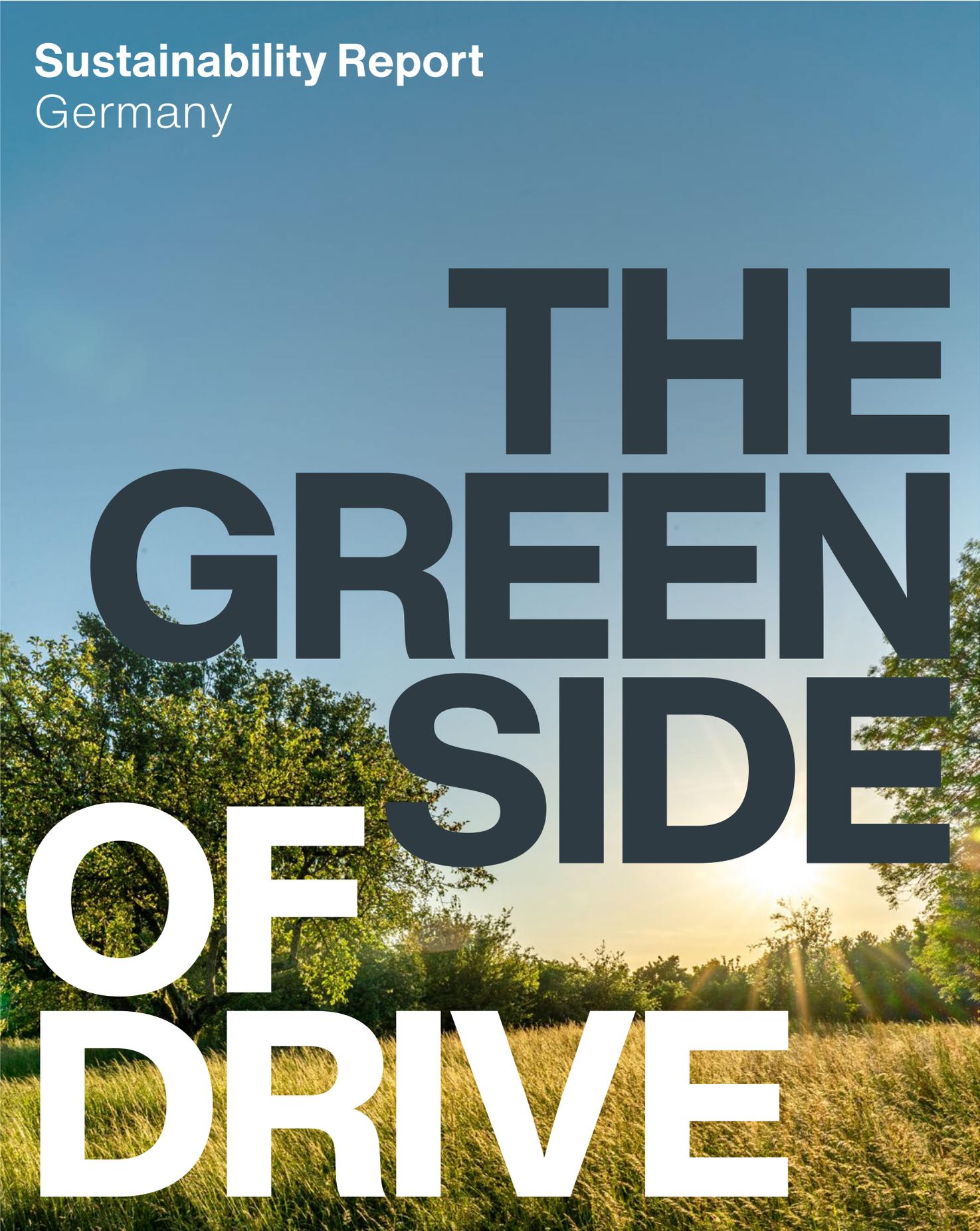


2023

SEW
EURODRIVE

Sustainability Report
Germany

**THE
GREEN
SIDE
OF
DRIVE**





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Dear Readers,

From inflation, the energy crisis, and raw material prices to political turmoil worldwide – companies in the business location of Germany are being confronted with numerous challenges that are jeopardizing growth and darkening the economic horizon.

Good news relating to climate change is also in short supply – all the more reason why a recent announcement by the German government made people sit up and take notice and raised our hopes. Last year was the first time Germany achieved the goals it has set itself, and it is on course to meet its 2030 climate targets.

We should learn the right lessons from this. For one thing, we can do something about climate change if we pull together. For another, it would be fatal if we used this good news as an excuse to sit back rather than further extending the steps we have taken in all kinds of areas to reduce greenhouse gases. We need to systematically take these efforts forward – and that also applies to SEW-EURODRIVE.

In 2022, we published our first sustainability report and set up a Sustainability Committee for the centralized coordination of our activities in this area. A great deal has happened since then. The second report we are publishing now is even more well-founded. It makes reference to the many strategies we have identified and the numerous steps we have taken to improve our sustainability – from increasing the proportions of green steel and green electricity we purchase through to introducing corporate carbon footprint (CCF) accounting for the first sites in Europe and beyond.

As in politics, however, companies also need to get people on board if the transition is to succeed. At SEW-EURODRIVE, that means our customers, suppliers, and other partners. The vast majority of our CO₂ emissions are generated when our products are being used by our customers, many of whom are in industries where it is anything but straightforward to operate on a carbon-neutral basis. That makes us all the more committed to cooperation in the interests of climate protection – without any greenwashing or false promises.

Over and above this, we never lose sight of the social dimension to sustainability. Having remained loyal to our company headquarters in Bruchsal for over 90 years, we are fully committed to this site, to the region, and to the people here. Between now and 2031, for example, we are investing a nine-figure euro sum in our plant in Graben-Neudorf and pursuing a broad range of activities to support the communities around us. We also encourage our employees to continue this commitment to sustainability away from the workplace, we promote a sustainable lifestyle, and we create a working environment where, true to our motto, people are at the heart of everything.

Yours,



Jürgen Blickle
Managing Partner

Sustainability Report 2023

First and foremost, and with maximum transparency, this report is intended to give our customers, business partners, investors, and employees a comprehensive insight into the progress we have made with our sustainability initiative. The report is also aimed at anyone working in politics, the media, the public sector, or other public organizations who has a personal or professional interest in sustainability at SEW-EURODRIVE.

The primary objective of this report is to describe the transformation of our processes and, ultimately, all our business activities in as much detail as possible, but also in a compact form. Besides focusing on Germany, as we did last year, this year's report also includes projects and data from a number of other European countries. As we gradually introduce the Global Reporting Initiative (GRI) Standards, we are starting with our largest sites in the EU in our 2023 report. It is envisaged that experience obtained in the process will serve as a basis for global reporting.

The countries included this year are Germany, Italy, Portugal, France, the Netherlands, Poland, Austria, and Denmark.

The Sustainability Report 2023 relates to the fiscal year running from January 1, 2023 to December 31, 2023 and has been approved by the SEW-EURODRIVE Management Board.

The data primarily comes from the main companies forming part of SEW-EURODRIVE in the reporting year.

The focal points and limits of reporting are chiefly based on the sustainability topics identified from the materiality analysis.

This report was prepared in line with the GRI Standards, an internationally recognized framework for sustainability reporting.



Company profile and business model

- + About SEW-EURODRIVE
- + Business model
- + Company management



About SEW-EURODRIVE

**"People don't want products.
They want solutions."**

Ernst Blickle, son-in-law of the founder of
Süddeutsche Elektromotoren-Werke SEW

This principle, which was established back when our company was founded in 1931, is still highly apt today and captures the essence of SEW-EURODRIVE. We think and act based on holistic concepts and solutions that keep our customers moving.

What makes us stand out from virtually every other company in our field is the way we have been combining movement, tradition, innovation, quality, and services for over 90 years.

To achieve this, we also keep our own company moving and are playing a key role in shaping the future of drive technology.

We laid the foundation for this success back in 1951, when we introduced the first modular system for gearmotors.

Further milestones in our company's history in terms of product and production technology were the completion of our modular system in 1965, the move into control technology in 1980, and the launch of decentralized drive technology with MOVIMOT® in 1996.



1987

Rainer and Jürgen Blickle
at the helm

Our company was run jointly by Rainer and Jürgen Blickle from 1987, and Jürgen Blickle has been in sole charge since 2021 – the year we celebrated our 90th anniversary by opening our casting production plant and our customer center in Graben-Neudorf.

120

We register some 120 patents a year in Germany alone.

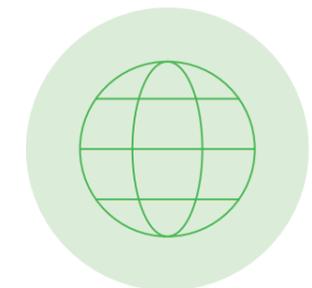
In 2005, we recorded sales of over one billion euros for the first time and had over 10 000 employees worldwide. This continuous growth resulted in sales of 4.5 billion euros and a global headcount of around 22 000 by 2023.



Ernst Blickle, son-in-law
of the founder of Süddeutsche Elek-
tromotoren-Werke SEW



**We think and act based
on holistic concepts
and solutions that keep
our customers moving.**



**By providing products
that are durable and
have minimal service
outlay, we are helping
safeguard the planet's
resources.**

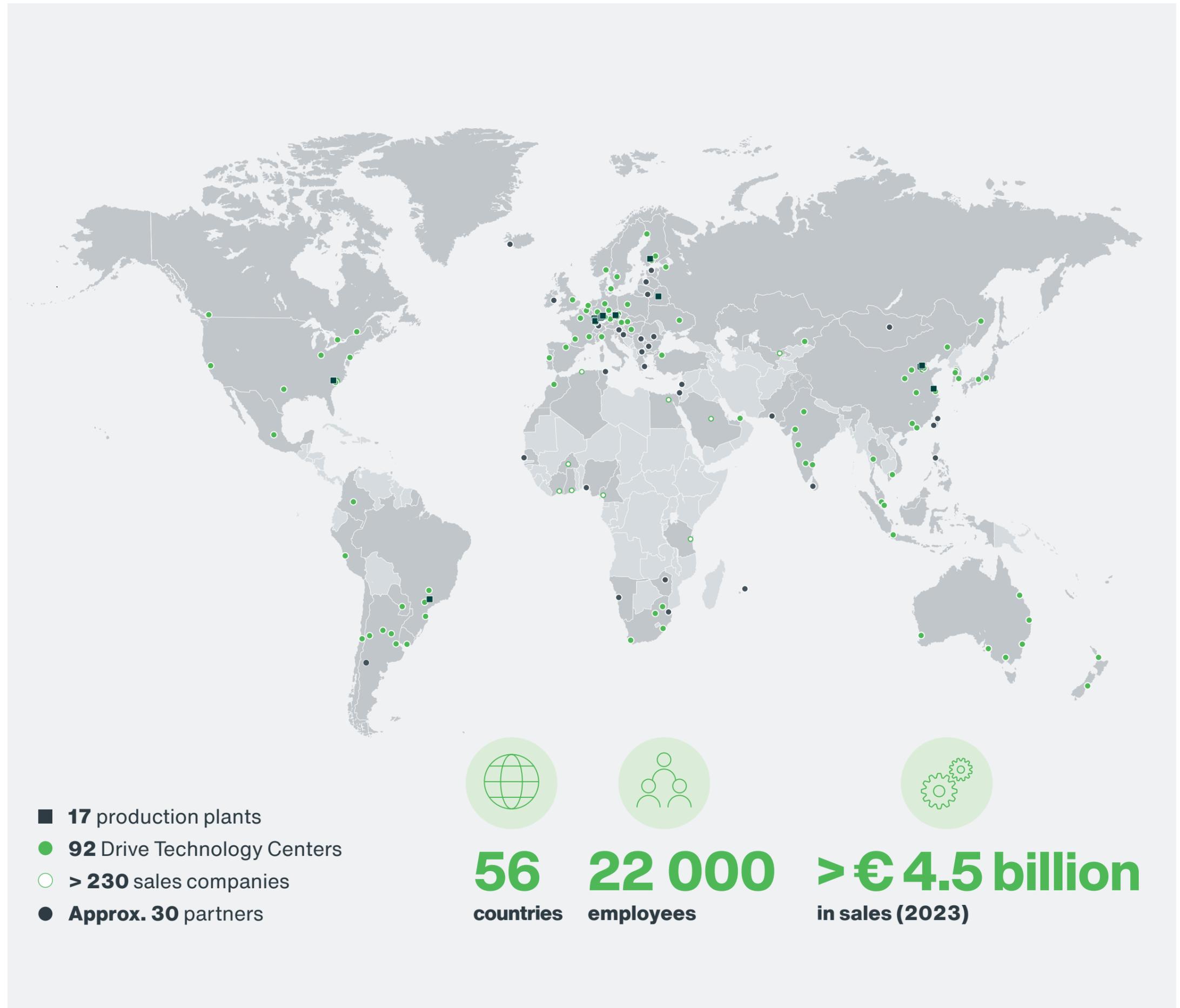
Our locations worldwide

Our principle of personal proximity – we are where our customers are

Our growing global presence means we are getting ever closer to our customers. From an early stage, we were keen to ensure customer proximity beyond our headquarters in Bruchsal and the heart of our production operation in Graben-Neudorf.

With 17 production plants, 92 Drive Technology Centers, and over 200 sales companies in 56 countries, we are there for our customers worldwide. The distribution of our sites is as follows:

137	Europe
142	Asia
53	North and South America
20	Africa
11	Australia



Business model

Being a specialist in drive technology gives us our own very special drive.

Thanks to our comprehensive product portfolio, we can find a solution for any requirement and any drive. What's more, our solutions are used in all kinds of sectors, in countless processes, plants, and machines.

Based on our flexible, modular design approach, we can precisely meet all customer needs with an exceptionally wide-ranging portfolio. Our individual products can be integrated into applications or system solutions, or adapted based on industry-specific criteria.

We create user-specific and application-specific drive solutions with standard gearmotors, and we produce industrial gear units with decentralized technology, servo technology, and control technology. We ensure functional safety and an interface-specific software connection for all our solutions.

Everything from a single source, comprehensively carefree, and fit for the future

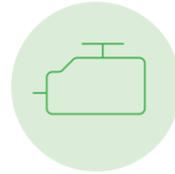
Thanks to our application packages and preconfigured automation modules, we offer everything from a single source, meaning our customers have just one supplier and contact to deal with.

With the help of a comprehensive service concept and a constant stream of new technologies and ideas, we think ahead and look to the future. Our Life Cycle Services and 24 h Hotline give our customers a comprehensively care-free package for all repair and maintenance work. Our journey into the digital future of Industry 4.0 started back in 2014 with our lean smart factory in Graben-Neudorf.

We ensure that our customers get precisely the solution they need – we manufacture with precision and to suit the market.

Our portfolio:

Individual products



Applications



System solutions



Industry expertise



Life Cycle Services



Industry 4.0

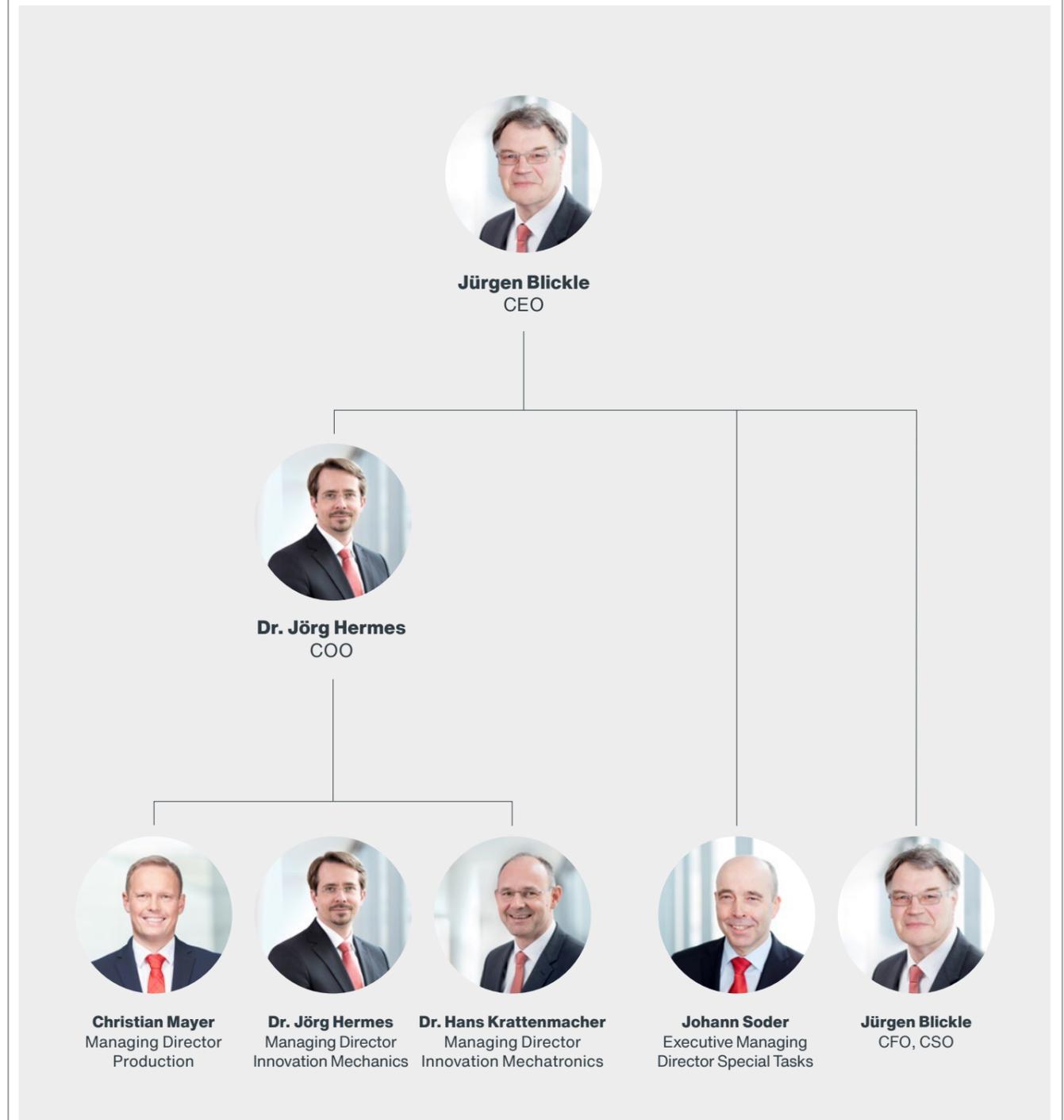


Company management

The SEW-EURODRIVE Management Board

As CEO, Managing Partner, and Chairman, Jürgen Blickle has overall responsibility. Reporting directly to the CEO is Dr. Jörg Hermes, COO and Managing Director Innovation Mechanics. He also has overall responsibility for the departments under Managing Director Production Christian Mayer and Managing Director Innovation Mechatronics Dr. Hans Krattenmacher.

In his role as Executive Managing Director Special Tasks, Johann Soder is in charge of departments such as Construction and Facility Management. He also reports directly to Jürgen Blickle who, besides being our CEO, is also responsible for finance and sales in his additional roles as CFO and CSO.



Strategy and sustainability

- + Fields of activity and strategy
- + The basis of our business activities
- + Focal points
- + Sustainability organization
- + Materiality analysis
- + Aims and roadmap



Fields of activity and strategy

SEW-EURODRIVE is a responsible family-owned business, and sustainability is an integral part of our DNA. From a social, economic, and ecological perspective, we always endeavor to use resources within the limits of their natural regeneration capacity.

As part of our long-term sustainability initiative, we aim to optimize our entire value chain, and also to cut CO₂ emissions and live up to our social responsibility by minimizing our use of resources.

Aspects of sustainability – ecology, economy, and society + quality

All three aspects of sustainability as it is generally understood – its ecological, social, and economic dimensions – make up the very bedrock of our commercial operations. All three are also covered by another key trait of SEW-EURODRIVE as a manufacturer of motors, gear units, and inverter technology worldwide – quality.

By providing products that are durable and have minimal service outlay, we are helping safeguard the planet's resources.

We aim to monitor and continuously re-evaluate the ways our actions across all sectors and departments impact the environment.

3

aspects as the basis of our business activities

Our goal is to ensure the company is managed on as sustainable a basis as possible.

As a family-owned company, we feel we have a responsibility to future generations, too. Furthermore, as a company that operates internationally, we seek to ensure our approach is as wide-ranging and all-encompassing as possible.

To satisfy the international requirements placed on our products and our customer structure, we also aim to actively incorporate our external partners into our sustainability process.

SDGs and areas of activity

Highly developed, industrialized countries must set an example when it comes to fighting climate change. Over the coming years and decades, that means in Germany, too, we will need to give up habits we have become fond of. However, climate change also presents us with an opportunity to gradually establish a new way of living and a new philosophy of life that are in harmony with our planet.

It was in this spirit that the United Nations defined 17 global sustainable development goals (SDGs) in 2015 as part of its Sustainable Development Agenda.

To implement our sustainability@SEW initiative, we compared our activities against the 17 SDGs defined by the United Nations.

This resulted in three key areas of activity – supply and raw material chains, production and business processes, and products and services. Since individuals and what they do are always at the start of our value chain, "people" is our fourth area of activity.

17

global sustainable development goals

Our five areas of activity are rounded off by the "ethics and governance" category, in which all overarching sustainability measures are anchored. In particular, this covers legal requirements and ethical principles.

Our sustainability strategy's five areas of activity, together with their allocation to SDG categories that are relevant to SEW-EURODRIVE, are shown on the next page.



The basis of our business activities

→ Ethics and governance

- + Risk management
- + Legal compliance
- + Social commitment
- + Information security

→ People

- + Workforce
- + Health and safety management
- + Qualifications, encouragement, and knowledge transfer
- + Being an attractive employer
- + Diversity and equal opportunities

→ Products and services

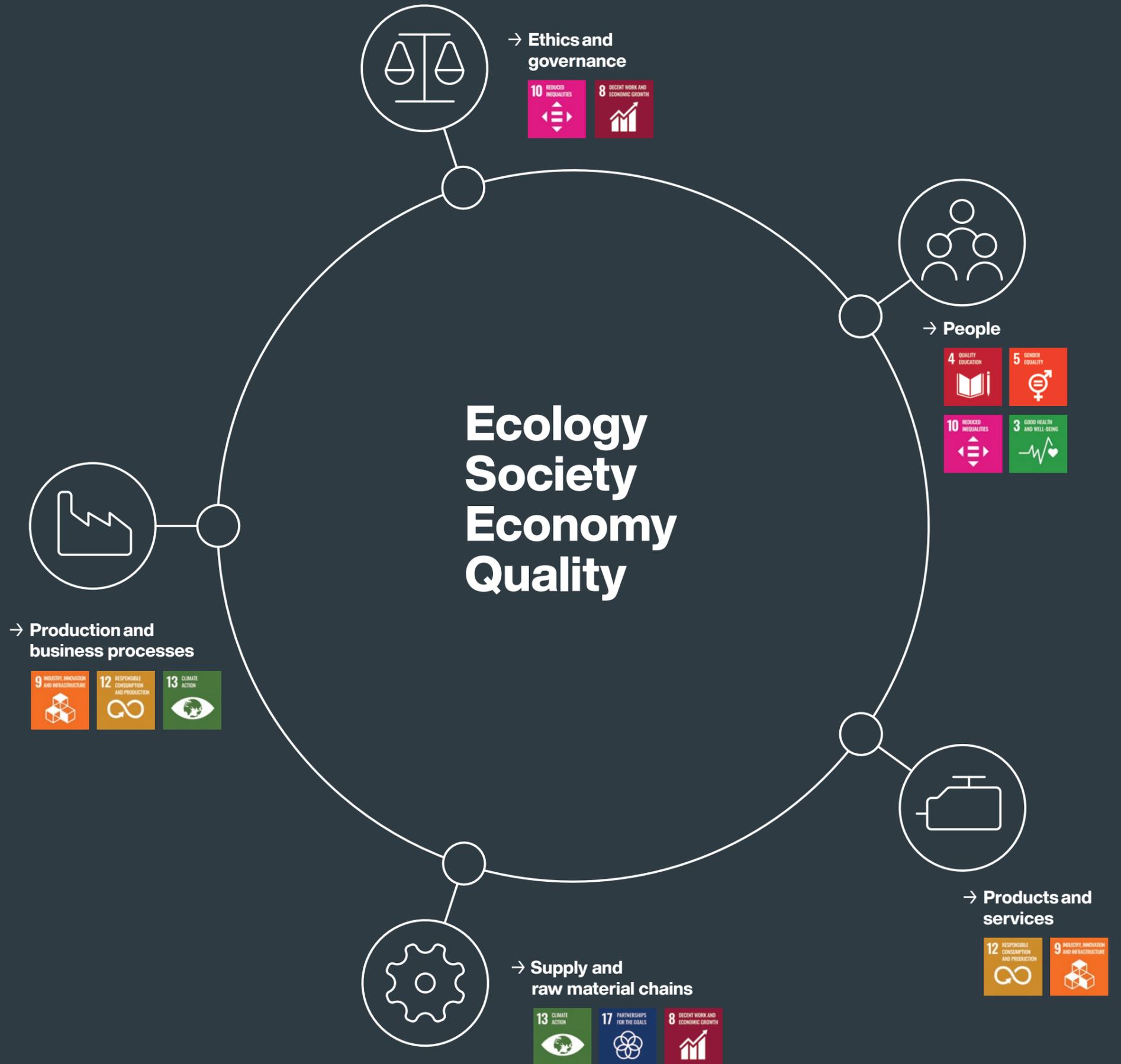
- + Circular economy
- + Sustainable product development
- + Resource-efficient products
- + Digital products and services
- + Product carbon footprint

→ Supply and raw material chains

- + Collaborative supplier management
- + Resource-friendly raw material sourcing

→ Production and business processes

- + Resource-friendly production
- + Buildings and infrastructure
- + Logistics and mobility

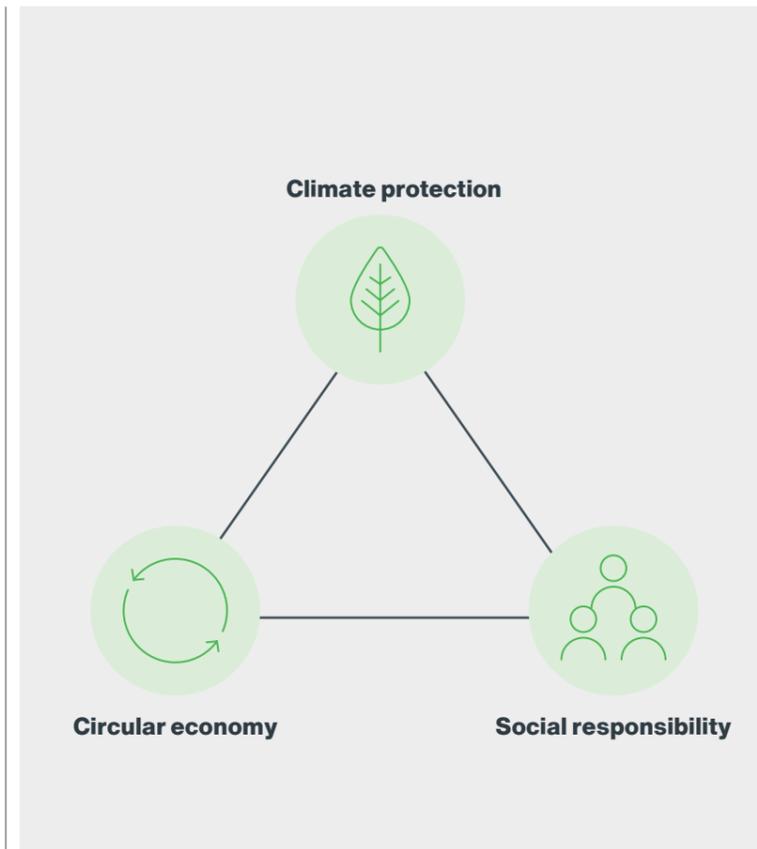


Focal points

Our strategy involves continuously and permanently establishing "sustainability" as a value within the company and taking concrete, measurable steps to achieve it. By analyzing and continuously improving our processes and products, we seek to permanently reduce their carbon footprint, and an effective circular economy will help us ensure that the resources involved can be fed back into the loop.

SEW-EURODRIVE attaches great importance to its social responsibility – not just toward its employees, but also toward people involved in upstream or downstream processes or indirectly affected by the company's activities.

In conjunction with our areas of activity, this results in three focal points for SEW-EURODRIVE.



As a first step in becoming a truly sustainable company, the formulation of these focal points has led to the development of a vision that SEW-EURODRIVE will turn into reality through a gradual but continuous process.

Focal point	Topic	Measures/activities
Climate protection	CO ₂ reduction* SEW-EURODRIVE (Scope 1 and 2)	<ul style="list-style-type: none"> - Switching to green electricity - Substituting fossil energy sources - Electrification - Extending carbon accounting to all sites worldwide
	CO ₂ reduction upstream (Scope 3)	<ul style="list-style-type: none"> - Identifying relevant suppliers - Carbon footprint for significant product groups of purchased goods
	Saving energy	<ul style="list-style-type: none"> - Utilizing process heat - Efficiency measures - Drawing up recommendations for international subsidiaries
	PCF (Product Carbon Footprint) calculation	<ul style="list-style-type: none"> - Calculation method - Scenario for operation phase - Automating the calculation method
	Mobility	<ul style="list-style-type: none"> - Guidelines for sustainable travel - Electric vehicle charging stations
Circular economy	Circular economy topics – products	<ul style="list-style-type: none"> - Identifying potential projects - Developing a business model - Developing the necessary processes
	Circular economy topics – packaging and containers	<ul style="list-style-type: none"> - Packaging cycles + concepts - Overall concept and responsibility
	Ecodesign	<ul style="list-style-type: none"> - Ecodesign Guideline - Voluntary commitment in product development
Social responsibility	Equal opportunities	<ul style="list-style-type: none"> - Formulating guidelines
	Occupational health and safety	<ul style="list-style-type: none"> - Fulfilling legal obligations and other requirements as well as the obligation to eliminate avoidable hazards and minimize risks
	Human rights	<ul style="list-style-type: none"> - Supply Chain Due Diligence Act, Code of Conduct: obligating business partners to respect human rights by requiring them to establish appropriate due diligence processes - Ad hoc auditing - Expanding the Whistleblower Hotline

* CO₂ reduction by 80% for German sites (Scope1/2). Based on year 2022; without compensation.

Sustainability organization

Being well organized is half the battle – the Sustainability Committee at SEW-EURODRIVE

We will only be able to permanently establish "sustainability" as an additional corporate aim and implement practical steps successfully if we work to that end every day, every week, and every month. This is the only way we can ensure that every individual at every level is able to play their part in delivering sustainable change, thus making sure it works for our entire company. If all the associated concrete targets are to be met, responsibilities will need to be clearly allocated within SEW-EURODRIVE. A new Sustainability Committee was established in 2022 to do precisely that.

Structure and functions of the Sustainability Committee at SEW-EURODRIVE

By creating the Sustainability Committee, we are emphasizing the huge importance our company attaches to sustainable development. The organizational on the right chart shows how the importance of the issue is reflected in our organization.

The Sustainability Committee (SC) comes under the umbrella of quality and sustainability management and reports directly to the SEW-EURODRIVE Management Board.

One of the most important tasks for the SC is to keep the Management Board informed and provide a basis for making decisions. Further key tasks include developing and updating the SEW-EURODRIVE sustainability strategy and consolidating the programs, targets, and measures associated with that strategy. Finally, all the SC's activities are geared toward continuously promoting the various sustainability issues and projects within the five areas of activity. This also includes regularly carrying out certifications and audits.



