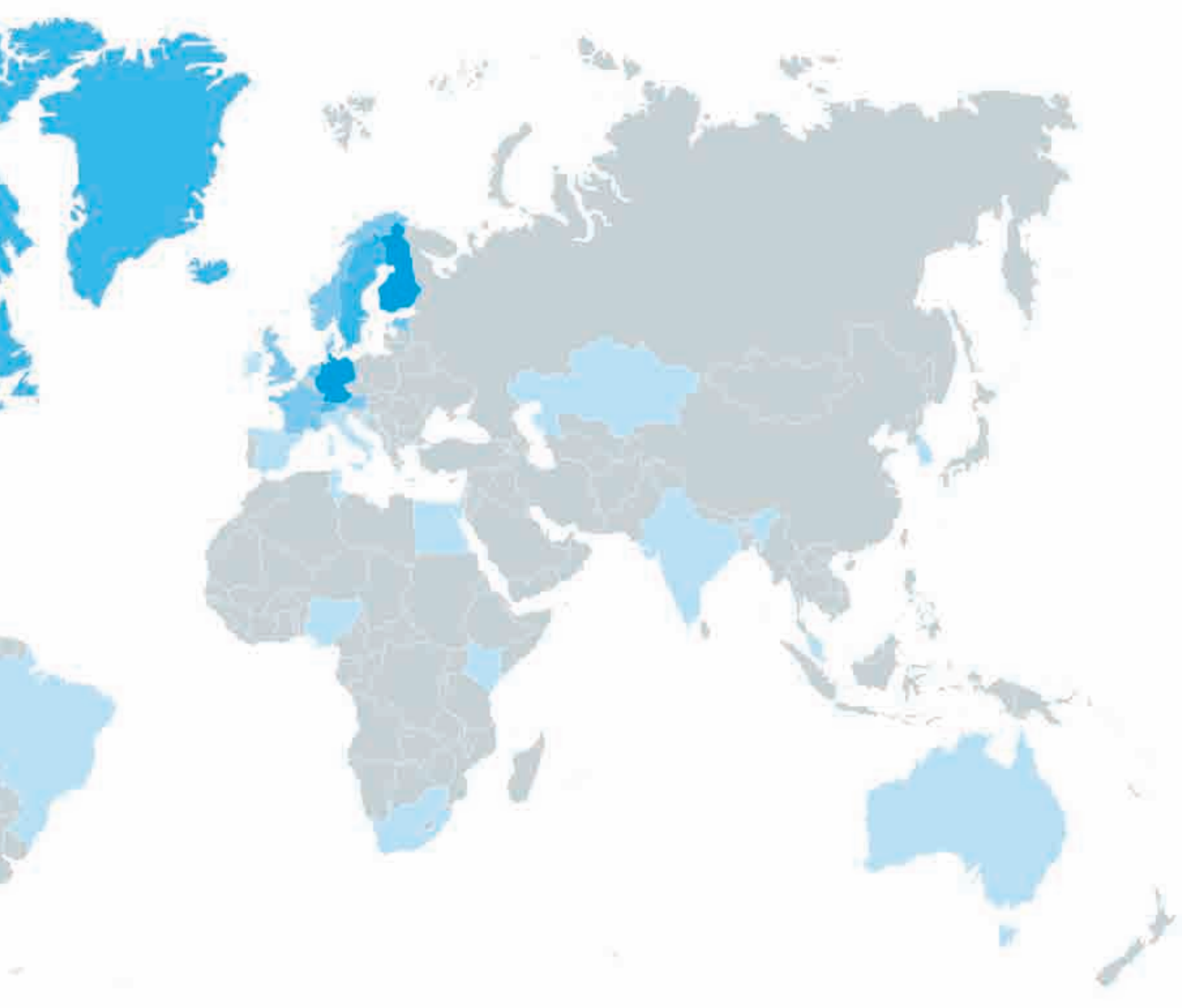
At Festo LX, industry expertise is combined with didactic know-how and online with classroom teaching. Festo Didactic's physical learning systems and simulations are integrated on the digital learning portal. As a result, learners have the opportunity for hybrid learning scenarios and practical exercises. Festo LX enables lifelong learning from school to working life.

Learning content around the globe

Currently, there are over 300 customers worldwide with more than 21,000 users who have been provided with LX access to digital education. The offer includes over 550 courses with a scope of over 3,100 learning hours. The number of users should still be increased to ensure quality education and continue to promote lifelong learning.



