CIRCULAR
ECONOMY
AT ITS BEST.
SUSTAINABILITY REPORT 2024
Starlinger
SUSTAINABILITY

CIRCULAR ECONOMY AT ITS BEST.

SUSTAINABILITY REPORT 2024

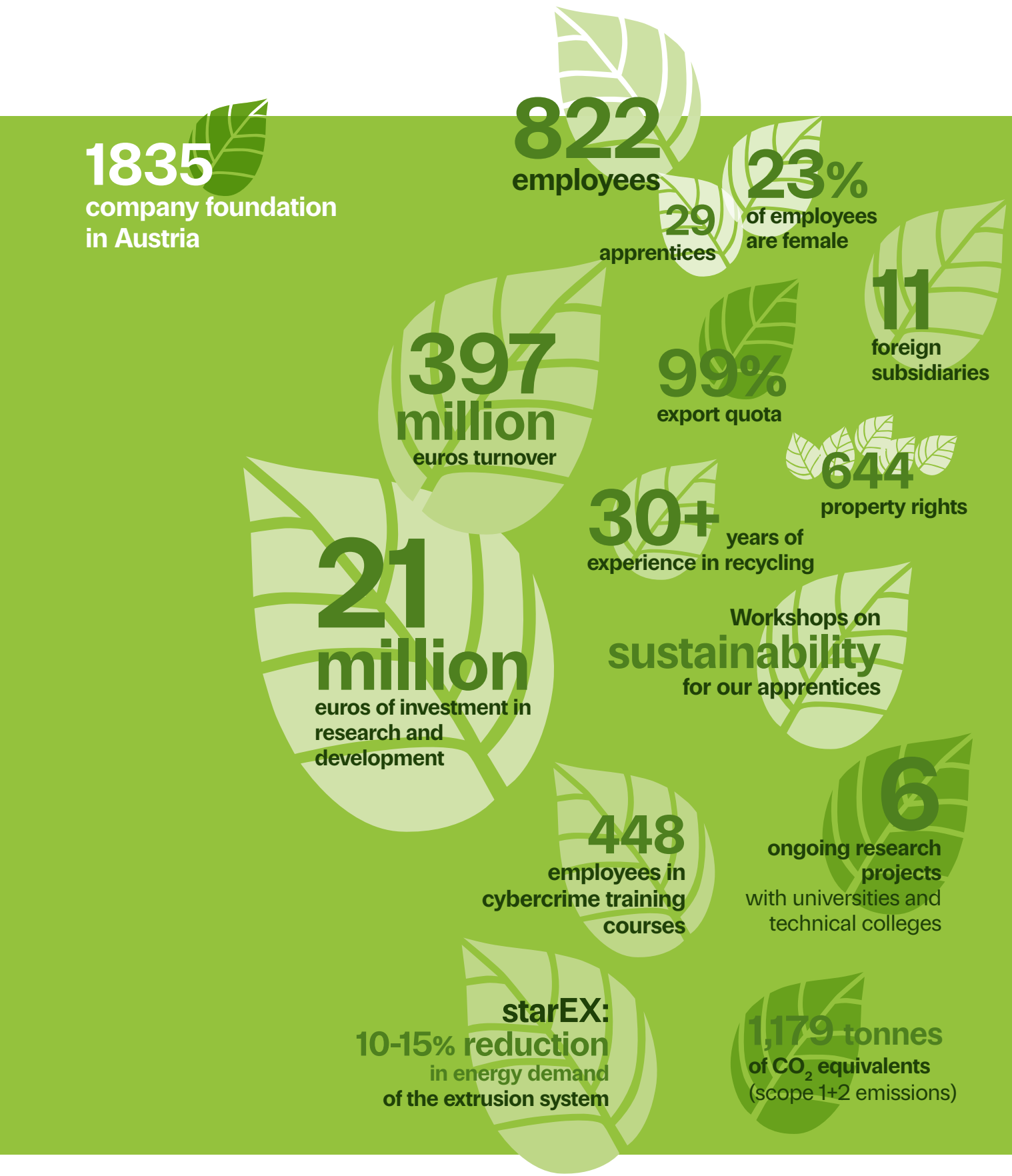
FOREWORD

For us, sustainability is about proactively taking responsibility today for tackling the challenges of the future. After all, sustainability is about walking the walk, not talking the talk.

We develop machines that produce smart and sustainable packaging solutions for the growing global population and thus contribute to a functioning circular economy. Thanks to our recycling systems, which we are constantly refining by drawing on more than 30 years of experience, we are able to treat used plastic as a valuable raw material rather than as waste. In this report, we would like to show the advantages and possibilities that plastic has to offer. Through efficient production, sensible use and circular recycling processes, plastic packaging helps to reduce emissions of harmful greenhouse gases.

As a responsible commercial partner, a family business with regional roots and a globally active mechanical engineering company, we work closely with our suppliers and banks as well as authorities, research institutes, associations and communities. We create and safeguard jobs, placing particular importance on the physical and mental well-being of our employees. Moreover, our innovations and the intensive support before and after sales guarantee our customers´ satisfaction.

With this report, which represents our second voluntary sustainability report, we want to send out a signal in a time of multiple crises. A signal that we take our responsibility seriously and that we can create hope as a stable anchor in turbulent seas.


1835
company foundation in Austria
822
employees
29
apprentices
23%
of employees are female
11
foreign subsidiaries
397
million
euros turnover
99%
export quota
644
property rights
30+
years of experience in recycling
21
million
euros of investment in research and development
Workshops on
sustainability
for our apprentices
448
employees in cybercrime training courses
6
ongoing research projects
with universities and technical colleges
starEX:
10-15% reduction
in energy demand
of the extrusion system
1,179 tonnes
of CO_2 equivalents
(scope 1+2 emissions)

Starlinger SUSTAINABILITY

48%
of total energy consumption
from renewable sources

13,000 PET bottles
collected in the viscotec division

536 MWh
of self-generated electricity from photovoltaic systems

83 tons/year of CO_2 saved
by switching to LED lighting

Canteen heated by **heat recovery system**

50%
of procurement value from
Austria

Annual company trips
since the 1970s

651
employees participating in the Fit & X'sund Weissenbach project

400
employee training days

100%
of purchased electricity from hydropower at our Austrian sites

SSPs (solid state polycondensation):
20-30% reduction
in energy demand
for the latest series

Voluntary
performance-related bonus
since 2013

Company magazine Starlinger Intern
since 2007

recoSTAR PET art:
25% reduction
in energy demand
for the PET bottle-to-bottle recycling system

FXa 6.0:
10% reduction
in energy demand
for the circular loom

Figures relate to the 2023/24 financial year

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IMPRINT

Sustainability Report 2024

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December 2024
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The terms used throughout this publication to refer to individuals should be understood as being gender-neutral. For the sole purpose of improved readability, the use of gender-specific notation and plural designations has been avoided.