↑ Organizational chart for the Sustainability Committee at SEW-EURODRIVE

Overarching responsibility ensures a holistic approach

The field of activity of the SEW-EURODRIVE Sustainability Committee covers the entire company, from Research and Development to Sales, the plants, and Procurement. The primary focal points are advising and assisting individual divisions and departments and supporting external consultants when it comes to rolling out sustainable projects. As part of this approach, a growing number of working groups and project organizations are being established within the SEW-EURODRIVE Group to drive forward specific activities and projects with as much focus as possible.

This means that individual managers and executives have responsibility for the activities aimed at achieving targets and for implementing group-wide standards. They are also tasked with coordinating the individual working groups.

Composition and remit of working groups

At operational level, staff are organized into project teams or working groups based on the requirements of the relevant topic areas.

Employees with responsibility for the focal points of climate protection, the circular economy, and social responsibility have also been appointed in the relevant divisions.

A project team consisting of representatives from the financial and sustainability management departments has been created for first-time implementation of the Corporate Sustainability Reporting Directive (CSRD). As part of this project, the ways the organization impacts the economy, the environment, and people will be evaluated and reviewed on a regular/yearly basis to see whether the approach needs to be updated.

There are several working groups for the focal point of the circular economy, with members from both innovation and production departments. In addition to this, information is regularly shared with the sites outside Germany.

Internationalization of this focal point is taking place step by step. We are currently directing our attention toward our European subsidiaries. When developing solutions, we work together as equals and apply the best-practice principle. For some activities, such as reporting, our headquarters has defined specifications for our sites outside Germany. Non-European sites will be involved by 2025.

The Sustainability Committee at SEW-EURODRIVE



Claus-Peter Sieber
Head of Quality Management Sustainability Officer



Oliver Bollian
Head of International Markets 1 (Europe)



Dr. Jürgen Miller
Head of Product Support and Release Management



Karl-Heinz Martus
Head of Financial Controlling



Daniela Schmid
Head of Construction and Facility Management



Dr. Wolfgang Weis
Head of Graben-Neudorf Production Plant



Bernd Kohring
Head of Procurement

Materiality analysis

Stakeholder groups

The interest in sustainable business practices and sustainable products has grown strongly in recent years – not just among individuals, but also in political and economic circles.

As part of implementing the CSRD Directive, SEW-EURODRIVE has identified which groups have an interest in the company's activities.

Stakeholder groups	Forms of dialog
Employees	Internal and external communication channels, works meetings, discussions with staff
Partners	Regular management reporting
Trade unions	Works Council committees, works meeting
Suppliers	Supplier discussions and audits, sustainable supplier development
Customers	External communication channels, consulting, training, satisfaction surveys
Local communities	Dialog with towns/cities and communities
Nature/environment	Silent stakeholder

Process to determine material topics

As a future-focused company, SEW-EURODRIVE regards sustainability as an integral part of its business operations. With a view to initiating productive activities in this context, a double materiality analysis was carried out in accordance with the requirements of the CSRD Directive. The material topics were identified taking into account the different stakeholder interests and asking our experts about the significant economic, social, and ecological impacts (inside-out perspective) as well as the opportunities and risks for the company (outside-in perspective).

Topic	Subtopic	Inside-out			Outside-in
		Upstream	SEW-EURODRIVE	Downstream	Risks/opportunities
Climate change	Adapting to climate change				
	Fighting climate change				
	Energy				
Environmental pollution	Air pollution				
Resource usage and circular economy	Inflows of resources				
	Outflows of resources				
	Waste				
Own workforce	Working conditions				
	Equal opportunities				
Corporate policy	Whistleblowers				

Key to colors: red = negative impacts / risks; green = positive impacts / opportunities; yellow = both (positive and negative)

The Global Reporting Initiative (GRI) is committed to the sustainability reporting of organizations worldwide and provides appropriate guidelines. The GRI aims to support the sustainability reporting of all organizations.

The following material topics have been identified:

Climate change: emissions → GRI 305

- Inside-out impacts: Due to SEW-EURODRIVE's use of gray electricity and gas, especially for production processes, and due to our vehicle fleet, our emissions have a significant influence on climate change.
- Outside-in impacts: Physical risks such as flooding, earthquakes, and heatwaves can affect the infrastructure and operations of SEW-EURODRIVE.

Energy → GRI 302

- Inside-out impacts: SEW-EURODRIVE's high use of electricity and gas, especially for production processes, influences energy generation and therefore the environment.
- Outside-in impacts: Risk of high costs due to high energy requirements, especially in the case of fossil energy sources. Opportunities associated with the use of renewable energies, especially energy generated in-house.

Air pollution → GRI 308

- Inside-out impacts: Risks relating to air pollution have been identified in upstream and downstream processes such as extracting resources (mining).

Resources (circular economy) → GRI 301

- Inside-out impacts: Especially in the upstream value chain, we source raw materials and products from all over the world and therefore influence their procurement.
- Outside-in impacts: Risk of financial impacts due to scarcity of resources, inability to meet customer demand, and introduction of new waste management regulations.

Employees, of the company and in the value chain → GRI 401, GRI 403, GRI 404, GRI 414

- Inside-out impacts: Positive impacts on employees as a result of good working conditions (financial, health, social) at SEW-EURODRIVE.
- Outside-in impacts: Risks resulting from limited appeal as an employer and low numbers of skilled workers. Opportunities due to strong appeal as an employer.

Equal opportunities → GRI 405, GRI 406

- Inside-out impacts: Positive impacts on employees in the form of equal opportunities thanks to collective bargaining agreements, inclusion of people with disabilities, and further training opportunities for all.
- Outside-in impacts: Risk resulting from limited appeal as an employer and low numbers of skilled workers. Opportunities due to strong appeal as an employer.

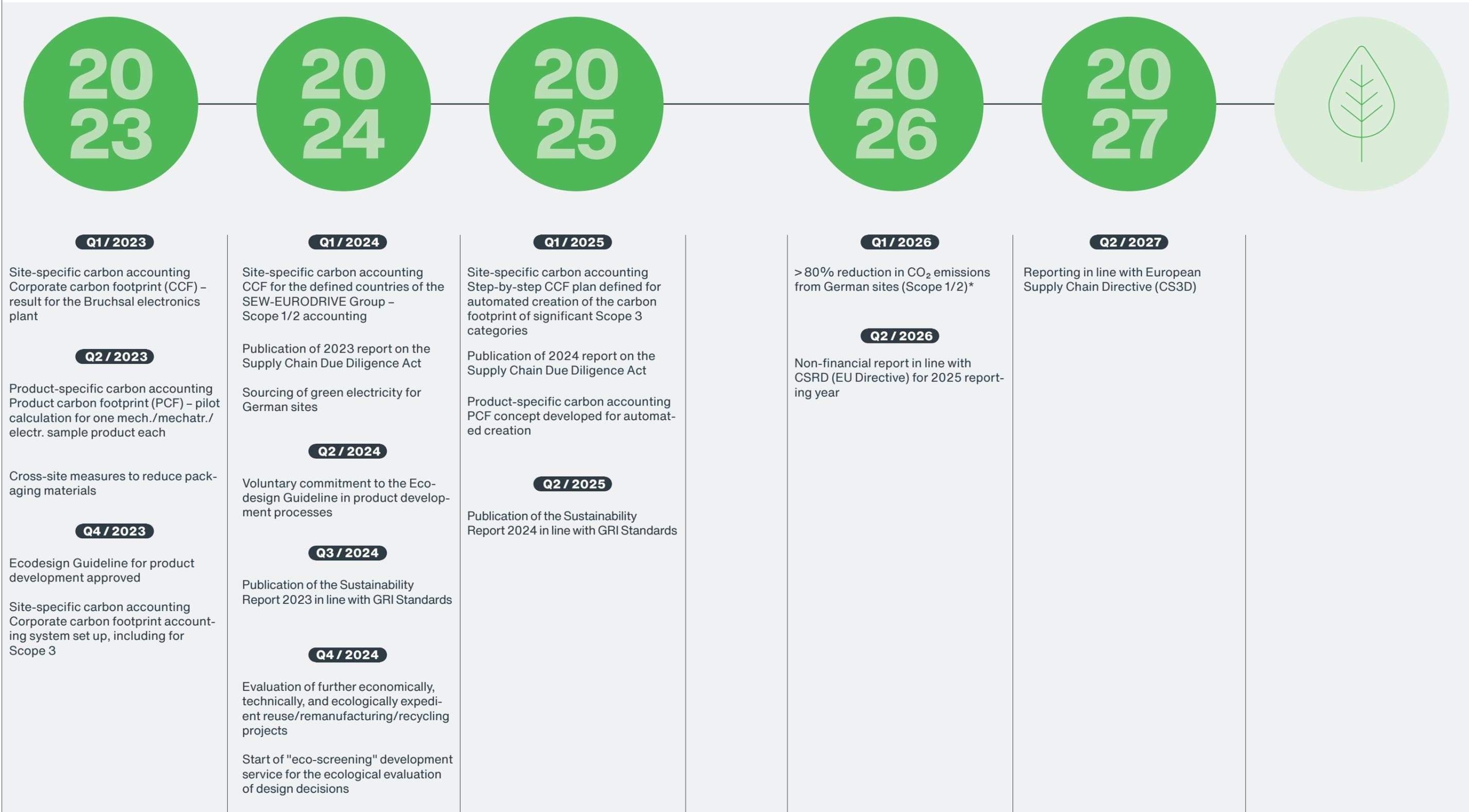
Whistleblowers → GRI 2

- Inside-out impacts: Positive impacts thanks to an anonymized and publicly accessible Whistleblower Hotline.

Aims and roadmap

Our sustainability roadmap – the key stages and milestones

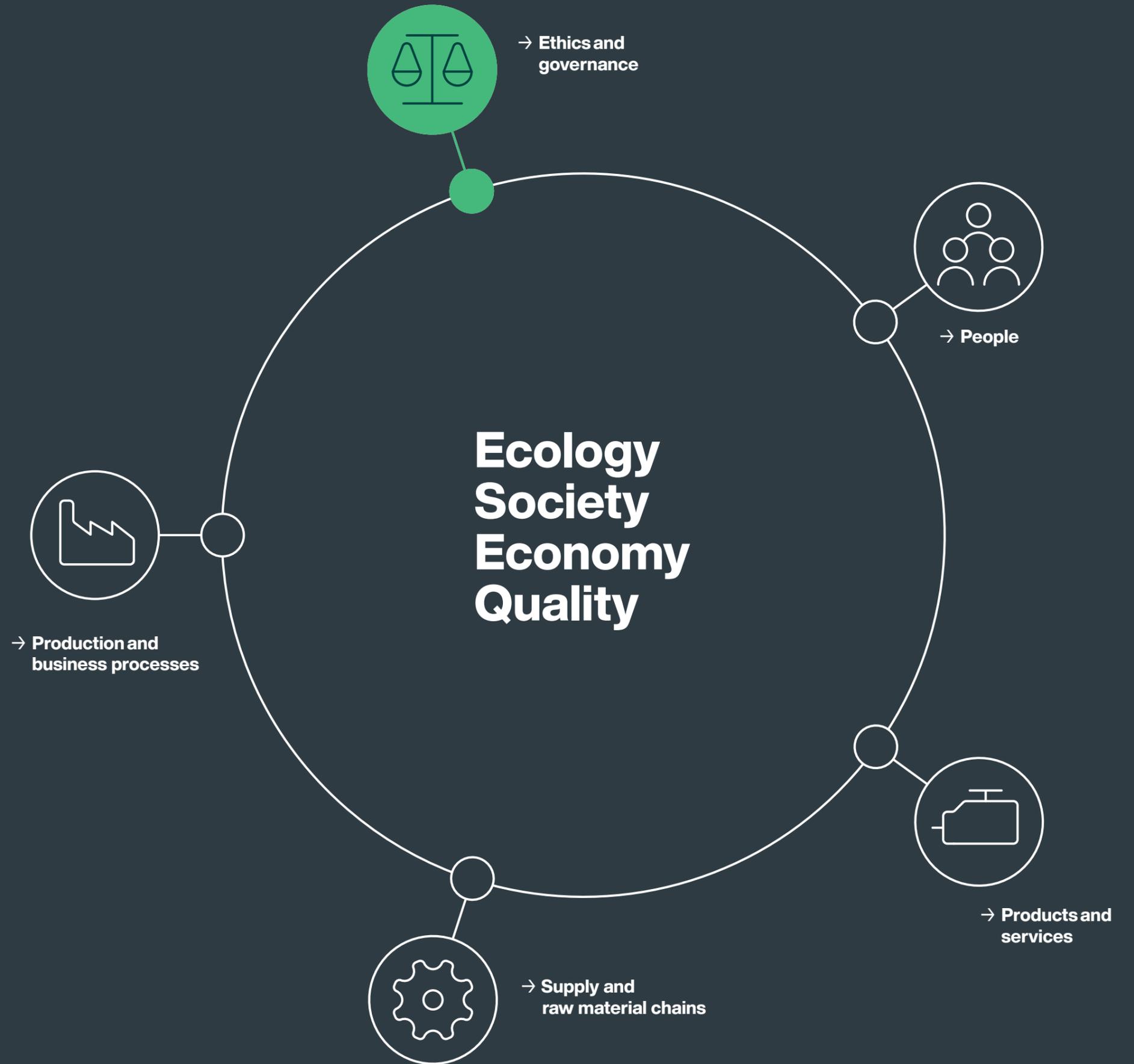
While gradually rolling out carbon accounting at more plants and sites and introducing additional measures to achieve a circular economy, we have put together a special roadmap that sets out the key milestones for our journey toward greater sustainability by 2027.



*In relation to base year of 2022; without offsetting

Ethics and governance

- + Risk management
- + Legal compliance
- + Social commitment
- + Information security



Ethics and governance: the highest standards for maximum integrity

Our most fundamental corporate principles

The high quality of our products and solutions is matched by a high benchmark in ethical guidelines and standards. We believe that ethics and governance are about more than just abiding by applicable laws and global human rights. For us, ethics and governance are about actively managing sustainability and pursuing our company's core values of freedom, reliability, and humanity.

As one of the world's leading manufacturers of drive technology, these standards are very close to our heart, whether in terms of occupational health and safety, a corporate code of conduct, or functional safety.



Risk management

Conserving resources with supplier-related risk management

By involving our suppliers in our processes and value chain at an early stage, we ensure that risks relating to unethical practices or the use of materials, among other things, are manageable during ongoing operations and remain that way.

The basis for this predictive risk management and the proactive implementation of measures is the ongoing monitoring of all our suppliers using a critical supplier watchlist.

At the same time, we use a trend radar to monitor the individual procurement markets and evaluate possible political disruptive influences and technological trends. In return, our suppliers benefit from professional support and goal-ori-



ented solutions. We want to be proactive, focusing on teamwork and results. Through open communication and a respectful approach, we assume social responsibility as part of a growing partnership.



Guidelines for clear labeling and packaging

The example of our delivery and labeling requirements is a good illustration of how we use a clearly defined set of rules to make the packaging of goods and products delivered to us as efficient and sustainable as possible. This also applies to upstream and downstream processes.

Among other things, these rules precisely define the size of individual packaging items and forbid the use of prohibited packaging materials.

To optimize handling processes, there are also detailed guidelines for how to structure labels and delivery notes. This clear labeling system saves energy by ensuring packages are not sent on wasteful journeys to the wrong warehouse or rack, for example.

Naturally, this same principle of maximum resource conservation through clear regulations for packaging and processes is also applied to the delivery of our own products to customers and partners.

The entire process for designing the packaging is described in detail in our comprehensive packaging manual. This includes the definition of various base carriers such as a Euro pallet and the packaging unit in the form of conduc-



tive or non-conductive carrying containers, SEW-EURODRIVE boxes, or reusable load carriers, to name just a few examples.

The design specifications for the packaging also cover factors such as internal securing elements and filling materials, the arrangement of goods, and the precise definition of the packaging material, which must, for example, be recyclable and comply with European environmental and material legislation.

The content and attachment of the goods tag, which sets out the necessary information on the contents of the delivery, are also precisely defined. Furthermore, the packaging manual also describes the proper handling of individual load carriers, which are divided into units that can be shared in a pool and reusable load carriers that are specific to SEW-EURODRIVE.

Having packing regulations in place ensures the materials utilized are highly reusable.

The packaging requirements

- 1 Label must be attached to the smallest packaging unit.**
Helps clearly identify the goods. Reduces errors in the goods receipt process. Saves time when identifying the goods.
- 2 Large packaging units (usually Euro pallets) must be provided with a VDA label.**
Simple and secure retrieval of required information thanks to standardized label structure.
- 3 Packages (> 18 kg) must be suitable for handling with a gripper or suction lifter.**
Optimizes the ergonomics of workstations and, as a result, occupational health and safety.
- 4 Precise specification of delivery time**
Leads to even distribution of work volume and workload.
- 5 Prohibited packaging materials must not be used.**
Prevents extra costs for disposal and additional work. Compliance with statutory provisions.
- 6 Delivery note is attached to the "large" packaging unit in a shipping bag and is clearly visible.**
- 7 Adequate transport and corrosion protection must be ensured.**
Prevents production downtimes and additional outlay.

Risk management

The systematic categorization of all suppliers creates clarity

Based on these results, all suppliers are systematically classified in a three-stage process.

Stage 1
If all ISO certificates are present, no further measures will be implemented at first.

Stage 2
If not all ISO certificates are present, a desk audit will be carried out and then suggestions made for improvements and training.

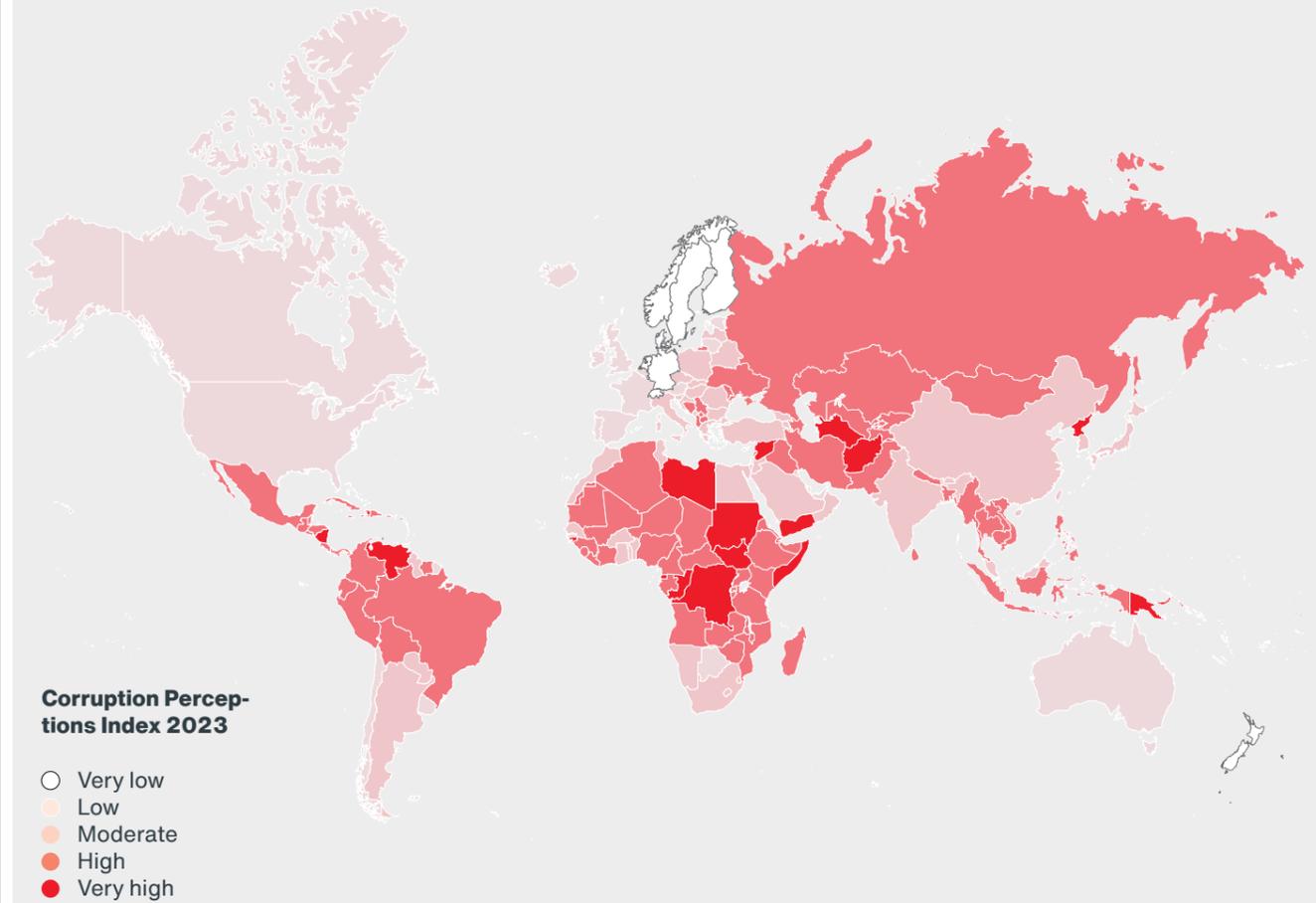
Stage 3
If there are considerable gaps, the supplier will be closely monitored with an on-site audit and the initiation of a continuous improvement process.

The risk analysis is conducted based on the geographical location of the supplier in relation to the Corruption Perceptions Index maintained by Transparency International.

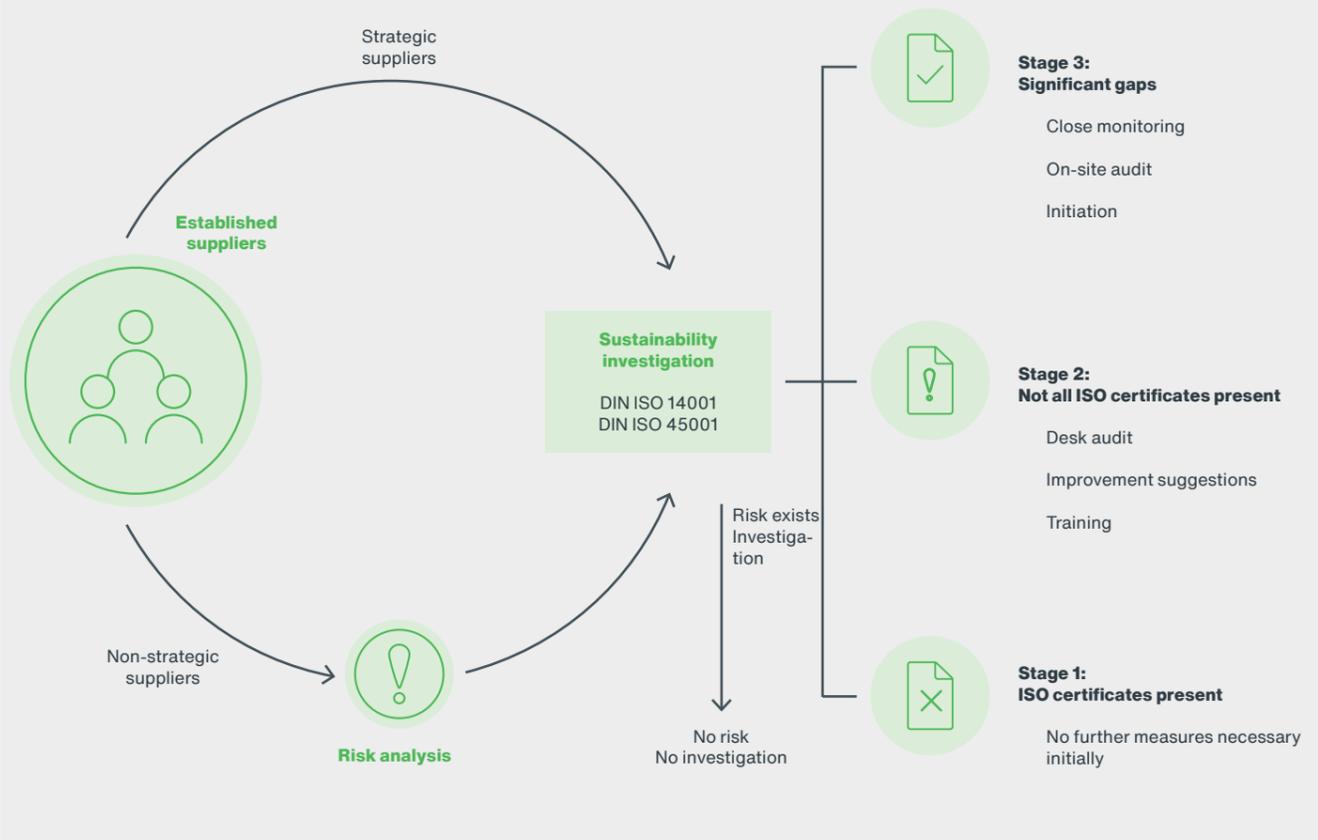
During the risk analysis, we also take into account special sector-specific considerations. For example, some sectors, such as the textile industry and raw material mines, are subject to special labor law risks, while others, such as the steel industry, are particularly impacted by environmental risks.

Risk analysis based on the geographical location of the supplier

2023



Systematic approach to dealing with suppliers



Dependable data protection based on the GDPR and Data Protection Officers

As a company based in Germany, we naturally observe and abide by all provisions and regulations in the General Data Protection Regulation (GDPR), which entered into force in 2018. We have appointed in-house Data Protection Officers for this purpose.

Overview of all certificates and product compliance regulations

We comply with the applicable international standards for quality management, environmental management, and energy management in addition to other ISO standards on occupational health and safety and on information security. A full overview of all the standards, regulations, and product compliance directives that we abide by can be found here:



[Certificates and product compliance](#)

The risk analysis is conducted based on the geographical location of the supplier in relation to the Corruption Perceptions Index maintained by Transparency International. During the risk analysis, we also take into account special sector-specific considerations.

Legal compliance

The high quality of our products is matched by high ethical standards

This claim is firmly anchored on both a structural and organizational level at SEW-EURODRIVE by our corporate governance, by a compliance management system that has been rolled out across Germany and worldwide, and by an integrated management system for quality and energy management, environmental protection, and occupational health and safety.

The same applies to the responsible handling of conflict materials and dual-use goods, as well as IT security and data protection.

Within the framework of this compliance organization, we put in place monitoring to ensure laws are followed and that in-house regulations such as our Code of Conduct, guideline on gifts, and signature procedures are observed. As part of our response to the German Supply Chain Due Diligence Act (LkSG), we are expanding our Code of Conduct with an additional passage on human rights and environmental protection in the supply chain.

We also provide support in contractual negotiations with business partners, as far as assessing other legal questions in business relationships with third parties, and we take account of the legal implications when establishing or changing internal business processes or business models.

Added to this are further measures within the framework of a regular internal audit:



Continuously monitoring the internal stipulations of our managing partners and Management Board as well as business processes, reporting, and compliance with laws, regulations, and directives.



Identifying new and as-yet unknown risks for all units and functions in the company is one of our tasks.



Auditing processes such as the sales process – starting with the request for a quotation and ending with accounting, including auditing operational and administrative steps and checks that are implemented throughout the core process.



Communicating audit results directly to the Audit Committee, which consists of managing partners and Management Board members, and providing regular instruction to employees.

Whistleblower Hotline

We have also successfully launched a publicly accessible whistleblower tool in more than 90 languages on our website.

The company's employees and external third parties such as suppliers can use this tool to submit anonymous tip-offs. Most importantly, the tool provides a channel of communication with the source of information, without that source having to reveal their identity.

We also undergo external audits, with regular verification by EcoVadis, SEDEX, Integrity Next, and Supplier Assurance.

Last but not least, we encourage social engagement around the world by supporting social institutes and organizations located close to SEW-EURODRIVE sites with donations and sponsorships. In Germany specifically, our interest is focused on helping the company's workforce engage in volunteering activities and develop their contributions to society and their empathy.

Our whistleblower tool can be found [here](#) and is open to the public.



In 2023, we received 3 reports through the hotline.

Code of Conduct – the ethical guidelines for our day-to-day activities

Our Code of Conduct guides our everyday work. Through this code, we make a commitment to abide by all applicable laws and the core values of our company, namely freedom, reliability, and humanity. At the same time, the Code of Conduct helps us acknowledge our responsibility as an international family business with a history that stretches back more than 90 years.

Our Code of Conduct applies to every single member of staff, whether a senior executive or trainee, and to all hierarchy levels across all our branches and business units worldwide. Misconduct that violates the Code of Conduct may be harmful to SEW-EURODRIVE and will not be tolerated.

Our actions are governed by eight key principles

1

Abiding by the law

We always act in accordance with the applicable laws of the country.

2

Management culture

Our managers have a special responsibility and pay particularly close attention to the regulations of the Code of Conduct.

3

Human rights / ban on child labor / forced labor

We reject child and forced labor, and are vigilant with regard to any human rights violations.

4

Workers' rights

We respect the labor rights that apply in any given circumstance and support their enforcement.



5

Occupational health and safety

We place major emphasis on the health and safety of our employees and support the continuous further development of safety measures.

6

Working together and the prohibition of discrimination

We respect each other and reject any form of discrimination.

7

Environmental protection

We always consciously act to minimize our impact on the environment and conserve resources.

8

Tax compliance

We meet our tax and contribution obligations and provide constructive assistance to the relevant authorities.

Our Code of Conduct also contains detailed rules for how to handle business relationships. For example, we reject any form of preferential treatment or bribery as part of our business dealings. We also have a proactive policy regulating the giving and receiving of gifts. Any form of gratuity must not under any circumstances influence a business decision. Gifts and invitations that exceed a set upper value of 50 euros per individual gift or 150 euros per person, per financial year must be reported and seamlessly documented.

Any agreements that are anti-competitive are also prohibited. We avoid any semblance of a conflict of interest, as it is in our own business interest to do so. We also handle information with care, and always ensure that the appropriate level of confidentiality is assured. We place a strong emphasis on the protection of personal data.

You can find the [full text of our Code of Conduct](#), plus a detailed description of all principles and regulations, here:



Legal compliance

Expanding our Code of Conduct in response to the Supply Chain Due Diligence Act

The Supply Chain Due Diligence Act came into force in 2023, and we are therefore expanding our Code of Conduct with additional passages setting out our commitment to protect human rights on the basis of various internationally applicable standards such as the UN's Universal Declaration of Human Rights and the OECD Guidelines for Multinational Enterprises.

Based on our international and wide-ranging business model, we are emphasizing the local responsibility of the individual regions and countries. At the same time, we believe it is our duty to champion human rights and environmental standards even where the local understanding of these may diverge, for instance in relation to occupational health and safety regulations. To better ensure that human rights are respected, we have also appointed a Human Rights Officer.

The international rollout of our Code of Conduct has already begun in Europe. As part of our decentralized approach, each Management Board is being instructed to appoint a local Compliance Officer and arrange training for local staff. A local Code of Conduct is also to be implemented. The roll-out in other continents outside Europe is already being planned.

768

employees classed as being relevant to compliance have received in-person training since 2016.

Following the Code of Conduct in everyday working life

A Code of Conduct is only worth having if it is actually put into practice on a daily basis. That is why we regularly train our staff in how to apply our Code of Conduct.

For example, all staff who are classed as being relevant to compliance have been given in-person training. This amounts to 768 employees since 2016. Other staff with access to a PC have completed an e-learning course.

We obtain corresponding contractual commitments from our suppliers, particularly to the effect that they undertake to comply with our Code of Conduct. Furthermore, we carry out audits to check whether suppliers are abiding by the commitments they have made, doing so both on a regular basis and as required by circumstances.

We have defined clear internal responsibilities for recognizing and complying with our due diligence obligations with regard to human rights. The Human Rights Officer is appointed directly by the Management Board.