To the digital learning portal for teachers and learners: lx.festo.com/en



Digital education with Festo LX: over 21,000 learners worldwide

8.4 Bionics and STEM offerings for secondary education
As part of our corporate educational responsibility (CER), our goal is to spark children and young people's enthusiasm for science and technology (STEM). This creates the basis for technological excellence at a young age. Bionics arouses curiosity and interest – that is the motor for learning. That is why Festo Didactic has had the 'Bionics4Education' STEM education concept since 2019. It includes numerous initiatives to teach children and young people about STEM topics. Here are some examples:

• **Hector Kinderakademie (Germany):** At the Hector Kinderakademie in Esslingen, 18 children aged between nine and ten were introduced to the bionics training kits. The children especially had fun learning more about the elephant, the chameleon and the fish.

• **Fin Ray® effect VDI online workshop (Germany):** The tail fins of bony fish do not bend away from the application of pressure force, but instead bend in the direction of the pressure force. This effect is called the Fin Ray® effect. As part of an online workshop at the VDI (Württembergischer Ingenieurverein – Württemberg association of engineers), five children learned about and made bionic fish-fin pliers.

• **Bionicum Nuremberg – open day (Germany):** Festo Didactic was active at the event Türen auf mit der Maus (open doors with the mouse). A total of 80 children between the ages of eight and 12 took part in the event. They could get enthusiastic about the topic of bionics and learn what we can learn from robots based on elephants, chameleons and fish.

• **Seminar course (Germany):** At the new Gymnasium Leibniz Stuttgart (cooperation school), a weekly club is offered focusing on career orientation. The collaboration is entitled Bionik, Informatik und Robotik – ein spielerischer Zugang zur Wirtschaft 4.0 (bionics, computer science and robotics – a playful approach to Economy 4.0) and is meant to give the pupils an action- and production-oriented approach to future-proof skills.

• **LehrForum Bionik (Germany):** The LehrForum Bionik (bionics teaching forum) is aimed at teachers in the STEM field. The focus was on ideas and teaching concepts for the knowledge transfer of bionics content in the classroom and at extracurricular places for learning. Festo Didactic provided 40 participants with an exciting insight into how to plan lessons that get children and young people enthusiastic about scientific and technical topics.

• **Kreismedienzentrum (Germany):** Festo Didactic trained eight teachers on the Bionics Kit at the Kreismedienzentrum (district media centre) in Esslingen. They can only optimally pass on their knowledge to their pupils if the teachers are well informed.

• **Teacher training (Germany):** Festo Didactic held teacher training and an exhibition at Azubicon and the WorldSkills Germany championships. Six teachers learned about the Bionics4Education offers as part of the knowledge workshop and were able to experiment with them.

• **Sheltered workshop (Germany):** A workshop with the Bionic Flower was held at the sheltered workshop in Frickenhausen. The seven participants were very impressed by it.

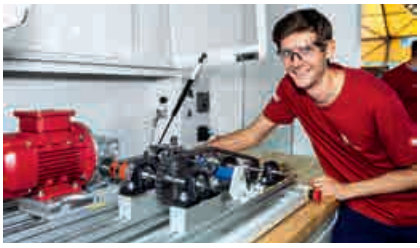
• **Smart Maker Initiative Delft (Netherlands):** Festo ran an afternoon programme together with the Stanislas Krakeelpolderweg school. The school's aim was to explore different challenges in the field of technology together with companies. Together with Festo, the pupils were able to discover how diverse the technology topics are.

• **Learning Center Mason (Ohio, USA):** Festo Didactic offered training courses on the topic of bionics. So far, a total of 30 pupils have experimented with the Bionics Kit. In addition to the interdisciplinary topic of bionics, the focus of the courses was mechatronics. The courses show high school pupils how they can develop professionally in the field of engineering.

• **Think Bionics Camps at the Carson City Library (Nevada, USA):** Here, middle-school pupils were able to attend the three-day Think Bionics Camps at the public library. They have been being organised by the library during school breaks and on Saturdays since March 2021. Bionics Kits come into action together with accompanying course materials for an interactive and hands-on learning experience.

• **Knowledge Factory (Germany):** Festo Didactic is also a member of the Wissensfabrik, which is a strong network in the German economy. A total of more than 130 companies and business-related foundations are involved in educational institutions to promote children and young people. As a result of its membership, Festo Didactic has 14 active educational partnerships with KiTec (Kinder entdecken Technik – children discover technology), and reached a good 140 teachers as a result.

You will find further information and teaching materials on all aspects of bionics at www.bionics4education.com.


Fotos: © EuroSkills 2021

8.5 Learning through competitions

Many companies in Europe lack qualified workers. Competitions ensure that young people get enthusiastic about technical topics and can develop their skills as the industry's future professionals. They are also given the opportunity to showcase their talents. By qualifying young people, the shortage of skilled workers can be reduced. Numerous Festo employees support these competitions in different roles, supporting educational events all over the world in the process.

EuroSkills

The European professional competition EuroSkills Graz 2021 took place in Styria (Austria) at the end of September under the current coronavirus regulations. Festo was one of the two main sponsors of EuroSkills and Festo Didactic provided learning systems, software and components for four competition disciplines. The competition disciplines were mechatronics, Industry 4.0, plant electrics and industrial mechanics.