If you have any questions or suggestions relating to this report, please contact our CSR and sustainability team (csr@starlinger.com).
Place of publication: Vienna, Austria

INTRODUCTION

About Starlinger & Co Gesellschaft m.b.H.

Starlinger & Co Gesellschaft m.b.H. (hereinafter referred to as "Starlinger") is the world's leading supplier of machinery for woven plastic packaging production as well as plastics recycling and refinement. Our family-run company has been producing systems for bags and packaging fabrics made from plastic tapes for over 50 years. Starlinger also has over 30 years of experience in the development and production of recycling machines for plastics. The company's sites are located in Austria (Vienna, Weissenbach an der Triesting in Lower Austria, St. Martin in Upper Austria) and Germany (Schwerin).
In the 2023/24 financial year, we employed an average of 822 people and generated a turnover of around 397 million euros.

About CSR & sustainability at Starlinger

In summer 2019, Starlinger established a CSR and sustainability department dedicated to corporate social responsibility (CSR) issues and the organisation and implementation of projects that minimise the company's impact on the environment and maximise social standards for its employees.
We are convinced that we can make a contribution in achieving common social goals. These include the United Nations Sustainable Development Goals (SDGs) and those of the Paris Climate Agreement. Starlinger's management, supported by the directly subordinate CSR and Sustainability department, therefore assumes responsibility for the development and implementation of CSR and sustainability agendas.
To underline the management's commitment, our mission statement has already been revised and expanded to include references to sustainability.
Furthermore, the company has drawn up its own CSR policy.

MISSION STATEMENT

We are an innovative European industrial company for mechanical engineering and process technology.

As the world market leader in the fields of flexible woven plastic packaging, PET recycling and PET refinement we set the standards with our application-oriented solutions.

Starlinger stands for:

Leadership in quality and technology
from raw material to woven packaging and back to recycled pellets with highest ecological and economic sustainability.

The only A-Z turnkey plant supplier worldwide:
From project engineering and financing solutions to comprehensive after sales service.

Development of innovative high-quality products and new technologies
aimed to achieve the maximum benefit for the customer.

Responsible management
through the expansion of the business model with social and environmental targets and the principles of a circular economy.

Long-term business success
due to qualified employees with entrepreneurial thinking.

An expanding family business:
Foresighted and working in an open and trusting relationship with our customers, employees, partners and proprietors.

Starlinger
SUSTAINABILITY

RECYCLING
TECHNOLOGY

CORPORATE SOCIAL RESPONSIBILITY POLICY

The Corporate Social Responsibility Policy outlines our engagement within the realm of sustainability management, as well as binding objectives to guarantee our work is responsible with respect to the environmental and the social impacts of our business. As a company with a global presence, we, Starlinger & Co GmbH, in line with our goal to mainstream environmental and social considerations throughout our facilities, offices, and divisions, herein commit to the following actions:

- We support initiatives that are aligned with our values as indicated in our Mission Statement.
- We will adhere to the principles established in the UN Global Compact.
- We foster community relationships and innovative collaboration to promote environmental and social justice.
- We will integrate environmental and social criteria into our procurement processes.
- We strive for continuous improvement by regularly reviewing our environmental and social impacts and setting specific targets to enhance our performance.

Environmental commitment

- We encourage and promote environmental awareness among our employees and provide learning opportunities to increase employee capacity and competency in this area.
- We will pursue energy, water, and waste efficiencies through the implementation of a comprehensive resource management framework, including a monitoring system.
- We will reduce greenhouse gas emissions and pollution in all parts of our operations and divisions, and aim to offset remaining unavoidable emissions.
- We will reduce travel activities where possible and integrate environmental considerations into the way we organize and conduct conferences and meetings.
- We will strengthen circular economy principles and promote the recyclability of post-consumer and post-industrial waste materials.

Social commitment

- We promote attractive working environments with high social standards and maintain safe and healthy working conditions for our employees.
- We provide opportunities for training and career development to enable our employees to expand their capacities and competencies on a professional as well as personal level.
- We support diversity and inclusion and do not discriminate against any person based on race, colour, religion, sex, nationality, age, disability, or other characteristic.
- We foster a culture of sound business ethics and integrity at all levels of our organization and will operate with transparency in our dealings.
- We implement appropriate measures to ensure the data protection of our employees, customers, and business partners.

Our corporate mission statement as well as our CSR policy are publicly available on our company website.

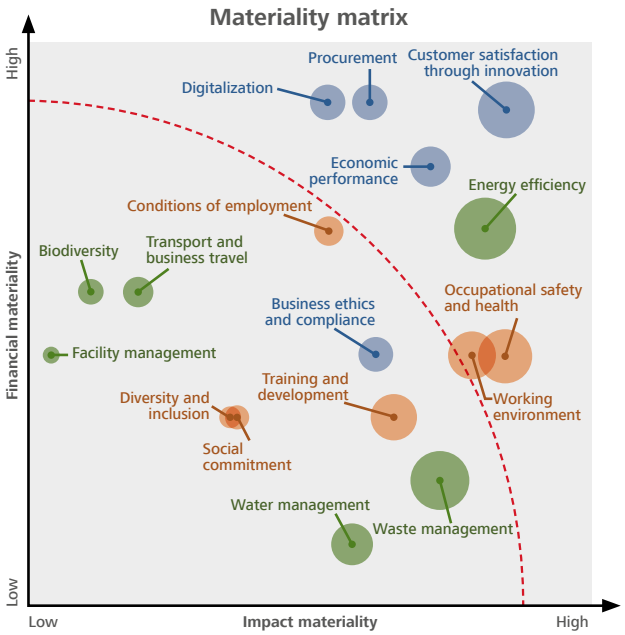
ABOUT THIS REPORT

Starlinger's first sustainability report was released in 2022. It was published on our website and reflects the CSR & sustainability review carried out up to that point. Now, two years later, Starlinger has published its second voluntary sustainability report. We are not yet subject to any sustainability reporting requirements. Nevertheless, it is important to us that we communicate our CSR and sustainability ambitions on a regular basis. In addition to the voluntary sustainability reports, we also provide information as a signatory company of the United Nations Global Compact (UN GC).