We also involve relevant departments such as HR, Data Protection, and Procurement in the implementation of our Code of Conduct. These units are responsible for the necessary steps that are taken within their sphere of responsibility.

SEW-EURODRIVE GmbH & Co KG has been registered with EcoVadis for the third year in a row and has been awarded another gold medal.

EcoVadis assesses private and public companies on their social, ethical, and environmental impact. EcoVadis has evaluated over 1.3 million companies to date and published scorecards for over 200 000 companies. It acts as an evidence-based platform for ensuring transparency across the entire supply chain, providing supplier sustainability assessments, and enabling companies to evaluate their global suppliers through a paid rating.

The EcoVadis due diligence process covers four main categories: Environment, labor and human rights, ethics, and sustainable procurement. Surveyed companies are asked around 300 questions, all of which must be answered based on facts! Every year, the standards are raised to ensure participating companies continuously improve their performance.

In the last evaluation, SEW-EURODRIVE GmbH & Co KG achieved an average score of 72% in all categories. This puts us in the top 5% of the 200 000 companies evaluated!



Further commitment

SEW-EURODRIVE is registered with the following rating platforms.



Further certifications:



Supply Chain Due Diligence Act – heightening awareness internationally

To ensure human rights and the environment are better protected within the global economy, the German Federal Government passed a new supply chain law in 2021. Starting in 2023, all companies with 3000 or more employees in Germany need to do more to meet their global responsibility regarding the observance of human rights and environmental standards across the entire supply chain.

For example, we carry out a risk analysis on all direct suppliers based on protected legal rights and environmental risks. This includes protecting employees, safeguarding people's livelihoods, and preventing the misuse of private or public security services for commercial aims. Furthermore, we audit breaches of environmental protection obligations. Suppliers are required to take reasonable precautions to prevent such breaches. Section 3 II of the Supply Chain Due Diligence Act states that companies are not legally required to be successful but

they are legally required to make suitable efforts.

The first step is to separate current suppliers into strategic and non-strategic suppliers. Strategic suppliers will each be audited to DIN ISO standards 14001 for environmental management and 45001 for occupational health and safety and for sustainability. As part of this sustainability investigation, we also draw attention to our own Code of Conduct and to compliance with the principles set out in it.

In the case of non-strategic suppliers, a risk analysis is carried out first and used as a basis for deciding whether to conduct an audit.

2021

saw the German Bundestag pass a new supply chain law.

SEW-EURODRIVE receives its second gold medal.

Social commitment

From a long-standing foundation to individual campaigns and the "MINT Minded Company" – our social commitment is as multi-faceted as our modular concept. It's also part of our DNA.

The SEW-EURODRIVE Foundation – the magic three of research, efficacy, and responsibility

The SEW-EURODRIVE Foundation promotes scientific work, fundamental research, and the further development of scientific knowledge in the areas of technology and commerce. The foundation's contributions include multiple donations and grants for various institutions and educational facilities, the presentation of academic prizes, the awarding of scholarships to students, the provision of support for guest professorships, and, most importantly, the conferral of the Ernst Blickle Award.

When presenting this award, we primarily celebrate initiative, innovation, and genuine scientific spirit. The research work eligible for the prize is carefully selected by a panel of judges.



The Bruchsal Run for Hope – the journey is the destination

It's the taking part that counts. This Olympic motto rings all the more true for the Bruchsal Run for Hope, which is open to all interested runners. Participants can run, walk, or take a leisurely stroll along the 3.5 km route through Bruchsal city center and the baroque palace gardens.

The more participants run their laps, the better: For each completed lap, money is collected for social projects in Bruchsal, with even the entry fee going toward good causes.

The Bruchsal Run for Hope attracts over 100 participants from SEW-EURODRIVE every year. In 2023, there were 113 registrations for 351 laps, covering a combined total 1228.5 kilometers.

113

registered runners in
2023

1228.5

kilometers covered over
351 laps

Bruchsaler Bildungsstiftung (Bruchsal Educational Foundation)

Through the Bruchsal Educational Foundation, which was established in 2010, SEW-EURODRIVE is also taking on responsibility in the realm of education, which is crucially important for Germany. The prize, named after the managing director Rainer Blickle, who passed away in 2021, comes with a 5000-euro endowment. The aim is to establish a framework for creating new opportunities to harness the potential of young people.

In keeping with the foundation's mission, this involves supporting educational policy innovations and scholastic or academic projects, among other things.

In 2023, the Rainer Blickle Award went to the Kiwanis Club Bruchsal, which supports language development for children.

192

Our yearly blood donation
campaign resulted in
192 blood donations.

1.4

trips around the world is
roughly the distance
covered by our charity
cyclists

2023 blood donation campaign

Our yearly blood donation campaign brought in 192 donations this time.

SEW-EURODRIVE charity cyclists reach the 300 000-euro mark in 2023

The SEW-EURODRIVE charity cyclists Rainer Hassfeld, Christian Richling, and Matthias Bayer have been completing a yearly bike tour fundraiser since 1999. This time, they rode from Bad Schönborn to Lake Chiemsee via Stuttgart, Augsburg, Munich, and Rosenheim. Thanks to their loyal donors, these hobby cyclists regularly raise funds through their tours to support the oncology department of the Karlsruhe Children's Hospital (FUoKK). Prior to the start of this year's tour, the cyclists had raised a staggering cumulative total of 284 437.86 euros. This prompted the cyclists to set themselves the goal of reaching the 300 000-euro mark this year.

Their trip to Lake Chiemsee raised 26 666 euros, which they presented as a check to the Franz Lust Pediatric Clinic (Franz-Lust-Klinik für Kinder- und Jugendmedizin).

**"Actually doing something
is better than complaining"**

Werner Schnatterbeck,
Chairman of the Board of Bruchsaler Bildungsstiftung
(Bruchsal Educational Foundation)

Social commitment

Vital campaign from December 4 to 13, 2023 – "The Gift of Giving!"

As part of our Vital campaign, we give gifts to children and young people from local educational facilities as well as to senior citizens in our region. Under the motto "The Gift of Giving", we not only make children, young people, and senior citizens happy, but also ourselves. Giving gifts boosts our mood and has a positive effect on our health. The aim of the Vital campaign was to collect as many gifts as possible for children (aged 6-18) and senior citizens. In 2023, the campaign distributed 384 gifts.

Official recognition as a volunteer-friendly company

Without the active support of their employer, many people would find it very difficult to engage in volunteer work. To reward this support and positive attitude from companies, and thereby to indirectly support the idea of volunteering, the Minister of the Interior of Baden-Württemberg, Thomas Strobl, has also recognized SEW-EURODRIVE as a volunteer-friendly company.

384

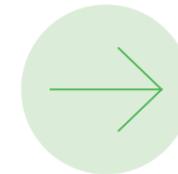
gifts were distributed in 2023.

This deep commitment "spreads throughout colleagues in the company and makes our interactions with each other at work much warmer. This ripple effect (...) also has a positive effect on our society. This is truly a win-win situation that ultimately benefits us all," said Jörg Jahn, Head of Quality Management at SEW-EURODRIVE. He accepted the award on behalf of all committed volunteers and SEW-EURODRIVE as a whole.

SEW-EURODRIVE is named a "MINT Minded Company" for the fourth time in a row

For the fourth time in a row, SEW-EURODRIVE has been awarded the title of "MINT Minded Company" by audimax Medien. The German acronym "MINT" stands for mathematics, information technology, science, and technology (equivalent to STEM in English) – subjects that far too few young people are studying. What sets this award apart is that the nominations are made by the students directly affected. Young people who are studying "MINT" subjects at universities across Germany are asked for their input.

The "MINT" concept in Germany dates back to an initiative from 2008 that aimed to counteract the ever-growing shortage of skilled workers. Since 2012, audimax MEDIEN's "MINT Minded Company" initiative has been working with the "MINT Zukunft schaffen" association to recognize the efforts of companies that provide encouragement and support to their young technical and scientific workforce from the very start.



All measures comply with international standard ISO/IEC 27001.

Information security

Using an Information Security Management System (ISMS), SEW-EURODRIVE can ensure reliable and verifiable information security. The ISMS ensures that information security does not remain at an outdated status quo, and is instead consistently defined, controlled, monitored, and, as a result, maintained with maximum reliability.

Confidentiality, integrity, and availability are not just clear focal points when it comes to the well-known topics of data protection and data security. They are also clearly defined in the security objectives of the ISMS.

As part of the ISMS, a Security Policy describes and defines requirements with regard to the following key issues:

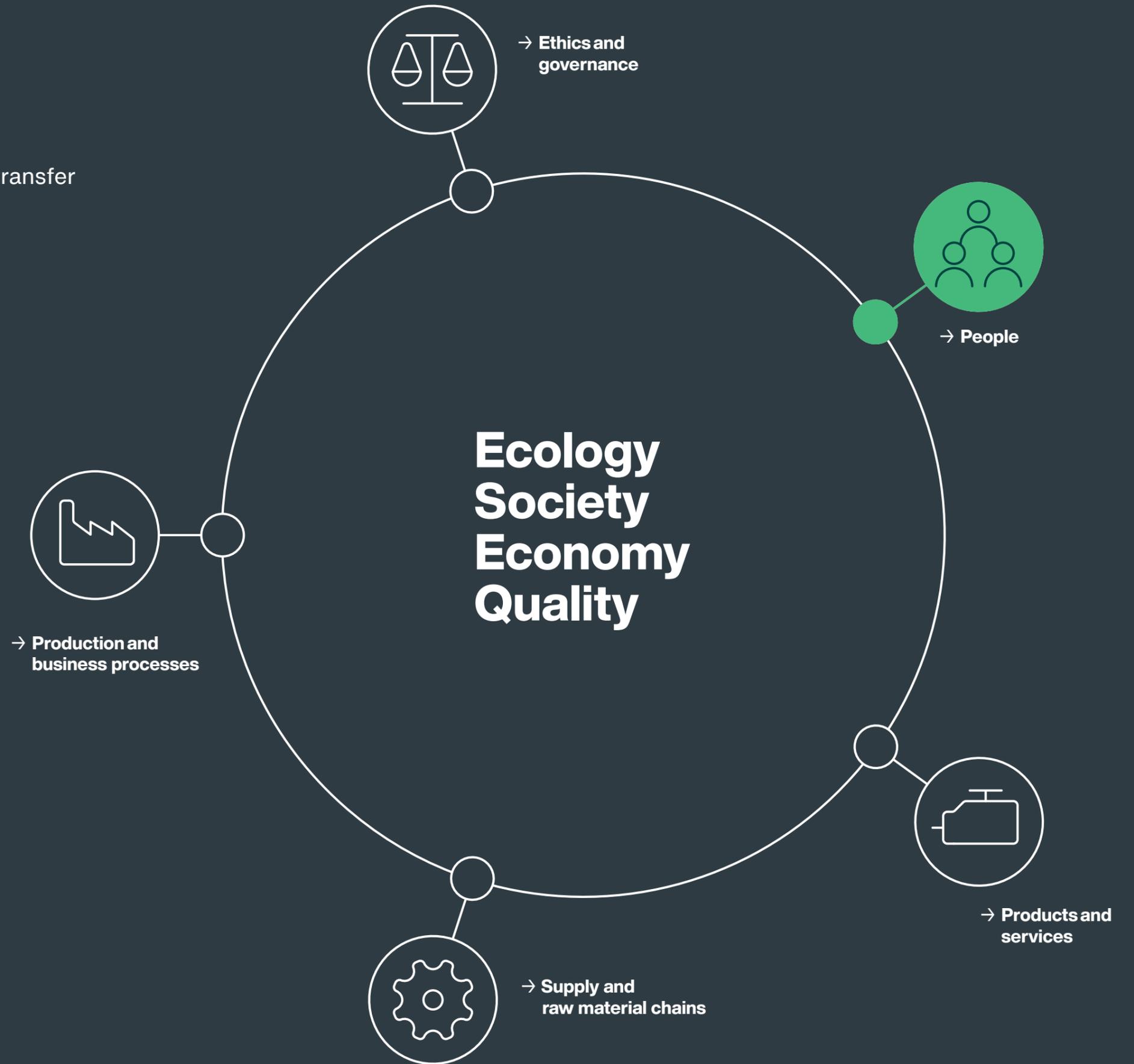
- + Access control and building security
- + Data protection and data security
- + Protection of documents and information
- + Contingency plans
- + Employee-related aspects

Other essential elements and steps of the ISMS include...

- + ... a risk assessment
 - + ... handling and documenting possible security incidents
 - + ... raising awareness among employees at least once a year
 - + ... conducting internal audits for improvement purposes
 - + ... and an ISMS improvement plan based on the results
- The relevant organization systems and structures within SEW-EURODRIVE and the key figures in the ISMS are also clearly defined. In addition, there is a precise communication plan in place for each individual measure.
- All measures are transparent and quantifiable, complying with international standard ISO/IEC 27001.

People

- + Workforce
- + Qualifications, encouragement, and knowledge transfer
- + Health and safety management
- + Being an attractive employer
- + Diversity and equal opportunities



People make the difference

By taking this as our mission statement, we are emphasizing just how important each and every member of staff at SEW-EURODRIVE is. It is people who "drive" our company and are the secret to our sustained corporate success.



Workforce

Our corporate culture is steeped in mutual trust, respect, and appreciation. A trusting and inclusive approach ensures the shared collective success of the company and nurtures a high level of job satisfaction among the workforce.

SEW-EURODRIVE has a variety of different programs to anchor these values into everyday workflows and continuously revitalize them. They ensure our employees can enjoy equal opportunities, express their diversity, receive targeted training, and keep fit with the help of comprehensive health management.

The overarching goal is to offer our employees a framework in which they can maximize their strengths while also having the space to work on their weaknesses and grow by taking on challenges. Another essential part of this framework is a healthy work-life balance, which allows us to offer maximum flexibility even in times of personal difficulty.

Yearly discussions are held with all employees to assess performance and professional development.

7

Innovation groups within our research field are driving forward the technological developments of tomorrow.

93%

In Germany, 93% of our workforce is covered by a collective bargaining agreement. 7% are employed outside collective bargaining agreements.

50

nationalities are represented in our company.

Shaping the future together through innovation

We believe it is perfectly natural to give our employees the freedom they desire, and our corporate culture offers the necessary scope for self-improvement. Wherever possible, we support staff who are looking to change their area of work. We believe that freedom also means flexibility.

Research and development are top priorities for us. We aim to continuously move the world with new ideas and approaches and help make our economy as sustainable as possible. With this in mind, we employ around 1400 engineers and computer scientists in Germany alone, as well as 800 staff in research and development. With 190 technical and 41 commercial trainees, as well as 40 dual bachelor's students, 33 Studium Plus students, and 12 master's students, we get to benefit from countless new ideas from the youngest generation. Based in the Karlsruhe Technology Region, we have an excellent infrastructure at our disposal, as well as internationally renowned research institutions – all in an environment that is brimming with entrepreneurial spirit and innovation.

Our employees generally remain at SEW-EURODRIVE for a very long time. For example, in 2023, two employees celebrated 50 years with the company, while 23 members of staff reached their 40th work anniversary, and 58 marked their 25th. A further 167 employees worldwide were honored for their long-standing loyalty to the company.

Qualifications, encouragement, and knowledge transfer

Setting off on the right foot – personal and professional development

There is a lot to learn when starting a career at SEW-EURODRIVE. To ensure new employees feel comfortable and find their bearings right from the start, we support them with seminars, product training, and other measures tailored to their particular field or area of responsibility. In our DriveAcademy® learning groups, participants learn all the key details about products, technologies, and valuable know-how in a systematic process that goes into exactly the depth they need for their position.

Diverse prospects at every career level

We also offer our employees a wide range of different prospects as their careers progress at SEW-EURODRIVE. Our continuing training programs play a key part in the appreciation that is shown to our employees. By promoting the professional and personal growth of our staff, we also add value to our company as a whole. Our employees stay up to date by attending specialist conferences, where new insights and experiences emerge from fruitful exchange with colleagues. Other components of our comprehensive training measures include series of open seminars and the systematic development of managers as part of our Leadership and Management Excellence program.

Strategically filling key positions

Systematically sourcing talent, creating talent pools, and developing succession plans to find the perfect fit for key positions are all crucial steps in retaining high-potential, high-performing employees and thus securing core skills and specific expertise for SEW-EURODRIVE. All plans and pools are reviewed and updated on a yearly basis.

Encouraging talent

Another measure is the structured encouragement of talent to prepare them for progression to a key position. The starting point for each individual development journey is usually a 360° feedback session, in which the talented employee in question receives honest feedback on their skills and conduct from people in their work environment. This feedback is then used to develop subsequent development measures. HR development oversees this development journey in close cooperation with the relevant manager.

Ensuring knowledge transfer

By observing general trends in demographics, it is clear that steps need to be taken to ensure key knowledge and SEW-EURODRIVE-specific expertise is not lost from the company, particularly in the coming years, when large numbers of staff will enter retirement. To avoid a critical loss of knowledge, HR development conducts knowledge transfer workshops to ensure that knowledge relevant to the company's success is identified among key personnel, documented in knowledge maps, and shared with future successors.

25%

of our workforce are engineers and computer scientists from a wide range of technical disciplines and specialist areas – with over 1400 of them based in Germany.

774

Product training courses and seminars in our DriveAcademy® and a variety of external technical events and digital learning formats are available to our employees.



GRI 2-7

Employment type by gender

	Female	Male
Employees	1673	7154
Full-time employees	1117	6946
Part-time employees	556	208

Employment category by country

	Germany	France	Italy	Portugal	Austria	Denmark	The Netherlands	Poland	Total
Employees	6181	1818	215	57	148	66	150	192	8827
Full-time employees	5567	1737	209	51	137	56	135	171	8063
Part-time employees	614	81	6	6	11	10	15	21	764

GRI 2-8

Number of workers who are not employees*	1449
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*This number refers to German sites and the countries covered in this report: France, Italy, Portugal, Austria, Denmark, the Netherlands, and Poland.

Qualifications, encouragement, and knowledge transfer

The success of our company starts in our employees' heads. Whether in production, research, or service – at SEW-EURODRIVE, people are at the heart of everything. The expertise of our workforce is essential if we are to survive and thrive in the market on a long-term, sustainable basis.

Basic and further training are crucially important to us, which is why we have created a dedicated SEW-EURODRIVE brand for it – the DriveAcademy®. This brand stands for a culture of lifelong learning based on innovative learning and teaching methods and an infrastructure that is growing and developing all the time. It creates the ideal framework for focused, technically grounded seminars and training courses as well as other methodological issues and topics relevant to management. By continuously updating our offerings, we can keep up with the cutting edge of technological progress and thus ensure we can always count on having the very latest expertise in areas such as energy efficiency and resource consumption at our disposal.

Facts and figures for DriveAcademy® 2023

2690

Number of in-person training courses completed in 2023

450

Number of digital learning materials available, such as videos and e-learning courses

3.5

On average, our employees attend 3.5 training courses per year

The training content we offer makes it possible for both the company and its customers to get the best out of SEW-EURODRIVE drives and systems, so as to achieve the optimum balance between economic and ecological interests.

When it comes to designing our training offerings, we are always learning

The broad portfolio of extremely practical units we offer is geared toward the needs of both our staff and our customers. Content ranges from specific product and application training to personal development, and features practical aspects of sustainability, such as using the right drive technology to save energy.

We keep content as relevant as possible to the needs of participants, making the whole experience beneficial, enriching, and fascinating. All our training staff are themselves continuously studying new educational and presentational techniques so that we can provide training to a consistently high standard on an interpersonal level.

Headquartered in Bruchsal and with ten further sites, our DriveAcademy® has a local and regional presence throughout the whole of Germany and is always in easy reach. Besides being convenient, keeping journey times short for participants also helps reduce the CO₂ emissions generated by traveling to and from training courses. The growing number of online courses and seminars is also helping to shrink this carbon footprint.

GRI 404-1

Average number of hours for training and further education in Germany

Average hours of training per employee	7.3
Average hours of training per female employee	4.9
Average hours of training per male employee	7.9



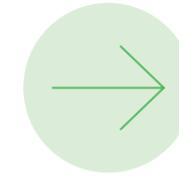
The future of learning is here

Digitalization, process management, energy efficiency – in a globally networked world, the requirements placed on modern training and on keeping the associated techniques and technologies up to date are only growing. Built in 1989, our training center in Graben-Neudorf has reached its limits. By building a new training center, we are aiming to create what will be the perfect surroundings for lifelong learning of the highest caliber.

Scheduled for completion in 2025, a brand new training facility comprising technical training rooms, offices, laboratories, and social areas is being built on a 9230 m² site directly adjacent to our production and logistics plant in Graben-Neudorf, which is our largest worldwide. The concept behind the new site focuses primarily on flexibility, new technologies, and the incorporation of forward-looking working models such as agile working. The site offers plenty of space to shape the changes that are coming.



The new training center will enable us to complete the "work-life circle", which starts with getting children excited about technology, moves on to imparting basic skills and specialist expertise, and then to passing on knowledge and life experience in a "generational workshop", for instance. The center is to be a place for experiencing, learning, and sharing knowledge and skills.



The new training center is organized into three clusters.

1

Introduction

This cluster is primarily about getting children and young people interested in technology and giving participants in workshops, seminars, and presentations a genuine experience of the diverse world of technology. Participants can be parents, teachers, and schools.

2

Training

This cluster is focused on conventional basic or initial vocational training for professionals, as well as hands-on training for high-school students and other interested parties. This is also where training collaborations will be based as we seek to boost and safeguard our regional economy.

3

Specialization

This cluster is all about extending the expertise and skills of individual specialists in their particular area of activity. The topics covered are based around all aspects of production and logistics technologies specific to SEW-EURODRIVE.

All three clusters are closely intertwined in terms of both the subject matter covered and organizational considerations. Multi-professional training units will meet the needs of the future world of work and its (technological) challenges.

9230

A completely new training center on a 9230 m² site featuring technical training facilities, offices, laboratories, and social areas is to be completed by 2025.

The success of our company starts in our employees' heads.

Whether in production, research, or service – at SEW-EURODRIVE, people are at the heart of everything.

Health and safety management

Reliable and verifiable health and safety management

Feeling safe at your own workplace is one of the key requirements for remaining relaxed and as focused as possible while working. All employees need the certainty of knowing they are protected as reliably as possible from workplace injuries, and that support is readily available if they get sick.

With this in mind, SEW-EURODRIVE places a high premium on occupational health and safety. Our policies and practices on these two topics closely align with ISO 45001, a management system for health and safety at work. Using this as a basis, we can systematically prevent work-related injuries and illnesses and provide safe and healthy workplaces for staff to perform their respective duties.

Occupational health and safety is a top priority at SEW-EURODRIVE.

Overall responsibility and accountability for compliance with the relevant requirements lies with company management, highlighting the major significance of occupational health and safety at SEW-EURODRIVE.

The managers of the respective organizational units are obligated to independently implement the requirements relating to their specific departments.

These include fulfilling legal obligations and other requirements as well as the obligation to eliminate avoidable hazards and minimize risks.



32

We offer a total of 32 health and safety training courses.

The process of identifying work-related hazards and assessing risks is described in detail in our internal health and safety guidelines. This also regulates the process for reporting work-related hazards and dangerous situations as well reporting any workplace incidents.

Several company physicians and company nurses

Modern occupational health and safety focuses on all aspects of wellbeing – physical, psychological, and social. SEW-EURODRIVE employs several company physicians and two company nurses to implement measures. In addition to all occupational health and safety concerns, they are also responsible for all regular preventive occupational health checks.

Another role of our company doctors concerns ergonomic workplace design. Since the arrival of remote working, more and more consultations are also taking place over the phone to improve the ergonomic conditions of home offices. To better organize first aid, inspections were carried out at all the workshops in Graben-Neudorf in 2023, and the equipment in all areas underwent a standardized overhaul.

Another key topic is the integration and reintegration of people with disabilities into the work process. Our company doctors are supported by volunteer first aiders, addiction counselors, and Safety Officers.

By offering a professional social support service to our workforce, we provide them with an opportunity to reflect on and work through professional and private challenges and conflicts, as well as psychological and psychosomatic stress at an early stage.

GRI 403-9

Work-related injuries among staff at German sites

	Number	Rate
of fatalities as a result of work-related injuries	0	0
of work-related injuries with severe consequences (excluding fatalities)	2	0.235
of documented work-related injuries	111	13.059
Number of hours worked	8 500 000	

GRI 403-10

Work-related ill health among staff at German sites

	Number	Rate
of fatalities as a result of work-related ill health	0	0
of documented work-related ill health	3	0.353



Employee health brochure for information and guidance

Our detailed health brochure clearly outlines the importance of health protection for individual employees. Among other things, it explains the role and responsibilities of the company doctor, while also highlighting the scope and importance of personal protective equipment. First aid and the individual steps to be taken in the event of a workplace accident or fire are also described in detail.

Other sections of the brochure include the integration of people with disabilities, employee re-integration management after long periods of illness, parental leave, and addiction counseling. The brochure also highlights SEW-EURODRIVE's special health offerings, such as health seminars and various tips for health and fitness, nutrition, and ergonomic workplace design.

Functional safety and product security

The functional safety of our drive technology products and system solutions is equally crucial to the safety of our employees and our customers, as these solutions are increasingly being used in very close proximity to people. To protect people, SEW-EURODRIVE develops, produces, and sells products and solutions with functional safety features and also offers supporting services, such as data sheets or project consulting. For effective functional safety management, we consistently meet all the requirements of IEC 61508 and IEC 61511, documenting all necessary processes and providing the required documentation.

IEC 61508 and IEC 61511

The safety integrity level is used to assess electrical/electronic/programmable electronic (E/E/PE) systems in terms of the reliability of safety functions

The Corporate Safety Guideline also summarizes all management activities to be implemented for the purposes of functional safety. Product/project-specific individuals and technical experts monitor compliance with functional safety requirements for the products and services to be developed. An adapted training program ensures that employees have the necessary qualifications.

Product security is also directly related to functional safety, and we guarantee this throughout the entire product life cycle for each process, in line with our stringent quality standards. SEW-EURODRIVE products and purchased parts that are relevant to product security are checked in accordance with the requirements of the IEC 62443 series of standards. We use a product safety management system to help employees implement these requirements and monitor compliance with the required processes and qualifications.

IEC 62443

is an international series of standards. It is divided into different areas and describes both technical and procedural aspects of industrial cyber security

Health and safety management

Vital 360° – healthy from head to toe.

The health of our staff is priceless to us. As part of our "vital360°" occupational health management program, we run a wide range of activities and campaigns to support the health and fitness of our staff. Our top priority is to very specifically raise awareness of just how important it is to keep moving, regardless of whether your work is mostly done sitting at a desk or on your feet in production.

By keeping active and making use of health-boosting measures, our staff can improve their ability to cope with stressful situations and demonstrate their flexibility every day.

Vital 360° is very deliberately built around the health of every individual employee, we also see our company as a living organism in its own right, with every individual part of something bigger. When individuals feel healthy and are mindful, they radiate more positive energy, and help create an altogether positive working environment and boost motivation within their team.

When individuals feel healthy and are mindful, they radiate more positive energy, and help create an altogether positive working environment.

vital360°

is a brand that stands for all things related to preventive healthcare



Well organized: That is how we help our staff look after their health

+ Health managers, who are responsible for occupational health management, coordinate measures and campaigns as part of a working group known as a "Vital Circle".

+ A Vital Circle is where the strategic planning and coordination of all health management activities take place. This is where we pool specialist expertise and pass it on to the relevant units. This ensures that all the relevant sections and departments at the company are involved.

+ Volunteer health scouts form a network within the company and act as the first point of contact for staff. They help to spread the word about the campaigns in the various units, coordinate any feedback, and interface with the Vital Circles.



Sustainable canteen management for healthy and balanced nutrition

Sustainability is also a key consideration for us when it comes to food. The same applies to our catering partner Eurest, which prioritizes sustainability when sourcing its produce. The company is prudent in its use of resources, keeps transport routes short, and sources as many products as it can locally. This helps us both protect the environment and support regional producers.

Further sustainability traits at Eurest include choosing suppliers with great care, avoiding food waste, and clearly labeling environmentally friendly food in its app and in our staff restaurants.

The following points show that sustainability comes first for Eurest:

- + Focusing on animal welfare when creating recipes, for instance Powered by Plants, Better Green, and chicken from the most ethical sources.
- + Carrying out regular training for Eurest staff on the subject of using resources sustainably.
- + Preparing for exclusive certification to the "360° für Morgen" standard (sustainable company restaurant).
- + Sourcing work clothing made from environmentally friendly materials.
- + Participating in numerous organizations such as the Global Coalition of Animal Welfare, the European Better Chicken Commitment, founding member of United Against Waste, etc.
- + Making a commitment to achieving carbon neutrality with regard to Scopes 1 and 2 and hitting the net-zero emissions target worldwide by 2050.
- + Using Trim Trax software in our kitchens to track all waste transparently and achieve savings.

The individual activities – an overview



Regular events such as a yearly Health Day



Operational integration management



Health seminars, e.g. for stress management



Attractive partner offers with gyms



Valuable nutrition tips



Training for managers



Leisure program including e.g. sports and cooking courses



Social support and addiction prevention

Being an attractive employer

Promoting a healthy work-life balance

Managing family and career, fully pursuing hobbies, and being there for others:

As a family business, striking a balance between home and work life is crucial to our success. Our employees can only be expected to fully concentrate on their work if they have a clear head. To make this easier, we offer them a wide range of financial and organizational benefits.

2023

SEW-EURODRIVE has been a JobRad Employer since 2023.

Financial benefits

- + Subsidies for meals in our company restaurant
- + Above-average pension benefits
- + Collectively agreed special payments and profit-sharing
- + Anniversary bonuses
- + Special payment for births/wedding and gift
- + Flexitime accounts to compensate for overtime
- + Low-interest employer loan to help when buying a home
- + Company doctors and nurses for optimal occupational healthcare
- + Work clothing for commercial roles
- + Free state-of-the-art parking facilities at large company sites

Work-life balance benefits

- + A variety of working time models for part-time or flexible working hours
- + Attractive model for remote work
- + Flexible parental leave arrangements, including clear prospects for returning to work
- + Company daycare center "Morgentau" for 100 children (including 30 crèche spaces) with a comprehensive and sophisticated care concept for learning through play
- + Comprehensive sports and leisure program
- + Framework agreements with three gyms
- + Convenient leasing options for e-bikes and bicycles (JobRad)
- + ubiMaster homework support and tutoring for high school students, to ease the burden on parents
- + Variety of employee discounts for shopping, travel, etc.

Awards and recognition

- + Top JobRad Employer 2023
- + "Mint Minded Company" six times since 2018 (see page 44)
- + Named an "Outstanding employer for engineers" multiple times by TÜV Rheinland and the Association of German Engineers (VDI)
- + Declared a "Fair Company" in terms of working conditions and career development prospects for young people
- + Awarded the title of "Best recruiter"

We are sticking to it Additional measures

Health and society

- + Customized, flexible working time models to make it easier to balance work and family life
- + Company-owned daycare center with 100 places for children over 2 months old, from 7 a.m. to 6 p.m.
- + Driving safety training for field sales representatives
- + Christmas gift campaign for local children's and senior citizens' homes

Sustainability

- + Expansion of charging points in parking garages
- + Bicycle parking places with integrated changing facilities

In planning

- + Establishment of energy scouts

GRI 401-1

Total number of new employee hires and employee turnover

	Germany	France	Italy	Portugal	Austria	Denmark	The Netherlands	Poland	Total
New employees	467	75	14	3	20	10	25	18	632
Employee turnover	284	62	15	5	13	7	32	21	439

	< 30 years	30-50 years	> 50 years	Male	Female	Other
New employees	327	259	46	506	126	0
Employee turnover	80	138	221	342	97	0



Diversity and equal opportunities

Women's networks at SEW-EURODRIVE

As an internationally company, SEW-EURODRIVE has sites in 56 countries worldwide.