Europe's top professionals go for gold

The competition attracted around 25,000 visitors, including school classes, ministers, company representatives, association members, instructors and relatives of the participants.

The diverse blend makes it clear that young people are optimally promoted when many different areas work together. A total of around 400 European competitors from 19 countries and three host countries competed against each other. The German national team travelled to Austria with just short of 70 people. Among them were 29 German competitors who competed in 24 of the 48 disciplines. Festo Didactic's Skills Competition Managers prepared the respective competitions together with their teams and managed the professional competition with the international teams. The three-day competition was characterised by passion, commitment, expertise, teamwork and concentration.

Medals for Germany

The WorldSkills Germany team won a total of 18 medals at EuroSkills 2021, three disciplines of which were sponsored by Festo. The team won gold for industrial mechanics and silver for mechatronics and plant electrics.

WorldSkills

Festo is a Global Industry Partner of WorldSkills and has been involved in the international professional competition for 30 years. Due to the pandemic, the WorldSkills Shanghai 2021 professional competition had to be postponed to 2022.

It is set to take place in Shanghai (China). In preparation, WorldSkills and Festo have organised several hybrid competitions this year. Festo has made an innovative contribution to the WorldSkills Year of Innovation in the process.

The first hybrid competition for the discipline of water technology took place at the end of May 2021. Another international hybrid competition in the discipline of water technology took place in July 2021. 'Hybrid' means that the participants and supervising experts only see each other by means of online communication and the practical exercises are carried out on site and monitored remotely using webcams.

The international competition's total of eleven participants in the came from China, Iran, India, South Africa and Belarus. They had to work on technical questions from the field of water technology and water management and solve practical tasks on Festo Didactic's learning systems, for example.

Festo and WorldSkills organised the Mechatronics Hybrid Skills Challenge together at the end of November 2021. A total of 24 teams from 18 countries competed against each other, from Canada, Europe, Japan and even Sweden and South Africa.

The young participants were faced with the task of adapting a circuit diagram and troubleshooting with the FluidSIM simulation software. What's more, a digital twin had to be programmed with CIROS (3D simulation system) and a PLC, the EasyPort interface and the touch panel as hardware. In addition, knowledge was tested with a questionnaire and tasks had to be solved on the Festo LX digital learning portal. Festo Didactic's Mechatronics Skills Competition Managers managed the competition centrally from the company's headquarters in Germany.

Festo and WorldSkills are also initiating a Hybrid Skills Challenge Industry 4.0 for the new competition discipline Industry 4.0. The exciting topic is called virtual production, where topics such as human–machine interface, big data, IIoT, digital twins and energy efficiency are taught. Participants develop their skills through several interactive online training courses and a hybrid competition in real-life conditions. The tasks will be solved in the Festo LX digital learning portal. The participants use machine-learning software, the CIROS simulation programme and the MES4 production control software. The training courses paired with the final hybrid challenge prepare WorldSkills participants in the best possible way for the real competitions.

FIRST® LEGO® League

The FIRST® LEGO® League support programme introduces children and young people to technology and scientific research in a playful way. The robotics competition is held annually and motivates participants to solve the tasks with innovative ideas as a team. The teams are judged in three categories by the jury: robot design, research and teamwork. With their robots, which they have developed themselves, the teams take part in a robot game over three rounds.

What's more, there is a working committee called 'Technology and Robotics for Kids', where the children and young people are looked after by volunteers from Festo all year round. Up to eight Festo employees are permanent members of the team of supervisors, with around ten others offering regular support in the background. At the Denkendorf location, there is a training area where up to four teams can train at the same time. Due to the coronavirus pandemic, the competition for the school teams had to be held online in the 2020/2021 season. This time, the jury consisted of 11 jurors – three are from Festo. Two Festo employees also supported the organisation of the virtual competition.

RoboCup

Festo is a global sponsor of the RoboCup Federation and supports the unique combination of a hands-on a competition platform with a strong academic exchange and an excellent research environment. The soft-skills development of the participants is also promoted. These include teamwork, interdisciplinary tasks as well as time and a tight budget. With Robotino and the Logistics League, Festo Didactic is promoting the issues of flexible material flows and multi-agent systems in a production environment consisting of prefabricated islands. What is special is that former participants manage to find employment with successful companies around the globe. In 2021, the competition was held virtually; in 2022, it is set to be held again in the physical world and this time in Thailand.

