

/// Customized Cup Solutions



# SUSTAINABILITY REPORT

# 2024



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## Foreword

This report is now our third since 2020.

The general global political situation has become significantly more precarious in that time. Since Donald Trump's election as President of the USA, it seems the established economic equilibrium can no longer be taken for granted. The announced tariffs will lead to noticeable price increases, which will primarily affect the more disadvantaged segments of society. Lower disposable household incomes will shift consumer focus away from "sustainability" as a purchasing criterion towards greater price sensitivity. Put simply, consumers can no longer afford environmentally conscious purchasing. As we see it, a sustainable world needs peace and social justice, first and foremost. But it also needs to be affordable.

Many of the EU Directives issued in recent years have been focused too heavily on sustainability, in our view. This has resulted in enormous additional costs, which have in turn hampered international competitiveness. This is why it is so important to involve all stakeholders, governments, industries, consumers and employees on an equal footing.

At GIZEH, this is what we have been trying to do for two decades: reducing waste is good for the environment and enables us to offer employee incentives. Saving energy in any form improves our economic situation and secures jobs. We have been pressing ahead strongly with sensible investment within this scope, out of our own pocket and despite little public pressure: two large new solar plants are now operational, and many older machines have been replaced by new, energy-saving ones. We are pushing forward with other longer-term developments within the recycling economy (e.g. design for recycling, recycled material instead of new goods etc.). We are committed to a continuous, progressive improvement process that will enable us to strengthen sustainability without impairing competitiveness. Whilst this has significantly delayed our goal of becoming carbon neutral by 2025, we have nonetheless made substantial improvements year on year.

We firmly believe that working together to make each day a little better is the right approach when it comes to building a better world.

On that note, we hope you enjoy reading about what we have been up to.



# WHAT SUSTAINABILITY MEANS TO US

Bringing together  
economy and ecology



## Taking social and environmental responsibility

Business strategy can and must set priorities. But companies also need to generate the revenue to fulfil these priorities. This leads to a cycle that, ideally, becomes a flywheel driving each business forward. This is why sustainability has to take both factors into account. Only a business that is economically successful in the long run will be able to consistently raise the funds needed to operate a business strategy that is focused both on social and environmental aspects, on the one hand, and products and production, on the other. At the same time, successful companies are also faced with an obligation to acknowledge their social, environmental, product-related and production-related responsibilities.

This is why sustainability means the following to us:

### Sustainable management

We want to sustain a return on sales of around 3 to 5%. This will enable us to secure our business in the long term, pay our employees fairly and steadily, and maintain a production structure that meets the relevant economic and environmental requirements. We aspire to remain a family-owned business in the long run and uphold our traditional values.

### Products

When developing our packaging, we abide by the principle of reduce, reuse, recycle. With continuous improvements, we are constantly reducing the amount of materials we need to make our packaging. We also concentrate on reusability and recyclability right from the start of the packaging design process. Even though we are at times limited by the current state of legislation and technical development, we are strongly focused on researching how to increase our use of sustainable and biological materials.

We contribute to SDGs  
<https://sdgs.un.org/goals>



**Energy**

A company that is dependent on consuming non-renewable resources has limited future prospects. We are working intensively on using less and less energy and getting as little as possible from fossil sources. Our goal is not only to become a fully carbon-neutral company, but also to make a positive contribution to protecting the natural world and the environment. For this reason, we generate and use electricity from our own solar plants and are actively working on measures to continuously optimize our energy management.

**Social issues**

They say that family-owned businesses don't think in terms of quarterly periods, they think in terms of generations. As such, we are very proud that some of our employees are the third generation in their families to work with us. Satisfied, motivated and well-trained employees are a key factor to success. This is why we strive to maintain employee satisfaction at a sustainably and sustainably high level with the help of targeted measures.

**Our contribution to the SDGs**

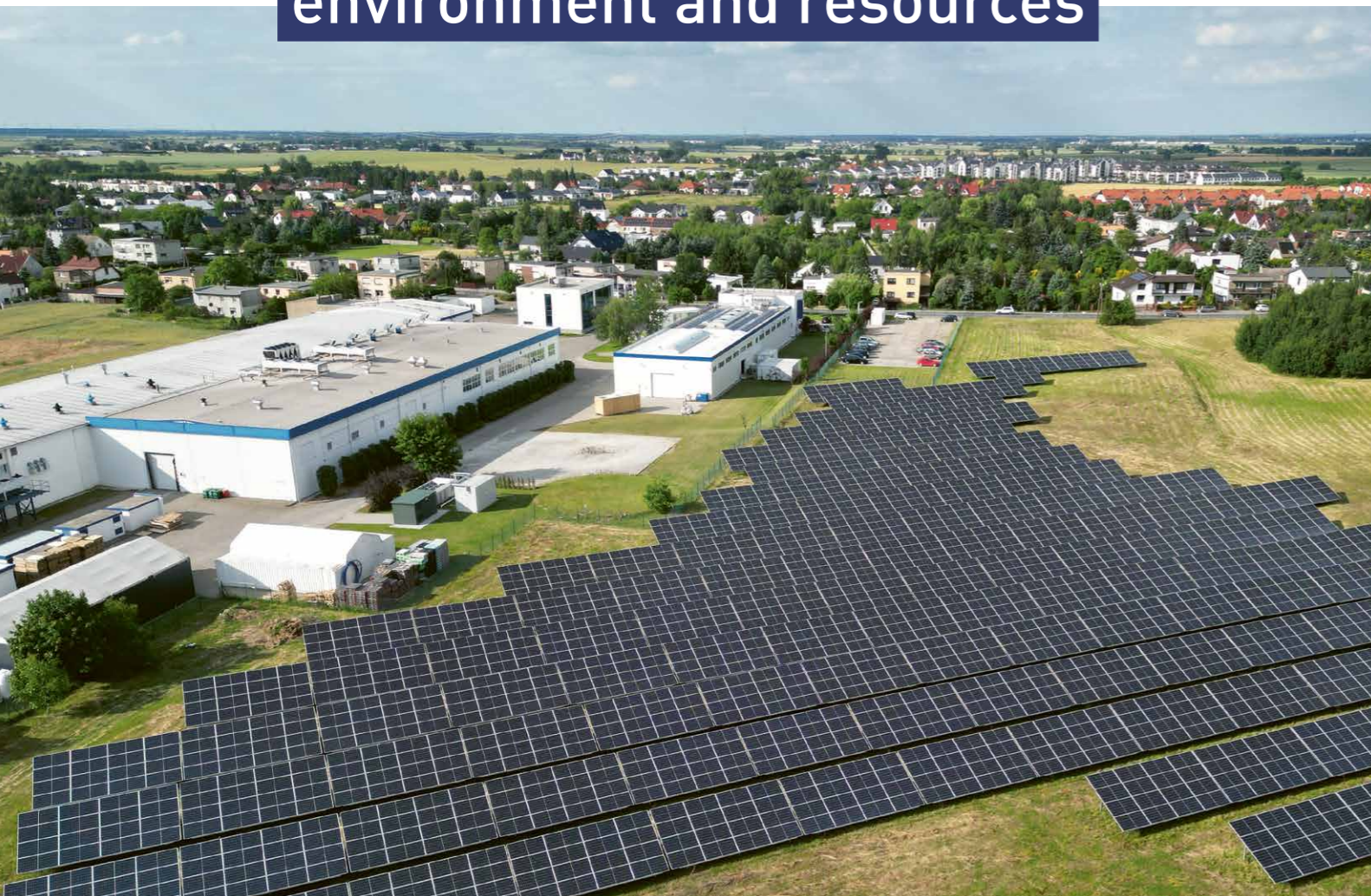
The GIZEH group of companies is active around the world. This means that many of our decisions have global consequences, which is one reason, among others, that we feel committed to the objectives of the United Nations' Agenda 2030 for sustainable development ("Sustainable Development Goals", or SDGs for short). Our sustainability measures can make a key contribution to making the world a cleaner and fairer place. As it is, our sustainability strategy already covers 16 of the 17 goals for sustainable development.