Our employees also come from a whole range of nations, backgrounds, and cultures. One important aspect of diversity at SEW-EURODRIVE is our range of women's networks. We launched **SEWOMEN** in October 2022.

The core team is made up of women from all departments, representing a wide variety of technical, professional, and personal backgrounds. The aim is to work alongside external companies to develop areas of activity, such as targeted employee marketing for women or enhancing family-friendly working conditions. The current action plan was drawn up in 2023

19%

Percentage of women in entire workforce

and gradually refined with the relevant specialist departments. It is set to be presented to the management team for approval in 2024.

Over 50 women have worked on a range of initial ideas and thoughts to develop a new concept aimed at making SEW-EURODRIVE even more appealing to female engineers and women who interested in STEM fields. The concept consists of a variety of measures that are to set be continuously developed and introduced into day-to-day workflows at SEW-EURODRIVE.



GRI 405-1

Percentage of employees according to diversity criteria

	Female	Male	< 30 years	30-50 years	> 50 years
Management	0	100	0	40	60
Entire workforce	19	81	13	53	34

More opportunities than limitations: integrating people with disabilities

Integrating people with disabilities for almost 20 years

Working closely with Lebenshilfe workshops, SEW-EURODRIVE ensures people with disabilities are seamlessly integrated into the company. Since 2004, these employees have been firmly embedded within SEW-EURODRIVE as an external working group from Lebenshilfe. Under this initiative, the staff work under standard conditions as on the general labor market.

The current Executive Managing Director Special Tasks, who was Managing Director Technology at the time, Johann Soder, looks back fondly on the early days of this initiative. When visiting a similar project in another company, he was impressed by the employees' commitment: *"Their enthusiasm and commitment were second to none."* And the project supports his claim. *"It is always clear to see how much our colleagues flourish at Lebenshilfe."* The employees with disabilities appreciate being fully integrated into working life and the variety of individual duties and tasks that come with that.

Valuable contribution to the entire value chain

Working on approximately ten products in electronics assembly and packaging, the 15 employees make an essential contribution to SEW-EURODRIVE's entire value chain. Accompanied by two group leaders and a federal volunteer, they receive training tailored to their interests and abilities. The various activities also differ in terms of their complexity. One of the most recent activities, for example, is the assembly of wheels for planetary gear units.

The sense of job satisfaction that comes from feeling appreciated is also something the employees have expressed themselves: *"I've been here at Lebenshilfe for 25 years and at SEW-EURODRIVE for 16 years – and I really enjoy the work here,"* says Elvira R. And there is certainly no shortage of motivation: *"We are definitely challenged, too – and that's a good thing,"* adds another employee.

This long-term success is also recognized throughout the company, with new opportunities for expanding collaboration currently being explored.



This type of cooperation has also been implemented at other SEW-EURODRIVE branches in Germany for quite some time. For example, the Berlin and Langenfeld sites employ workers from the surrounding workshops for people with disabilities either directly or through outsourced jobs. Depending on their motor skills, they take on tasks from the logistics departments of the workshops or even tasks from the headquarters.

Always looking for new employees

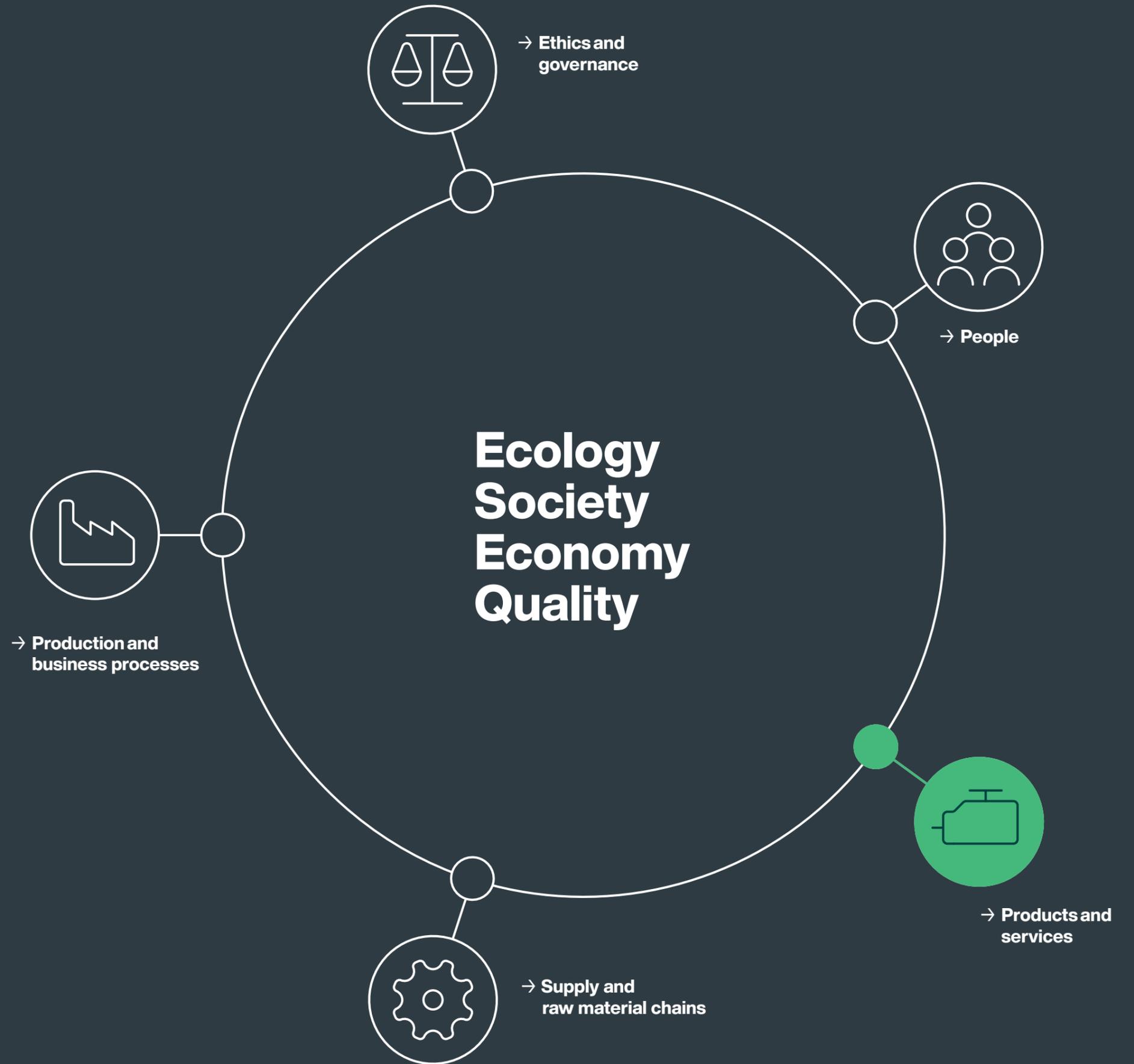
After a trial internship of two to four weeks, employees progress to a long-term internship lasting six months, before moving on to their respective work area.

"...disability should no longer be seen as a deficit, but rather as a challenge for life and for the non-disabled world."

Ina Stein, former Disability Officer of the Bavarian state government

Products and services

- + Circular economy
- + Resource-efficient products
- + Sustainable product development
- + Digital products and services
- + Product carbon footprint



How a sustainable product concept laid the foundations for our success story

In 1945, when Ernst Blicke took overall responsibility, he had a sustainable idea. By rolling out a modular concept for gearmotors, he laid the foundations for the success we enjoy today.

Almost 80 years on, the resulting variety of our current portfolio is a crucial guarantee for customer satisfaction. It is also a guarantee for the sustainable product design approach at the heart of our company.

Our vision

As a leading drive technology company, we see innovation as a decisive factor at the heart of our sustainable approach to developing products, systems, and services. At every step in this process, we maintain an unwavering focus on our customers and their requirements.

What's more, the only way we can meet our environmental and climate targets, while also maintaining and enhancing the true value of our company, is if we can ensure resources are used sparingly throughout the entire value chain.



Circular economy

Using resources responsibly lies at the very heart of a sustainable approach. Designing processes to be as sustainable as possible throughout the value chain is a particularly big challenge for industrial manufacturing companies that use large amounts of energy and materials. This is where the circular economy approach comes into play.

This production model keeps existing materials and products in the cycle for as long as possible by repairing, refurbishing, remanufacturing, reusing, and recycling them. Resources are

therefore used more efficiently, while waste volumes, energy consumption, and the associated emissions are reduced to a minimum.

We apply the circular economy principle at SEW-EURODRIVE, too, and are working on incorporating the 9Rs (see box) into our value creation processes. Our objective is to extend our product life cycles and process product parts after they have been used for their original purpose, so as to make our production as energy-efficient and resource-friendly as possible.

Our 9Rs approach

Refuse

Dispensing with a product or replacing a function with a different product, e.g. a digital product or a service.

Rethink

Making product use more intensive, e.g. through joint use (sharing models) or multi-functionality.

Reduce (by design)

Implementing product designs and production processes that make production and the use of energy, materials, and resources more efficient.

Reuse

Reusing returned products or product components that have been classified as "as-new" based on the SEW-EURODRIVE quality criteria so they can fulfill their original function.

Repair

Repairing a particular defect and/or replacing defective components of a product to restore its functionality on an order-specific basis and as part of a service.

Refurbish

Restoring or enhancing the performance and/or functionality of a product that has already been used, on an order-specific basis and as part of a service. Through maintenance and/or repair, the product is brought up to a specified level of quality that may not need to match that of a new product.

Remanufacturing

Using a standardized, industrial process to restore product components to an as-new or higher level of quality so they can be reused in a new product with the same function. First, the product is disassembled in an industrial process. Next, the components that are to be remanufactured are restored to an as-new condition by means of technical processes.

Repurpose

Processing and reusing withdrawn products or product components for a different purpose in a new product.

Recycle

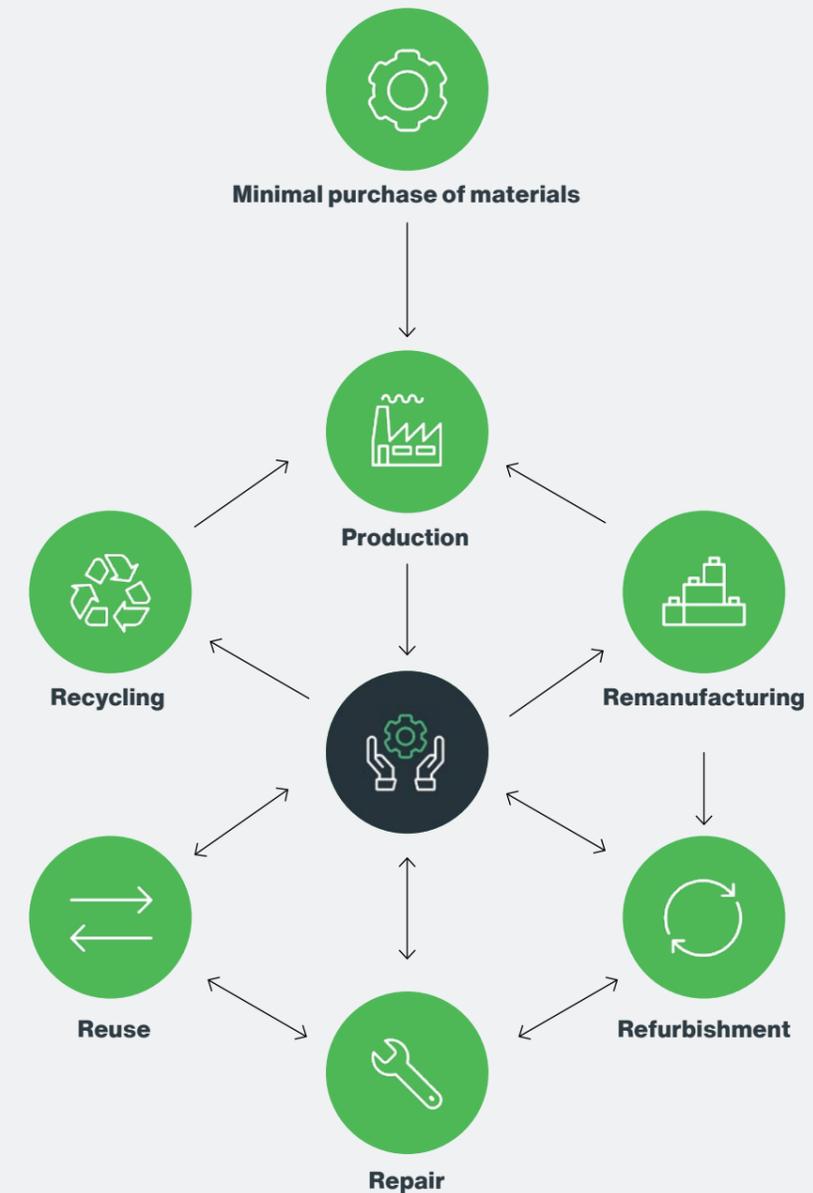
Using a standardized, industrial process to recover materials from waste products with the aim of reusing these materials for their original purpose or for a different purpose in new products.

Recover

Taking materials that have been used in products and cannot be recycled and incinerating them for the purposes of energy recovery.

Our vision for developing sustainable products and circular processes

Mission Circular economy



Circular economy

Material circulation and spring-loaded brakes

Ever since the 1960s, brakes for electric drives have been as much part of SEW-EURODRIVE's DNA as gearmotors themselves. Nowadays, the company produces more than 1.5 million of these spring-loaded brakes for motors each year at three global sites – and is one of the biggest manufacturers worldwide in this sector. One of the main components of this kind of brake is its opening system. The force of an electromagnet helps to overcome the braking force of the mechanical spring fitting and open the brake electrically. The system therefore has a cast iron magnet body at its core. Embedded in this magnet body is the brake coil – a wound copper wire measuring several hundred meters in length with a covering made from casting resin. When it comes to a circular economy, a composite body of this kind is tricky, since thermoset casting resins cannot easily be removed again. This means a worn magnet body generally ends up in mixed scrap waste.

Crucially, even after many years of use, these kinds of components often still match the current design status at SEW-EURODRIVE. This is the ideal requirement for achieving absolute top-quality material circulation. It was this that got the developers at SEW-EURODRIVE started on a new approach in 2019. Initially, they worked with the Fraunhofer Institute to test a method for sending the copper contained in the brakes for recycling as a single type of material waste. Early on, the developers also had the idea of putting the iron magnet body back into the production cycle ("remanufacturing"), thereby avoiding the need to melt the cast iron and produce a new part.

Proof was provided at the end of 2020, when the technical separation process for the first, small-scale trial batches proved successful. It was possible to remove the casting resin and all plastic components, leaving behind only the magnet body itself and the pure copper. The magnet bodies treated in this way are dimensionally accurate, can be repainted without any difficulty and are perfect in appearance. What's more, laboratory tests demonstrate that there is no change in their magnetism. Another important factor to bear in mind is that the recovered copper is ultrapure and therefore of much higher value than the mixed scrap of the past, especially in times of high material prices. The ensuing search for suppliers, parameter studies for the technical separation process, and the carbon accounting (again in cooperation with Fraunhofer ICT) were all positive, too. Trials of the process in the internal production cycle

Since

2019

we have been working on in-house circular processes at SEW-EURODRIVE



started in early 2021 and the technique is already successfully helping to give scrap, sample, and test parts a second lease of life and save resources. Over the past two years, a new and exciting chapter has been opened. In conjunction with Production and Service teams at SEW-EURODRIVE, the necessary sorting, separating, and remanufacturing processes are being integrated into manufacturing, assembly, and logistics processes.

Efforts to protect the climate, the environment, and resources will play a major part in shaping the coming decades, and will bring about radical change globally. For SEW-EURODRIVE, the circulation of returned parts will become a key focus so as to both reduce the CO₂ footprint of SEW-EURODRIVE products and safeguard resources that are becoming ever scarcer.

Outlook: Remanufacturing permanent magnets

As part of a project initiated in early 2022, we aim to leverage the expertise we have acquired through the circulation project for spring-loaded brakes for rare-earth magnets. The particular challenge here is separating the permanent magnets from the rotors that are installed in servo motors, while causing as little damage to them as possible, and checking them to ensure they are intact. As a first step, we researched the current situation as regards the disposal and/or closed-loop circulation of these magnetic materials and investigated the technical feasibility of remanufacturing undamaged magnets. After successfully completing the basic investigation and potential analysis, we are now working with Production to develop an in-house production process.

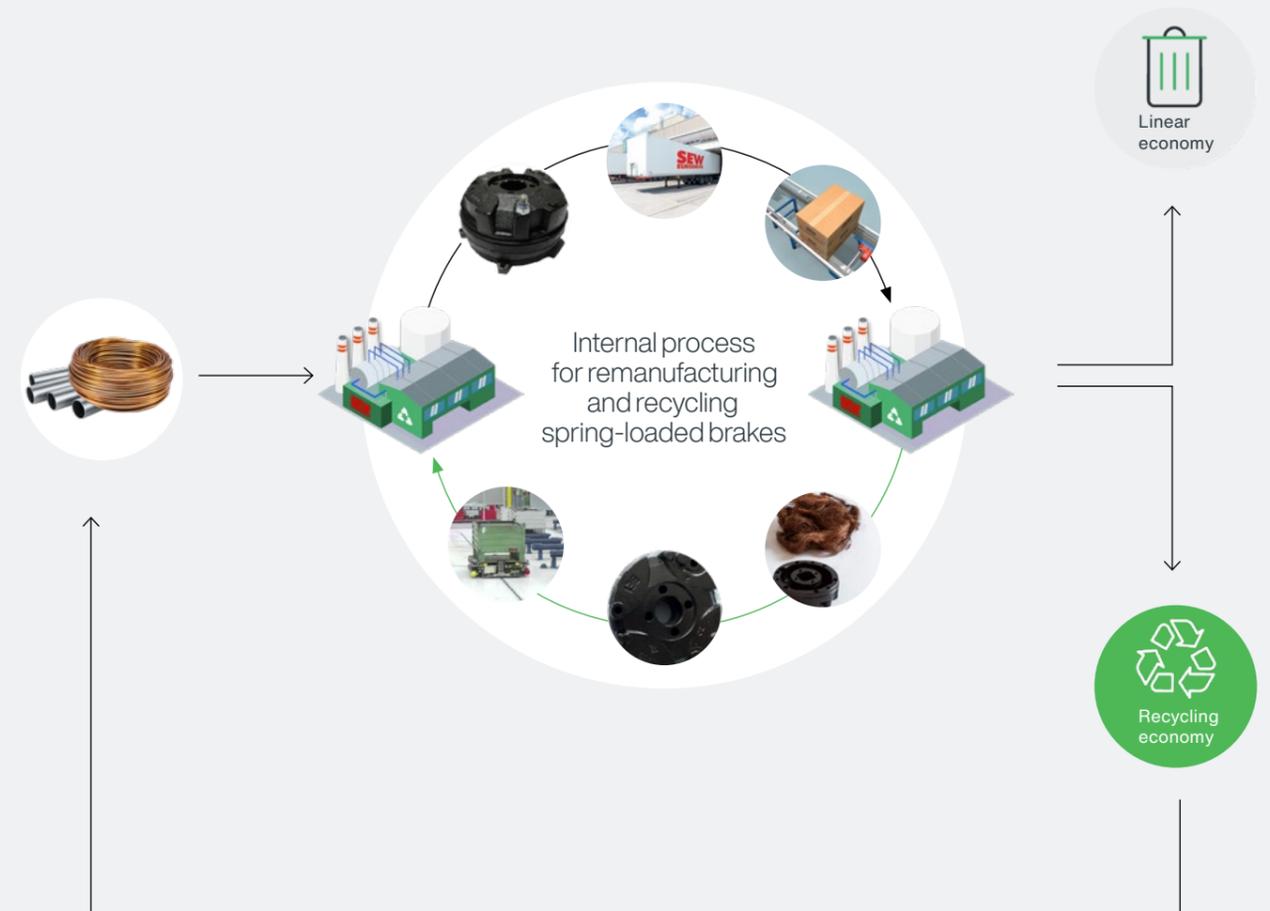
The key objectives

When it comes to reusing and recycling magnetic materials, our aims are as follows:

- + Improving resource efficiency and environmental protection
- + Avoiding waste as a component of sustainable industrial production
- + Proactively preparing for potential future regulatory requirements
- + Enhancing security of supply
- + Implementing cost assurance

Example

In-house refurbishment and recycling of spring-loaded brakes



Resource-efficient products

Why our modular system is so sustainable

The modular concept behind our products is one of the most important reasons for their success and also contributes significantly to sustainability. So, what is it that makes this concept especially sustainable? Although the following points apply to lots of our product series, the new PxG® planetary servo gear unit is a particularly good example to use in answer to this question.

The sustainability of our state-of-the-art gear unit is principally based on the general idea of creating as many variants as possible from as few individual parts as possible. A good example of this is using the same gear set for multiple purposes. For instance, we use the same gear wheel as the last gear unit stage in one gear unit size and then again as the preliminary stage in the next size. This means we can scale up the production of this particular gear wheel quite considerably, thereby making production more resource-efficient.

Since all components are compatible, the end result is greater variation. This in turn enables us to build solutions that are tailored as closely as possible to specific customer requirements. As a consequence, our production is very much geared to the market and we are therefore wasting almost zero resources on products that the market does not need or that do not work efficiently because they have not been optimally designed.

When overhauling the PxG® planetary servo gear unit, we focused very much on what our customers want and need from the product.



↑
A K-series gear unit

This meant we could ensure from the very start that customers would want the series and that we would therefore be manufacturing to meet demand.

At the same time, when developing product concepts, we always work to minimize friction and maximize efficiency. We were able to achieve this to particularly good effect with the new PxG® planetary servo gear unit.

Thanks to virtual product simulation based on a digital twin, the previously standard practice of building several prototypes in order to validate specific parameters has been rendered obsolete.

↓
PxG® planetary servo gear units



Our modular system illustrated by the PxG® planetary servo gear unit



All the components in the gear unit have been designed for minimum wear and a long service life.



Maximum efficiency: Overall efficiency of up to 94%, due in part to the use of our friction-optimized Premium Sine Seal oil seals, which extend the replacement interval for seals by 100% and reduce sealing losses by 45% compared to conventional sealing systems.



Smallest possible rotating mass for energy-efficient acceleration.



Energy-optimized design thanks to the use of different program-

ming solutions to increase efficiency from 93.4% to 94.3% and reduce gear unit losses by 14%.



Lubrication for life eliminates the need to change lubricant.



All PxG® gear units are supplied unpainted to ensure optimum suitability for material circulation. Instead of being painted, they are given a special heat treatment for consistent corrosion protection. We can avoid the use of paint on many other aluminum product series.



Thanks to its use of GearOil by SEW-EURODRIVE, which incorporates cutting-edge additives, the

PxG® planetary servo gear unit exhibits excellent aging resistance and ensures maximum wear protection for gearing and bearing parts.



Every product has a digital twin. This virtual version of the product documents both the product in its as-supplied condition and other relevant details that facilitate optimum, resource-conserving service monitoring.



Extremely low noise emission levels.

Resource-efficient products

Driving down CO₂ emissions by 84% – GearFluid is a high-end premium lubricant made from high-quality biomass



The challenge – developing a sustainable gear unit lubricant

A company such as SEW-EURODRIVE, which has been building and developing gear units for all sorts of uses for over 90 years, has considerable expertise in tribology, which is the study of friction, lubrication, and wear on interacting surfaces in relative motion.

In April 2022, we launched GearFluid Poly 220 E1, a product that draws on this expertise to provide the first CO₂-reduced gear unit lubricant made from sustainable biomass.

The implementation – a gear unit oil based on sustainable biomass

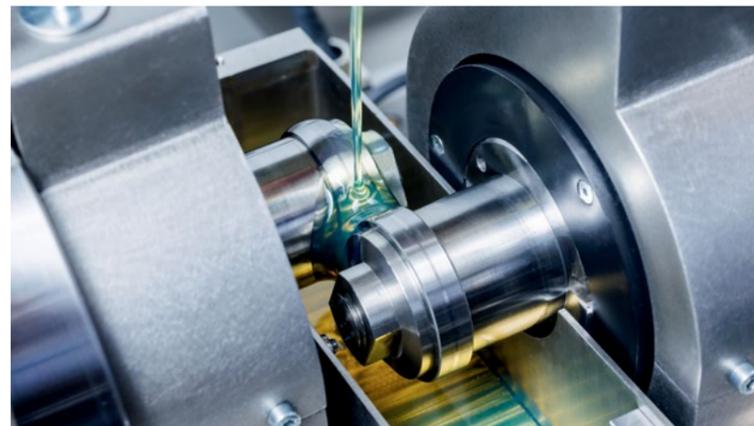
What makes our "GearFluid" sustainable gear unit oil really stand out from other industrial gear unit lubricants is the raw materials it is made from. Instead of utilizing petroleum or some other fossil raw material, as is usually the case, GearFluid is made from sustainable biomass. This improves the carbon footprint of GearFluid by an impressive 84% compared to petroleum-based polyglycol base oils. However, there are many more benefits both for the environment and for our customers.

One important aspect of the biomass we have developed is that it does not need to be specially produced for us and does not take up any additional agricultural land. Instead, our biomass comes from green cuttings and food waste, which is readily available and can now be very easily recycled.

This biowaste undergoes a complex synthesis process that transforms it into a high-quality base oil. The biomass used for this purpose complies with the EU Commission's Renewable Energy Directive. We have even thought carefully about the packaging, with the canisters made with 25% recycled plastic.

84

According to information from our oil manufacturer/supplier, the carbon footprint of GearFluid is 84% better than that of petroleum-based polyglycol base oils.



The customer benefits: less lubricant, lower CO₂ emissions, and higher efficiency



Outstanding potential

Switching all demand for polyglycol lubricant in VG220 at SEW-EURODRIVE (approx. 250 000 liters) over to GearFluid would save 545 metric tons of CO₂ per year.



Better efficiency

A service life that is up to 50% longer than conventional polyglycol oils and up to three times longer than mineral oils.



As high-quality as always

Low friction coefficients, high thermal and mechanical stability, and maximum wear protection for the gearing and rolling bearings combine to reduce the risk of failures.



Carefully tested

GearFluid satisfies the stringent quality requirements of SEW-EURODRIVE testing specification No. 07 004 03 13.



Ecological standard

Suitable as an initial fill for many standard gear units and standard gearmotors as well as for servo gear units and servo gearmotors.



Resource-efficient products

Better energy efficiency across the entire system

For many years, our product development work has focused on delivering energy efficiency and thus safeguarding resources to the fullest extent possible.

By maximizing energy efficiency at the concept development stage, we aim to make our drive solutions as economical as we can. One good example for this is the inverters in the latest generation of our MOVI-C® modular automation system. All the variants and products in this range satisfy the IE2 standard for inverter efficiency. Thanks to a compact product concept, we are using less aluminum, and we have also cut down on the use of potting compound, opting instead for separate assemblies, which simplifies repair work. Regenerative units, energy storage devices, a standby mode, energy-saving functions, and energy-efficient brake management help us achieve further savings. Another contributing factor to these savings is the use of simulation software when developing parts that are relevant to heat dissipation.

When rating energy efficiency, both the motion task as a whole and the complete drive system are key. Over the next few years, we will continuously expand our established DRN modular system of motors in energy efficiency class IE3.

40

The energy consumption for a motion task can be reduced by 40%.

To do that, we are initially taking the traditional approach of enhancing the efficiency class of the individual components, meaning the drive's efficiency is measured exclusively based on rated torque and rated speed. When it comes to international standards, IE4 is viewed as the technological limit for asynchronous motors. At this level, the properties of the motors, particularly during startup, pose a challenge when it comes to the strain that is placed on machinery and systems in line operation. As a result, there are only a few specialist applications where an IE4 asynchronous motor is a suitable solution from the viewpoint of both energy efficiency and drive technology. That is precisely why we are implementing an IE4 variant from within our DRN series – so we can offer a modular solution for these requirements, too.

The key to making energy savings in the near future lies in the application. A paper issued by the European Committee of Manufacturers of Electrical Machines and Power Electronics (CE-MEP) refers to potential energy savings of up to 40% when using speed-controlled systems.

This means that, despite the additional losses brought by a frequency inverter, the amount of energy required to complete a motion task can be reduced by 40%. We believe that this, combined with other benefits of frequency inverter-controlled systems (for instance, being able to control drives dynamically in line with the application and incorporate the asset digitally), will see the proportion of inverter-controlled motors rise from 30% today to at least 80% in ten years.



This will lead to a much more energy-efficient and therefore more sustainable approach when evaluating the energy consumption of the drive system for a motion task in an application. Instead of the various individual components of the drive system being evaluated based on their rated characteristics, they will be evaluated based on how they work together with the entire drive system – comprising inverter, cable, motor, and gear unit – at specific load points in the application. The methods for doing this were set out in the IEC61800-9 series of international standards.

This is why the second strategy we are pursuing for our portfolio of motors focuses on expanding our existing modular system with additions that have been specially developed for inverter operation.

There are several technologies that can be used for this purpose. For example, magnets can be installed in the rotor to increase the dynamics of the drives and minimize size, while maximizing the efficiency of the drives in a very broad range of uses. We will be using this Integrated Permanent Magnet (IPM) technology primarily in the smaller sizes. Besides championing energy efficiency, we will also be factoring in the use of raw materials by putting reluctance motors front and center. This technology also achieves very high energy efficiency, but can do so without using any magnets whatsoever – thereby eliminating the need to use materials that are becoming scarce.

When rating energy efficiency, both the motion task as a whole and the complete drive system are key.

80

We estimate that the proportion of inverter-controlled motors will increase from around 30% today to at least 80% in ten years.

Winners of two awards: our new DR2C.. synchronous motors (efficiency class IE5)

Switching to synchronous IE5 motors is one of the biggest sources of energy-saving potential in the drive sector worldwide. Our DR2C.. synchronous motors satisfy the highest efficiency class IE5 for adjustable-speed electric motors to IEC TS 60034-30-2 and are therefore another milestone in the sustainability of our product development. Compared to an IE3-only line motor, the energy losses associated with our DR2C.. motors, which are designed for inverter-only operation, can be up to 50% lower.