9. Impact on our customers and society

Sustainable industry combines ecology, economy and social issues and can become the driving force for climate protection. For many years, we have been working on developing innovative solutions for the efficient use of energy and resources – in our own company and for our customers. We think outside the box to develop new, more energy-efficient products. We use industrial intelligence to reduce our carbon footprint and that of our customers. We think education and science are vital for sustainable development, which is why they need constant support. We make our important contribution to the technical qualification of future generations and today's professionals with its comprehensive range of training courses and worldwide projects and partnerships. → GRI 103-1


3 GOOD HEALTH AND WELL-BEING
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
17 PARTNERSHIPS FOR THE GOALS

9.1 Fibre balls to combat micro-pollutants

Every year, several thousand tonnes of medicines and over ten tonnes of microplastics enter Germany's largest river, the Rhine, alone. Conventional wastewater treatment plants cannot cope with such quantities of micro-pollutants. For this reason, the German town of Barntrup in North Rhine-Westphalia added a purification stage for micro-pollutants to its wastewater treatment plant – the only one of its kind in the world with so-called Fuzzy Filters® from Bosman and automated with pneumatics from Festo.

The town of Barntrup in North Rhine-Westphalia has elevated levels of phosphorus in its wastewater and relies on innovative pollutant filtration by means of fibre balls. With the filter system used, it is even possible to eliminate 95 per cent of all trace substances as well as clear the wastewater of microplastics and phosphorus. In place of a large clarifier, the much smaller Fuzzy-Filter® system is all that is needed for Festo components to regulate the water flow.

With both the standard process and the new technique, activated carbon is mixed into the water in an additional purification stage. With its porous and flaky structure, the activated carbon has a huge inner surface. By comparison, One teaspoon of powdered activated carbon has the same surface area as a football field. This area gives micro-pollutants and trace substances plenty of space to adhere to it. In the Fuzzy Filter® solution, the contaminated water flows through the fibre balls. These are made of synthetic fibres that are made into a ball around 33 millimetres in diameter with the aid of a clip. The dirty water flows through the fibre balls from the bottom to the top. They remove the activated carbon with the micro-pollutants it has absorbed along with the microplastics from the water and the filtered water then flows out of the system from the top.

Valves and slides are opened via Festo pneumatic swivel/linear drive units controlled by valve terminals, enabling the automatic inflow of wastewater containing micro-pollutants into and the outflow of the purified water from the Fuzzy-Filter® system.

Both the Fuzzy-Filter® balls and the activated carbon can be reused many times. In the backwash cycle, raw water flows into the filter, while an external bellows blows cleaning air into it. The filter balls are set dancing in the turbulent air flow so that dirt particles that have stuck to them are removed and are rinsed out of the filter. The filters are then returned to the aeration tank along with the activated carbon and used for another cleaning process because the activated carbon is only slightly contaminated with pollutants after the first cleaning process. Festo pneumatic swivel/linear drive units are also used when cleaning the Fuzzy-Filter® balls. They let the correct amount of cleaning air into the system and help to remove the sludge.

9.2 Safe production of batteries for electric vehicles

The mobility shift is in full swing, and the demand for electric vehicles is increasing faster than expected. While in 2020 the proportion of electrified vehicles (battery electric vehicles and plug-in hybrid electric vehicles) was expected to be around 23 per cent in 2025, this proportion was already increased to 36 per cent last year. The bottleneck is batteries, which are in demand in large quantities at the lowest possible prices. Gigafactories are being built in North America, Europe and Asia to produce batteries for the regional market with a high degree of automation.

Economic efficiency and safety are key requirements when manufacturing batteries. Festo supplies industry-specific products and solutions to machine and plant manufacturers, who then equip the production areas in the gigafactories.

We offer solutions to ensure sturdy, safe and precise gripping and transportation of battery cells. Festo's high quality pays off for customers when producing batteries because they are very expensive and the systems run at a high cycle rate and around the clock.

A 90 kWh battery pack runs up material and production costs significantly over EUR 5,000. Down-time is costly and therefore timely spare parts delivery and servicing are very important. There are high demands on safety and process stability, as chemical ingredients are handled and the formed batteries are live.

Product range and solutions

Festo's pneumatic and electric products are used along the entire process chain for battery cell manufacturing: from products for process automation in raw materials processing, to products for fully automated battery cell production that are free from copper, zinc and nickel and are suitable for dry rooms and clean rooms, right through to assembly systems for installing battery modules in vehicles. Products that are free from copper, zinc and nickel prevent cross-contamination in the sensitive phase of battery cell production. Our products are suitable for pneumatic automation in dry rooms, for example in automated degassing and sealing when forming battery cells, i.e. the first charging and discharging processes of a battery.

Unique combination: automation and training from a single source

Production plants for batteries and electric vehicles are currently being built around the world at short notice and at a great speed. Festo Didactic offers industry-specific learning concepts in order to train and familiarise the large number of employees very quickly, who often do not have the right training or expertise: from access to the Festo Learning Experience platform for independent study to training factories for hands-on training on the shop floor with perfect knowledge transfer.