We annually submit an update in the form of the Communication on Progress (CoP), which is publicly available on the UN Global Compact website.

MATERIALITY ANALYSIS

According to the principle of double materiality – the concept for identifying material and therefore reportable topics – the stakeholder engagement process (sustainability survey, stakeholder dialogue, workshop with the management) took place from autumn 2022 to spring 2023, where internal and external stakeholders submitted their assessments on a total of 18 sustainability topics. The results were first analysed from an inside-out perspective (impact materiality) in order to illustrate the impact that the company has on the environment and society. Afterwards, the outside-in perspective (financial materiality) was examined, where the management comprehensively discussed and assessed the financial opportunities and risks of the sustainability topics.
The results were presented using the so-called materiality matrix:



In summary, the following material topics were identified, which are explained in detail on the following pages:

SOCIAL

Occupational safety and health

Working environment

ENVIRONMENT

Energy efficiency

Waste management

GOVERNANCE

Customer satisfaction through innovation

Procurement

Digitalization

Economic performance

ENVIRONMENT

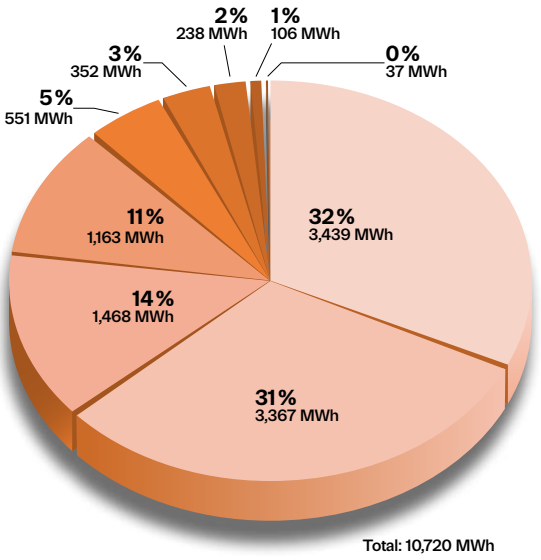
ENERGY EFFICIENCY

Energy consumption and emissions

Starlinger uses a variety of energy sources to cover its energy needs as a manufacturing company. The following chart shows the data for the 2023/24 financial year:

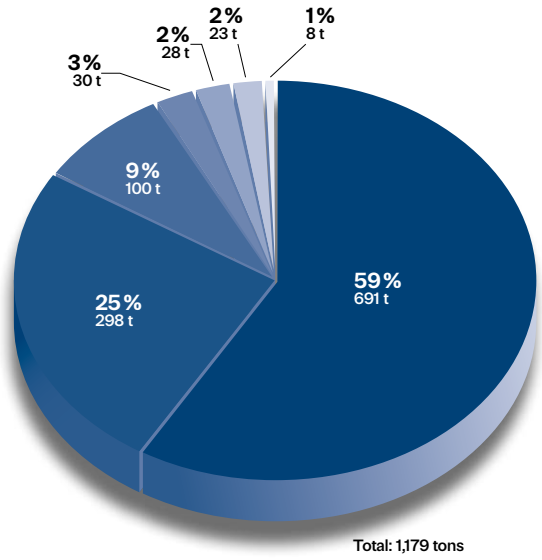
This resulted in direct greenhouse gas emissions of 1,179 tonnes of CO_2 equivalents according to the calculation tool from the Federal Environment Agency (Umweltbundesamt):

Starlinger energy consumption 2023/24 in MWh
Breakdown in %



- Natural gas
- Purchased electricity from renewable sources
- Wood chips
- Diesel
- Purchased electricity from non-renewable sources
- Electricity from our own photovoltaic systems
- District heating
- Petrol
- Liquid gas

Starlinger CO_2 equivalents 2023/24 in tons
Breakdown in %



- Natural gas
- Diesel
- Purchased electricity from non-renewable sources
- District heating
- Petrol
- Wood chips
- Liquid gas

At this point, we would like to emphasize the share of renewable energy in the total energy consumtion. Thanks to our company-owned photovoltaic systems, purchased electricity from 100% hydropower at our Austrian sites as well as our wood chip system and partial heating by means of heat recovery, this amounts to 48 %.

ENERGIE ALLIANZ AUSTRIA

EAA-Aqua

Certificate

ENERGIEALLIANZ Austria guarantees that the electricity supplied to the customer

Starlinger & Co Gesellschaft m.b.H

for all supplied locations

in the period between 01.01.2021 and 31.12.2027 is exclusively generated from renewable energy sources. The electricity is predominantly generated in European large-scale hydroelectric power plants. The origin of the electricity is indicated by means of guarantees of origin pursuant to Section 83 Austrian Renewable Energy Expansion Act (Erneuerbaren-Ausbau-Gesetz). EAA confirms that these guarantees of origin are cancelled pursuant to Section 83 Austrian Renewable Energy Expansion Act and consequently not used multiple times.

As the supply of electricity does not generate any CO2 emissions, the customer makes an important contribution to climate protection by obtaining eco-friendly electricity from renewable energy sources.

Dr. Herwig Hauenschild
Geschäftsführer

Mag. Thomas Pucharski
Geschäftsführer

Thomas Torda, Msc
Geschäftsführer

Certificate number: AT2024000108
Date of issue: 24.07.2024
Validity: 31.12.2027

The first photovoltaic system with 199 kWp was put into operation at our viscotec division in Upper Austria at the end of September 2020. A second system was connected to the grid in January 2024, meaning that a total of 483 kWp is now available at our company site in St. Martin. Our photovoltaic system in Weissenbach was put into operation in November 2021 (325 kWp). In the 2023/24 financial year, a total of 536 MWh of electricity was generated by the company's own photovoltaic systems, 38% of which was fed into the grid. At our company sites in Weissenbach and St. Martin, 11% of our electricity consumption was covered by photovoltaic systems.

Starlinger is legally obliged to carry out an energy audit every four years and submit the corresponding report to the authorities. The purpose is to monitor energy consumption and to define energy saving potentials. The latest audit in 2024 was carried out by an external auditor, who was assisted by various internal departments.