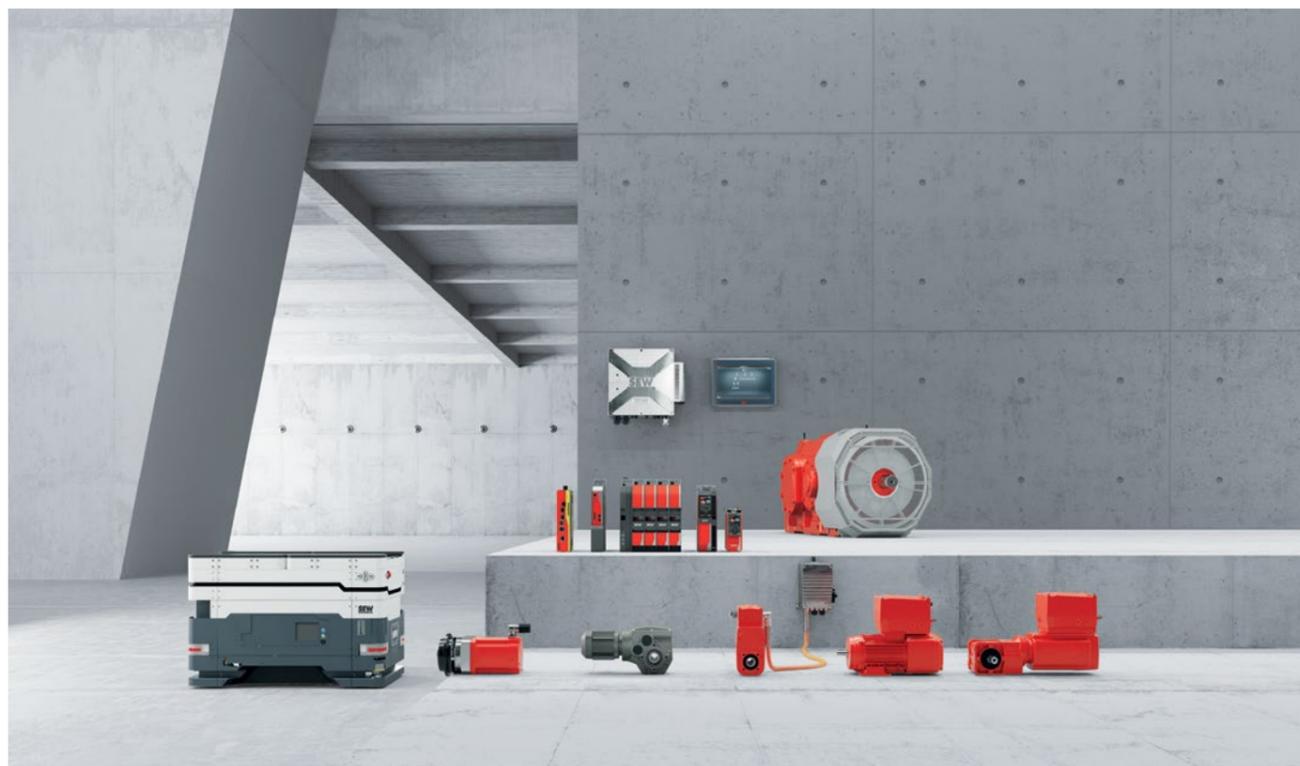
This is thanks to the significantly better partial load efficiency compared to asynchronous drive systems. Designed as synchronous motors, their rotational speeds are not load-dependent. Daisy-chained system parts can thus be designed with connections that are mechanically locked rather than friction-based.

Another key advantage of the synchronous motor technology is the virtually loss-free rotor. This reduces the thermal load, which in turn leads to a longer service life.

Significant boost in efficiency compared to IE3 line-operated motors

With levels of efficiency of 91% and 94.5% at power ratings of up to 3 kW and up to 11 kW respectively, the new DR2C.. motors are much more efficient than the classic IE3 line-operated motors. This means they can be smaller in size, which makes them easier to incorporate into designs.

In spring 2023, our DR2C.. series of motors won two separate awards. In the readers' vote held by the journal Industrial Production, the series claimed 1st place in the Drive Technology and Automation category. In another reader competition by the Computer & Automation magazine, this synchronous motor was also voted into 1st place in the Drive Technology category.



Resource-efficient products

Comprehensively sustainable service concept and excellent maintainability

It is part of SEW-EURODRIVE's DNA that its products should always be designed to be as easily maintainable and repair-friendly as possible. For example, our gear units and gearmotors can be disassembled non-destructively and then reassembled again once faulty or worn parts have been replaced. In addition, all individual components are available worldwide for decades. This means we can extend the service life of our existing products and services and avoid using unnecessary resources.

Our Life Cycle Services represent the next logical step in this approach. They are based on the concept of a holistic and carefully thought-through closed loop that covers the entire service lifespan of a product while it is in use with the customer.

1

Guidance in the form of personal advice on trends, issues that will arise in the future, application and industry know-how, regulations, and specifications

2

Planning and engineering, such as concept development, variant management, and energy consulting

3

Procurement and supply, such as via electronic data exchange, delivery services, and electronic dispatch notifications

4

Installation and startup, including advice on installing and programming the application

5

Operation at the customer's premises, including product monitoring via remote services, repairs, servicing, maintenance, Spare Parts Service, and energy efficiency tools

6

Modernization through retrofitting

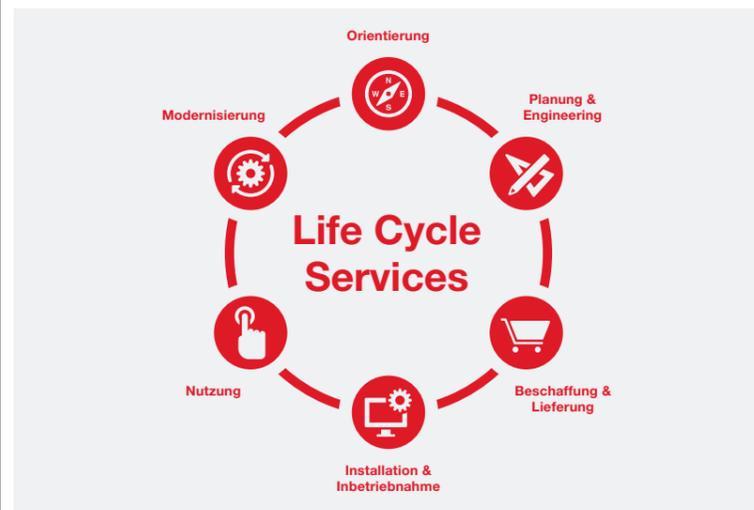


Inspection and Maintenance, Thermography.

Thanks to this service from a single source, which is provided by a dedicated contact, our customers can rest assured that they are getting the best possible expertise and advice for their drive technology.

Example – the maintenance-friendly connection between gear unit and motor

The connection between the gear unit and motor on all our standard gearmotors offers a good example of just how easily maintainable our solutions are. It is made via a pinion shaft that has a key and a mounted pinion with a corresponding slot. Unlike on crimped pinions, this connection can be disassembled without destroying the parts. Any necessary repairs can be carried out at the customer's premises or in one of our service centers.



We ensure that our customers get precisely the solution they need – we manufacture with precision and to suit the market.

How our Life Cycle Services are sustainable



By providing personal consulting and working in partnership to plan customized drive and automation solutions, we ensure our customers always get precisely the solution they really need. In other words, we always manufacture with precision and to suit the market.



As we continue to digitalize our supply chain, we are continuously driving down the amount of paper we use while simultaneously maximizing transparency.



Together, a preliminary in-house check and startup support ensure that our gearmotors run as smoothly and efficiently as possible from the outset.



Thanks to our remote services, we can leverage predictive maintenance to reduce repair outlay and therefore the associated production of spare parts.



A customized and broad-based spare parts production system that satisfies the highest standards in technology and quality helps us maximize flexibility while minimizing costly and energy-hungry downtime and extending the dependable service life of our components.



By providing our Pick-Up Boxes for mechanical drive components as part of our Pick-Up and Delivery Service, we are optimizing the logistics outlay.



Our retrofitting and modernization concept ensures that every system can be kept up to date and in the best possible energy-efficient state.



Our 800 sales and service experts provide 30 services at 33 sites directly and rapidly, thereby enabling us to reduce the energy use and resource consumption otherwise associated with long journey times.

Expert energy consulting for designing systems to be more energy-efficient

The development of our new DR2C.. series of motors was no fluke. We put a great deal of effort into effiDRIVE® – a tried-and-tested concept that our customers have been using for many years now to save energy and, therefore, reduce CO₂ emissions. A major part of effiDRIVE® and our Life Cycle Services is energy consulting in order to optimize the energy efficiency of our customers' systems.

The ideal basis for optimizing our customers' energy consumption is direct, on-site consultancy provided by our specialists, who work with the responsible contact people to analyze the system and identify energy-saving factors.

Thanks to this comprehensive analysis, we can ensure an energy-efficient solution – after all, it is important to consider the entire process and not just a single component.

We support our customers every step of the way, from basic consulting and data capture through to energy efficiency analysis and success monitoring.

Three interrelated modules ensure a systematic methodology

Our energy consulting starts with basic consulting. During this phase, we explain the basics of state-of-the-art energy management as well as key energy-saving principles in drive and automation technology. Practical sample calculations and reference projects are used to identify specific savings potential. We also explain all the main normative and legal conditions.

Data is captured either by SEW-EURODRIVE customers, using standardized and application-specific query forms, or by SEW-EURODRIVE specialists. In the latter case, this service is scalable. Depending on the customer's preference, it can contain up to three steps – an optional performance assessment, identification of additional energy-saving potential, and a recommendation as regards the prioritization of measures.

In the final energy-efficiency analysis, the precise savings potential, the level of investment required, and the cost-effectiveness are calculated on the basis of an optimization concept that will need to be devised. The results of the consulting exercise are comprehensively documented in an energy report, which then also serves as the basis for selecting the appropriate drive technology.

Sustainable product development

Consistently sustainable from the very start: our in-house eco-design guidelines

The "cradle-to-cradle" approach has arrived in industrial production. Established back in 1990 as an end-to-end system for a circular economy, this consistent philosophy is now a benchmark for the most environmentally friendly approaches to developing products and the associated processes. Ultimately, "cradle to cradle" means that all the products, materials, and substances used to manufacture a product can be fully returned to, or reused in, biological or technical loops. We have used this holistic approach as a basis for rolling out our own in-house eco-design guidelines.

That includes, among other things, developing and documenting the two projects that are already underway on the circulation of brake components and magnets. These will serve as a basis for preparing and expanding the concept in the product categories of motors and electronics, while an additional project aims to take these findings further and incorporate more product families.



1990

The cradle-to-cradle approach has been established as an end-to-end system for a circular economy in general since 1990.

New chapter in product development

We aim to open a completely new chapter in product design with this sustainable product concept development. Thanks to the sustained commitment to quality we have pursued since day one, we have already built up considerable expertise. These design guidelines pull together this know-how, distilling it into practical recommendations.

These design specifications will also produce a new, extended product qualification system that will become a key benchmark for product development.



Logistics for the last mile

Online shopping has grown massively in recent years. However, distributing these goods – particularly over the last mile – places a huge strain on public infrastructure. That strain is no longer restricted to traffic jams, but also extends to air pollution. As part of the EU lighthouse project dubbed "efeuCampus", SEW-EURODRIVE has joined forces with efeuCampus GmbH and research and industry partners in its region to make technological innovations, smart mobility, and smart cities a reality.



efeuCampus
INNOVATIONSZENTRUM
BRUCHSAL

SEW-EURODRIVE manufactures automated guided vehicle and autonomous mobile robot systems and has been using these in production for a long time. The vehicles move around the factory at walking pace and serve as assistants in the form of mobile workbenches, for instance – all on the basis of human-machine collaboration. SEW-EURODRIVE is also working with additional project partners to get its robots into outdoor applications.

Innovative delivery robots for last-mile delivery:

- + Specially developed chassis
- + Sensor fusion
- + Human-robot collaboration
- + Contactless energy transfer MOVITRANS® with the SAFS (Safe AC Field Stop) safety function to ensure the magnetic field is safely deactivated
- + End-to-end networking thanks to the implementation of a 5G-based communications infrastructure

Completely new processes and applications can be implemented with these innovative delivery robots. The interlinking of multiple processes, including in outdoor applications, is becoming increasingly important, particularly due to the growth of end-to-end production strategies. With its many special technical features, the

delivery robot makes urban logistics over the last mile more cost-effective and more sustainable than the delivery traffic currently in use. Traffic levels in residential areas are substantially reduced as a result. Delivery robots such as those SEW-EURODRIVE is using and testing at the efeuCampus in Bruchsal are designed to counteract the negative impacts of urban mobility, including gridlocked roads, lines of traffic in residential areas, a lack of parking, increased noise, and air pollution.

Under this solution, a residential district has its own district depot – a microdepot for incoming and outgoing goods – at a location with good transport links. Packages are distributed within the district by environmentally friendly, emissions-free, and quiet autonomous delivery robots that are capable of delivering to people of different ages appropriately. The final delivery to residents can take place at pick-up points in front of houses, where the robots drop off goods. Alternatively, residents can specify a delivery time via their district app and have their parcel delivered directly to them.



On their return journey, the delivery robots can take either parcels for mailing or trash back to the district depot, where the courier services or waste management companies can take over again.

What makes this project stand out is that it shows how different components – whether technological or scientific in nature – can intermesh to produce exciting, innovative results in the Karlsruhe Technology Region, results that will ultimately benefit the world. In the future, the delivery robots will be tested by the project partners (SEW-EURODRIVE, PTV Group, b.i.g. bechtold-gruppe, FZI Forschungszentrum Informatik, Karlsruhe University of Applied Sciences, and the Karlsruhe Institute of Technology) under real conditions at the Bruchsal research campus.

Sustainable product development

Coating-free ECO2 drives – protecting the environment and cutting costs

Less paint coating and more environmental protection and sustainability – this is the simple, yet revolutionary, notion behind our ECO2 project for coating-free drives.

The idea for ECO2 came from the coating-free design of very small drives dating from earlier years. Made largely from aluminum, these drives have proved very successful in straightforward ambient conditions. With the ECO2 initiative, the project has been extended to include newly introduced motor models and a much broader range of gear units.

Less environmental impact and Reduced costs

The abbreviation ECO2 stands for a double sustainability benefit – ECO2 is both ECOlogical and ECONomical. True to its pledge, SEW-EURODRIVE protects the environment by avoiding the use of paints and solvents. What's more, the fact that the energy-intensive painting process is no longer needed means that CO₂ emissions are reduced, too.

At the end of their life cycle, non-coated components can also be kept in the cycle more easily.

Last but not least, by opting not to paint these products, we can also achieve a significant reduction in costs – and we pass this saving directly on to our customers.



Concept study for extremely energy-efficient AGV and AMR systems

When it comes to a sustainable product carbon footprint, the transportation of products also plays an important role. We have taken an important step forward here with our concept study for automated guided vehicles (AGVs) and autonomous mobile robots (AMRs) – a study that we presented at HANNOVER MESSE 2023.

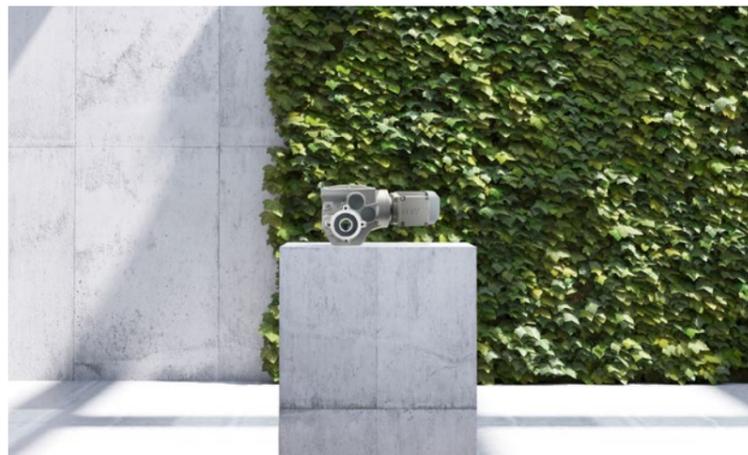
What makes this AGV/AMR concept study really stand out is the flexibility of the drive, since the application can switch fully automatically from battery mode to fuel cell mode as required and without coming to a stop. Fuel cell mode is particularly recommended for longer routes, and the fuel cells in our AGVs/AMRs use green methanol as fuel.

Whether operated by battery or fuel cell, both energy modules ensure an environmentally friendly drive. The tried-and-tested MOVITRANS® technology transfers the energy to the energy storage units of the AGV/AMR in a process that is contactless and, therefore, especially efficient. Highly robust double-layer capacitors are used for the energy storage units, as they can be charged and discharged more or less as often as required.

Mobile materials handling technology for resource-friendly logistics

Our solutions for mobile materials handling technology – MOVITRANS® line and MOVITRANS® spot – offer completely new options for handling intralogistics transport tasks with ease, even when longer routes are involved. Based on the principle of an inductive power supply, energy is transferred via an air gap in a contactless system. This transfer is quiet, wear-free, and low-maintenance.

In the case of MOVITRANS® line, a line cable is laid along the pre-planned route. The route layout can be configured in any way necessary and flexibly adapted to suit new conditions. This makes the complex and expensive process of laying contact conductor and drag cable systems and other fixed floor installations a thing of the past.



Alternatively, MOVITRANS® spot provides the option of point-based energy transfer for even more peak power.

With this option, vehicles can move around completely freely and autonomously, and are fully independent of fixed routes or line cables. The magnetic field used is equipped with a unique safety function for reliable shutdown. Consequently, the technology can be used not only in industrial environments, but also in urban applications, such as a miniature railway that takes park visitors from A to B in a low-emissions solution.

MOVITRANS® – more sustainability for less material usage and energy

Straightforward integration into existing systems, much less maintenance compared to conventional solutions with fixed floor installations, lower material consumption, and utilization of the latest component technologies safeguard resources and allow for greater energy efficiency. MOVI-DPS® (Drive Power Solution) also helps boost energy efficiency. MOVI-DPS® comprises a variety of components for intelligent power and energy management in mobile and stationary applications, such as both MOVITRANS® solutions. In fact, this intelligent drive solution can help to reduce the connected load of storage/retrieval systems (SRSs) like the MOVITRANS® solutions by up to 80%. Our Power and Energy Solutions make another important contribution to state-of-the-art energy management. Above all, load spikes are reduced, thereby saving energy and reducing costs. Combining MOVITRANS® and Power and Energy Solutions makes the vision of an "active factory" a real prospect. Similarly to active residential houses, an active factory would not merely consume energy, but would also generate energy across its footprint.



Added energy efficiency from virtualization and digitalization

The ever-growing opportunities associated with virtual simulations and digital models can play an important role in helping save energy during product development stages. They can also provide valuable insights into how a product will actually be used and thus help developers focus on what really matters.

Generally speaking, preliminary simulations that are run during development projects help to deliver important findings at an earlier stage. As a result, far fewer practical experiments and specially built models or prototypes are needed, which can save a lot of resources.

One specific example of this is a virtual simulation of oil flows, which helps eliminate the need to carry out experiments in a test center. Reducing the number of prototypes and experiments means less material is used and less CO₂ emitted.

Simulations can also support analyses to establish potential reductions in power losses. This results in higher operational efficiency standards and thus much lower current consumption. Once again, oil flow simulations offer a good example for this. The same applies to oil level optimizations during operation.

Shortening the test run times for XS.e

In another project, we succeeded in reducing the testing time for installed units from the XS.e series. Specifically, this meant being able to tell after just 15 minutes whether the temperature sensor was in line with the approximate progression forecast. As a result, the development team was able to reduce the overall testing time for each unit from 2 hours (one hour each for counterclockwise and clockwise rotation) to 30 minutes, which equates to a total yearly saving of approximately 4500 hours.

We intend to roll out this model for all single-piece housings and additional sizes.

4500

hours in total of yearly savings on the testing time for the XS.e series



← The real thing in the test center



↗ A digital simulation

When it comes to development projects, advance simulations offer great opportunities by providing early insights, lowering costs, and reducing the number of experiments required.

Digital products and services

Thanks to condition monitoring and DriveRadar® we know today what will happen tomorrow

The more effectively, regularly, and consistently the data from a system or machine can be measured, the higher the probability that concepts such as preventive or predictive maintenance can help avoid unplanned downtime. The process of gathering this data is known as condition monitoring and involves permanently monitoring systems and analyzing their performance with the aid of sensors to track values such as speed, temperature, and vibration. The measurement data captured in this way can be used to assess the condition of a system and therefore identify deviations, for example, and trigger alarms when limit values are breached.

This permanent monitoring also means engineers can much more accurately determine the timeframe or specific point when a system needs to be overhauled. As a result, our customers don't need to keep a parallel system on hand, as would otherwise be the case, and can thus save on resources.

Early maintenance interventions also mean systems never become so degraded as to cause downtime or even a fire department call-out, neither of which is an efficient use of technical resources. Furthermore, concepts such as these make it easier to plan spare parts inventories, which further enhances efficiency.

Dedicated cloud solutions and apps ensure maximum dependability and data security. The extent of data and parameters that are captured by DriveRadar® can be adjusted to suit specific customer requirements.

59%

Thanks to MOVIGEAR®,
current consumption
has been cut by 59%.

Cloud systems and apps make condition monitoring much more convenient for customers.

SEW-EURODRIVE has created the DriveRadar® brand for its condition monitoring offerings. The brand covers and coordinates all the performance characteristics for condition monitoring and predictive maintenance. The products and solutions that are monitored include smart devices such as intelligent inverters and motors, along with industrial gear units and mobile drive systems.



DriveRadar® in action

The best way to explain the benefits of DriveRadar® is to look at a practical example. Take, for instance, our project to implement condition monitoring at Europe's leading manufacturer of EPDM® sealing products.

To prevent unplanned downtime, we fitted out two extruder gear units with our DriveRadar® system. Ethylene propylene diene (EPDM) rubber is a synthetic rubber. In this scenario, we measure and monitor:

- + The temperature of the oil sump and surroundings
- + The oil fill level
- + The input speed
- + Vibration on the rolling bearings and gearing

At frequent intervals, the collated sensor data is encrypted and transmitted via a mobile network to a data center that boasts excellent availability and has been certified to ISO/IEC 27 001. The data is then evaluated and interpreted on an automated basis in the data center. Specific assessments can then be made regarding the condition of the rolling bearings and gearing (including a prediction of remaining service life), the date for the next oil change, the oil fill level, and the viscosity of the oil.

By using a traffic light system to depict condition values and forecast values, the DriveRadar® IoT Suite web application makes sure that imminent damage and target value breaches are always readily identifiable.

Another example for predictive service



Our new on-site inverter reforming service, which is part of our Life Cycle Services, now gives customers the option to have these capacitors energized once a year. This stops the inverters becoming fully discharged and unavailable when the drive is being used.

In addition to familiar benefits such as less downtime, lower maintenance costs due to longer breaks between services, targeted fault elimination, and the avoidance of knock-on damage, these measures also help to safeguard resources. For example, when the replacement of parts such as rolling bearings is accurately planned, we can ensure we have the parts needed in stock when required. We can also extend the service life of oil in the system by determining how the oil level changes in line with use.

59% lower current consumption: retrofit concept boosts the sustainability of conveyor belts

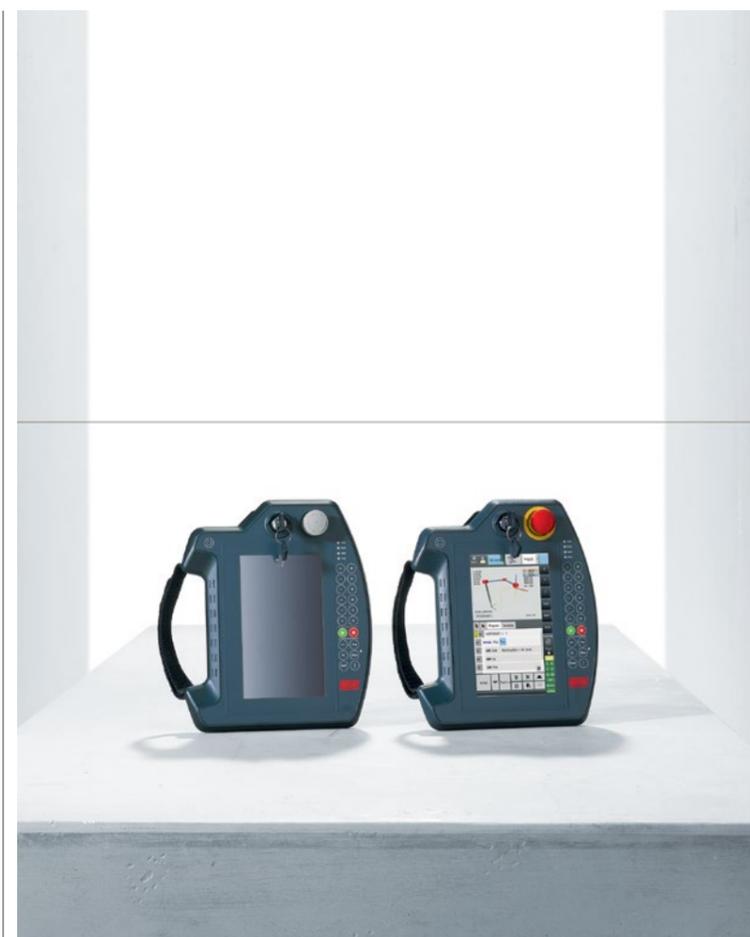
One of the world's biggest logistics center operators was faced with an increasingly pressing need to retrofit and modernize its conveyor belts at four sorting centers in the USA. Safety covers made the existing competitor solutions difficult to access and required special maintenance concepts for the drives and belts that posed certain mechanical challenges. In addition, a larger volume of spare parts had to be kept in stock.

A further, key disadvantage was high energy consumption, not just in the drive and gear unit themselves, but also through power losses in the belt drive, cam drive, and toothed gear drive.

SEW-EURODRIVE was brought on board through a collaboration partner. By switching over to our easily installed MOVIGEAR® mechatronic drive system, our customer's company was able to drive down total cost of ownership, for instance by eliminating the costly storage of spare parts. Our solution also makes it much easier to replace components while the system is running.

The clear reduction in current consumption – which was cut by more than half – was a considerable improvement from an environmental standpoint.

Over the selected period, the conventional drive system required electrical power of 254 W on average, with a maximum spike of 5714 W, while MOVIGEAR® required electrical power of 104 W on average, with a maximum spike of 497 W. MOVIGEAR® was thus able to reduce current consumption by 59%.



MOVIKIT® software modules: parameterization instead of programming

A further application of the operating data that is also collected as part of condition monitoring is the preconfiguration of drive solutions for easier startup. Our prefabricated MOVIKIT® software modules make the necessary configuration much easier. It is simply a case of entering individual parameters via a user-friendly and graphically optimized interface – parameterization rather than programming.

The MOVIKIT® portfolio ranges from simple drive functions, such as speed control and positioning, to complex motion sequences and motion control functions. The MOVIKIT® software modules can also still be freely programmed if the application calls for this.

One of these MOVIKIT® modules is the PowerAndEnergySolutions add-on PredictiveChargeControl. This ensures intelligent energy management and sensible use of energy during the recovery phase. This means fewer components and more energy savings. The MOVIKIT® solutions have earned multiple accolades from the trade press.

Digital products and services

Industry 4.0 for more flexibility and decentralization in production

Cloud solutions for decentralized access to software solutions (Internet of Services), networking of individual machines and systems with the Internet (also known as the Internet of Things), and networking of these machines with one another as part of a cyber-physical system – SEW-EURODRIVE is also exploring these Industry 4.0 topics within the context of a smart factory. These cyber-physical systems can make decentralized decisions on the basis of digital information and are therefore potentially capable of learning. They can be used right across the production chain, from assembly to logistics and assembly assistants, and all the way through to logistics and handling.

The basic aim of the smart factory developed as part of Industry 4.0 is to create the perfect symbiosis of people and technology and/or of people and machinery, thereby relieving the strain on individual workers and optimizing processes. This can result in a lower error rate and, therefore, fewer production rejects, for example. Another example is a mobile assembly assistant, which contains all the information about a job order and can specifically communicate special designs or customer requirements to the fitter.



Whether it's a case of a smart factory, Industry 4.0, or human-machine interaction – when digitalizing our production processes, our top priority is always to put people and staff at the heart of what we do.



AGVs and AMRs

Augmented reality for smart order control

In the context of Industry 4.0, digitalization also means using augmented reality to give individual people or employees a much broader perspective. This includes support for a production process via a smart order, for example. This screen contains all the assembly, manufacturing, and logistics information for a product. For example, with the smart order, it is possible to see the availability of the machinery for the next step at a glance. Machine-to-machine communication also means that the smart order can coordinate the equipment and systems and combine them with one another to fulfill the order.

Other options and concepts within the context of augmented reality include smart work. This involves staff being given ergonomic support, e.g. through gesture control during assembly work, to relieve the physical strain on them. These assistance systems are available on request and depending on the tasks in question. One particular long-term benefit is that they improve concentration.

A smart director can also support the detailed planning of day-to-day production sequences. With predictive order simulation, the available resources can be used optimally, flexibly, and with a clear focus on the desired outcome. This also means that energy consumption can be reduced in the medium to long-term.

Reduce, eliminate, optimize – digital documentation for greater efficiency of resources

Delivering 100 gearmotors accompanied by 100 packages containing several sets of operating instructions for the motor, gear unit, and accessories – although this may initially seem like a thorough and essential approach, it makes a lot less sense when you think about it more carefully. After all, a customer does not need a set of operating instructions for every single motor of the same design. All this actually does is use up huge volumes of resources and exasperate our customers, too. The logical question for SEW-EURODRIVE was therefore: How can we ensure that we supply exactly the number of technical documents that are wanted – and still take account of our customers' wishes?

Step 1: Reduce minimum quantities and limit additional copies

Although reducing documentation to a minimum and limiting orders of additional copies may sound like a simple idea to begin with, this actually raised complex questions when it came to putting it into practice. The first consideration was that, as a global company, SEW-EURODRIVE needs to comply with all documentation-related legislation worldwide in order to ensure legal certainty. A lawyer specializing in technical communication was therefore consulted about reducing the volume of printed materials.

Secondly, we needed to develop clear, reliable procedures for order processing. Instead of simply continuing to play it safe by including all documentation with every product, we needed to define more specific processes, but without increasing the documentation team's workload to excessive levels.

An order processing standard was therefore created to ensure that a specific minimum quantity of paper documentation is included with each order, depending on the order in question and the options selected. What's more, this documentation is supplied in the language in which the product will then be used – which may not necessarily be the same as the language applicable to the delivery location.

At the same time, our customers still have the option of ordering additional copies of the documentation – but each customer now needs to actively order these.

Step 2: Eliminate

The next step was about reducing the amount of material used for the actual documentation. We have done this by gradually eliminating all documentation-related DVDs and their cases, instead supplying this information via Online Support in a secure cloud. The intention is that the additional information that has so far also been included in the scope of delivery will be available to access online in the future. We also intend to use QR codes more in the future – especially for this additional information, but also to generally boost the interplay between paper documentation and online documentation.

Step 3: Optimize

Steps 1 and 2 then gave rise to Step 3 – the creation of a new, customer-focused documentation concept. A good example of this is a set of operating instructions that still complies with all relevant legislation, but has been greatly consolidated and reduced in volume by 74%. The information that is no longer included in these operating instructions is now available in a new product manual. This is part of a cross-product structure and is available as a PDF that can be accessed, complete with data protection, via HTML5.

Customers can also access more detailed information and comprehensive product knowledge faster and more directly via Online Support, using one of the convenient functions available, such as for switching language or conducting a free text search.

74%

A good example is a set of operating instructions that has been greatly consolidated and reduced in volume by 74%.

Reduced resource consumption, improved environmental friendliness – the benefits of digitalized documentation at a glance:

- + More sustainability and less packaging waste for customers to deal with, thanks to legally compliant optimization of paper documentation and the ditching of DVDs
- + Targeted information about the intended use, without surplus information and excessive warnings, thanks to optimized operating instructions with customer-relevant content for startup
- + Easy-to-find content, because information has been moved to new product manuals with a standardized structure
- + Optimized accessibility and convenience for customers thanks to updated information products and a range of online documentation as HTML5
- + Greater customer satisfaction thanks to a raft of measures designed to prevent incorrect customer documentation, such as revisions to the operating instructions and other addenda

0%

plastic thanks to ditching DVDs and cases

67%

less paper by switching to compact operating instructions

62%

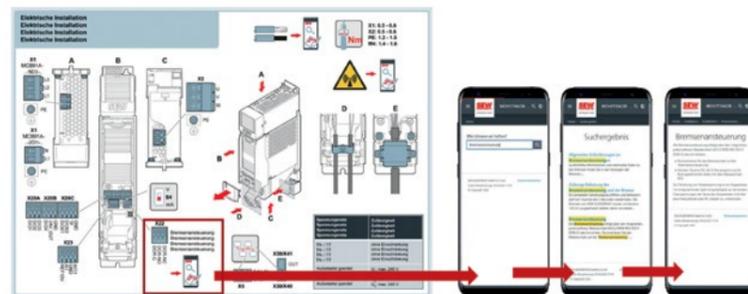
fewer items of documentation for gearmotors with functional safety

60%

fewer data sets for document assignment control, thereby optimizing response times and data quality

40%

fewer items of documentation for ATEX gearmotors



Implementation concept:
Order-neutral documentation (poster), interplay between poster and HTML5 help.