# OUR PLANET

Responsibility for the environment and resources



## ... AT A GLANCE



### OUR HIGHLIGHTS

- Multiple on-site photovoltaic plants in operation for in-house electricity generation
- Expansion of Group-wide climate accounting and energy controlling software
- Decommissioning water-intensive cooling towers and switching to self-contained cooling circuits
- Use of the first electric truck to further electrify logistics processes
- Use of energy-efficient injection-moulding machines, LED lighting and optimized cooling systems
- Changes of material and reduced material consumption to reduce product-related emissions



### OUR VISION

- Group-wide environmental goal: -42% Scope 1 & 2 (location-based) emissions by 2030 (base year 2022), relative to revenue
- Long-term goal: net zero emissions by 2050
- Expansion of Scope 3 transparency by integrating suppliers and collecting primary data
- Strengthening the circular economy by avoiding waste, recycling materials and resource-efficient design

We contribute to the following SDGs:



# Our climate strategy

Climate change is one of the core global challenges of our time. In its "European Green Deal", the European Union set itself the ambitious goal of making Europe the first climate-neutral continent by 2050. The German government has even gone one step further, aiming for climate neutrality by 2045. We too recognise the urgent need to take resolute action and stand firmly behind these goals.

Our group of companies has the long-term objective of reaching net zero emissions by 2050 and thus playing our part in limiting global warming, in line with the Paris Climate Accords and on the basis of the guidelines from the Science Based Targets initiative (SBTi).

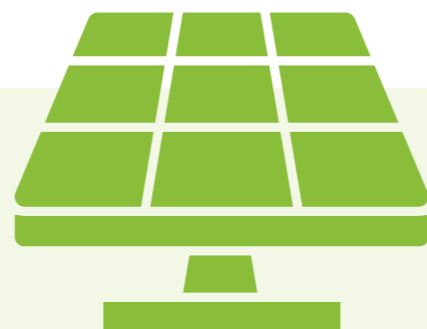
The packaging industry is caught between a demand for maximum product protection on the one hand and growing requirements to ensure resource efficiency and environmental protection on the other. As a manufacturer of plastic packaging, we feel that we have a particular responsibility: our products extend shelf lives, reduce losses in the supply chain and in this way improve the carbon footprint of packaged goods — but at the same time we are faced with the challenges of fossil resources, non-circular usage patterns and the incorrect disposal of plastic waste. To effectively counter these challenges, we are committed to innovation, pragmatic solutions and a climate goal that takes both our growth and our sense of responsibility into consideration.



Photovoltaic plants on roof and open areas, Elsterwerda plant

### What exactly does "net zero" mean?

By 2050, at least 90% of emissions should be actively reduced, for example by using renewable energy sources, improving energy efficiency, or by making changes to the materials used. The remaining 10% (maximum) may only be offset by means of accredited measures, such as carbon storage or reforestation. This interpretation follows the criteria of the SBTi, whose guidelines align with.



### What do "location-based" and "market-based" refer to in the context of electricity?

The location-based approach takes into account the average emissions factor for the regional electricity mix. In Germany, for example, this was 394 g CO<sub>2</sub>e/kWh in 2023. The market-based approach is based on the emissions of the respective energy supplier and is influenced by green electricity or guarantees of origin.

Source: UBA — Entwicklung der spezifischen Treibhausgas-Emissionen des deutschen Strommix in den Jahren 1990–2024

**Our first focus is on emissions from our own activities, i.e. Scope 1 (e.g. heating, process heat, vehicle fleet) and Scope 2 (purchased electricity). Our current objective is to reduce our relative location-based emissions from Scopes 1 and 2 by 42% by 2030, as compared to the base year 2022, across the entire Group.**

The target level is aligned with recommendations from the SBTi, although it has been adjusted to the specific conditions in our company: as a growth-oriented business, we follow a relative reduction path in terms of economic greenhouse gas intensity, measured in emissions per euro of revenue. This way, we ensure that our progress remains visible and comparable, regardless of fluctuations in growth, making it possible for us to reconcile ambitious environmental goals with business development.

Here, we use the location-based approach to Scope 2 emissions, because it provides a realistic representation of our actual electricity consumption from the public grid. It allows us to reliably assess the impact of internal measures, such as the use of more efficient technologies or the expansion of our in-house power generation, before market-based factors such as proof of origin for green electricity are taken into consideration.

**42%**  
reduction in location-based emissions from Scopes 1 and 2 by 2030

# Examining our emissions from Scopes 1 and 2

The table below shows the carbon footprint of the GIZEH Group. As you can see, our absolute emissions from Scope 1 (i.e. direct emissions) have increased slightly in recent years. This underscores the need to take additional measures to ensure stronger progress in the future. We have already taken the first steps: for example, we now use the waste heat from compressed-air generation and heat from the hydraulics cooling circuit to heat our production halls. In the future, we want to further reduce stationary emissions from Scope 1 by electrifying fossil processes.

When it comes to the much larger Scope 2, we are already on a clear path to reduction. Despite the growth of our business, we have been able to reduce absolute emissions in this area. The relative indicators, in particular, (CO<sub>2</sub>e per euro of revenue) show a clear reduction in combined emissions from Scopes 1 and 2, as a result of continuous efficiency improvements and the changeover to green electricity. We believe this puts us on a steady course to achieve our goals for 2030 and beyond.