Energy-saving measures

The green energy transition and energy-saving measures are being widely talked about. Starlinger makes its contribution, for example in the area of facility management:

- Switch to energy-saving LED lighting in several departments of the company, which also includes presence detection and the option of dimming. This reduces the energy used for lighting by 73 % and corresponds to a CO_2 saving of around 83 tonnes per year.
- Measures relating to thermal properties: A heat recovery system for the newly built canteen and parts of the office and production buildings (saving 32 tonnes of CO_2/year), new windows and shading options in the office building in Weissenbach

Being a manufacturing company, we pay special attention to our production facilities:

- Monitoring pressure losses in the pipe network and temporary reduction of the pressure from 9 to 7 bar at the Weissenbach site
- Replacement of the cooling machine in the Weissenbach showroom with a more energy-efficient model, including new insulation and a cyclical control system

Another way to save energy is lowering the energy demand of our machines themselves. It is a fundamental market requirement that we continuously refine our machine design in order to minimise our CO_2 footprint and achieve energy savings for our customers. New achievements in this area can be found in the chapter "Customer satisfaction through innovation".

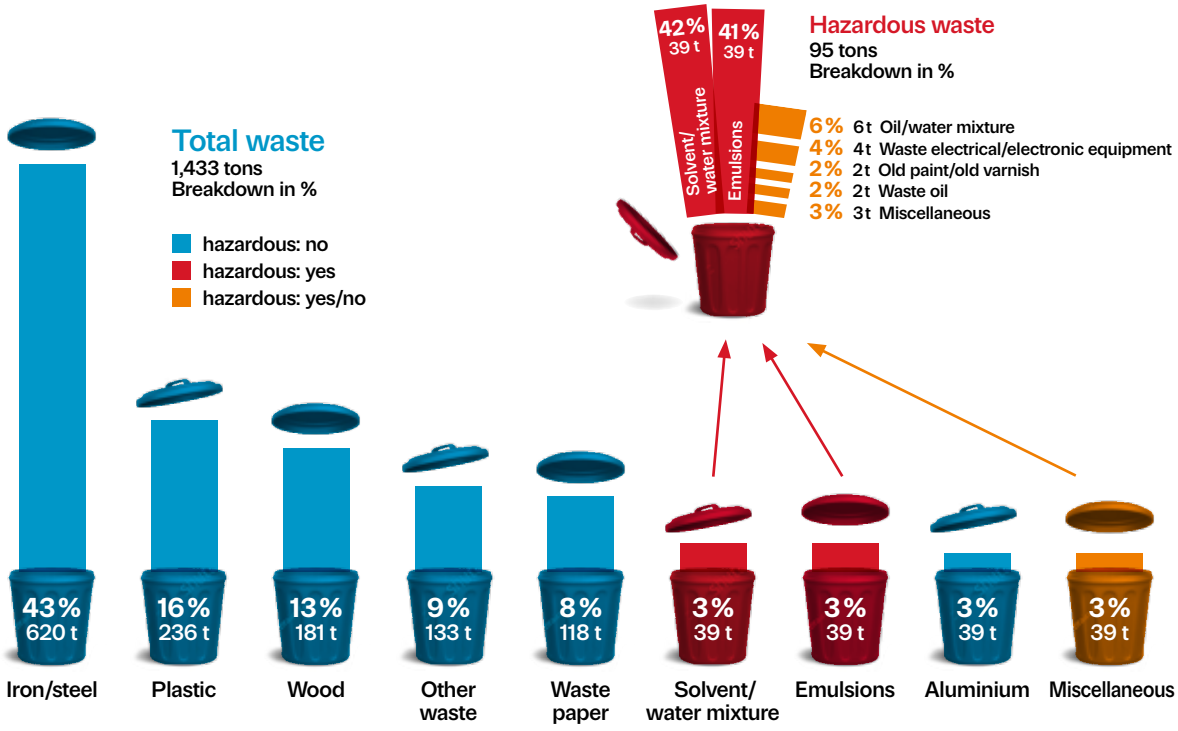
Interaction with our customers all over the world is crucial to us. To minimise the impact on the environment, we are pleased to present the following measures:

- Reducing air travel by promoting virtual communication for internal and external meetings, working with local technicians, optimising travel organisation for assignments abroad
- Reducing and optimising journeys by sharing rides to and from the airport, working from home, financing annual public transport passes, using electric cars as pool cars and e-scooters for internal company transport
- Optimising our trade fair appearances by reusing stand constructions, working primarily with electronic brochures instead of printouts

WASTE MANAGEMENT

In-house waste generation

A total of 1,433 tons of waste arose at our sites in the 2023/24 financial year. Of this, 6.6 % was hazardous waste, which was transported to a separate processing centre in accordance with regulations.



We promote the correct separation of waste in our production halls as well as in our office buildings. In 2022, we introduced an improved waste separation system at Plant 2 in Weissenbach. Plant 1 in Weissenbach will follow at the beginning of 2025.

A waste management concept was developed in order to record and manage waste streams. Additionally, the waste manager´s role involves monitoring compliance with legal requirements, reporting any shortcomings to the Operations Manager and advising on waste management issues.

At this point, we would like to highlight the fact that we collected around 13,000 PET bottles at our site in St. Martin (Upper Austria) and transferred them directly to a recycling company in Austria.

Plastic packaging often has a negative image.
Without this material, however, it will be simply impossible to achieve the globally formulated climate protection targets, as sustainably designed plastic packaging helps to reduce emissions and waste.

Source: IK Industrievereinigung Kunststoffverpackungen e.V., https://newsroom.kunststoffverpackungen.de/fakten-gegen-fake/ (10.12.2024)

Circular economy

There are many arguments in favor of plastics as a packaging material. The majority of plastics is comparatively inexpensive, easy to shape, lightweight, resilient, robust, resistant and recyclable. These special features create advantages, from production and transportation to use and recycling. The diverse material properties enable products of different designs – whether for food packaging (such as bottles, trays) or industrial packaging (such as woven sacks, FIBC = flexible intermediate bulk containers, also known as big bags). Due to the low weight of plastic packaging, significantly less energy is consumed during transportation compared to other packaging materials such as glass or wood, thus reducing greenhouse gas emissions. Plastics also offer many benefits over other types of packaging. A big bag, for example, can hold a filling weight of up to 1,500 kg of bulk material with a tare weight of just 2.5 kg. Plastic packaging does not break like glass, and it does not disintegrate when exposed to moisture like cardboard or paper. Packaging contents are thus comprehensively protected, their shelf life extended, and consequently the consumption of resources is minimized. Last but not least, most plastics can be recycled mechanically in an efficient manner and thus reused in a sensible way.
Used plastics are not waste – they are a valuable secondary resource, an "input material" for the recycling loop.