Accessing additional technical documents by scanning the product label (QR code)

Scanning the product label or order number with a smartphone will take customers to the Digital Service Cockpit, where they can select the documentation they need from a range of options. In the future, this process will use an HTML5 format to provide a responsive design.

An initial selection of information materials in the new format has been available since August 2022 for the MOVIKIT® software modules from the MOVI-C® modular automation system, and this selection will be further expanded.

As part of a reference project, the paper enclosures for simple products are being reduced significantly, for instance by shrinking the layout. Supplementary information that was previously provided on paper is now accessible online via a QR code on the product label.

Reducing the amount of paper being used and making more extensive use of online help has two benefits: Firstly, the optimized design of paper information is easier and faster for customers to navigate and, secondly, they can also access additional, helpful information from the Digital Service Cockpit.

"Our aim wasn't simply to reduce paper – we also wanted to offer our customers genuine added value by introducing a consolidated document management system."

Marc Kögel, Head of ISTS
(Innovation Services Technical Communication/Standardization)

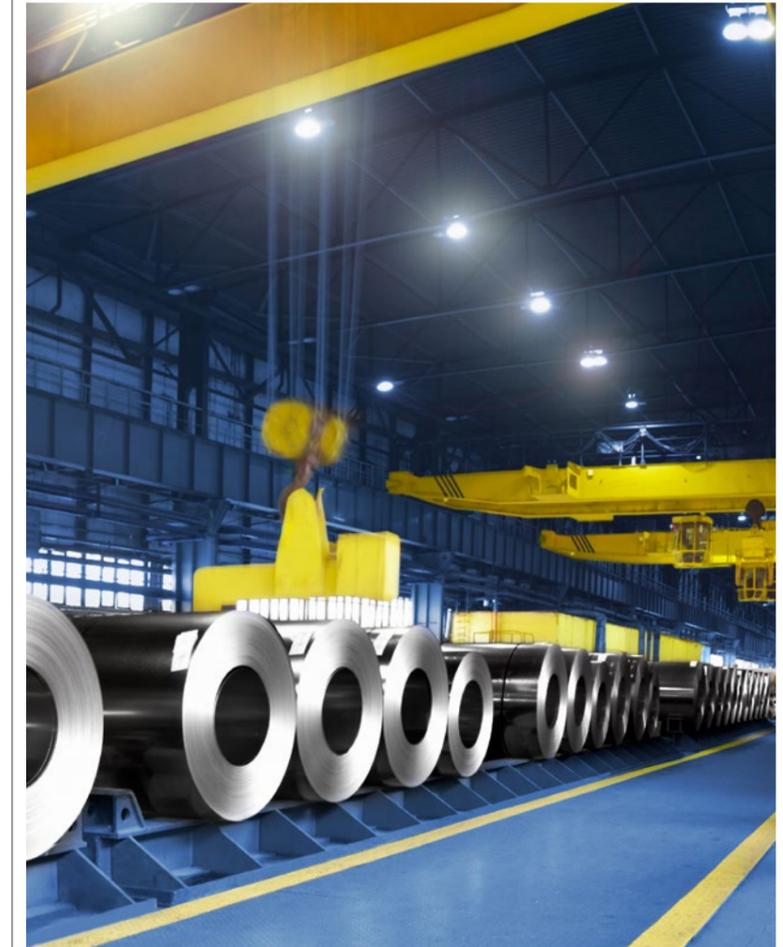
Product carbon footprint

What kind of CO₂ emissions does a drive solution from SEW-EURODRIVE generate? Due to the modular nature of our product portfolio, that question is impossible to answer on a generic basis, since every drive solution is tailored to a customer's specific needs.

However, to approximate the specific emissions for each solution as best we can, we are working on calculating the product carbon footprints (PCFs) of our standard products. The general conditions and methods for working out PCFs are specified by ISO 14067. DIN EN 50598-3 also sets out further product-specific requirements applicable to drive technology. Initial PCF calculations have already been performed, which have given us valuable insights into the CO₂ hotspots of our products.

Across all products generally, it has become clear that the greatest influencing factor for the PCF is the product's use by our customers. Based on the applicable product category rule from DIN EN 50598-3, in the case of motors and frequency inverters, well over 90% of all product-related emissions are caused by customers' use of the product. Even though the calculations are based on the specific use scenario from DIN EN 50598-3, the results make one thing clear – in the case of the SEW-EURODRIVE products with a long service life, energy consumption during use will always have a major influence on the total CO₂ emissions. Energy efficiency will therefore continue to play an important role in the development of SEW-EURODRIVE products.

In addition, we were able to use this carbon accounting process as a basis for working out potential CO₂ savings within the cradle-to-gate system boundaries, i.e. in relation to material procurement and product manufacture. This can be used to improve the carbon footprint of products, especially by ensuring components and used products are part of a closed-loop system. Right from the development stage, SEW-EURODRIVE therefore works with a particular focus on circular economy concepts (see the "Circular economy" section on page 66).

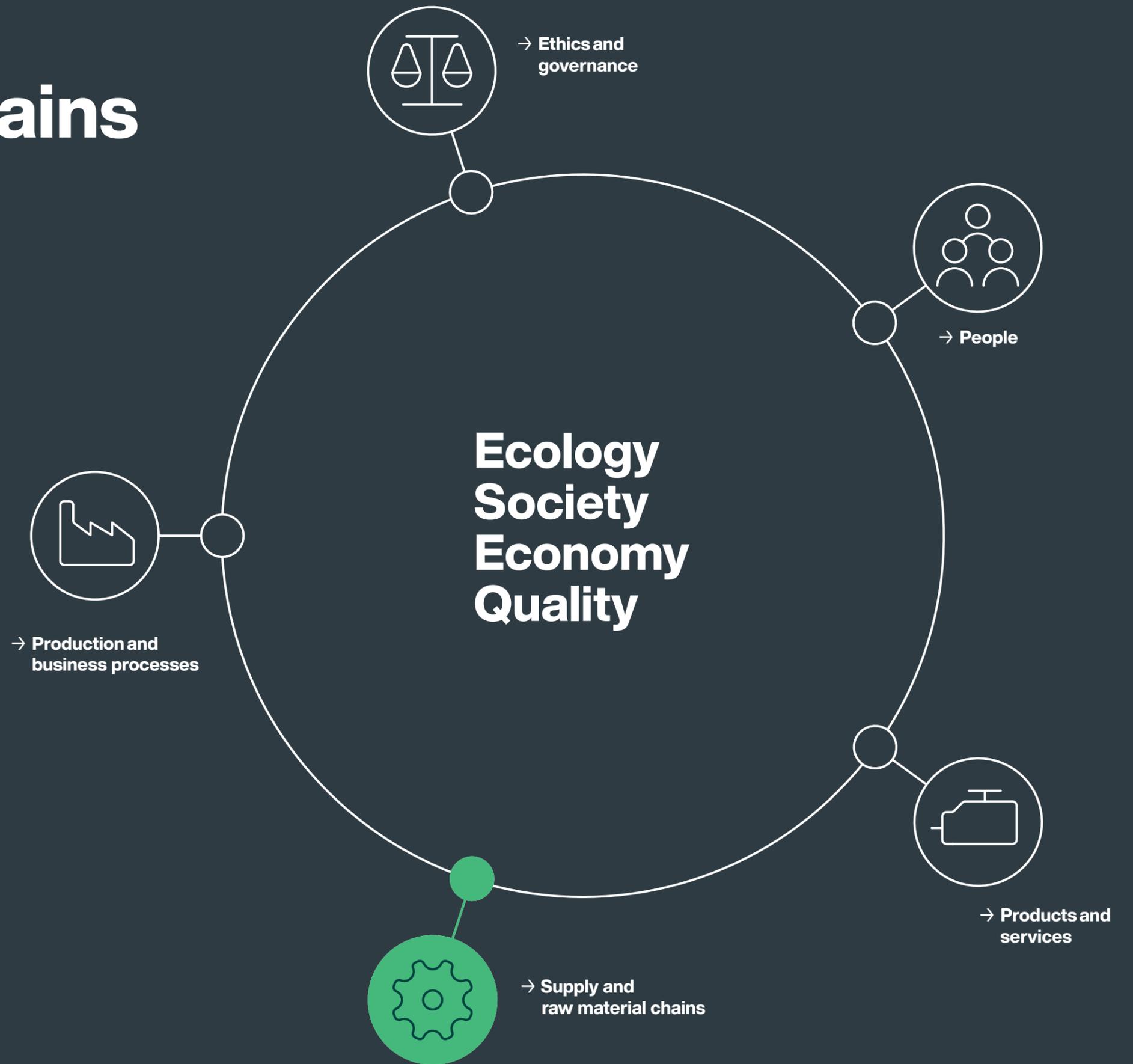


Over **90%***
of our CO₂ emissions are generated
by our customers' use of our products

* Based on a strict interpretation of DIN EN 50598-3. The calculation method in the standard is currently under review. This part of EN 50598 sets out the principles for implementing environmentally conscious product design, evaluating ecodesign performance, and communicating potential environmental impacts of drive and motor systems for applications.

Supply and raw material chains

- + Collaborative supplier management
- + Resource-friendly raw material sourcing



At home around the world

Keeping things local

"Think global – act local." This means thinking globally, but acting locally and taking as local an approach as possible to delivery and procurement. For many companies, this combination of globalization and localization – sometimes known as "glocalization" – has become one way of improving their carbon footprint. Given the many problems currently impacting supply chains, a large number of businesses are making concerted efforts to achieve as much flexibility as possible moving forward. They are looking to avoid overdependence on individual countries and regions.

The same applies to the supply and raw material chains of SEW-EURODRIVE. To achieve our aims of minimizing our carbon footprint and maintaining a healthy supply chain, we aim to use our global network to ensure both the procurement of raw materials and our products and solutions themselves are located as close as possible to our sites and our customers. By keeping transportation routes short in this way, we will reduce our CO₂ emissions and minimize the amount of packaging involved.



Collaborative supplier management

At SEW-EURODRIVE, procurement is shaped by a holistic approach for greater sustainability and by partnership-based supplier management. As part of our dynamic development for greater environmental awareness and a supply chain that is better overall at conserving resources, we constantly endeavor to optimize our processes and create new ways of ensuring optimal cooperation with our suppliers. To improve our standards on an ongoing basis and keep them up to date, we also cooperate closely with many trade associations and prestigious universities.

To achieve these sustainability goals, we engage in constant dialog with everyone involved, e.g. internally with all divisions of the company and our procurement teams in our many branches, but also externally with our suppliers.

We also take account of our customers' wishes, such as in relation to the choice of materials and punctual deliveries.

8

Steps are defined in our concept for the procurement process.

Our 360° procurement concept: our code of practice

Our holistic approach is reflected in our 360° procurement concept, which clearly defines and sets out every single step of our procurement process.

1. Procurement: We apply global standards to the selection of our suppliers, thereby ensuring that our high quality requirements are sustainably met. The transparency of global procurement markets enables us to identify opportunities and risks at an early stage and deal with these pragmatically through our decentralized procurement organization.

2. Supplier management: We use our SEW-EURODRIVE Supplier Management Toolbox worldwide to ensure reliable processes from the selection of suppliers and assessment through to supplier development. In our Supplier Steering Committees, experts from Procurement, Development, Quality, and Logistics make decisions together.

3. Quality management: At the start of a partnership with suppliers, we make sure of smooth processes by conducting feasibility studies in advance, intervening fast, and communicating directly right from the outset. As the partnership proceeds, we also apply multi-stage escalation management that is coordinated with everyone responsible to ensure rigorous follow-up.

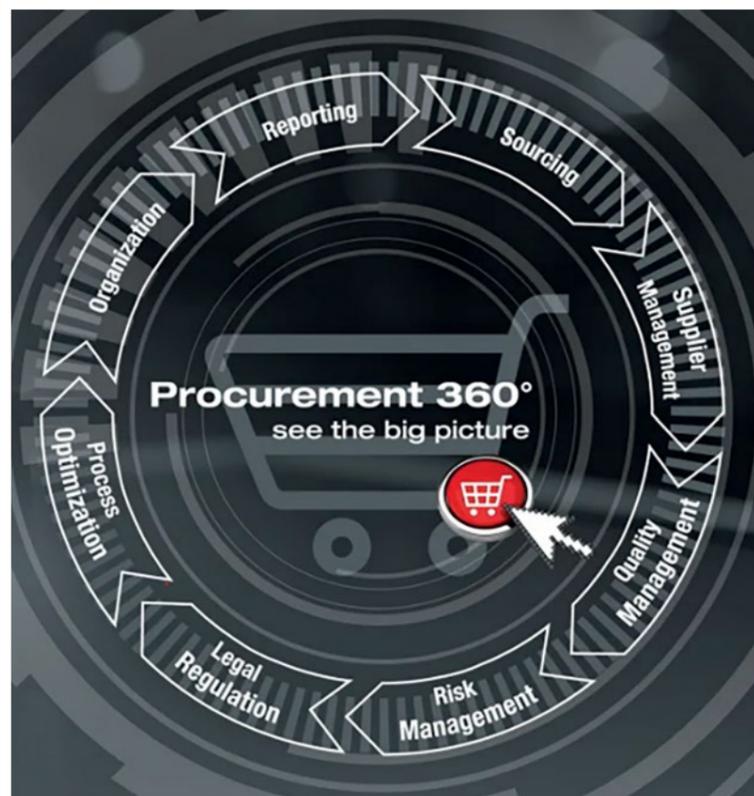
4. Risk management: We ensure ongoing operations by identifying supplier-related risks at an early stage and monitoring suppliers via a critical supplier watchlist.

5. Statutory provisions: We apply active, cross-functional supervision to ensure that all legal requirements, including the German Supply Chain Due Diligence Act, are understood and complied with right along the value chain.

6. Process optimization: With our dedicated team within Procurement, we use digitalization to expand highly automated processes, involving both internal and external partners in the coordination of interfaces.

7. Organization: The Procurement department is directly involved in the processes of individual plants and is therefore close to production and innovation.

8. Evaluation: With flexible, ad hoc evaluations and independent analyses, we keep a close eye on our suppliers' performance – thus ensuring that we always make decisions on the basis of valid key figures.



Our procurement guidelines

Looking beyond the Supply Chain Due Diligence Act, which came into force at the start of 2023, SEW-EURODRIVE is working in line with statutory regulations and directives. These include:



The REACH regulation, which is the European regulation on the registration, evaluation, authorization, and restriction of chemicals.



The RoHS directive for limiting the use of certain substances in electrical and electronic devices, such as lead, mercury, and cadmium.



The U.S. Dodd-Frank Act for keeping conflict minerals such as gold, tantalum, tin, and tungsten out of supply chains to eliminate them as a source of financing for violence and human rights violations in conflict zones and high-risk regions.



The WEEE directive for the environmentally friendly disposal of electrical and electronic equipment and other associated provisions.

These rules and regulations set out various requirements for our products that affect the substances they contain as well as the environmental friendliness of the products themselves and how resource friendly they are. All the products and materials that are supplied to us must meet these requirements. What's more, all the individual suppliers are also required to ensure these standards are met in their own supply chain. Terms and conditions of purchase make reference to the finer details of these provisions (product compliance guideline).



A tighter focus on sustainability both now and in the future

While refining and realigning our collaborative approach to supplier management, we decided to make a major change. In the past, our priority in procurement has been to secure the best and most consistent material quality at the best possible conditions on very different markets.

However, focusing exclusively on conventional requirements such as cost reduction and risk minimization is no longer enough. Instead, procurement will need to take account of not just the origin and price of procured services and products, but also – and more especially – their use and subsequent disposal.

With this in mind, we have developed a key performance indicator for sustainability. This system enables us to examine various criteria in order to assess how sustainably a company operates. The following pages set out how it works.



Terms and conditions of purchase to [download](#):



Procurement will need to take account of not just the origin and price of products, but also – and more especially – their use and subsequent disposal.

Collaborative supplier management

Introduction of a dedicated sustainability KPI

Environmental criteria are already selection criteria for every single one of our suppliers. Significant actual and potential negative environmental impacts were found for <1% of our suppliers. In these cases, concrete measures were taken and an escalation plan was developed in order to combat the risk.

Through our KPI, we aim to make it much easier to ensure our suppliers operate in line with sustainable criteria for the benefit of SEW-EURODRIVE and our customers.

The KPI comprises twelve separate criteria, each weighted with points. Six of these criteria are knock-out requirements.

The sustainability information collated in Procurement comprises environmental, economic, and social criteria that can be verified on a factual basis (e.g. certificates).

The assessment process looks at key elements such as company sustainability (environmental aspects of procurement and energy-efficient procurement) and product compliance (e.g. conflict minerals, RoHS and REACH declarations, and UL approvals).

Different categories also have different weightings. While forced labor and discrimination are knock-out criteria, other aspects such as social management, anti-corruption measures, and environmental management are factored into

12

different categories for our key performance indicator

the evaluation with a factor of two, four, or five.

Specific data gathering methods have also been defined to ensure the various criteria are scored as reliably and credibly as possible. Naturally, maximum data security is ensured throughout all data processing and evaluation procedures.

The KPI produces a sustainability score that is factored into yearly strategic supplier evaluations and a one-off supplier assessment carried out at the start of the collaboration.

The sustainability information collated in Procurement comprises ecological, economic, and social criteria.



Award for holistic eSolution supplier scouting

In 2021, the German Association for Supply Chain Management, Procurement and Logistics (BME) presented us with an award for the all-round innovative approach we have adopted in our supplier scouting activities for eSolutions. The BME was particularly impressed by the holistic supply chain management we have put in place for procuring IT solutions. As part of its "Procurement 360°- see the big picture" initiative, SEW-EURODRIVE put Procurement front and center as an interface manager. The Procurement team works with the relevant specialist departments to coordinate the approach, thereby enabling it to control the selection process efficiently and professionally to the company's advantage. Collaborating closely with an AI-supported scouting platform solution ensures suitable potential suppliers can be found in next to no time based on precisely the criteria that matter most to the company carrying out the search. These criteria include high quality standards, sustainable technologies, and much more besides. This approach helps to largely remove the need for costly and time-consuming visits to trade fairs, which in turn benefits staffing and environmental resources.

This lighthouse project has since helped the Procurement team convince other departments and units of how valuable a central procurement management system is when it comes to achieving maximum cost-efficiency and environmental friendliness in our company.

An outstanding example of digitalization and sustainability working hand in hand

Optimized and focused supplier research that incorporates a fully digitalized scouting process makes it possible to investigate and document sustainability criteria across a much broader range. The result of this innovative scouting can also be reported in unambiguous figures:

12x

AI ensures that twelve times as many suitable suppliers are scouted than is the case when using conventional supplier research processes

+70%

Some 70% more suppliers were kept in the process up to the point data was queried

75%

Some 75% less outlay for SEW-EURODRIVE compared to conventional supplier research

Environmental management system ISO 14001



0% ≤ Sustainability KPI ≤ 100%

Resource-friendly raw material sourcing

✓ Focusing on consistently environmentally friendly and resource-friendly product design with a minimal carbon footprint, including the procurement of suitable raw materials and the use of materials that can be recycled as easily as possible.

✓ Extending the zero-paper strategy by fully leveraging opportunities for digital collaboration both internally and externally.

✓ Continuously optimizing business processes to ensure the efficient and sustainable use of resources.

✓ Reviewing global supply chains on a yearly basis, particularly to expose and tackle inhumane working conditions.

✓ Establishing collaborative supplier relationships with a focus on mutual reliability and social responsibility.

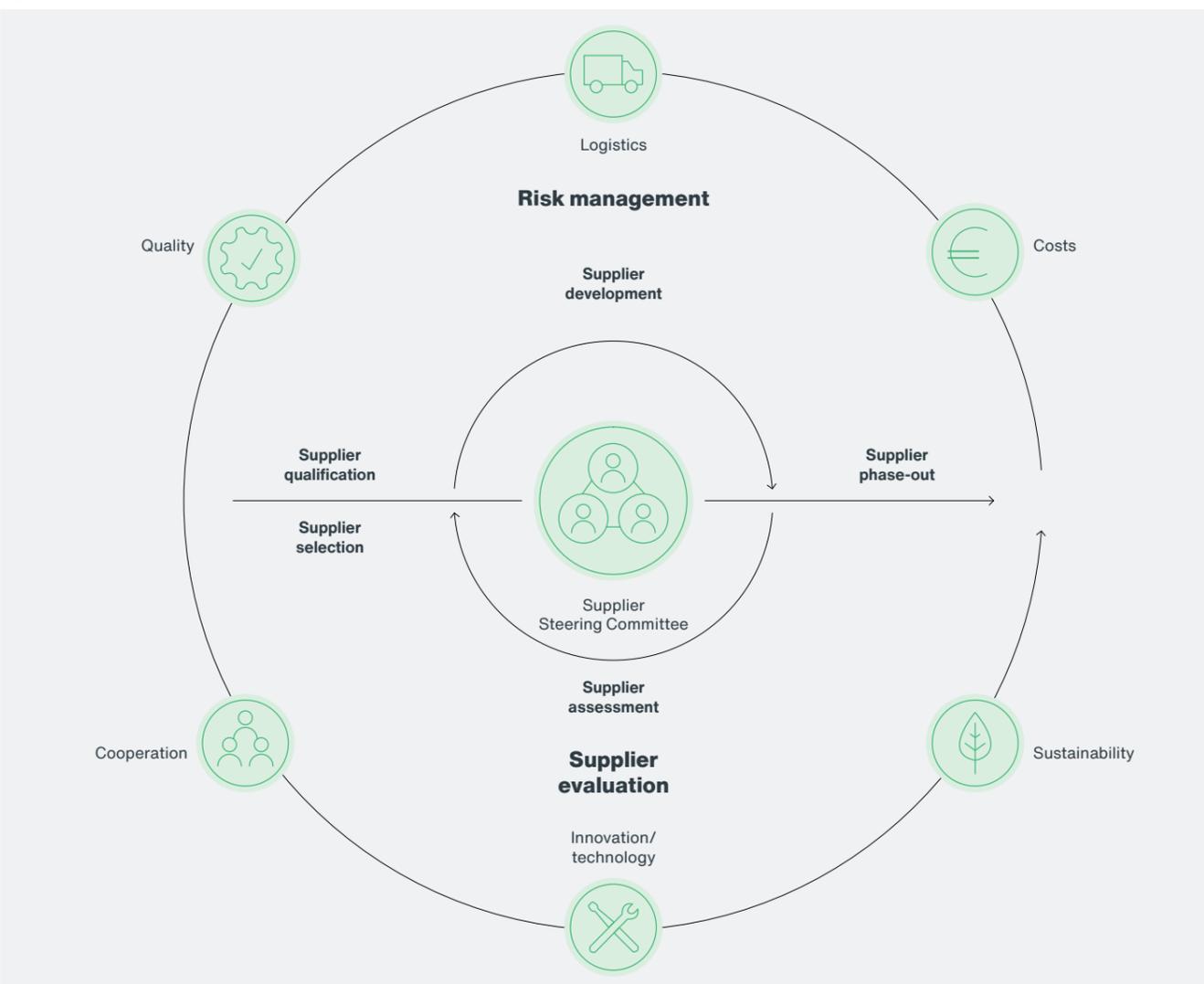
✓ Continuing to specifically prioritize local service providers and suppliers.

✓ Complying with international product compliance directives in collaboration with our suppliers as a way of protecting people and the environment.

✓ Extending due diligence measures to ensure compliance with the German Supply Chain Due Diligence Act.

✓ Maintaining transparency in the global supplier pool so risks can be systematically analyzed and targeted measures implemented.

✓ Using procurement to drive innovation so as to put ecological and social values on an equal footing with economic profit.



Professional recycling of various types of metal scrap

When it comes to conserving resources and protecting the environment, asking "how?" is often more important than focusing on "what". Thanks to the cutting-edge technologies that our recycling partners use, we can process a lot of the materials left over from production in their entirety, without leaving anything behind, and feed them back into the material cycle. An ingenious material-type management system also ensures that metals are not downcycled, an environmentally harmful process whereby metals are reduced in quality when they are recycled. As part of an holistic approach to environmental management, our recycling partners also implement noise reduction concepts to minimize their impact on nearby residents and pursue rigorous measures to protect the soil and groundwater.

Further examples of partners for optimum resource conservation

Other examples of SEW-EURODRIVE partners include an iron foundry that has a silver eco-rating from EcoVadis and a Green-Machine mechanical engineering firm. The foundry smelts down 100% of the material waste associated with the cast housings it manufactures for us, using it in the production of new parts. Meanwhile, our mechanical engineering partner manufactures machines for us on a carbon-neutral basis, meaning that when they arrive at our company, they can be put to good energy-efficient and low-emission use.

Our administrative operations are also pursuing very promising approaches to resource-friendly sourcing by procuring hardware from an eco-friendly global closed-loop system and working with a partner for office supplies that is dedicated to sustainability. Our hardware procurement partner already utilizes recycled plastic in its product design, procures 50% of its materials from recycled sources, and refurbishes used PCs and laptops. Meanwhile, our office supplies partner is aiming to make closed-loop packaging available for all products by 2025 and achieve the ambitious target of a "zero-waste workplace" by 2026.

We also take the most sustainable approach possible when it comes to reusing discarded smartphones and cellphones, thanks to usage-oriented asset life cycle management.

34%

The proportion of recycled input materials used to produce our main products and services.



Green steel with 100% green electricity

Thanks to a new collaboration initiated with Georgsmarienhütte of the GMH Gruppe in 2023, SEW-EURODRIVE can now also give the green light for the procurement of green steel. This Green Power Steel is smelted with 100% green electricity.

Other advantages of Green Power Steel include its outstanding mechanical properties, its excellent fine-grain stability during case hardening, and cost benefits thanks to an optimized alloy concept. The steel is processed further in the Plant for Large Gear Units in Bruchsal.

The project is based on intensive and collaborative product development. Plans to expand the collaboration to continue the procurement of Green Power Steel are already in the pipeline.

100%

Green Power Steel is smelted with 100% green electricity.

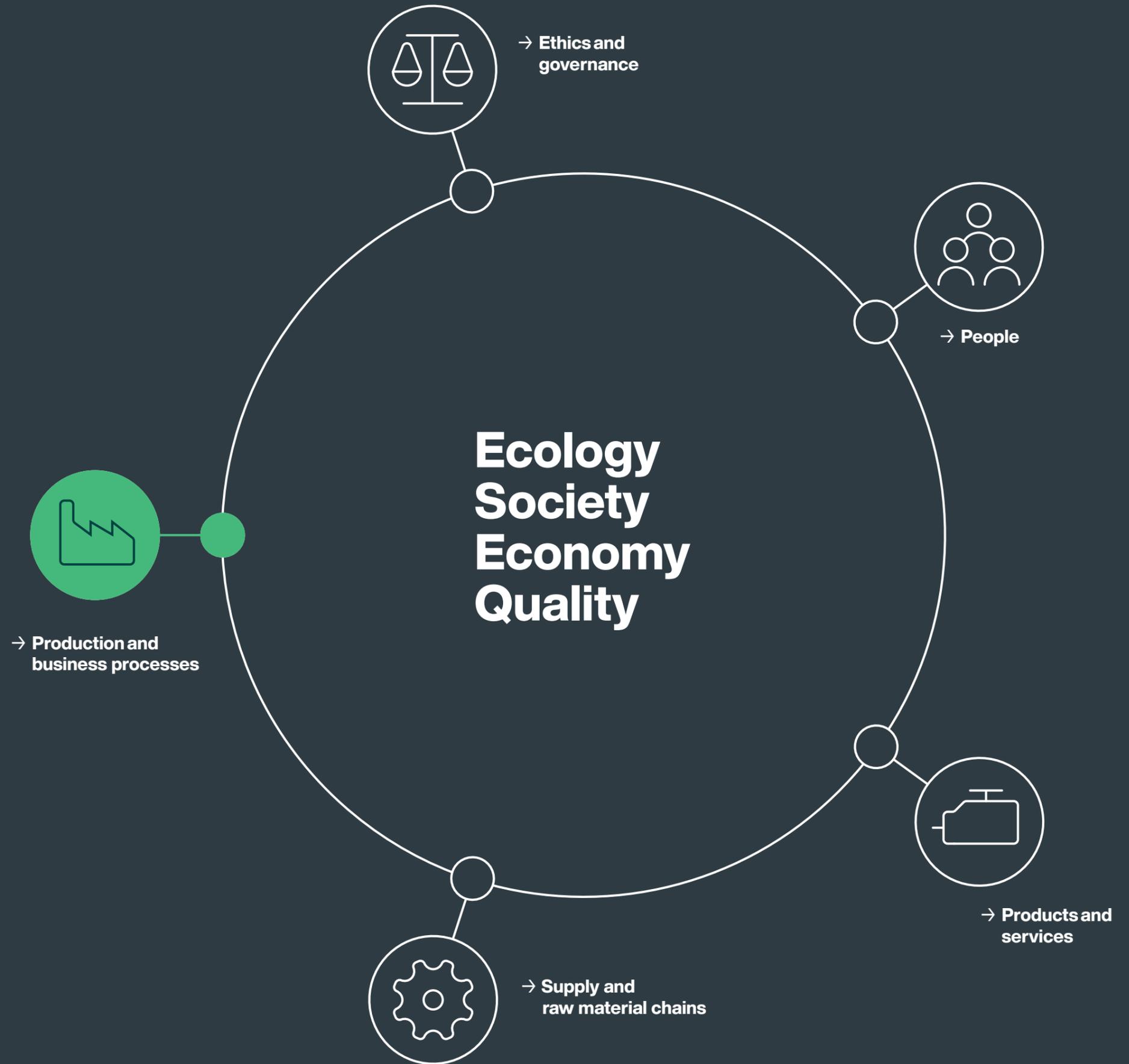
GRI 301-1

Total weight of materials used in Germany and France (production plants) in metric tons

	Germany	France
non-renewable	244 048	52 988
renewable	9010	1556

Production and business processes

- + Resource-friendly production
- + Buildings and infrastructure
- + Logistics and mobility
- + Waste management



Using intelligent energy management to make production and business processes more sustainable

Use less energy, conserve more resources. It sounds simple on the surface, but dig deeper and what emerges is a complex, multi-layered transition. We began this transition in our building management operations many years ago now, and have invested in various solutions. For example, when constructing and renovating our buildings, we factor in the very latest energy standards and install photovoltaic systems where possible. We have reduced our energy consumption by putting in place optimized lighting management and consistent switch-off management for machinery, plants, and IT outside of working hours. We also save energy with carefully conceived temperature management and by using waste heat for heating purposes. In addition, we conserve valuable resources by operating a closed loop for containers and implementing optimum packaging management.

The improvements achieved in these ways can also be measured. Detailed carbon accounting for Scopes 1 and 2 was rolled out in 2023 for the first 13 sites in Europe. Another challenge involved in this project is ensuring that the different measurement and recording methods used – and therefore the site-specific datasets – can be compared. To meet this challenge, we are creating a centralized methodology for calculating greenhouse gas emissions.



Resource-friendly production

Continuous improvement in both the finer details and the bigger picture

We aim to enhance our efficiency and added value across individual areas by ensuring our production and assembly processes are ideally coordinated, by enhancing these processes with supporting automation, and by adopting a smart approach to the digitalization of our business processes.