## GIZEH Group carbon footprint\*

	Unit	2022	2023	2024	2030	2050
<b>Scope 1 GHG emissions</b>						
Scope 1 GHG gross emissions	(t CO <sub>2</sub> e)	984	1,053	1,300		
<b>Scope 2 GHG emissions</b>						
Scope 2 GHG gross emissions (location-based)	(t CO <sub>2</sub> e)	23,294	20,793	20,061		
Scope 2 GHG gross emissions (market-based)		16,978	18,746	14,551		
<b>Scope 1 &amp; 2 GHG gross emissions (location-based)</b>						
Scope 1 & 2 GHG gross emissions (location-based)	(t CO <sub>2</sub> e)	24,278	21,845	21,362		
Scope 1 & 2 GHG gross emissions (market-based)		17,962	19,799	15,851		
<b>ECONOMIC GREENHOUSE GAS INTENSITY</b>	(t CO <sub>2</sub> e)/k EUR	0.155	0.137	0.126		
<b>ECONOMIC GREENHOUSE GAS INTENSITY — GOAL</b>	(t CO <sub>2</sub> e)/k EUR		0.145	0.135	0.090	0.015
					-42%	-90%

\* incl. ROTOPRINT d.o.o. from 09/24, \*\* Some electricity mix emissions factors are provisional

## Scope 3 emissions and product carbon footprints

In the long term, we also aim to systematically record emissions along our upstream and downstream value-added chain (Scope 3) and integrate this into our climate strategy. With the help of the external consultancy firm ÖKOTEC Energiemanagement GmbH and its CCF tool, we were able to carry out a Group-wide recording of these indirect emissions in order to create a solid basis for this evaluation, which is currently ongoing.

A very large proportion of these emissions comes from purchased goods and services (Scope 3.1). To enable us to define well-founded and effective reduction goals in the future, we aim to work together more closely with our suppliers with the objective of recording more primary data, meaning company-specific emission factors instead of averaged secondary data.

We are also making good progress when it comes to product carbon footprints (PCF): drawing on the expert knowledge of ÖKOTEC, we have determined the carbon footprint of a selection of products in line with the Greenhouse Gas Protocol standard (cradle-to-gate). In this way we create transparency at the product level and are able to provide our customers with reliable environmental data on request.

In recent years, we have been promoting measures to reduce Scope 3 emissions, for example using less material for each product and switching over to more environmentally friendly alternatives such as polypropylene (PP) instead of polystyrene (PS). For more examples, see the section on "Our products".

### What does "cradle-to-gate" mean?

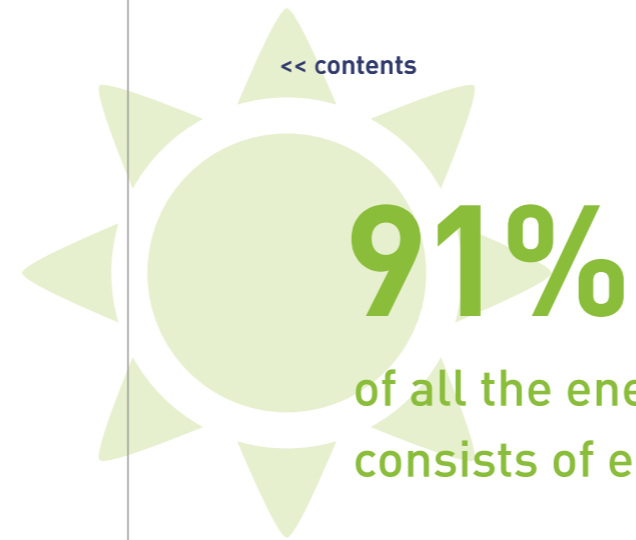
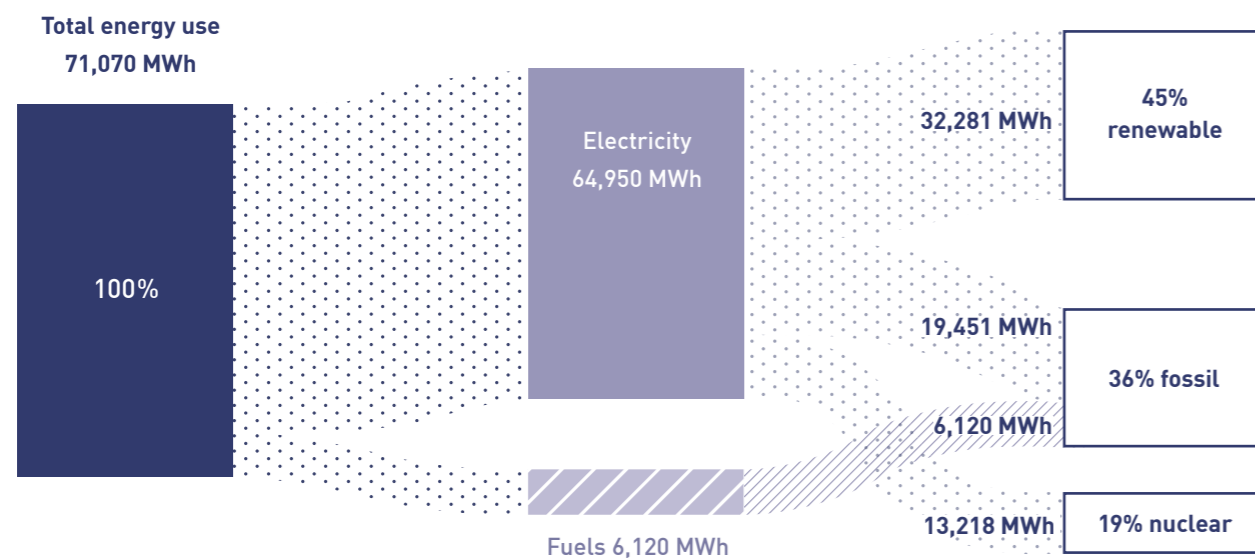
"Cradle-to-gate" refers to the process of accounting for greenhouse gas emissions throughout the entire production process from the extraction of raw materials ("cradle") through to the finished product leaving the factory ("gate"). Downstream emissions such as transport, use and disposal are not included here. This approach enables an informed evaluation of the manufacturing phase.



# Energy use & efficiency

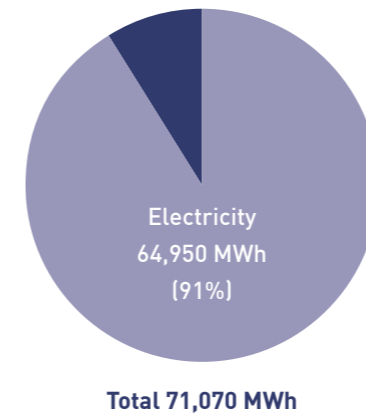
Our plants are energy-intensive but, at the same time, the energy sector represents one of the primary levers for reducing greenhouse gas emissions. As a manufacturing company with a high energy demand, electricity plays the key role here: it is our most important energy source and has a decisive impact on our carbon footprint.