9.3 Digitisation promotes sustainability

In many companies, the planning and documentation of maintenance work is still done by PC and printout. This results in a lack of traceability, low flexibility and is a waste of paper. With the Smartenance solution, Festo has brought the maintenance and servicing of machines and systems into the digital age. Pen and paper become redundant for the maintenance teams and long coordination paths are eliminated. That is why numerous Festo customers are already using Smartenance, including a paper and packaging manufacturer from Baden-Württemberg, Germany, which has switched its maintenance management from classic table printouts to Festo Smartenance maintenance software.

As demand for high-quality packaging is increasing, the company is looking to increase its productivity even further. The prerequisite for this is the efficient maintenance and servicing of machinery and systems. Employees can carry out maintenance precisely and on time, document it and inform maintenance colleagues and production management of any anomalies by comment and photo, all on the tablet. And thanks to an intuitive user interface, the quality of the data entered by the employees is considerably increased.

Before Smartenance was introduced at this customer, the employees had to painstakingly enter the individual maintenance points in tables, provide a photo, print everything out, archive it and have it ready for the maintenance staff at the systems at the same time. Alongside the high annual one-off expense, the previous solution was not sufficiently flexible. For example, if maintenance had to be postponed due to unforeseen circumstances, this was difficult to map in the tables. The possibility of informing colleagues about unexpected happenings was also limited.

Smartenance is manufacturer neutral: no matter what the system and manufacturer, the app will manage the maintenance and servicing. It automatically reminds production managers and plant operators of upcoming maintenance work, provides information about how long it will take and explains what needs to be done. This makes maintenance schedules that are normally attached to the machine superfluous. The maintenance plan is created on the desktop. Since all data is stored in the cloud, the maintenance team can access the data from anywhere. To perform maintenance work on the system immediately, Smartenance can be used in the app on a smartphone and tablet.

A white-label approach enables machine manufacturers, for example, to present Smartenance as their own solution with a logo and in their own colours, expanding their own digital offering with ready-made, digital maintenance management for the machine in the process. Smartenance is successfully used by numerous customers from a wide range of different industries.
→ www.festo.com/digital-maintenance

9.4 Social commitment

Festo has been involved in the Round Table organisation's **Weihnachtspäckchenkonvoi** (Christmas parcel convoy) charity campaign for several years now. Every year, thousands of children in very poor parts of Eastern Europe receive Christmas presents. **Festo employees at the Esslingen site** packed around 400 parcels for Christmas in 2021.

Taking responsibility globally and locally, with technical education in the respective country as a company and employer – that is the credo of Festo's shareholders. Dr Kurt Stoll lived in India for half a year, laying the foundation for lifelong relationships. The manifestation of this friendship is the **Kurt Stoll Park**, a park full of trees covering 4,000 square metres, inaugurated in August 2021 **in Coimbatore, India**, on Dr Kurt Stoll's 90th birthday.

The **São Paulo plant** received the special prize in the Social Project category at the CIP World Cup – the internal competition between all Festo plants for the cleverest ideas for improvement. As part of the 'Adoption project for children in need' campaign in the municipality of João Ramal, colleagues **sponsored 65 children** and packed bags of Christmas presents for them.

Festo Bulgaria supports a nationwide initiative to protect both children and nature. The aim is to financially support the 35 newborn clinics being equipped by **collecting and recycling plastic lids**. Festo engineers therefore produced 20 special **heart-shaped containers** and placed them in various locations in the Festo buildings. Festo employees collected a total of 240 kilograms of plastic lids.

9.5 Learning solutions in solar and wind energy technology
As sustainability and energy efficiency are increasingly integrated into the strategic objectives and action plans of industrial companies, eco-friendly competencies and expertise must already be built up during training. The ROC Friese Poort vocational school in the Netherlands shows how it can be done in its Sustainable House, among other things with learning solutions from Festo Didactic.

Wind and solar energy are abundant in the Netherlands. What could be more natural than to teach young people about the technical school and offer training in the technical handling of energy systems? How does a solar collector work? How do you control a wind turbine? And how do you use electricity storage efficiently? The Dutch vocational school ROC Friese Poort enables young people to build up skills in the field of sustainable technology solutions in a hands-on way. In its Sustainable House, the learning system from Festo Didactic has been set up, including a solar collector, an electricity storage system and a wind turbine.

The learning solutions for solar and wind energy technology from Festo Didactic enable the hands-on development of skills in the field of energy generation from renewable resources. Another concrete example can be found in the Netherlands: the Da Vinci College was home to one of the first wind-turbine learning systems in the country. Future wind power technicians can use the nacelle wind-turbine learning system to gain experience in their specialist field. The learning system is a miniaturised version of commercial wind-turbine nacelles, with which trainees can operate electrically or hydraulically operated pitch hubs for rotor adjustment. It consists of a complete drivetrain with a main shaft, gearbox, speed sensors, a hydraulic brake and an asynchronous generator.
A three-phase generator teaches the subjects about grid feed-in and grid synchronisation under realistic conditions. The system ensures successful learning and also helps to save large investments in real plants.