Our highly functional factory and office buildings, which are geared toward maximum efficiency, combine with sustainable energy concepts to play a particularly important part in helping conserve resources. We are continuously investing in the construction and renovation of our buildings to satisfy the latest energy standards, and this includes designing outdoor spaces to be sustainable and close to nature.

In terms of production operations themselves, we constantly strive to further improve workflows across all process chains and avoid waste and inefficiency. This includes, for example, optimized cooling lubricant management for extended service life and a general reduction in quantities of cooling lubricant. Other examples are using efficient heat pump technology to help dry paint that has been applied to drives at the service sites in Germany, optimized com-



Insect hotel at the Bruchsal site
↓

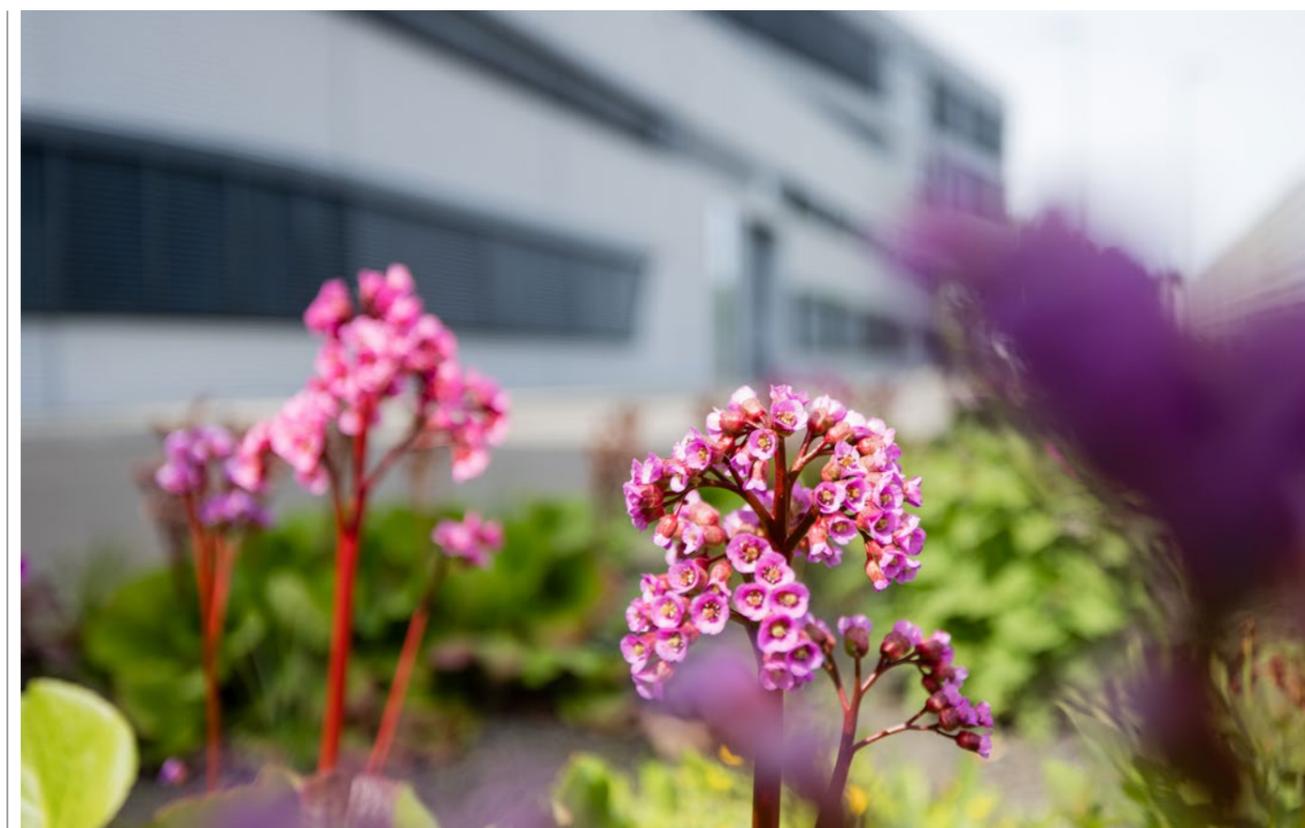
pressed air management, and the ongoing digitalization of our business processes to reduce the amount of paper being used.

What's more, some of the energy we generate and other resources can also be reused. Specific examples of this include heat recovery from production processes and the reclamation of metalworking oils.

One more, overarching activity is the ongoing expansion of our network of assembly, service, and sales sites, which is strengthening our local presence both across Germany and worldwide. This is the only way we can continue to gradually reduce transport and travel routes.

However, we are going much further than just looking at our production and delivery processes. For instance, we are also pursuing maximum carbon neutrality in the printing of documentation at our in-house print shop.

What's more, by consistently digitalizing our business processes, we are continuously reducing the amount of paper we use. Examples of this include digital quotation and order processing, digital invoicing, and the provision of digital product information and documentation (a detailed description of this project can be found in the "Products and services" section).



Examples of projects that are driving down energy consumption in our production processes



Switching to water-based paint



Exhaust gas treatment at paintshop following switch to water-based paint: energy savings, reduced use of solvents, standardization of paint, simpler system operation, and improved system versatility



Switch-off of exhaust gas treatment at the paintshop (Graben-Neudorf)



Current projects aimed at optimizing our ecological footprint



Energy and environmental management with continuous improvement measures



Detailed energy monitoring of buildings, machinery, and plants



Machine and system procurement geared toward maximum energy efficiency

Resource-friendly production

Improved energy efficiency in Graben-Neudorf and Bruchsal

Every gram of CO₂ emissions avoided helps the environment. That is why we have been running a range of energy-saving projects at our site in Graben-Neudorf for a number of years now.

Heat recovery on compressed air systems

The compressors in a compressed air system generate a lot of waste heat during operation. Instead of simply being dissipated, this waste heat is now fed into the existing heating network through a heat recovery system.

- + 206.3 metric tons less CO₂ compared to the previous year
- + Energy saving: 391 579 kWh
- + Investment: 25 000 euros

Switching over to dry filter elements for paint separation (drying)

Instead of using water for paint separation, we have switched to dry filter elements in order to save valuable resources.

- + 40.2 metric tons less CO₂ compared to the previous year
- + 600 m³ less water
- + 17.2 metric tons less paint sludge
- + Energy saving: 125 000 kWh
- + Investment: 41 415 euros

Peak load reduction with Power and Energy Solutions

We have used Power and Energy Solutions to improve energy management in our industrial drives and thus significantly reduce both load spikes and the amount of power being drawn.

For example, the braking energy generated by machinery and systems with a high level of dynamic acceleration can be temporarily stored and then used as required. All in all, this results in a more consistent energy flow and therefore a reduction in energy spikes.

206.3

metric tons less CO₂ thanks to heat recovery on compressed air systems

40.2

metric tons less CO₂ from switching to dry filter elements for paint separation

243

metric tons less CO₂ every weekend from reducing the base energy load at weekends in Graben-Neudorf

Energy-saving measures in Graben-Neudorf and Bruchsal

Saving energy has been a priority at SEW-EURODRIVE since well before the recent energy supply crisis. For example, we have been implementing measures to reduce our energy consumption on a sustainable basis for several years.

Reducing the base energy load in Graben-Neudorf at weekends

The machines and systems in the Graben-Neudorf Production Plant were analyzed to determine whether the base energy load could be reduced at weekends. Traffic signal layouts have been created for the production units, and the machines/systems are to be put into the color-coordinated statuses at the end of the shift. This approach saves 90 000 kWh of power between the hours of 2 p.m. on Saturday and 10 p.m. on Sunday.

- + 243 metric tons less CO₂ every weekend
- + Energy saving: 755 200 kWh

Energy-saving plan in inverter assembly in Bruchsal

At the end of their shift or at the weekend, staff at the Bruchsal Electronics Plant switched off the individual consumers. Three different switch-off categories were defined – "daily", "weekly", and "on instruction". These categories were color coded and displayed in a special table.

GRI 302-1

Energy consumption within the organization in MWh

	Germany	SEW USO-COME France	Italy	Mealhada Portugal	Vienna Austria	Greve Denmark	Rotterdam The Netherlands	Lodz Poland
From non-renewable sources	108 614	74 089	1972	473	1454	288	2628	2653
From renewable sources	51 874	2903	1113	188	434	388	132	75
Electricity consumption	85 108	48 333	1111	320	434	231	788	749

Cross-site carbon reporting

How do you compile a reliable, standardized carbon report that can be used as a basis for comparisons? While we established an initial basis for determining CO₂ emissions in our 2023 Sustainability Report, we have now used these figures to develop a strategy for calculating greenhouse gas emissions and the necessary data acquisition. As with many other processes aimed at getting companies on a sustainable footing, there are also globally established standards for calculating emissions. These are summarized in the internationally recognized Global Reporting Initiative (GRI).

When it comes to the carbon reporting for our key sites, we always refer to the GRI data points for energy, emissions, and waste. We also take into account the Corporate Sustainability Reporting Directive (CSRD or Directive (EU) 2022/2464) and the associated European Sustainability Reporting Standard (ESRS).

To ensure we have in place a futureproof process, we have also developed a standardized system that we aim to extend and improve with each reporting period. Through carbon accounting, we intend to enable standardized, end-to-end process performance and ensure various different aspects of our operations can be compared.

As a first step in driving forward our efforts to reduce Scope 1 and 2 CO₂ emissions, we aim to record all the greenhouse gas emissions of our relevant sites so we can derive reduction targets and draw up the necessary roadmap. The first step was to analyze our large European production plants and assembly sites (Drive Technology Centers, or DTCs). These include the production facilities in Graben-Neudorf and the Bruchsal Electronics Plant.

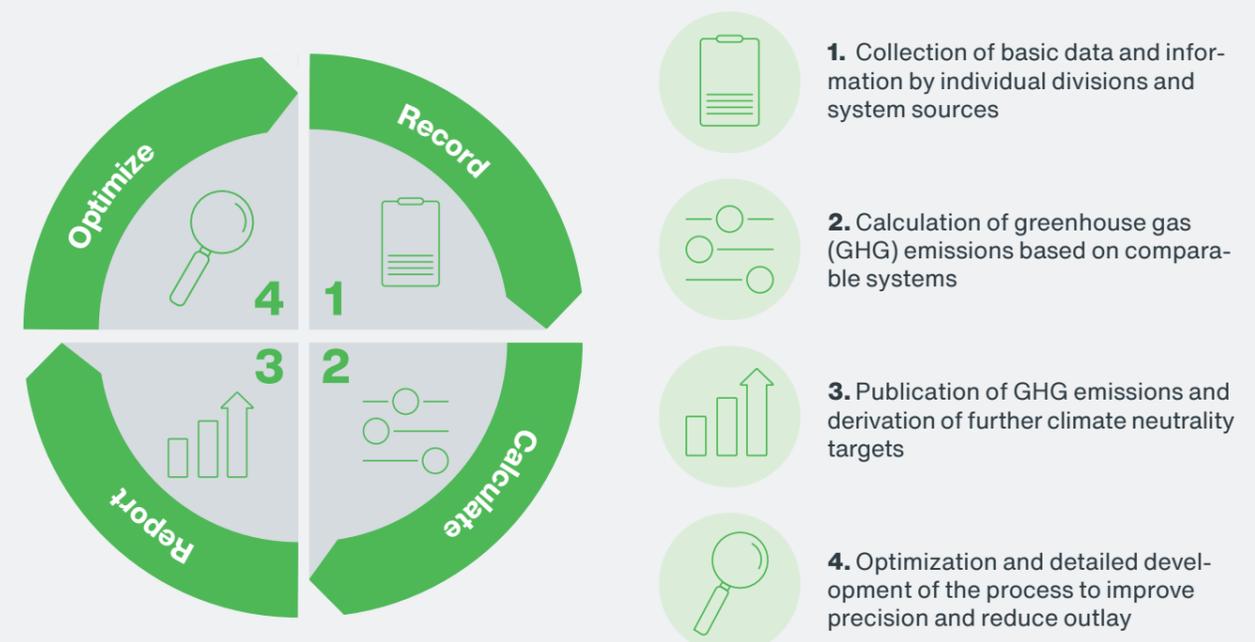
Our objectives for the end of 2024

- + Site-specific carbon accounting for the production plants of SEW-EURODRIVE
- + Site-specific carbon accounting for the assembly plants of SEW-EURODRIVE

Further objectives from 2025

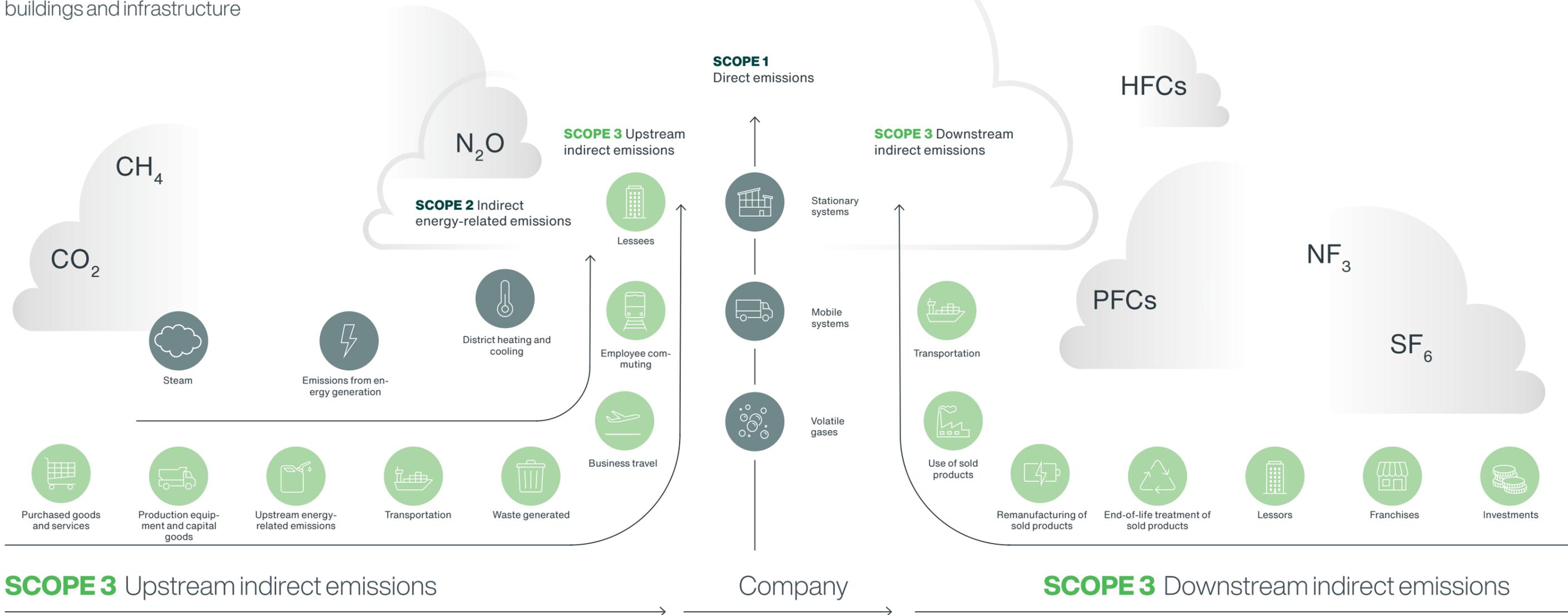
- + Extension of the data collection methodology to other European sites
- + Creation of greater transparency regarding the carbon footprint of further branches
- + Extension of our reporting to cover other scope categories

The SEW-EURODRIVE process for carbon reporting



Description and application of the Greenhouse Gas Protocol

Priority for action: production and business processes – buildings and infrastructure



The Greenhouse Gas Protocol

The Greenhouse Gas Protocol is the global standard for greenhouse gas emissions accounting. It specifies three different scopes:

- Scope 1: CO₂ output from direct climate gas emissions such as burning natural gas, heating oil, or diesel in stationary systems (e.g. heating) and mobile systems (e.g. vehicle fleet).
- Scope 2: Indirect emissions from purchased energy, such as electricity, district heating, and district cooling. The emissions are generated by the energy supplier.
- Scope 3: All other indirect emissions that do not fall under Scope 2, such as the extraction, processing, and transportation of raw materials, the fuel consumption of rented or leased vehicles, waste and wastewater, the use of sold products by customers, and the disposal of those products.

Scope 2 differentiates between market-based and location-based emissions. This recognizes the situation whereby organizations can take out contracts for CO₂-free green energy on the market, but CO₂ emissions can still be generated due to the location-based electricity mix in the local energy network.

In terms of the carbon footprint of SEW-EURO-DRIVE, the use phase of sold products, i.e. our customers' use of the products, is particularly relevant in Scope 3. This accounts for 99.3% of the CO₂ emissions associated with our products. Only 0.1% of our CO₂ emissions are generated in Scope 1 and 2 and therefore in our production operations.

Process for carbon accounting



Collection
The individual Eurodrives gather the necessary data

Management
This data is managed (amalgamated, archived, and validated) via a central infrastructure

Centralization
A centralized methodology is applied to calculate the greenhouse gas emissions and ensure results can be compared

Provision
Results are made available from HQ and used as the basis for optimizations

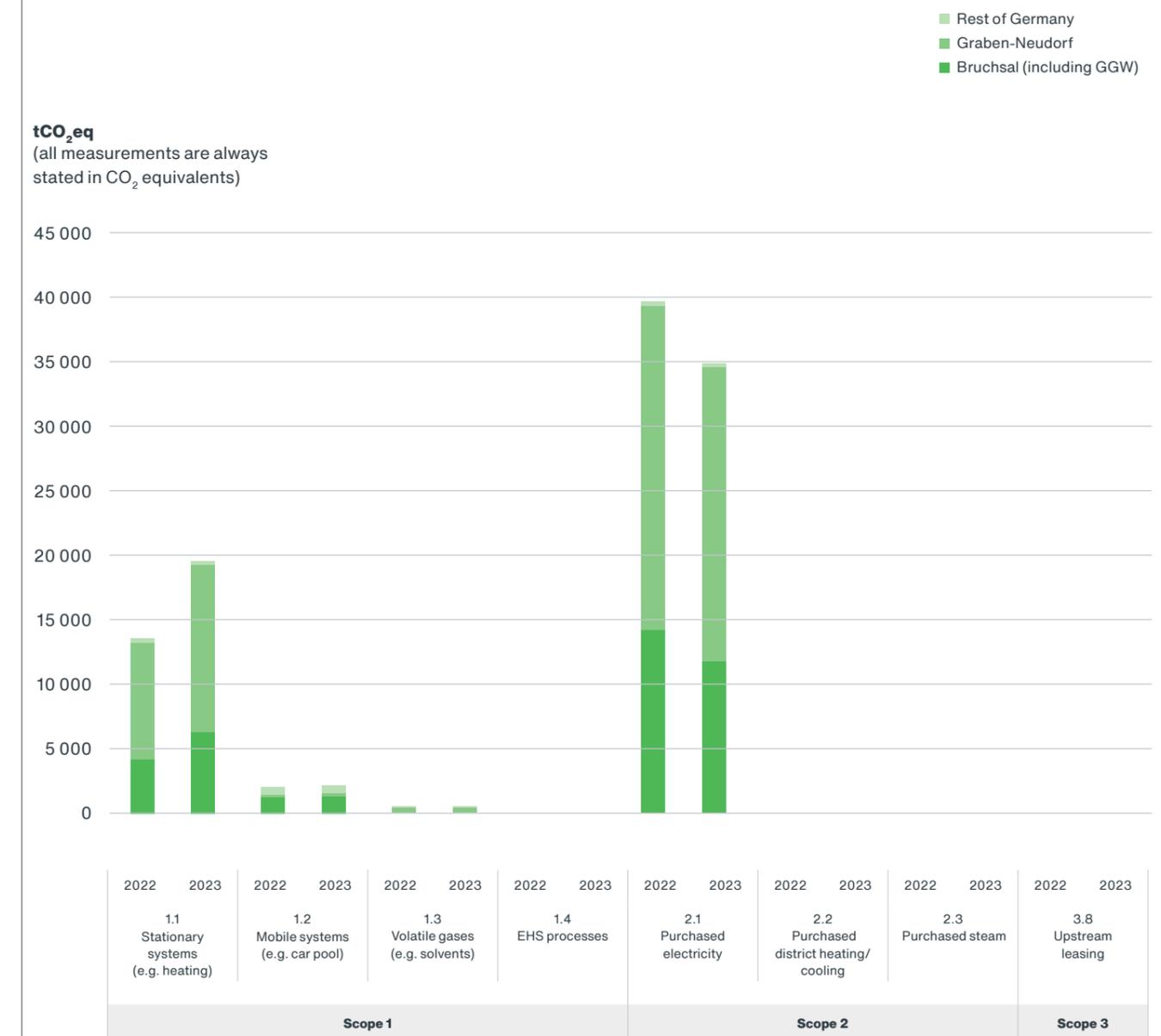
Overview of carbon accounting at sites in Germany

Overview of individual emissions categories

The following categories have been taken into account in carbon accounting:

- 1.1 Stationary systems** such as a central heating system that serves the site.
- 1.2 Mobile systems** The emitters in this category are mobile systems such as the company's own vehicles.
- 1.3 Volatile gases** These are primarily refrigerant and solvent emissions.
- 1.4 Emissions trading processes** No processes have been recorded that fall under an emissions trading scheme.
- 2.1 Purchased electricity** The location-based approach is taken when determining emissions.
- 2.2 Purchased district heating/cooling** The business activities of SEW-EURODRIVE do not cause any emissions in this context.
- 2.3 Purchased steam** The business activities of SEW-EURODRIVE do not cause any emissions in this context.
- 3.8 Upstream leasing** All vehicles in the fleet are owned by SEW-EURODRIVE.

tCO ₂ eq	Bruchsal (including GGW)	Graben-Neudorf	Rest of Germany	Germany overall
Scope 1				
1.1 Stationary systems (e.g. heating)				
2022	4244.95	8989.06	322.12	13 556.13
2023	6436.05	12 835.94	349.39	19 621.38
1.2 Mobile systems (e.g. vehicle fleet)				
2022	1326.87	210.14	623.27	2160.28
2023	1379.78	211.56	662.59	2253.93
1.3 Volatile gases (e.g. solvents)				
2022	38.02	458.70	7.78	504.50
2023	54.41	456.29	7.74	518.44
1.4 EHS processes				
2022	0.00	0.00	0.00	
2023	0.00	0.00	0.00	
Total	13 480.08	23 161.69	1972.89	38 614.66
Scope 2				
2.1 Purchased electricity				
2022	14 203.51	25 095.36	339.62	39 638.49
2023	11 837.71	22 763.48	324.54	34 925.73
2.2 Purchased district heating/cooling				
2022	0.00	0.00	0.00	
2023	0.00	0.00	0.00	
2.3 Purchased steam				
2022	0.00	0.00	0.00	
2023	0.00	0.00	0.00	
Total	26 041.22	47 858.84	664.16	74 564.22
Scope 3				
3.8 Upstream leasing				
2022	0.00	0.00	0.00	
2023	0.00	0.00	0.00	

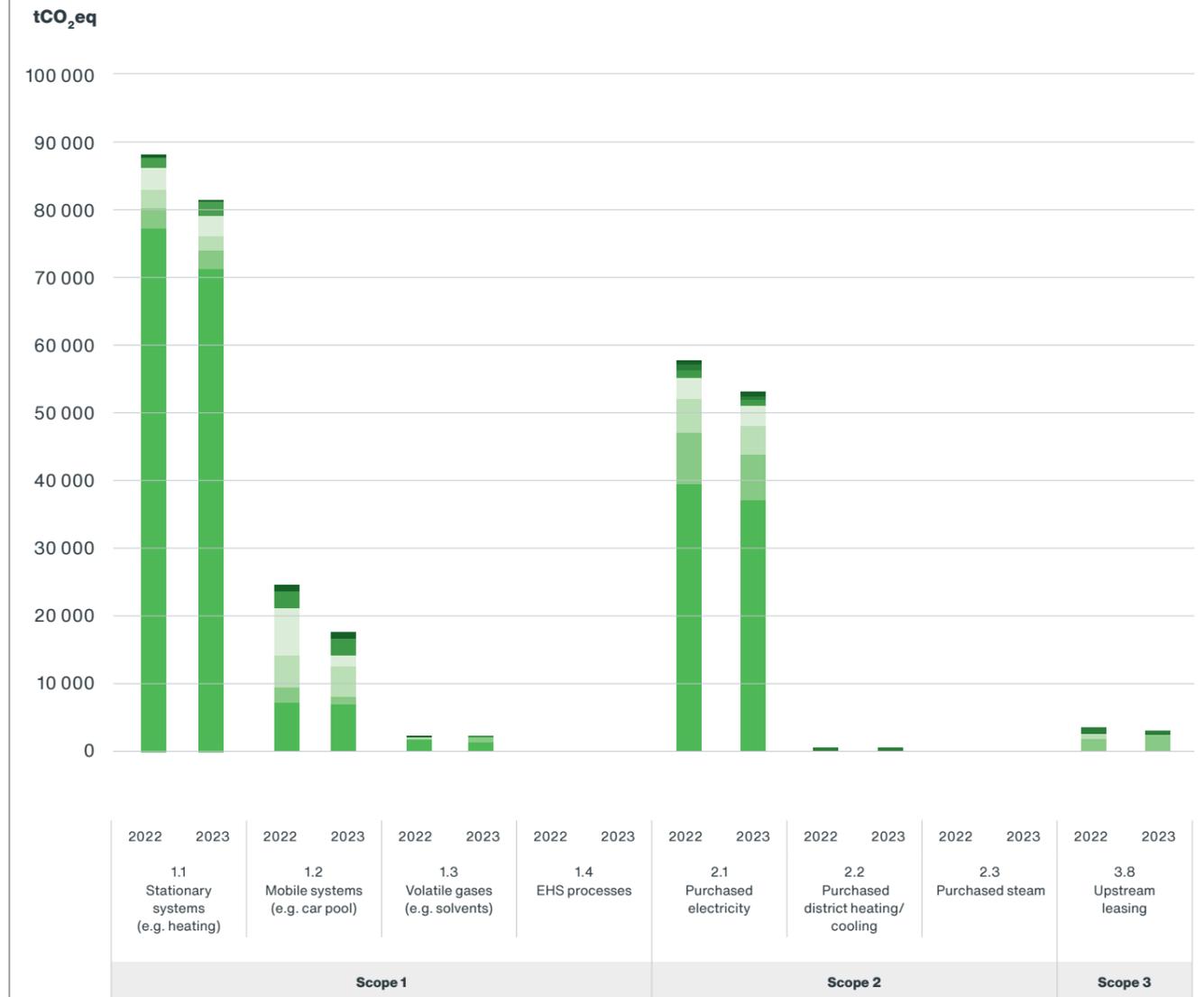


This year's carbon accounting factors in only Scope 1 and 2 emissions, particularly because they represent a key area of activity in order to meet the reduction targets set for 2026 (under both scopes). To prevent greenwashing, the Scope 3 emissions associated with rented and leased vehicles are also taken into account. Work is currently underway on a standardized strategy for incorporating further Scope 3 categories into carbon accounting.

Overview of carbon accounting at sites in Europe

Overview of individual emissions categories

tCO ₂ eq	SEW USOCOME, France	DTC Lodz, Poland	DTC Solaro, Italy	DTC Rotterdam, the Netherlands	DTC Vienna, Austria	DTC Greve, Denmark	DTC Mealhada, Portugal
Scope 1							
1.1 Stationary systems (e.g. heating)							
2022	7742.50	305.86	264.05	333.39	145.13	0.00	28.15
2023	7135.37	289.20	191.59	316.18	203.20	0.00	29.69
1.2 Mobile systems (e.g. vehicle fleet)							
2022	721.54	231.56	479.21	678.28	266.68	0.00	94.40
2023	698.72	109.81	458.13	155.03	264.78	0.00	84.33
1.3 Volatile gases (e.g. solvents)							
2022	179.52	12.67	21.92	0.77	0.44	0.00	0.13
2023	146.80	61.26	0.00	0.83	3.85	0.00	0.00
1.4 EHS processes							
2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scope 2							
2.1 Purchased electricity							
2022	3964.05	766.14	485.43	325.83	115.76	52.86	77.02
2023	3726.91	677.54	405.29	296.76	95.05	48.80	62.36
2.2 Purchased district heating/cooling							
2022	0.00	0.00	0.00	4.60	0.00	54.08	0.00
2023	0.00	0.00	0.00	0.00	0.00	52.50	0.00
2.3 Purchased steam							
2022	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scope 3							
3.8 Upstream leasing							
2022	0.00	195.77	57.91	0.00	0.00	99.03	0.00
2023	0.00	228.91	0.00	0.00	0.00	75.64	0.00



This year's carbon accounting factors in only Scope 1 and 2 emissions, particularly because they represent a key area of activity when it comes to driving forward our efforts to achieve significant CO₂ reductions (under both scopes). To prevent greenwashing, the Scope 3 emissions associated with rented and leased vehicles are also taken into account. Work is currently underway on a standardized strategy for incorporating further Scope 3 categories into carbon accounting.

Buildings and infrastructure

Sustainable energy from photovoltaics and combined heat and power plants

Green roofs, photovoltaics, combined heat and power plants, and much more: To maximize the carbon-free performance of our building management operations, we design all our buildings to be as functional, energy-efficient, and sustainable as possible.

Green roof areas

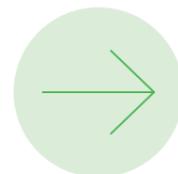
Extensive areas of green roofs on our buildings provide a valuable habitat for plants and insects. The roofs are planted with various types of sedum that require little or no upkeep or artificial watering. Additional benefits include reduced rain runoff thanks to the natural capacity of the green roofs to store water and effective protection for roof seals.

Overview of our areas of extensive roof greening

- + SEW-EURODRIVE "Morgentau" children's daycare center, Bruchsal: 1390 m²
- + Energy center, Bruchsal: 2180 m²
- + Plant for Large Gear Units, Bruchsal: 680 m²
- + Electronics manufacturing, Bruchsal: 410 m²
- + Fire station, Bruchsal: 2590 m²
- + Customer center, Graben-Neudorf: 155 m²
- + Parking garage, Graben-Neudorf: 140 m²
- + Pumping station, Graben-Neudorf: 75 m²

Areas planned for extensive roof greening

- + Extension to Plant for Large Gear Units, Bruchsal: 705 m²
- + TestCenter, Bruchsal: 3810 m²
- + Parts Production North Hall, Graben-Neudorf: 2155 m²
- + Training center, Graben-Neudorf: 1590 m²
- + Caba Blind, Kehl: 400 m²
- + DTC West, Haan: 4655 m²
- + DC, Ulm: 510 m²



Pumping station
Graben-Neudorf

Using surface water and rainwater

Our aim is to return as much precipitation water as possible to the natural water cycle via pumping plants and infiltration pits and to utilize rainwater for irrigation by storing it in reservoirs.

For example, we use a roof area measuring 5760 m² at the Plant for Large Gear Units in Bruchsal to collect rainwater in a reservoir with a capacity of 180 m³. This gives us a supply of 1.5 million liters of drinking water a year.

Other examples of environmentally friendly rainwater usage can be found at Motor Production, South Workshop and Parts Production, North Workshop at the Graben-Neudorf site, the parking garage in Bruchsal (approx. 265 l/s), and the "Morgentau" children's daycare center in Bruchsal (approx. 22 l/s). Precipitation water that falls here is returned to the natural water cycle via infiltration pits and/or a pumping plant.