In accordance with the ESRS E1-5 standard from the Corporate Sustainability Reporting Directive (CSRD), we specify the energy source and origin when recording all our energy consumption. We differentiate here between fossil, nuclear and renewable forms of energy in order to get as precise and reliable a picture of our energy structure as possible. Here we consider both purchased energy quantities and energy that we generate ourselves, such as from photovoltaic plants. As the diagram below shows, electricity is our most important energy source, which is why it is also the main focus of our cross-site energy monitoring.

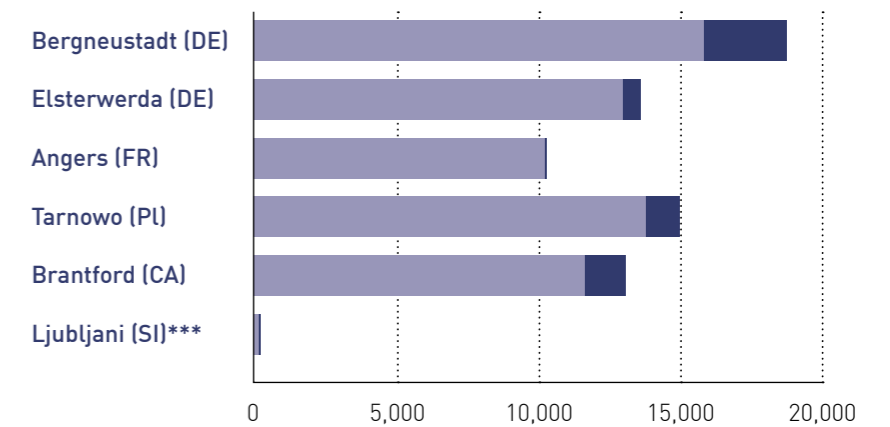


**91%**  
of all the energy consumed in our plants consists of electrical energy

Energy demand of the GIZEH Group\*



Energy demand of the different sites\*\*



\* incl. ROTOPRINT d.o.o. from 09/24

\*\* incl. ROTOPRINT d.o.o. from 09/24, \*\*\* from 09/24

The origin of purchased electricity varies significantly between regions, with noticeable effects on the respective emissions factors: while the electricity mix in Germany and Poland continues to include a large proportion of fossil sources, electricity in countries like France and Canada comes primarily from nuclear sources. Given this situation, we are especially focused on expanding our on-site photovoltaic installations at our German and Polish sites.

Throughout Europe we use the software solution EnEffCo® to systematically record and evaluate consumption data. This allows us to record energy data in a standardized and transparent form, giving us a basis for targeted efficiency measures, strategic controlling and continuous further development of our energy management.

# Our measures



Electric truck in front of photovoltaic plant, Elsterwerda

The use of photovoltaic facilities at our sites enables us to cover a substantial part of our electricity demand ourselves. At the Elsterwerda site, a 1,755 kWp photovoltaic plant went into operation at the start of 2025. This solar plant now covers more than two thirds of the total electricity demand on workdays, depending on the time of day and year. At weekends, it sometimes supplies more energy than is required, exceeding 100% of demand at peak times.

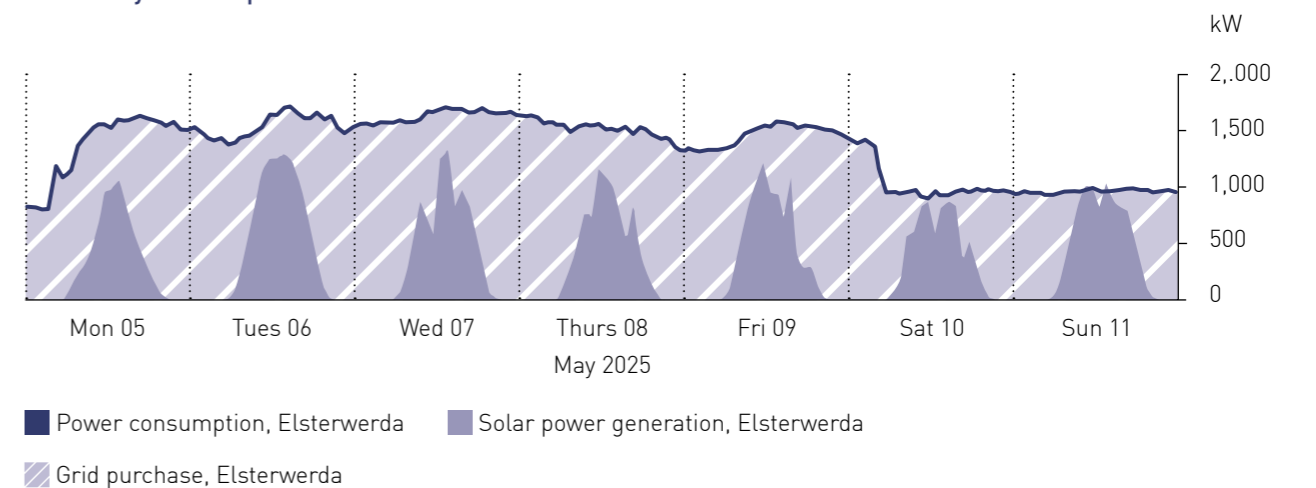
We are also investing specifically in expanding photovoltaic facilities at other locations. At our site in Bergneustadt, a plant with an output of 405 kWp has gone into operation. In Poland, a photovoltaic plant is already providing 1 MWp of electricity for production, with an additional 1 MWp plant currently under construction. At our site in France, a 200 kWp plant has been installed. From 2025, these projects will together generate more than four million kilowatt hours of electricity for our own use.

We are also taking targeted measures to reduce our use of fossil sources outside of electricity generation. At the Elsterwerda site, for example, an electric truck for short-distance transport was commissioned as part of the gradual electrification of our logistics operations.

In addition, multiple efficiency measures have been put into effect: older injection-moulding machines have been replaced by new, more energy-efficient models, and the lighting systems have been switched over to modern LED floodlights. At the Bergneustadt site, the cooling system for the thermoforming department was changed over to adiabatic free coolers and frequency-controlled pumps in 2023. This measure alone saves around 400,000 kWh of electricity each year.

These specific measures complement our strategic goals and show how environmental protection can be practically anchored in day-to-day operations.