Festo Didactic offers further learning solutions in the fields of solar and wind-energy technology, electrification and water management.

9.6 Disposable gloves produced quickly and safely
Since the outbreak of the Covid-19 pandemic, the demand for protective equipment such as mouth and nose protection masks and hygienic disposable gloves made of natural rubber has risen rapidly. To ensure sufficient supplies of gloves, AFA Technologies offers packaging machines and automated systems for quality inspection with pneumatic valve technology from Festo.

Before the outbreak of the global Covid-19 crisis in spring 2020, the production of hygienic disposable gloves was limited to the traditional rubber-producing countries in Southeast Asia.

Photo: © AFA Technologies

The sudden increase in demand led many countries affected by the pandemic to want to set up their own glove manufacture. This presented the Malaysian company AFA Technologies with the opportunity to also export machines and plants to Europe and North America.

AFA has been developing leak-testing machines for protective gloves since 2009. Prior to this, it was common to check the gloves manually. Only fitting the gloves onto the test mandrels is done by hand now. The actual testing process is automated. The test facility achieves an output of 4,800 to 5,200 pieces per hour with only three operators.

The AFA systems increase productivity and, above all, quality many times over compared to manual inspection by three employees. The systems detect holes in natural rubber and nitrile gloves, which are tested dry using air pressure and do not destroy the gloves in the process. The mandrel can be used for different standard glove sizes. The testing machine works with high-precision digital pressure sensors.

Each of the 120 test mandrels is controlled by a VUVG solenoid valve. The valve from the core product range is significantly smaller and more robust than similar valves on the market, is in stock worldwide and is attractively priced.

9.7 LCM 2021 conference: Festo as industrial co-chair

The 10th International Conference on Life Cycle Management (LCM) entitled ‘Building a sustainable future based on innovation and digitalization’ (LCM 2021) was held in Stuttgart, Germany, as the first hybrid LCM conference in September 2021. The life-cycle-concept-focused LCM conference series, held every two years, has established itself as one of the world’s leading conferences on environmental, economic and social sustainability.

LCM 2021 was planned and led by institutes, organisations and companies: the Fraunhofer Institute for Building Physics IBP, the German Sustainable Building Council and Festo. As industrial co-chair, we presented the perspectives as a holistic company with concrete energy-efficiency topics through digitisation in a central session.

We were also able to draw on our existing network and chair sessions on topics such as ‘Green, lean, digital’ and ‘SDG Corporate Responsibility’. In total, more than 600 academics and practitioners from over 40 countries participated online.
→ www.lcm2021.org

10. GRI index

GRI	Title (chapter)	Page
Organisation profile		
	Name of the organisation	
102-1	Back cover	96
	Activities, brands, products and services	
102-2	Industrial transformation as a business model (1.1)	10
102-2	Sustainability strategy and management (1.2)	12
	Headquarters location	
102-3	Back cover	96
	Operating sites	
102-4	Festo in summary	6–7
	Ownership and legal form	
102-5	Festo in summary	6–7
102-5	Back cover	96
	Markets served	
102-6	As the Festo Group, we are active in the factory automation and process automation sectors as well as in technical basic and further training.	
	Scale of the organisation	
102-7	Festo in summary	6–7
	Information on employees and other staff	
102-8	Staff development (3.1)	24
	Supply chain	
102-9	Bauxite, which is extracted from the ground, can be processed into aluminium hydroxide and aluminium oxide. In two further production processes, aluminium is used as a raw material and semi-finished aluminium products are manufactured, for example, through rod extrusion.	19
	Significant changes in the organisation and its supply chain	
102-10	Industrial transformation as a business model (1.1)	11

GRI	Title (chapter)	Page
	Precautionary approach or precautionary measures	
102-11	Compliance (4.1)	41
102-11	Consideration of applicable guidelines and laws (6.4)	59
102-11	Energy efficiency (7.1)	64
	External initiatives	
102-12	Networks and committee work (2.3)	21
	Membership in associations	
102-13	Networks and committee work (2.3)	21
Strategy		
	Declaration of the highest decision maker	
102-14	Preface	5
Ethics and integrity		
	Values, guidelines, standards and codes of conduct	
102-16	Preface	5
102-16	Compliance (4.1)	41
	Procedure for ethical advice and concerns	
102-17	Compliance (4.1)	40
Company management		
	Management structure	
102-18	Sustainability strategy and management (1.2)	12
	Examination of economic, ecological and social issues	
102-31	Sustainability strategy and management (1.2)	12
Stakeholder involvement		
	List of stakeholder groups	
102-40	Sustainability strategy and management (1.2)	12