Wildflower meadows in Bruchsal and Graben-Neudorf

We have created two large biotopes by planting wildflower meadows based on the Bruchsaler Pflanzenliste, a list of beneficial plants for the local area. The biotopes cover 3940 m² (Bruchsal) and 2380 m² (Graben-Neudorf).

They provide a valuable habitat for many plant and animal species, such as wild bees, bumblebees, butterflies, beetles, and various species of bird. The soil also helps to store carbon and the meadows do not need to be irrigated.



On-site energy generation Graben-Neudorf

In a gradual process designed to make our energy generation as environmentally friendly as possible, we aim to commission more combined heat and power (CHP) plants and absorption refrigeration units at our sites and switch to district heating.

The power supply at our Graben-Neudorf site is already running on natural gas, which is more environmentally friendly than other fossil fuels. Gas is also used to generate heat there and, from the end of 2024, three CHP plants with an electrical output of approx. 2300 kW and a thermal output of approx. 2200 kW per CHP plant will also be in operation. CO₂ savings amount to 1500 metric tons per year.

Overall, we aim to increase the proportion of our overall energy consumption that we meet using in-house generation from 1.9% in 2021 to 29.4% in 2024. In achieving this increase, we will also be able to feed more than 305 000 kWh back into the public grid.



1500

CO₂ savings in Graben-Neudorf amount to 1500 metric tons yearly.

32.1%

Increase in power generated in-house at Bruchsal (not including GGW)

Graben-Neudorf CHP plant

On-site energy generation at the Bruchsal site

The power supply at the Bruchsal site also runs on gas. Heat is generated by a gas burner and CHP plants. There is also a thermal solar plant in the GGW for generating hot water.

The combined heat and power plant in the infrastructure headquarters of the Plant for Large Gear Units in Bruchsal was commissioned in 2009. It provides an electrical power output of approx. 201 kW and a thermal output of around 303 kW. CO₂ savings amount to 485 metric tons per year. We use the waste heat from this CHP plant to run an absorption refrigeration unit for the infrastructure headquarters. This unit was commissioned in 2022 and helps us save 650 metric tons of CO₂ yearly compared to using conventional compression refrigeration units.

The CHP plant at the SEW-EURODRIVE "Morgentau" children's daycare center in Bruchsal has been in operation since 2015, providing an electrical output of approx. 6 kW and a thermal output of around 13.5 kW. CO₂ savings amount to 5 metric tons per year.



In the energy center, two further CHP plants commissioned in 2022 provide an electrical output of approx. 720 kW each and a thermal output of around 800 kW each. This saves approximately 530 metric tons of CO₂ emissions per year.

At our Plant for Large Gear Units (GGW), we have increased the share of power generated in-house from 8.72% in 2021 to 10.78% in 2024. If the GGW is removed from the figures, this increase is even more significant, rising from 7% in 2021 to 32.1% in 2024. This also impacts the volume of energy recovery, which has risen considerably from 26 399 kWh in 2021 to just under 120 000 kWh.

Buildings and infrastructure

Photovoltaics, solar thermal energy, and waste heat

By installing photovoltaic (PV) systems and solar thermal systems, we are not only helping to save the environment, we are also easing the strain on power supplies across the whole of Germany at a time of crisis by generating our own electricity.

PV system at Motor Production, South Workshop in Graben-Neudorf

- + 370.3 metric tons less CO₂ yearly
- + In use since: October 2020
- + Area: 5000 m²
- + System size: 614.8 kWp
- + Yield per year: approx. 606 982 kWh (approx. 184 households)

PV system, parking garage, Graben-Neudorf

- + Approx. 276.4 metric tons less CO₂ yearly
- + In use since: June 2017
- + Area: 4900 m²
- + System size: 505.2 kWp
- + Yield per year: approx. 473 363 kWh (approx. 143 households)

PV system, training center, Graben-Neudorf (under construction)

- + Approx. 79 metric tons less CO₂ yearly
- + In use since: 2025
- + Area: 1040 m²
- + System size: 130 kWp
- + Yield per year: approx. 117 000 kWh (approx. 35 households)

PV system, Graben-Neudorf / Parts Production North Hall

- + Approx. 1550 metric tons less CO₂ yearly
- + In use since: 2023
- + Area: 20 000 m²
- + System size: approx. 2.5 MWp
- + Yield per year: approx. 2 250 000 kWh (approx. 680 households)

PV system, parking garage, Bruchsal

- + Approx. 334.4 metric tons less CO₂ yearly
- + In use since: July 2014
- + Area: 5000 m²
- + System size: 625.3 kWp
- + Yield per year: approx.

566 808 kWh (approx. 172 households per year)

PV system, Plant for Large Gear Units, Bruchsal

- + Approx. 101.5 metric tons less CO₂ yearly
- + In use since: May 2009
- + Area: 1360 m²
- + System size: 154.8 kWp
- + Yield per year: approx. 145 000 kWh (approx. 44 households)

Expansion of PV system Plant for Large Gear Units, Bruchsal (under construction)

- + Approx. 428 metric tons less CO₂ yearly
- + In use since: 2024
- + Area: 4250 m²
- + System size: 545 kWp
- + Yield per year: approx. 490 000 kWh (approx. 148 households)
- + CO₂ emissions saving: Approx. 326 metric tons/year

Solar thermal system, Plant for Large Gear Units, Bruchsal

- + Approx. 5 metric tons less CO₂ yearly
- + In use since: May 2009
- + Area: 37 m²
- + Buffer capacity: approx. 3000 liters
- + Water heating capacity for wash-rooms and shower rooms: approx. 1250 liters

PV system, SEW-EURODRIVE children's daycare center "Morgentau", Bruchsal

- + Approx. 2 metric tons less CO₂ yearly
- + In use since: June 2015
- + System size: 3.72 kWp
- + Yield per year: approx. 3700 kWh

PV system, Electronics Production, Bruchsal

- + Approx. 433 metric tons less CO₂ yearly
- + In use since: October 2017
- + Area: 5800 m²
- + System size: 723.84 kWp
- + Yield per year: approx. 651 600 kWh (197 households)

PV system, Spitzhalle, Bruchsal

- + Approx. 23 metric tons less CO₂ yearly
- + Area: 320 m²
- + System size: 40 kWp
- + Yield per year: approx. 40 000 kWh (approx. 12 households)
- + Direct feed into the public grid

PV system, fire station, Bruchsal

- + Approx. 61 metric tons less CO₂ yearly
- + Area: 800 m²
- + System size: 99 kWp

- + Yield per year: approx. 90 000 kWh (approx. 27 households)
- + System belonging to Bruchsal city

PV system, energy center, Bruchsal

- + Approx. 116 metric tons less CO₂ yearly
- + In use since: 2022
- + Area: 1520 m²
- + System size: 190 kWp
- + Yield per year: approx. 171 000 kWh (approx. 52 households)

PV system, E.B.I.C. Bruchsal

- + Approx. 76 metric tons less CO₂ yearly
- + In use since: 2024
- + Area: 1000 m²
- + System size: 125 kWp
- + Yield per year: approx. 112 500 kWh (approx. 34 households)
- + Direct feed into the public grid

PV system, test center, Bruchsal (under construction)

- + Approx. 458 metric tons less CO₂ yearly
- + In use since: 2025 / 2028 (in two construction phases)
- + Area: 6000 m²
- + System size: 750 kWp
- + Yield per year: approx. 675 000 kWh (approx. 205 households)

PV system, Caba Blind, Kehl:

- + Approx. 312 metric tons less CO₂ yearly
- + In use since 2023
- + Area: 4000 m²
- + System size: 511 kWp
- + Yield per year: approx. 460 000 kWh (approx. 139 households)

PV system, DC, Ulm (under construction)

- + Approx. 79 metric tons less CO₂ yearly
- + In use since 2024
- + Area: 1000 m²
- + System size: 130 kWp
- + Yield per year: approx. 117 000 kWh (approx. 35 households)
- + CO₂ emissions saving: Approx. 29 metric tons/year

Use of waste heat from the Plant for Large Gear Units in Bruchsal

- + Use of waste heat from the hardening shop and compressed air generation
- + Startup: September 2009
- + CO₂ emissions saving: approx. 790 metric tons/year

Lower energy consumption thanks to consistent switch-off management

Geopolitical uncertainties over recent years have increased general awareness that we need to be more careful and economical in our use of available energy resources. Increased electricity and gas prices have also played a part in this. That is why SEW-EURODRIVE has set out to further minimize energy consumption at our production facilities and sites. One method involves using a carefully conceived switch-off plan that ensures lights in parking garages and outdoor facilities are switched off after the end of the working day, at night, and at the weekends.

We have introduced a color-coded points system to ensure this switch-off plan can be implemented as easily and effectively as possible. Systems and devices that are coded blue, such as monitors, soldering irons, and hot-glue guns, must be switched off daily. Yellow-coded devices such as testing machines, which need to heat up before they can be used, are switched off weekly. Red-coded devices can only be switched off when an instruction is issued to do so; otherwise there is a risk of production downtime.

Detailed workshop plans have also been drawn up to provide a better overview.



There are three different switch-off classes

Daily

Devices that start up without any problems and/or which pose a hazard (e.g. monitors, soldering irons, hot-glue guns)

Weekly

Devices that need to heat up before being used

On instruction

Devices associated with a risk of production downtime

There are many other measures through which we aim to optimize the power consumption at our plants and sites:

- + Lowering the heating to 18 °C in production workshops and 20 °C in office buildings
- + Switching off ventilation systems in production workshops and office buildings at the weekends
- + Reducing cooling output by gradually adjusting the temperatures in data centers and equipment rooms
- + Reducing and switching off external lighting and illuminated logos at the weekend
- + Switching off corridor lighting at times of day when there is sufficient daylight
- + Reducing the quantity of small devices / electrical consumers in use

Yearly savings in the individual plants:

Plant 01 (headquarters, WBE, WBP)

- 29 588 kWh/a from switching off machinery and systems
- 143 803 kWh/a from adjusted control temperatures
- 238 346 kWh/a from optimized lighting
- 21 934 kWh/a from optimized ventilation

Plant 15 (GGW)

- 12 572 kWh/a from adjusted control temperatures
- 18 444 kWh/a from optimized lighting

Plant 03 (WGF, WGL, WGM)

- 4160 kWh/a from switching off machinery and systems
- 14 563 kWh/a from adjusted control temperatures
- 8520 kWh/a from optimized lighting

Logistics and mobility

Energy-efficient logistics and mobility

For a global company such as SEW-EURODRIVE to achieve a comprehensive overview of its carbon footprint, it is crucial to factor in logistics and mobility. We have introduced a whole range of separate measures in order to take our first steps in doing so.

Sustainable travel guidelines

We aim to shift the focus of our previous travel guidelines by creating a concept to maximize the sustainability of business travel. Instead of focusing on cost-effectiveness, we want to establish a new focal point in the form of "sustainable travel on principle". We intend to encourage acceptance among travelers by presenting a set of "dos" rather than "don'ts". This acceptance will also be continuously tracked and assessed.

The first step in this approach is to provide practical recommendations in order to raise awareness among staff on a short to medium-term basis. We want to develop and implement individual measures that are specific to each division, taking an approach that is as focused and customized as possible. We aim to define key figures for "sustainable mobility" to ensure performance can be measured. In the long term, we are planning an overall concept for green staff mobility. A budget is to be created for this purpose and a green-mobility guideline is to be established. Guidance is also to be drawn up for business travelers and managers.

Virtual alternatives to business travel

A key element of this overall concept is to assess the added value that a business trip offers in comparison to virtual alternatives. The ratio of meeting time to travel time plays a critical role in this, particularly when it comes to travel from one SEW-EURODRIVE site to another. Checks will also be carried out to determine whether the number of participants from any one department should be limited.

The logical consequence of this is that business trips should be made possible where the added value they offer outweighs the associated environmental and economic costs. In the future, if a business trip is to take place, more effort should be made to combine appointments. The location of a meeting should also be chosen with even more regard for the distances participants will need to travel. These two considerations will help make mobility as efficient and environmentally friendly as possible.



Examples of train journeys

Traveling by train on routes within Germany can achieve considerable CO₂ savings compared to other forms of mobility such as taking a car or flying. For example, an analysis conducted through the bahn.business program in 2023 revealed that SEW-EURODRIVE staff traveled 578 001 km by rail with Deutsche Bahn on short-distance and long-distance routes. Thanks to compensatory measures for diesel locomotives on short-distance routes, the net CO₂ output for this travel is zero. Had these journeys been made by car, they would have generated 126 062 kg of CO₂ emissions. The comparison is even more clear-cut on specific routes:

- + Compared to taking the car, we saved 5855 kg of CO₂ on 78 trips to Munich in 2023
- + We avoided 5342 kg (private car) of CO₂ emissions on 46 trips to Hanover
- + We saved 4937 kg (private car) of CO₂ on 42 journeys between Hanover and Karlsruhe

Sources: DB Fernverkehr, DB Umwelt, atmosfair, TREMOD

Electrification of our vehicle fleet

Of the 550 vehicles we have that are registered in Germany, 65 are currently fully electric. Consequently, they account for well over 10% of our total vehicle fleet. The average overall distance traveled by the electric vehicles is 40 000 km per year. The electrification of our vehicle fleet is a top priority and will increase sharply.

140 charging points for electric vehicles

Since March 2020, there have been 140 charging points where staff can charge their electric vehicles. The associated project was subsidized by the German state of Baden-Württemberg.

JobRad for convenient bicycle leasing

By providing JobRad bicycles, we are giving our staff a convenient leasing option for bicycles and electric bikes. In 2023, we were declared a Top JobRad Employer.



Internal logistics

Establishing sustainable container management

When an international drive technology supplier such as SEW-EURODRIVE wants to minimize its carbon footprint, it is only logical that it should scrutinize its logistics chain. That includes putting in place the most sustainable and therefore most environmentally friendly management system for transportation and load handling possible.

A key step in this process is establishing sustainable closed loops for containers, both within internal production sequences and in external dealings with customers and suppliers. The following are key areas of focus:

- + Reducing loss and depletion
- + Using multiple-compartment containers
- + Repairing containers instead of replacing them with new ones

As part of this strategy, we want to do even more to avoid the environmentally harmful practice of sending out trucks empty. For instance, cross-site transparency can be achieved for resource-friendly container management by circulating cargo containers that incorporate accurate tracking technology and gradually expanding this system to include various SEW-EURODRIVE sites. In the future, there will be digital systems for capturing all the data generated during this process. AI solutions can then leverage this data to ensure deliveries are focused as efficiently as possible and carried out on as environmentally friendly a basis as possible.

We also use reusable shuttle crates in electronics production at our Bruchsal site instead of individual packaging for internal deliveries.

External logistics

We intend to continue reducing transportation and route distances by continuously expanding our local presence around Germany and the world, adding further assembly, service, and sales sites to our global network.

Waste management

The waste material to be taken into account is generated during the manufacture of products, the disposal of packaging, and the disposal of the products themselves at the end of their life cycle. The majority of this waste comprises metallic materials that are fed back into the material loop via pre-existing recycling processes.

However, new requirements are to be introduced for manufacturing companies in the future, in the form of regulations for waste management and the recyclability of products.

Processes are established at the various sites – particularly production facilities – to manage waste volumes, applicable statutory regulations, waste-reduction measures, and the circular economy.

Sites are independently responsible for handing over waste to waste disposal companies.

Waste and packaging management – less waste, more care for the environment

The best way to look after resources is always to avoid waste in the first place. To achieve this aim, we have rolled out a range of appropriate measures in our production operations.

Examples of measures designed to reduce waste and packaging materials

At the Graben-Neudorf plant, we are avoiding waste and inefficiency through a continuous improvement process that covers all process chains. This includes reusing packaging materials. For example, we use reusable packaging consistently in the internal material loop and thus avoid 4.5 metric tons of special waste every year. We have also been able to save 11.9 metric tons of cardboard and 1046 liters of anti-corrosion agents.

Furthermore, thanks to a focused waste concept, waste from the South Workshop in Graben-Neudorf can be transported by MLA to the waste hall and transferred automatically to a waste container.

GRI 306-3

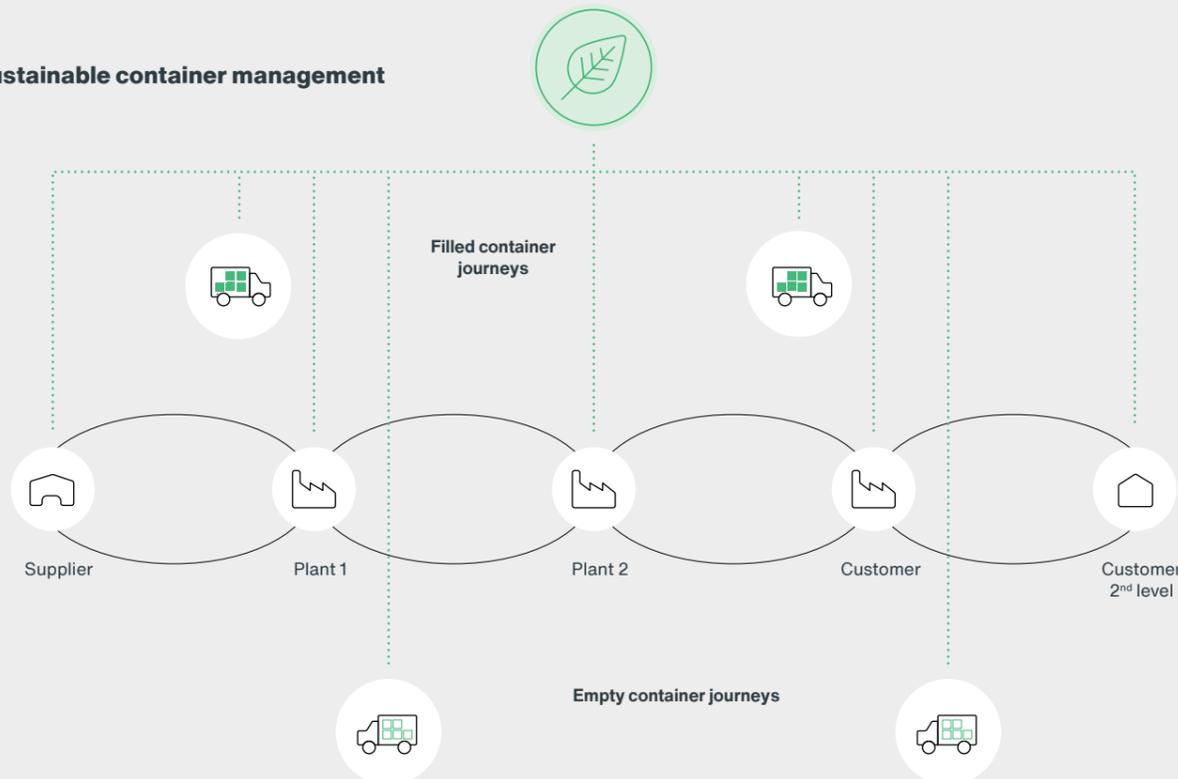
Waste generated in Germany, in metric tons

	Graben-Neudorf	Bruchsal	GGW	Total Germany
Non-hazardous waste	933	818	514	2265
Hazardous waste	1250	444	1748	3442
Scrap metal	17 063	292	4295	21 650
Total				27 357

Material supply in shuttle crate without individual packaging



Sustainable container management



Sustainability as a global language

"We have to be where our customers are." As the son-in-law of the founder of Süddeutsche Elektromotoren-Werke (SEW), Ernst Blickle could never have imagined just how much he would be proved right in this vision several decades later. In 1971, he ultimately renamed the company SEW-EURODRIVE, showing again just how far-sighted he was.



Setting the benchmark internationally

As a global Group, being close to our customers is perfectly normal for us these days. We are represented in 56 countries on five continents.

That is why it is important to us to ensure our growth is as environmentally compatible and resource-friendly as possible for everyone involved. We believe this also means viewing our commitment to sustainable transformation in an international context. Each country organizes and implements its initiatives independently, and many Eurodrives have already assessed their comprehensive measures in their own reports.

This section therefore takes a brief look beyond Germany to pick out a few highlights from other European countries.

Portugal

Installation of more cost-effective and simpler HVAC units at the DTC

Initial situation:

The previous system was prone to faults and high consumption levels (due to the outdated technology of the system itself). Several units did not work. These technical problems led to unnecessarily high energy consumption without significantly improving comfort levels indoors.

Implementation:

- + All indoor units designed to be totally environmentally friendly
- + Integrated technology for adjusting refrigerant temperature: To enhance efficiency and comfort, the system automatically adapts to the building's air-conditioning requirements.

Main advantages:

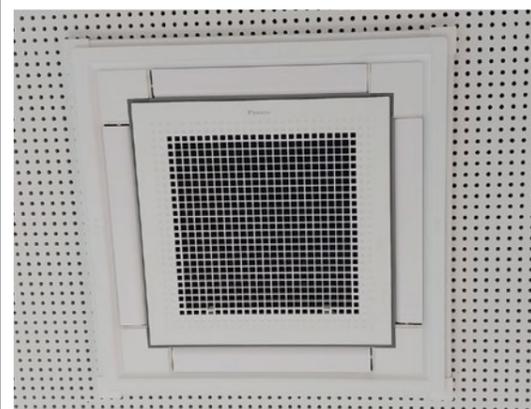
- + Self-cleaning panel saves up to 50% on energy due to daily filter cleaning
- + Presence detector saves up to 27% on energy by adapting the target value or switching the unit off if nobody is in the room

50%

The self-cleaning panel saves up to 50% on energy due to daily filter cleaning.

27%

Presence detector saves up to 27% on energy by adapting the target value or switching the unit off if nobody is in the room.



Italy

Sustainable mobility

In a social context that is continuously evolving, mobility is becoming a key aspect of efforts to tackle environmental problems and improve quality of life. Italy, for example, has adopted the "Home-Work Mobility Plan" (Piano Spostamenti Casa Lavoro, or PSCL), which entered into force as Ministerial Decree No. 179 on May 12, 2021. Companies with branches that have more than 100 employees are required to implement the PSCL.

SEW Italia has introduced various solutions to reduce commuting journeys. Key measures include the purchase of two electric shuttle cars and the authorization of smart working for up to three days per week. Particularly noteworthy initiatives include the promotion of online meetings and the minimization of travel, efforts to encourage the use of public transport for longer journeys, and the provision of a laundry service that picks up and drops off clothing twice per week.

Shuttle cars and the carpooling competition

SEW Italia has made two fully electric shuttle cars available for daily staff carpooling groups. Which groups get to use the cars is determined by an in-house competition that is designed as a fun team initiative to raise awareness and get colleagues involved.

The company's fleet

To reduce greenhouse gas emissions from the company's fleet, staff who own a company car are being advised to opt for electric and hybrid drives. The new policy makes a fully electric car a requirement for everyone who drives less than 25 000 km per year and is based in business premises equipped with electric charging stations that run on 100% renewable energy.



SEW Italia has made two fully electric shuttle cars available for daily staff carpooling groups.



France

Installing cooling plants that are more efficient

The aluminum injection presses in the foundry utilize a water-based cooling system. The water in this system needs to be cooled in a closed circuit, and until recently a water spray cooling tower was used for this purpose.

However, there were several disadvantages to this approach:

- The danger that Legionella could form posed a health risk to neighboring communities and the operators themselves. Production downtimes were also a possibility.
- Significant quantities of chemicals needed to be used to minimize the risk of Legionella forming.
- Considerable volumes of water were used

As a result, the water spray cooling tower was replaced in 2023 with a cooling system that utilizes fans and compressors. Not only has this eliminated the risk of Legionella formation, it has also enabled yearly water savings of up to 5000 m³.



Our SEW USOCOME plant in Forbach, France



An aluminum injection press with a cooling water circuit

Left: The installed dry air cooling system

Dismantling the water spray cooling tower

The Netherlands

Making fitness part of the daily routine

As far as possible, movement should be part and parcel of daily working life. That is why the SEW-EURODRIVE site in the Netherlands has installed two fitness studios for staff – one for cardiovascular training and the other for strength training. The in-house fitness studios are always open, and all staff are invited to use them before, during, and after their working hours. To ensure staff are properly looked after, three colleagues have been specially certified to assist users with their fitness routines. The equipment in the studios is inspected and serviced every year to guarantee safety, and is also checked on a more general basis at regular intervals, with equipment that is considered to be outdated being replaced.

Various group activities are also run. Current offerings are Krav Maga, yoga, and general fitness training. Groups of employees have also taken part in the 2023 Rotterdam Marathon, a boxing clinic, and power walking.



The cardio fitness studio

The strength training studio

Austria

Wide-ranging health management

The SEW-EURODRIVE branch in Austria has a wide range of offerings designed to help its employees stay healthy.

For example, staff are offered free on-site immunization against flu and TBE. Employees can also have their diet reviewed each year by a dietician who will provide dietary advice if re-

The Vienna site



quested to do so. When it comes to mental health, staff can seek advice from a psychologist at the "Barta School of Awareness".

To complete the package of health services, health screening is also offered as a way of identifying health risks early on. The following screening tests are included:

- + Kidney screening, including urine analysis
- + Lung screening, including spirometry
- + Eye examination, including intraocular pressure measurement
- + Cardiovascular screening with fingertip blood test
- + Electrocardiogram
- + Long-term blood sugar screening

The results of the various tests are then evaluated in an appointment with a doctor. This health screening was carried out for the first time in 2023 with the external company PremiQaMed Corporate Health and was taken up by a broad section of the workforce.

Poland

Digitalizing technical documentation

A project at the SEW-EURODRIVE site in Poland set out to save on resources by providing technical manuals in a digital format. The work was to be completed in several stages.

To start with, legal checks were carried out to assess whether moving away from paper documentation was an option. Once legal confirmation had been received, work started on an information brochure containing brief details about the company's sustainability strategy and setting out three options for accessing digital documentation. The company also launched a social media campaign to raise awareness about the recent developments.

Six months later, a sticker was created that is applied directly to packaging and sets out the ways that documentation can be accessed online. This removed the need for the brochures that had been used previously. The aim during the final stage of the project is to completely eliminate printed information, which would make even the information applied directly to the boxes a thing of the past. Printed

copies of documentation are still available, but only when requested by customers.



The site in Lodz, Poland



Denmark

Expanding electric mobility

The Danish government is allowing companies to operate an on-site charging station on a tax-free basis for the next four years. Each company receives a refund for the electricity that is used.

Furthermore, depending on mileage, all newly registered company cars must be fully electric where possible or hybrid.

A total of 18 new charging stations (22 kW) have been installed at the Drive Technology Center in Greve to ensure the necessary infrastructure is in place. These charging stations can be used for company cars and private vehicles. At present, 83% of vehicles in the company's fleet (excluding service vehicles) have an electric or hybrid drive.

At the start of 2024, a new electric pool car was introduced for business trips. It is available to all staff who don't have a company car of their own. More electric pool cars are to be added in the future. The option to buy electric bikes has already been examined in detail, but it unfortunately proved to be unfavorable for staff from a tax perspective.



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New charging stations at the Drive Technology Center in Greve



GRI content index

GRI standard	GRI indicator	Disclosure	Location	Comments	
GRI 2: General information	GRI 2-1	Organizational details	p 132, SEW Management Report 2023		
	GRI 2-2	Entities included in the organization's sustainability reporting	p 6		
	GRI 2-3	Reporting period, frequency, and contact point	p 6		
	GRI 2-4	Restatements of information	None	This is the first report based on the GRI standards, which is why no restatements of information can be disclosed.	
	GRI 2-5	External assurance	None		
	GRI 2-6	Activities, value chain, and other business relationships	p 14		
	GRI 2-7	Employees	p 50 ff	Source: Global HR system	
	GRI 2-8	Workers who are not employees	p 50	Source: Global HR system	
	GRI 2-9	Governance structure and composition	p 15, p 25		
	GRI 2-11	Chair of the highest governance body	p 15		
	GRI 2-12	Role of the highest governance body in overseeing the management of impacts	p 24		
	GRI 2-13	Delegation of responsibility for managing impacts	p 24		
	GRI 2-14	Role of the highest governance body in sustainability reporting	p 24		
	GRI 2-15	Conflicts of interest	Code of Conduct		
	GRI 2-16	Communication of critical concerns	p 38		
	GRI 2-17	Collective knowledge of the highest governance body	p 25		
	GRI 2-22	Statement on sustainable development strategy	p 5		
	GRI 2-23	Policy commitments	Corporate Principles, Code of Conduct		
	GRI 2-24	Embedding policy commitments	Code of Conduct		
	GRI 2-25	Processes to remediate negative impacts	Code of Conduct		
	GRI 2-26	Mechanisms for seeking advice and raising concerns	Code of Conduct		
	GRI 2-27	Compliance with laws and regulations	Code of Conduct		
	GRI 2-28	Membership associations	No disclosure	Membership of associations at national level	
	GRI 2-29	Approach to stakeholder engagement	p 26		
	GRI 2-30	Collective bargaining agreements	p 50		
	GRI 3: Material topics	GRI 3-1	Process to determine material topics	p 26	
		GRI 3-2	List of material topics	p 26-27	
		GRI 3-3	Management of material topics	p 27	
	GRI 201: Economic performance	GRI 201-2	Financial implications and other risks and opportunities due to climate change	p 27	
	GRI 301: Materials	GRI 301-1	Materials used by weight or volume	p 97	
GRI 301-2		Recycled input materials used	p 97		
GRI 302: Energy	GRI 302-1	Energy consumption within the organization	p 104		
	GRI 302-4	Reduction of energy consumption	p 104, p 115		
GRI 305: Emissions	GRI 305-1	Direct (Scope 1) GHG emissions	p 108-111		
	GRI 305-2	Energy indirect (Scope 2) GHG emissions	p 108-111		
	GRI 305-3	Other indirect (Scope 3) GHG emissions		This calculation will be extended in 2025 to include Scope 3	
	GRI 305-5	Reduction of GHG emissions	p 104, p 114		

GRI standard	GRI indicator	Disclosure	Location	Comments
GRI 306: Waste	GRI 306-1	Waste generation and significant waste-related impacts	p 119	
	GRI 306-2	Management of significant waste-related impacts	p 119	
	GRI 306-3	Waste generated	p 119	
GRI 308: Supplier environmental assessment	GRI 308-1	New suppliers that were screened using environmental criteria	p 94-95	
	GRI 308-2	Negative environmental impacts in the supply chain and actions taken	p 94-99	
GRI 401: Employment	GRI 401-1	New employee hires and employee turnover	p 59	Source: Global HR system
	GRI 401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	p 59	
GRI 403: Occupational health and safety	GRI 403-1	Occupational health and safety management system	p 54, p 56	
	GRI 403-2	Hazard identification, risk assessment, and incident investigation	p 54	
	GRI 403-3	Occupational health services	p 54	
	GRI 403-5	Worker training on occupational health and safety	p 54	
	GRI 403-6	Promotion of worker health	p 56	
	GRI 403-9	Work-related injuries	p 54	
	GRI 403-10	Work-related ill health	p 54	
GRI 404: Training and education	GRI 404-1	Average hours of training per year per employee	p 52	Source: Global HR system
	GRI 404-2	Programs for upgrading employee skills and transition assistance programs	p 51-53	
	GRI 404-3	Percentage of employees receiving regular performance and career development reviews	p 52	
GRI 405: Diversity and equal opportunities	GRI 405-1	Diversity of governance bodies and employees	p 50	
GRI 406: Non-discrimination	GRI 406-1	Incidents of discrimination and corrective actions taken		No disclosures are being made about incidents of discrimination.



SEW-EURODRIVE GmbH & Co KG

Ernst-Blickle-Str. 42

76646 Bruchsal

Germany

T +49 (0)7251 75-0

F +49 (0)7251 75-1970

sew@sew-eurodrive.com

www.sew-eurodrive.com