Electricity consumption at Elsterwerda over a week



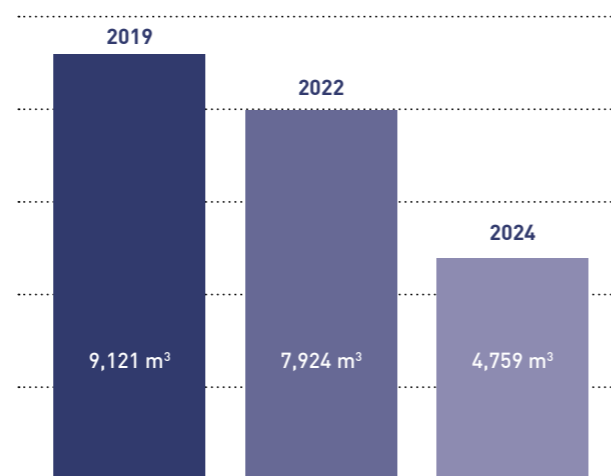
# Water

Water plays a supporting but nevertheless important role in our production process, especially for cooling technical plants, applying decorative sleeves in a steam tunnel, and in sanitation facilities such as showers and washing stations for our employees.



Our aim is to keep our water consumption as low and as efficient as possible, relying on self-contained water cycles and optimized operational processes, as well as raising awareness among our employees of how to save water. Most of the water we use is reused in internal cooling circuits. One particularly effective step was to systematically shut down all the cooling towers in our company and replace them with water-efficient adiabatic dry coolers. In 2023, the last remaining cooling tower at our Bergneustadt site was decommissioned. Since then, there has been a significant reduction in our water consumption:

Fresh water consumption at Bergneustadt



# Waste management

When it comes to handling waste, GIZEH follows the motto "avoid, reduce, reuse". The aim is to prevent waste at the source wherever possible, while systematically recycling any unavoidable residual materials. Production waste and rejects are, whenever possible, returned to the internal material cycle. Most of the waste that leaves the company is recycled. By specifically analysing waste streams and continuously optimizing production and packaging processes, we reduce material losses and keep reusable materials within the cycle.

Most of the production waste and rejects that cannot be reused internally are ground up and sent to specialist recyclers. GIZEH is also reducing waste in the area of transport packaging, by deploying multiple-use transport systems and return solutions for cardboard packaging, in cooperation with suppliers. In addition, CUPSTORYS gives customers the option of returning products so they can be recycled. Furthermore, refillable canisters for cleaning agents, sold with a deposit, help prevent waste in the production process.

## Waste at Bergneustadt, 2024

Type of waste	Quantity (t)	Share of total waste
Non-hazardous waste — external recycling	564.5	87.2% (recycling rate)
Non-hazardous waste (incineration/landfill)	73.1	11.3%
Hazardous waste	9.9	1.5%
<b>Total</b>	<b>647.6</b>	

**Note:** non-hazardous waste primarily consists of plastic production residue and packaging waste. Hazardous waste primarily consists of operating resources such as oils or cleaning solvents.

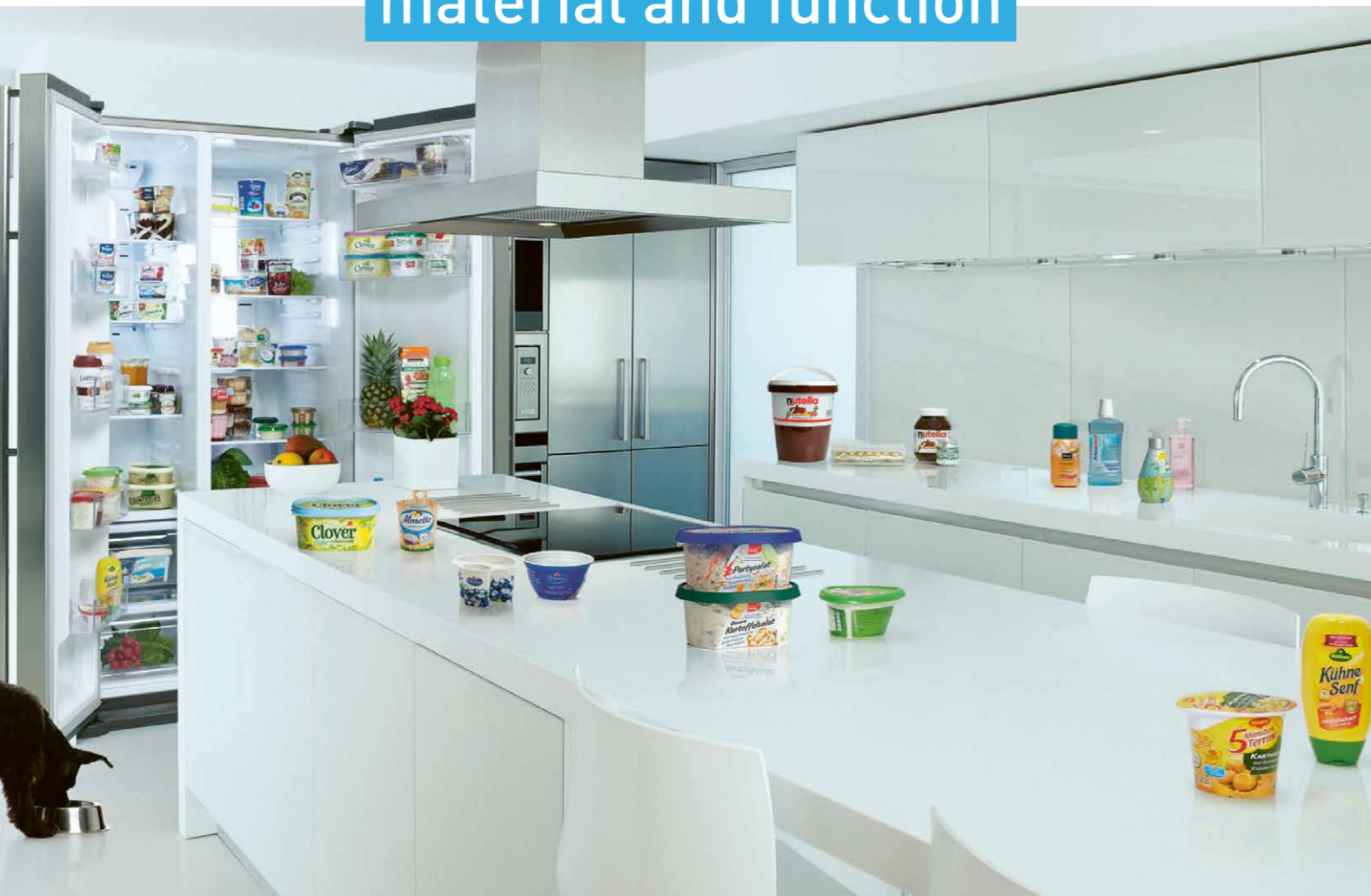
**87.2%**  
of our total waste  
is recycled