10. GRI index

GRI	Title (chapter)	Page
	Collective agreements	
102-41	Staff development (3.1)	26
	Identification and selection of stakeholders	
102-42	Sustainability strategy and management (1.2)	12
	Approach to involving stakeholders	
102-43	Sustainability strategy and management (1.2)	12
	Key issues and concerns raised	
102-44	Sustainability strategy and management (1.2)	12
Reporting procedure		
	Entities included in the consolidated financial statements	
102-45	Festo in summary	6–7
	Procedure for determining the content of the report and delimiting the topics	
102-46	Sustainability strategy and management (1.2)	12
102-46	Report profile (11)	94
	List of key issues	
102-47	Sustainability strategy and management (1.2)	12
	Reformulation of information	
102-48	Industrial transformation as a business model (1.1)	11
	Changes in reporting	
102-49	Sustainability strategy and management (1.2)	12
102-49	Report profile (11)	94
	Reporting period	
102-50	Report profile (11)	94
	Date of most recent report	
102-51	Report profile (11)	94
	Reporting cycle	
102-52	Report profile (11)	94

GRI	Title (chapter)	Page
	Contact for questions regarding the report	
102-53	Report profile (11)	94
	Declaration on reporting in accordance with the GRI standards	
102-54	Report profile (11)	94
	GRI content index	
102-55	GRI content index (10)	86–93
	External examination	
102-56	Report profile (11)	94
	Explanation of the main issues and their delimitation	
103-1	Strategy and sustainability management (1)	8
103-1	Festo footprint (2)	16
103-1	People at Festo (3)	23
103-1	Ethics and governance (4)	38
103-1	Environment, energy and construction (5)	44
103-1	Resource and material efficiency (6)	56
103-1	Climate protection and energy efficiency (7)	62
103-1	Technical basic and further training and corporate educational responsibility (8)	68
103-1	Impact on our customers and society (9)	78
Economy		
	Directly generated and distributed economic value	
201-1	Festo in summary	6–7
	Proportion of locally recruited managers	
202-2	In 2021, 71 per cent of managers at the headquarters in Germany were recruited locally, i.e. within Germany. -› GRI 202-2	
	Infrastructure investments and subsidised services	
203-1	In recent years, we have invested in various new buildings and internal infrastructure measures worldwide to support our standard product range.	
	Share of expenditure for local suppliers	
204-1	Sustainable procurement (2.2)	18

10. GRI index

GRI	Title (chapter)	Page
205-2	**Information and training in anti-corruption strategies and measures** Compliance (4.1)	41
206-1	**Legal proceedings due to anti-competitive behaviour or cartel and monopoly formation** Compliance (4.1)	40
Environment		
301-1	**Materials used by weight or volume** Sustainable procurement (2.2)	19
302-1a	**Materials used by weight or volume** Environmental management (5.1)	48–49
302-1c	**Power consumption** Environmental management (5.1)	48–49
302-5	**Reduction of energy demand for products and services** Festo Energy Saving Services (7.2)	66
303-3	**Water intake by source** Environmental management (5.1)	52
303-4	**Wastewater discharge in terms of quality and discharge location** Environmental management (5.1)	52
303-5	**Water consumption** Environmental management (5.1)	52
304-2	**Significant impacts of activities, products and services on biodiversity** The mining of bauxite as a raw material for aluminium production can have adverse effects on biodiversity, depending on the mining region and the mining conditions prevailing there.	19
305-1	**Direct GHG emissions (scope 1)** Environmental management (5.1)	48–49
305-2	**Indirect energy-related GHG emissions (scope 2)** Environmental management (5.1)	49
305-3	**Other indirect GHG emissions (scope 3)** Environmental management (5.1)	50

GRI	Title (chapter)	Page
306-3	**Waste by type and disposal method** Environmental management (5.1)	51
306-4	**Waste diverted from disposal** Environmental management (5.1)	51
306-5	**Waste directed to disposal** Environmental management (5.1)	51
307-1	**Non-compliance with environmental laws and regulations** Environmental management (5.1)	50
308-1	**New suppliers which were audited using environmental criteria** Sustainable procurement (2.2)	20
308-2	**Negative environmental impacts in the supply chain and measures taken** Sustainable procurement (2.2)	20
Social affairs		
401-1	**New employees and employee turnover** Staff development (3.1)	25
401-2	**Business services offered only to full-time employees and not to temporary or part-time employees** Staff development (3.1)	26
402-1	**Minimum notification period for operational changes** Festo currently has no global information on the minimum notification period for operational changes.	
403-9	**The nature and rate of injuries, occupational illnesses, days of absence and absence from work and the number of work-related deaths** Occupational safety (3.6)	34
404-1	**Average number of hours for basic and further training per year and employee** Further training (3.5)	32
404-2	**Programmes to improve the skills of employees and to aid transitions** Further training (3.5)	33