It is essential that plastic is properly recycled after use. Appropriate recycling loops for other materials, such as metal packaging or paper and cardboard, have already been established. At Starlinger, we strive to establish a closed-loop for plastics. With our product portfolio, it is possible to cover a significant part of a functioning circular economy for plastic packaging. Not only do we manufacture machines for woven bag production, we also close the gap in the loop with our recycling systems. Starlinger also ensures that the end product is largely made of mono-material. This enables a simple recycling process, as materials do not need to be separated from each other during recycling, true to the motto: "Design for Recycling!"

One example of this is the production of big bags made from recycled polypropylene (rPP). Used big bags, which are usually soiled, are collected, washed and shredded. This is immediately followed by the first step involving Starlinger equipment, namely pelletisation with the recoSTAR dynamicTX (recycling technology division), which melts down the shredded big bags and produces new pellets. These are then processed into plastic tapes using our starEX tape extruder (textile packaging division), which can process a proportion of up to 50% post-consumer rPP material. These tapes are woven into a highly durable fabric using our wide range of circular looms (textile packaging division). There is the option of coating and printing the big bags before they are manually assembled and readied for their next life cycle.

Another important member of the plastics family, PET, can also be kept in circulation with our systems. PET bottles are shredded, washed and then processed into new pellets using the recoSTAR PET art recycling system (recycling technology division). An important component of this system is the viscoSTAR module (viscotec division), which increases the intrinsic viscosity, thereby improving the suitability of the pellets for subsequent processing into bottles. The module also helps to ensure that the PET pellets can be used again for direct food contact. With this step the 'bottle-to-bottle' cycle is closed. PET flakes, which would otherwise be discarded as waste during the bottle-to-bottle recycling process, can also be recycled using our machines. These flakes are used to produce big bags made from recycled PET (rPET). These are made from PET woven tape with a recycled material content of up to 100 %.

We would also like to highlight the viscoSHEET PET sheet line from viscotec. This machine can process both in-house material as well as flakes and pellets – with rPET proportions of up to 100% – into new sheet which, in combination with the deCON decontamination dryer, is suitable for direct food contact.

One of the key drivers of the circular economy will be the European Union's new Packaging and Packaging Waste Regulation (PPWR), which is expected to come into force in 2026. It sets out ambitious targets, such as a 70% recyclability target for all packaging by 2030 and a specified minimum proportion of recycled material in plastic packaging. A general rethink regarding the avoidance, reuse and recyclability of packaging is taking place around the world. These changes are mainly the result of voluntary commitment, but it can be assumed that governments outside the EU will also follow suit with their own requirements.

Starlinger
SUSTAINABILITY

SOCIAL

OCCUPATIONAL SAFETY AND HEALTH

With regard to our employees

Employee protection is strictly regulated by Austrian law, and on-site inspections are regularly carried out by state labour inspectors. To meet these obligations, Starlinger fills a wide range of positions, such as safety experts and safety officers. They advise employers and employees on occupational safety and human-centred labour organisation. At Starlinger, employees have the opportunity to consult a company physician at the company site. We consider ourselves responsible for monitoring and ensuring compliance with occupational health and safety standards also for our temporary workers.
Our workforce is subject to the collective agreement for workers and employees of the metalworking industry. This is a very popular collective agreement among employees in Austria, not least because of the good remuneration. Furthermore, companies have the option of concluding additional agreements in the form of works agreements. At Starlinger, these deal with issues such as alcohol and smoking in the workplace as well as working hours.
If necessary, our employees are provided with various work equipment: glasses for display screen work, work clothing, personalised hearing protection and personal protective equipment such as safety shoes and helmets. Depending on the workplace and the associated exposure level, regular health checks are also carried out (screening for hazardous substances in the lungs and urine, hearing, eyesight).

The following is a list of some of the safety-related training courses that have been organised: Driving forklift trucks, first aid course, expert conference for fire safety officers. We also provide special safety training for young people and apprentices to protect our youngest employees.
Despite all our efforts and precautionary measures, accidents at work cannot be completely ruled out.
We recorded 18 accidents in the 2023/24 financial year: 15 among blue-collar workers and 3 among white-collar workers. As a result, the number of accidents per employee amounted to 0.0219. The most common types of injuries were bruises, muscle injuries and contusions.

To further promote well-being and health in the workplace, our "Fit & X'sund Weissenbach" project was launched in summer 2023 at our largest company site in Weissenbach with the support of the Austrian Health Insurance Fund.
This brings together aspects of statutory occupational health and safety and voluntary workplace health promotion. Employees were actively encouraged to contribute their views and ideas as part of a survey and in joint working groups. We are delighted that we are now able to offer our 651 colleagues a wide range of measures as a result. It all began with the provision of fresh vitamins in the form of fruit baskets and a medical examination covering various parameters.
Our employees also have the opportunity to receive vaccinations free of charge at the company site (e.g. against TBE, or influenza).

With regard to our customers

The safety of our customers is highly important to us. Our operating manuals, which we dispatch together with our machines all over the world, contain information that complies with strict EU regulations, general hazard warnings and references to the personal protective equipment to be used. We comply with our labelling obligation for hazardous substances (e.g. batteries) and when installing and commissioning the machines on site, we attach great importance to personally informing our customers about any potential hazards. Pictograms are also affixed to the machines.

WORKING ENVIRONMENT

What it means to us

A good working environment allows our employees to feel comfortable at work. We all play a role in creating a pleasant working atmosphere. The works council, the HR office and our marketing department are the points of contact for any concerns and also act as implementation bodies within the company. This important topic is difficult to summarise in figures, but we try to list a few aspects below.

Events

In addition to the Christmas party, Starlinger organises annual summer get-togethers. The first one took place in 2014. At these events colleagues from different company sites can exchange ideas and celebrate together in a relaxed atmosphere. As part of the get-togethers, a public screening of major football events, such as European and World Cups, has already been organised three times. Another event that has been taking place since the 1970s is the annual company excursion. This is a long-standig Starlinger tradition. Excursions have taken place both in Austria and abroad. Some particular highlights were a trip to Egypt in 1992, Turkey in 1998, Grado in 2005, Prague in 2008 and Budapest in 2017. Our last company excursion in 2023 took us to Graz.