# OUR PRODUCTS

Sustainability in  
material and function



## ... AT A GLANCE



### OUR HIGHLIGHTS

Optimal protection of the package contents while promoting the circular economy and packaging sustainability:

- Product protection and shelf life: minimizing permeability and simultaneously maintaining full recyclability
- Resource optimization: reduced weight with the same or improved function, incl. reuse of post-consumer materials for food applications
- Design for recycling: optimizing material sorting in packaging



### OUR VISION

Achieving a self-contained material cycle:

- Constantly improving the recyclability of our packaging
- Further minimizing our material consumption
- Promoting the recycling economy by safely using recycled materials
- Using bio-based or biodegradable materials wherever useful, without a negative impact on the environment or agriculture

We contribute to the following SDGs:



## Sustainability & environmental protection from packaging

Many consumers are unaware of just how effective plastic packaging is. By protecting the food it contains, it plays a key role in more sustainable handling of food, helping protect the environment by avoiding unnecessary food waste. After all, the main purpose of packaging is to protect the food inside, which represents the biggest part of the finished product's carbon footprint.

Good packaging is therefore already active environmental protection.

The benefits of plastic packaging are clear. Manufacturing it uses less energy than aluminium or glass packaging. It is light, depending on what it is for it can either be very flexible or rigid, and it can be used in many fields.

At GIZEH, we work according to the principle of "Customized Cup Solutions". For us, this means innovative and optimized packaging solutions that are customized to the needs of our clients and their product.

Our primary focus here is, of course, on safeguarding the packaged product. We also consider the optimization of resource requirements from the most sustainable sources possible, as well as the topic of recycling, when developing new packaging.

## Customized packaging

Packaging not only protects the product against contamination or external influences such as oxygen etc. which would cause food to spoil more quickly, but also serves to ensure that products are stored and transported properly.

Today, most food is sold in protective packaging. Even food that has a long shelf life needs to be protected against influences that speed up perishability.

At GIZEH, we look at the specific requirements for each piece of packaging. We have many years of experience in manufacturing packaging, not just in PP mono-material, but also in multilayer films with a corresponding barrier layer to keep out oxygen. These products contain a barrier that provides additional protection to the contents, and can also be recycled together with the cup after use.



### Customized Cup Solutions

Customized Cup Solutions refers to optimum packaging design to provide the best possible product protection during transport and against external influences.

Alongside protecting against external influences, the packaging can therefore also reduce permeability for gases such as oxygen and water vapour, for example in both directions.

This retains flavourings and volatile vitamins and maintains consistency.

Further benefits of optimized packaging can therefore also include, for example, removing the need for additional preservatives.

This too helps preserve resources and reduce CO<sub>2</sub>.

## Design for recycling

**When developing new packaging or optimizing existing older packaging, recyclability is one of the most important factors.**

The recyclability of packaging is already taken into account right from the design phase. This also includes considering the disposal fees associated with the German packaging recycling system and the introduction of the PPWR (Packaging and Packaging Waste Regulation), with its future quotas for recycled materials in packaging that will come into effect in 2030.

In a finished design, the packaging should consist of a combination of materials that has zero negative impact on its recyclability and that ensures it as efficient as possible to recycle the packaging.

In order to keep up to date with the latest developments and play an active part in future improvements, GIZEH is a member of RecyClass, among other initiatives. RecyClass is a cross-industry community founded by Plastics Recyclers Europe. It develops guidelines for designing recyclable packaging and awards certificates and proof of the recyclability of individual packaging that are valid throughout Europe.

### Why is this important?

Every piece of plastic packaging is a specific combination of polymers and additives. The individual composition depends both on the product to be packaged, and on functional and aesthetic considerations. This results in a large variety of packaging that can make the recycling process harder, more expensive, and impair the quality of the resulting recycled plastic.

A design decision made right at the start of the process that seems useful for marketing or branding purposes (e.g. using very dark colours) may later result negatively on the value of the recycled material. Design for recycling takes this aspect into account from the start, thereby helping to plan added value at the end of production right at the beginning.

### What could this look like?

White or transparent packaging is most suited to the recycling process.

However, unless you apply additional decoration, it will not fulfil its requirement to provide information.

Decoration is needed to label the content by type, quantity, weight and use-by date, and to add bar codes. To prevent this decoration from impairing recyclability, the material of, for example, labels (OML/IML) or shrink-wrap sleeves should be the same as the packaging, wherever possible. GIZEH has for quite a while been dealing with topics that will take on a more important role in the future, i.e. printing inks/IML or labels that are easier to separate and remove during the recycling process, in order to significantly improve the quality of the recycled material. Similarly to today's "bottle-to-bottle" rPET flow, the requirements of the PPWR will create, from 2030 onwards, a demand for recycling flows for other types of food packaging, essentially a "cup-to-cup" system. The combination of product design and decoration is a key factor in improving recyclability and reducing costs, and in reclaiming waste from plastic packaging.

## Sustainable use of resources

What this means to us at GIZEH:

- Reduction of material use
- Increased use of recycled materials  
Constantly improving the recyclability of packaging
- Use of additives that are fully compatible with current recycling processes
- Increased use of bio-based and biodegradable plastics for appropriate applications where suitable (items that are likely not to be disposed of correctly and end up in the environment)
- Reusable solutions for private use, events and catering sector

### Material savings

Keeping packaging as light as possible not only represents a financial benefit, it also helps save on resources and reduces our carbon footprint.

This is why we are always looking for innovative solutions in terms of material, design and optimizing the manufacturing process.

In the past, we have successfully achieved weight reductions of up to 20% without sacrificing technical functionality — indeed sometimes even improving it in the process.

One example of this is the changeover from polystyrene (PS) to polypropylene (PP): this change of material alone enables a reduction in CO<sub>2</sub> emissions of around 50%\* for the same quantity of plastic. Moreover, thanks to its lower density, PP enables further weight savings, leading to further reduction in material used and additional saving of CO<sub>2</sub>.