10. GRI index

GRI	Title (chapter)	Page
	Percentage of employees that have regular performance and career development evaluations	
404-3	All employees received a regular assessment of their performance and career development in Germany in 2021. Worldwide, the PeopleExcellence process was implemented on a mandatory basis at level E–F3 (similar to AT in DE). .	
	Diversity among management bodies and employees	
405-1	Diversity (3.3)	28
	Ratio of basic salary and remuneration of women to basic salary and remuneration of men	
405-2	Staff development (3.1)	26
	Incidents of discrimination and remedial measures taken	
406-1	Diversity (3.3)	30
	Business locations and suppliers where the right to freedom of association and collective bargaining could be threatened	
407-1	Sustainable procurement (2.2)	20
407-1	Human rights (4.2)	43
	Business locations and suppliers with a significant risk of incidents of child labour	
408-1	Sustainable procurement (2.2)	20
408-1	Human rights (4.2)	43
	Business locations and suppliers with a significant risk of incidents of forced and compulsory labour	
409-1	Sustainable procurement (2.2)	20
409-1	Human rights (4.2)	43
	Security personnel trained in human rights policies and procedures	
410-1	The security staff at Festo's German plants are completely trained in the topics of dealing with people, behaviour in hazardous situations and de-escalation techniques in conflict situations.	
	Human rights (4.2)	43
	Incidents where indigenous peoples' rights have been violated	
411-1	Festo SE & Co. KG is currently working on the implementation of the Act on Corporate Due Diligence in Supply Chains (LkSG).	
411-1	Human rights (4.2)	43

GRI	Title (chapter)	Page
	Business locations where a human rights audit or human rights impact assessment has been carried out	
412-1	Human rights (4.2)	43
	Business activities with significant actual and potential negative impacts on local communities	
	So far there are no detailed investigations on this.	
413-2	Human rights (4.2)	43
	New suppliers which were audited using social criteria	
414-1	Sustainable procurement (2.2)	20
414-1	Human rights (4.2)	43
	Negative social impacts in the supply chain and measures taken	
414-2	Sustainable procurement (2.2)	20
414-2	Human rights (4.2)	43
	Party donations	
415-1	For 2021, the Festo Group had no receipts for donations to political parties.	
	Assessment of the health and safety impact of different categories of products and services	
416-1	Consideration of applicable guidelines and laws (6.4)	59
	Requirements for product and service information and labelling	
417-1	Product responsibility and transparency (6.5)	61
	Justified complaints regarding breaches of protection and loss of customer data	
418-1	The number of incidents is subject to internal confidentiality requirements.	
	Failure to comply with laws and regulations in the social and economic field	
419-1	Festo is committed to strict compliance with laws and regulations, which are binding for all employees and are set out in the Code of Conduct.	

11. Report profile

In this sustainability report, the Festo Group informs its stakeholders about the 2020+ sustainability strategy and the sustainability activities that happened in 2021. In the reference figures, earlier comparison years are shown. The requirements of the German CSR Directive Implementation Act do not impose any obligation for sustainability reporting. Rather, Festo does so because it is committed to the topic of sustainability.

GRI standards and UN Sustainable Development Goals
The Festo 2021 sustainability report was compiled in accordance with the international standard for sustainability reporting by the Global Reporting Initiative (GRI) in the 'Core' option.
→ GRI 102-49, GRI 102-54

We have supplemented this data with further information on strategically relevant and current topics, also with regard to the Sustainable Development Goals (SDGs).
→ See page 12 for more details. → GRI 102-46

Reporting period and editorial deadline
The document is available in German and English and mainly relates to the period from 1 January 2021 to 31 December 2021. All forward-looking statements in this report are based on general assumptions at the time of going to press. The editorial deadline for this report was 31 March 2022. → GRI 102-50, GRI 102-51

The sustainability report of Festo SE & Co.KG will be published annually. The last report was published in September 2021 as a print version and interactive PDF and covered the 2020 financial year. → GRI 102-52

External and internal audit
By using the GRI standard, we want to ensure transparency of information and comparability for the public. There was no external audit of GRI compliance. → GRI 102-56

Our environmental management system according to ISO 14001 and our quality management system according to ISO 9001 are regularly reviewed by external auditors.

Contact persons and project participants
Numerous employees of the Festo Group worked on the Festo 2021 sustainability report. We will be happy to answer your questions and, if necessary, forward them to the relevant specialist departments. → GRI 102-53
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We cannot save the whole world.
But we can make our contribution to overcoming today's and tomorrow's challenges with our automation solutions and suitable programmes in technical education. In all fields of technology and all key industries.

We call this the ‘Blue World’ approach.
We learn from nature and derive principles for people-friendly technology from it. To this end, we work closely with our customers, industrial partners and research institutions in all parts of the world.

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