Training and further education opportunities

A wide range of training and development opportunities are available to employees every year: from training on our machine portfolio to management topics. In the 2023/24 financial year, we invested 70,000 euros in over 400 training course days. We are particularly pleased that a workshop focusing on sustainability was held for our apprentices for the first time in July 2024.

Bonuses and allowances

The company has repeatedly paid out voluntary bonuses to show its appreciation of its employees. In addition, voluntary financial support is offered in the form of a childcare allowance or a tax-free pension scheme.

Works council

Our works council contributes significantly to the well-being of our workforce. Among others, it sponsors the entry fees for various running events and organises other sporting events and activities that promote employee team spirit. The annual Kart Grand Prix of the Lower Austrian Chamber of Labour is one example of this. Our team even made it to the national final in Graz in 2024. For all sports enthusiasts, there is also a football sweepstake for tournaments such as the European Championship and World Cup. Over 110 employees from Weissenbach, St. Martin and Schwerin took part in the sweepstake for the 2024 European Championships. The winners were delighted to receive great prizes and vouchers from sponsors.
Flexible working hours are becoming increasingly important in today's world. Starlinger endeavours to arrange working hours as convenient as possible and to make ongoing adjustments. In 2023, for example, shift working times were adjusted by 10 minutes at Plant 3 in Schwerin so that employees could catch their trains without any stress.

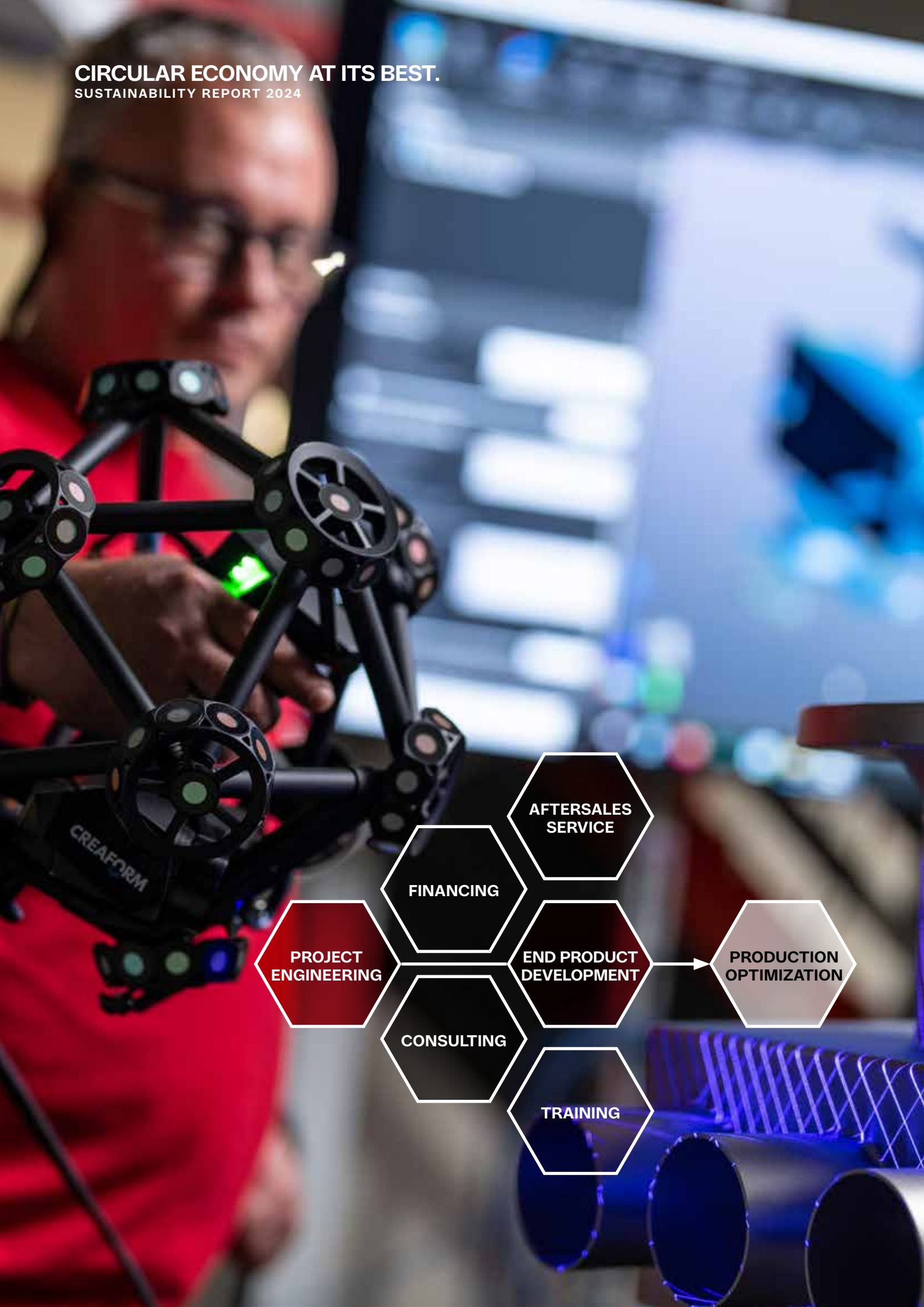
Starlinger Intern

The in-house company magazine “Starlinger Intern” was launched in 2007 to keep our employees up to date with the latest news. The magazine covers topics such as the company’s history, current projects and events, changes in departments, responsibilities and company anniversaries across all divisions. Two issues are handed out every year to employees in Vienna, Weissenbach, St Martin and Schwerin.

Starlinger
SUSTAINABILITY

CIRCULAR ECONOMY AT ITS BEST.

SUSTAINABILITY REPORT 2024



GOVERNANCE

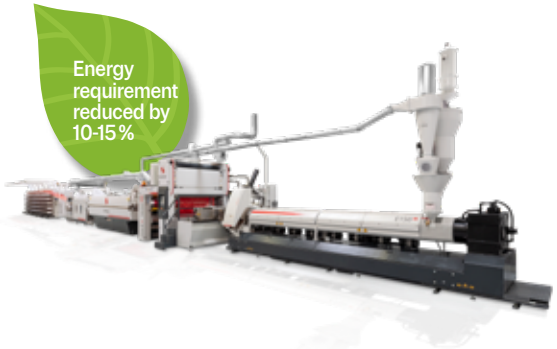
CUSTOMER SATISFACTION THROUGH INNOVATION

Sustainable aspects in product and machine design

Starlinger produces machines and systems for sustainable woven bag production and plastics recycling. The portfolio also includes a comprehensive service and consultancy package, from project engineering to after-sales and training.