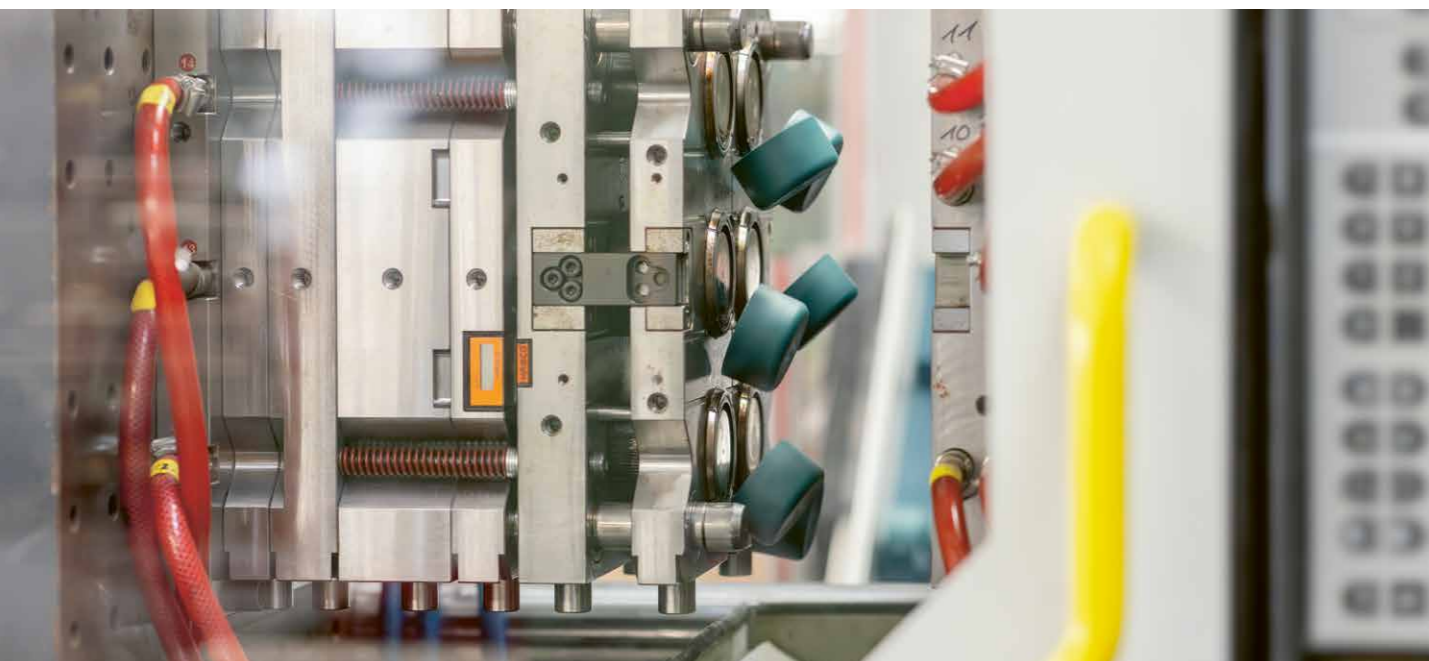


### What is the CO<sub>2</sub>e factor for materials?

The CO<sub>2</sub>e factor (CO<sub>2</sub> equivalent factor) specifies how many kilograms of greenhouse gases, calculated as a CO<sub>2</sub> equivalent, are produced during the manufacturing of a kilogramme of a specific material. For packaging plastics, these are:

- Polystyrene (PS): approx. 3.75 kg CO<sub>2</sub>e/kg
- Polypropylene (PP): approx. 1.88 kg CO<sub>2</sub>e/kg

\*/Source: Informationsblatt BAFA CO<sub>2</sub>-Faktoren 2024



Methods like injection compression moulding (ICM) also offer great potential for saving weight in injection-moulded packaging, as well as reducing the energy needed for machines and processes in which current manufacturing methods reach their limits.

Innovative ideas and solutions customized to the customers' specific needs are a key reason why our expertise is so in demand, especially when it comes to advising on optimum manufacturing methods.

Together with our customers we develop ideal solutions not just for new projects, but also for existing products. In doing so, we not only look at the packaging itself, we also take into consideration how to ensure future trouble-free handling in transport or our customers' filling systems. Given that packaging is getting lighter and thinner all the time, this is a task that faces ever greater challenges.

Consequently, we can also save resources within transporting packages. Lighter packaging and optimized stackability make it possible to transport larger quantities of plastic packages in fewer shipments. When compared directly to significantly heavier containers made of glass or aluminium, which often are not stackable, our plastic packaging not only comes out on top in terms of its carbon footprint during production, it also wins when it comes to transport.

### Use of renewable and biodegradable plastics

Another key focus of our development team is on working with biodegradable materials and using materials produced from renewable primary products. Many bio-based or biodegradable materials are, however, sadly not (yet) more sustainable than conventional plastic. One reason for this is their low proportion of the total amount of waste produced, which means among other things that they are not currently classified as recyclable. But we are monitoring the market and have already completed successful trials and smaller production runs with alternative plastics:

#### Bio-feedstock

This term refers to plastics based on oils and greases from industry and forestry that are normally produced as a waste product. By using these alternative plastics with their more sustainable oil basis, we reduce the use of crude oil. The ISCC certification guarantees the entire material flow, from its share of bio-feedstock in manufacturing, through to the processing of the packaging.

#### Bio-based and domestically compostable materials

This refers to plastics that are not produced from crude oil, but are instead based on organic, sustainable sources such as starch from maize and the like. We make sure that these materials do not require industrial conditions to biodegrade, with the addition of enzymes etc., decomposing significantly slower in domestic compost but instead can genuinely biodegrade in a domestic composting system.

#### Additives for improving biodegradability

In many countries, there are no systems in place for collecting used packaging. As a result, large quantities of waste are not disposed of under optimal conditions, entering the environment either directly or indirectly. However, new additives offer the opportunity to use, for example, standard polypropylene as a fully biodegradable plastic. With the help of microbacteria, the plastic completely decomposes into its original chemical components over time. This prevents negative consequences such as microplastics or toxic by-products. Since 2022, GIZEH has been making cups with this type of additive for many customers. The primary focus here continues to be on recycling the packaging, and the additive has no impact on this, it simply provides a back-up option. So if the packaging is disposed of improperly, it degrades within a short period of time into its constituent natural components — with no negative impact on the environment or surroundings.

### Post-consumer PP from chemical recycling

In chemical recycling, collected plastic waste is broken down into its monomers, i.e. its chemical building blocks, using a pyrolysis method. This gives you what is known as pyrolysis oil, which then replaces fossil crude oil as the basis for producing plastic, thereby improving your carbon footprint and promoting the recycling loop. Thanks to the relevant audit from ISCC and the corresponding certificates for the substances used, it is possible to clearly track the flow of materials, which can then be reliably communicated to our customers in the market.