To ensure customer satisfaction through innovation, regular strategy meetings are held for each major product group. Employees from the Technology, Service and Sales departments discuss ongoing projects, implementations and subsequent steps. In the case of new developments, a rough project framework is first set up internally by way of introspection or externally based on customer ideas and requests. Energy-saving measures play a significant role here. A development team is then formed from different departments to define the approach and find the best possible solution. Once the prototype has been built and successfully tested, the new development is taken into series production.

> **We see it as our task to design, construct and refine our machines in such a way that they can manufacture sustainable and resource-saving products.**



For the starEX tape line, the patented eqoSTRECH module was developed. It completely encloses the heated godets so that heat radiation is minimised and energy consumption is reduced by 10-15 %.

The recycling technology division presented a newly designed PET Bottle-to-Bottle recycling system at K 2022 (international trade fair for innovations in the plastics and rubber industry): the recoSTAR PET art. This machine not only boasts energy savings of 25 % compared to the previous model, but also 45 % less downtime caused by maintenance and a simultaneous increase in output of 15 %. In total, bottle-to-bottle recyclers can save around 21 % on production costs with the new system.

On the new FXa 6.0 circular loom, the energy requirement for weaving has been reduced by approx. 10 % compared to the FX 6.0 thanks to a shedding mechanism. Additionally, the eqoMODUL was developed for the starEX tape system: this enables a saving of 240 litres of thermal oil over the entire service life of the machine and an oil-free heat transfer system.

Our viscotec division is also constantly working on further developments. As a result of improvements, we have been able to achieve the greatest energy savings in the latest viscoSTAR series (solid state polycondensation reactors) through the pre-heater heat exchangers. Depending on the machine size, system configuration and process parameters, it is possible to achieve energy savings of around 20-30 % compared to the previous series.

Opening of the Josef Ressel Center (ReSTex) at the FHWN Biotech Campus Tulln The FHWN and ReSTex team, together with partners and sponsors

© FHWN

Starlinger conducts research

Research projects with a focus on sustainability

Not only are we in continuous contact with our customers, we also work closely and intensively with associations and research institutes in the form of research projects and collaborations.
One current project is dedicated to the recycling of clothing and textiles made from mixed fibres. At the newly built Josef Ressel Centre for Recycling Strategies for Textiles (ReSTex) at the Tulln campus of the Wiener Neustadt University of Applied Sciences, research is being carried out with regard to the gentle separation of cotton-polyester blended fabrics and the increase of the recycling rate of garments.

Spare parts

Starlinger is constantly working on improving the quality of spare parts in order to extend the service life of our machines and make maintenance as easy as possible. Furthermore, we have decided not to set a maximum time frame for the availability of spare parts for our machines. This enables our customers to obtain spare parts from Starlinger even decades after purchasing a machine. In doing so, we are taking a stance against the throwaway society, which, regrettably, does not stop at the mechanicel engineering industry, especially when it comes to cheaply reproduced copies.

Property rights

Since 2021, we have applied for 91 new property rights (e.g. patents and trademarks). As a result, we hold 644 property rights as of 2024.
In 2023, the team responsible for managing our intellectual property rights was expanded. This has enabled us to ensure the complete management of new applications, ongoing proceedings, product clearing (where third-party rights are monitored and analysed to ensure that they are not infringed) and even legal action. We would like to draw particular attention to the conviction of a Chinese company in 2024 for copying one of our technologies. With this success story, we are also making an important contribution to creating and safeguarding employment in Austria.

PROCUREMENT

Purchased goods

As a mechanical engineering company, we require a large number of different items and raw materials to produce our machines. From raw materials such as metals (steel, aluminium and iron) to specific electronic components and drives, goods are purchased for in-house production or to be installed directly in our machines. We also purchase items from various suppliers for servicing purposes and to ensure the availability of spare parts for maintenance of our machines. We count on the reliability and quality of our suppliers in this regard.

Supplier selection

It takes a large number of suppliers to manufacture the components required for our machines. The following criteria are taken into account when selecting suppliers:

- **Price –** price is one of the most important criteria when selecting suppliers. It is important to get several offers in order to compare prices and then make the best choice, taking into account the other criteria.
- **Quality –** to ensure that our machines function properly, the components and raw materials used must be of the appropriate quality. This is carefully checked by our quality assurance department upon receipt of the goods so that any flaws can be identified at an early stage and any subsequent defects or breakages can be prevented.
- **Delivery performance –** This encompasses reliability, meeting delivery deadlines and undamaged delivery of goods. After all, we can only guarantee our delivery dates if our suppliers deliver on time.
- **Contractual conditions –** these factors also play a role in the selection of suppliers. The delivery terms, payment terms and sales bonuses all play an important role here.
- **Complexity of order processing –** this relates to the internal effort required to process orders with the respective supplier. Good communication, simple processes and efficient problem handling reduce the workload and speed up processing.
- **Local sourcing –** In this case: 'The closer, the better'. This is primarily due to the sustainability factor, as proximity to the supplier reduces transport distances. However, ease of communication also has a role to play here. In addition, we want to strengthen the Austrian and European economy by sourcing locally.

At this point, we would like to give a few examples of how we embrace local sourcing at Starlinger, thereby contributing to sustainable business practices. In the 2023/24 financial year, 49.8 % of our procurement value was attributable to companies in Austria. As mentioned previously, this not only simplifies communication, but also boosts the Austrian economy. It is particularly worth mentioning that we source our packaging bases and wooden crates directly from Weissenbach, where our production site is located, and from the neighbouring village of Furth an der Triesting, thereby helping to safeguard jobs in the local area. By having a company-owned truck, we avoid needing to arrange lots of small deliveries from the surrounding area, as we use it to organise grouped transport, deliveries and collections on a regular basis. To avoid the need for additional transport routes, machines manufactured by our Group members (e.g. STC Spinnzwirn GmbH and Georg Sahm GmbH & Co KG) are delivered directly to our customers. Furthermore, we endeavour, where possible, to reduce transports by repairing faulty parts ourselves (with costs being borne by the suppliers). We are also pleased to rely on a multi-award-winning sustainable partner company for our printed materials.

DIGITALIZATION

Tools in use

Digitalization has become an integral part of today's world. However, it should be noted that the negative aspects, such as cybercrime, are also on the rise. At Starlinger, we are taking action on this issue in numerous ways. Our company uses a variety of different computer systems so that we can provide suitable solutions for all functions. These include basic systems for network and document management, as well as systems for communication and an ERP system (Enterprise Resource Planning) for managing processes. To facilitate the incoming goods inspection, a 3D scanner is used to check the dimensions and correctness of the items with high precision.

Cybercrime

To educate our employees on cybercrime, an online training tool was introduced in 2022 for all colleagues with access to a computer. 448 employees regularly complete training sessions in the form of videos and a short quiz on the topics of phishing, safe surfing on the internet and artificial intelligence. These training sessions are designed to enable users to act prudently in the digital corporate context. In addition, simulated phishing emails are sent out on an ongoing basis, demonstrating the apparent authenticity of such messages and thereby raising awareness. Our IT department monitors the company-wide risk score. This depends on factors such as the phish-prone percentage (= phishing susceptibility percentage of employees), completion of cybercrime training, job title and the personal risk scores of users. The value therefore indicates how vulnerable a company is and whether employees are being careful when dealing with emails or other messages. If certain colleagues are particularly at risk, the IT department intervenes to provide support.

Webshop for spare parts

The first test phase for our spare parts webshop began in autumn 2024. It is designed to speed up and simplify ordering processes for customers, automate internal workflows and reduce the error rate for orders. Preparations for this are already in full swing and internal functionality tests are being carried out regularly.

EU GDPR – European General Data Protection Regulation

The EU General Data Protection Regulation came into force in 2018. This aims to safeguard personal data and build trust in digitalization. To ensure compliance with the regulations and strengthen the trust of our stakeholders (e.g. employees and customers), we organised suitable training courses.

ECONOMIC PERFORMANCE

We do not discuss the topic of "Economic performance" in detail in our Sustainability Report 2024. Please refer to the Starlinger annual financial statements, which present the business performance and describe the company's current financial position.

COOPERATIONS & AWARDS

It goes without saying that we build on cooperation and collaboration in the spirit of responsible business. As a member of numerous initiatives and platforms, we are in regular contact with other stakeholders and work together with them on effective solutions and sustainable approaches. Here is a selection of our memberships in the area of sustainability:

UN Global Compact

Starlinger is one of the signatory companies of the United Nations Global Compact (UN GC). An annual update is provided in the form of a Communication on Progress (CoP). By signing the UN Global Compact, the world's leading initiative for sustainability and corporate responsibility, we have committed ourselves to the 10 universal principles and are thus increasingly involved in the areas of human rights, labour, environment and anti-corruption.

respACT

As a member of respACT – austrian business council for sustainable development – we use the existing network to find out about current CSR issues and exchange information with colleagues from other companies.

Platform Packaging with a Future

In the spirit of cooperation, the Packaging with a Future platform offers us an ideal opportunity to face the challenges in the packaging sector together with committed companies along the value chain.

EFIBCA

As an associate member of the European FIBC association, we are actively working with other companies to close the loop for industrial packaging. Among other things, we are involved in the creation of an appropriate "Design for Recycling" guideline.

FIBCA

The Flexible Intermediate Bulk Container Association (FIBCA) was formed in 1983 by the companies that were manufacturing bulk bags at that time.
FIBCA today is committed to educating the public on the benefits, uses, correct handling methods for bulk bags and its mission is to motivate customers to use FIBCs to maximize their profitability, safety, and sustainability.

Fantastic projects are being developed in collaboration with various institutions and companies, for example in the circular economy sector. We would particularly like to highlight a project that provides Upper Austrian schools with milk in special cups made from 100% recyclable post-consumer material (rPET). The project has been recognised internationally at award ceremonies: Mission Innovation Austria Award, Green Packaging Star Award, TRIGOS and WorldStar Award.

Selection of awards

Projects

2024	GreenTech Award	Extraordinary innovation achievements in the field of environmental and climate protection
2023	Lower Austrian Timber Construction Award	Newly built canteen at the company site in Weissenbach, made from locally felled and processed pine
2022	re|focus Sustainable Innovation in Materials Award	Invention of rPET100, a heat-resistant and fully recyclable film material for use in thermoformed packaging, e.g. coffee cups
	WorldStar Award	Closed loop for milk cups made from 100 % recyclable post-consumer material (rPET) for Upper Austrian schools
	Mission Innovation Austria Award	
2021	TRIGOS	
	Green Packaging Star Award	
2020/2021	Innovation Award	Patents as an expression of innovation
2020	Exemplary packaging solution	Circular packaging concept for rPP big bags
	Silk Road Biz Award	Export industry: outstanding achievements in Central Asia, success stories in Uzbekistan and Kazakhstan
	Lower Austrian Construction Award	Extension to the 'Glassalon' events venue in Neuhaus
2019	Lower Austrian Energy Globe	From bottle to bag: PET technology turns bottles into tapes for plastic fabric
2018	WorldStar Sustainability Award	Pinch bottom bag made entirely from used PET bottle flakes
	Best family-run business in Vienna	Outstanding family-owned company with sustainable success and sound future prospects

Honouring Mrs Angelika Huemer (Managing Partner of Starlinger Group)

2024	Austrian of the Year	'Responsible companies' category
	H.F. Mark Medal	For achievements in the field of polymer science and the plastics industry
2023	Honorary citizenship of Weissenbach	For services to the municipality of Weissenbach
2022	Golden Badge of Honour of the Association of Austrian Plastics Processors	For services to the Austrian plastics industry

WORLDSTAR
2022 AWARD
FOR PACKAGING
EXCELLENCE
WPO
WORLD
PACKAGING
ORGANISATION
Sustainability Award
GOLD
PET-MAN, Starlinger viscotec,
Greiner Packaging,
Schulmilchbauern Oberösterreich
for
rPET school milk cup:
fully recyclable cup made
from recycled material
2022
WPO
WORLD
PACKAGING
ORGANISATION
2022
Award for Packaging
Excellence
Honouring
PET-MAN,
Starlinger viscotec, GreinerPackaging,
Schulmilchbauern Oberösterreich
For
rPET school milk cup: fully recyclable
cup made from recycled material

CIRCULAR ECONOMY AT ITS BEST.
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Starlinger
SUSTAINABILITY

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