### Using recycled material

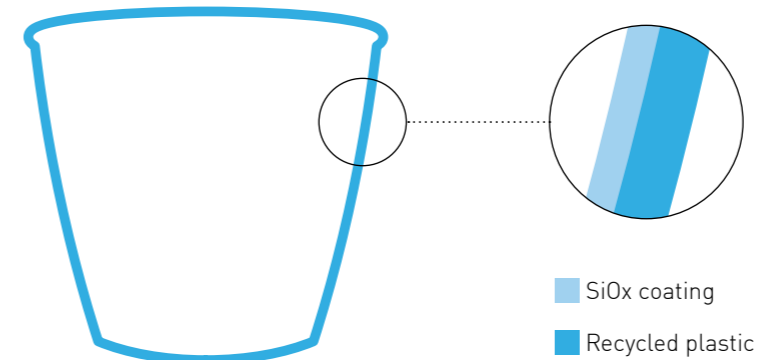
The specifications of the PPWR for future use of recycled material in packaging will require solutions that make it possible to reuse recycled plastics other than rPET from the self-contained deposit-and-return system when making foodstuff packaging. Various joint trials and projects with our customers and partners have shown that post-consumer rPP can be effectively reprocessed for packaging using both the thermoforming and injection moulding methods. The processed recycled polypropylene in these trials came from normal domestic waste (household recycling), which is why it is referred to as post-consumer material. Using rPP from post-consumer waste for packaging that comes into direct contact with food is still difficult because it does not yet have official EU approval.

The main reason for this is the possible hazards associated with the release of substances that have migrated into the packaging during use and could then end up in the food (migration). As the origin of materials from household recycling collection is unknown, it is not currently feasible to rule out the possibility that plastics that are not approved as food-safe can enter the recycling process and thus contaminate it. For this reason, these plastics are at present only used for household and cosmetics goods that have no direct contact with food.



Recycled rPP granulate

### Layer structure in recycled plastic



**Other possible solutions include providing additional protection of the packaged food using “functional barriers” that prevent substances from migrating out of the cups into the food.**

In collaboration with a well-known German plastics institute, we set up a joint project to successfully apply a protective layer, known as a functional barrier, to rPP cups to prevent possible migration of critical substances into the product that is later packaged in them. In the first step, the precise characteristics of rPP materials and their coating were analysed for suitability as compared to new PP goods.

Based on these results, a method was developed to correctly evaluate the barrier properties of various layer structures. This enables a much more effective assessment of how well barrier layers perform in combination with various critical migration substances, allowing further optimization of the barriers with respect to oxygen, for example.

Another direct approach is to improve the quality of the recycled plastic by clearly sorting the plastics and packaging into “food grade” and “non-food grade” right at the start of the process.

More and more of the recyclers that we at GIZEH work with now have sorting systems that use AI or markers on the packaging that enable them to sort and recycle packaging to a quality that could, in theory, be reused for food packaging. Some recyclers are already in contact with the EFSA, hoping to establish an approval process similar to today’s process for rPET.

GIZEH is actively involved in various trials in this area, including membership of the HolyGrail 2.0 project, which was recently able to verify the possibility of effective sorting of, for example, “food” versus “non-food” at industrial scale.

The HolyGrail project uses digital watermarks and a corresponding camera system to enable separation of packaging during the recycling process. As the watermark can also be detected by any modern smartphone camera, there are also additional possibilities such as creating links to the manufacturer’s website or augmented reality (AR) applications using the packaging itself.

**up to > 90%**

**detection efficiency achieved in sorting plastic packaging using digital watermark technology**



**HolyGrail 2.0**

Improved sorting and increased recycling rates for packaging thanks to digital watermarks. These are added to the packaging’s printed design and are invisible to the naked eye. The watermarks make it possible to store a variety of information in the packaging, enabling precise sorting not just by material type, but also by “food vs. non-food” material.

GIZEH will also be an active member in the follow-up project, HolyGrail 2030. This will look into sorting marked packaging from German and Belgian household waste. The packaging will then be recycled and reused as rPP for food packaging. With batches running in parallel and migration analyses, the aim is to provide proof that the sorting and the subsequent recycling process are capable of delivering qualities that are suitable for reuse as food packaging.

GIZEH is also supporting the NEXTLOOPPP project (NEXTLOOPPP | The goal is to establish a circular economy in the production of post-consumer food-grade rPP), where we have collaborated with one of our largest customers to produce samples of post-consumer rPP for technical trials and analyses, among other things. NEXTLOOPPP also deals with marking and recognising defined plastic packaging (food-grade). Unlike the HolyGrail 2.0 approach, however, this involves using fluorescent markers in the printed design or the label, IML or sleeve.



One current example of the possible uses of rPP (recycled PP) is our screw cap made of 100% post-consumer PP for a cosmetics bottle. Designed in cooperation with a large recycling company and a manufacturer of bath and cosmetics items, it has been in successful series production for quite some time now. Together with a matching container made of 100% recycled PET (rPET), it provides packaging made entirely out of recycled material.

We are receiving more and more inquiries about the use of recycled PET. And demand will continue to grow, particularly given the new EU requirements for recycling rates and the proportion of recycled material in packages that will come into effect by 2030. Since recycled PET comes from a closed, certified system (EFSA) — and thus remains separate from rPET for non-food items — it is perfectly safe for use in the food sector.

About 50% of the PET used at GIZEH is now recycled material. For other materials such as polypropylene, there are not yet any equivalent closed circuits and corresponding approvals from EFSA. New rules have been introduced at the EU level that provide the legal framework for establishing new recycling methods. Other plastics are also treated appropriately to enable them to come into direct contact with foodstuffs, in accordance with the same quality criteria that apply to new goods.

Re-Use

The CUPSTORYS division at GIZEH produces, decorates and sells in-house reusable plastic solutions.

Reusable drinking cup for large and small events: the high quality printed cups can be used multiple times, ensure safety thanks to their breaking strength and help keep the environment clean because users pay a deposit on them. Current developments will make it possible in the future to also link the cups to the digital world. What are known as RFID labels will enable automatic detection of the cups, e.g. as part of waste collection or deposit systems. One example is the "Einfach Mehrweg" system, which offers a deposit-based public reuse system that does not need an app or registration — you simply return the containers at the checkout or using the deposit-return machines in supermarkets and elsewhere. The range of containers has also been expanded since last year to include reusable bowls and plates for catering and restaurants, and these can also be made from bio-feedstock or bio-based and biodegradable materials.

Using reusable containers in this sector avoids unnecessary waste from single-use items, helping us make a further contribution to sustainability and conserving resources.





# OUR TEAM

**Securing our success  
in the long run**



## ... AT A GLANCE



### OUR HIGHLIGHTS

- We are agile thanks to short decision-making paths and flat hierarchies
- We are growing continuously and healthily
- We are an international group of companies that communicate actively with one another
- We offer our 806 employees around the world and our 460 employees in Germany numerous benefits to help them in their daily lives
- We provide training to 34 apprentices, students and trainees



### OUR VISION

- We take a holistic approach, starting with support in kindergarten — finding and retaining specialists
- We support our employees throughout their lifetime career cycle, all the way through to succession planning
- We give our employees individual support and help them in times of distress

We contribute to the following SDGs:

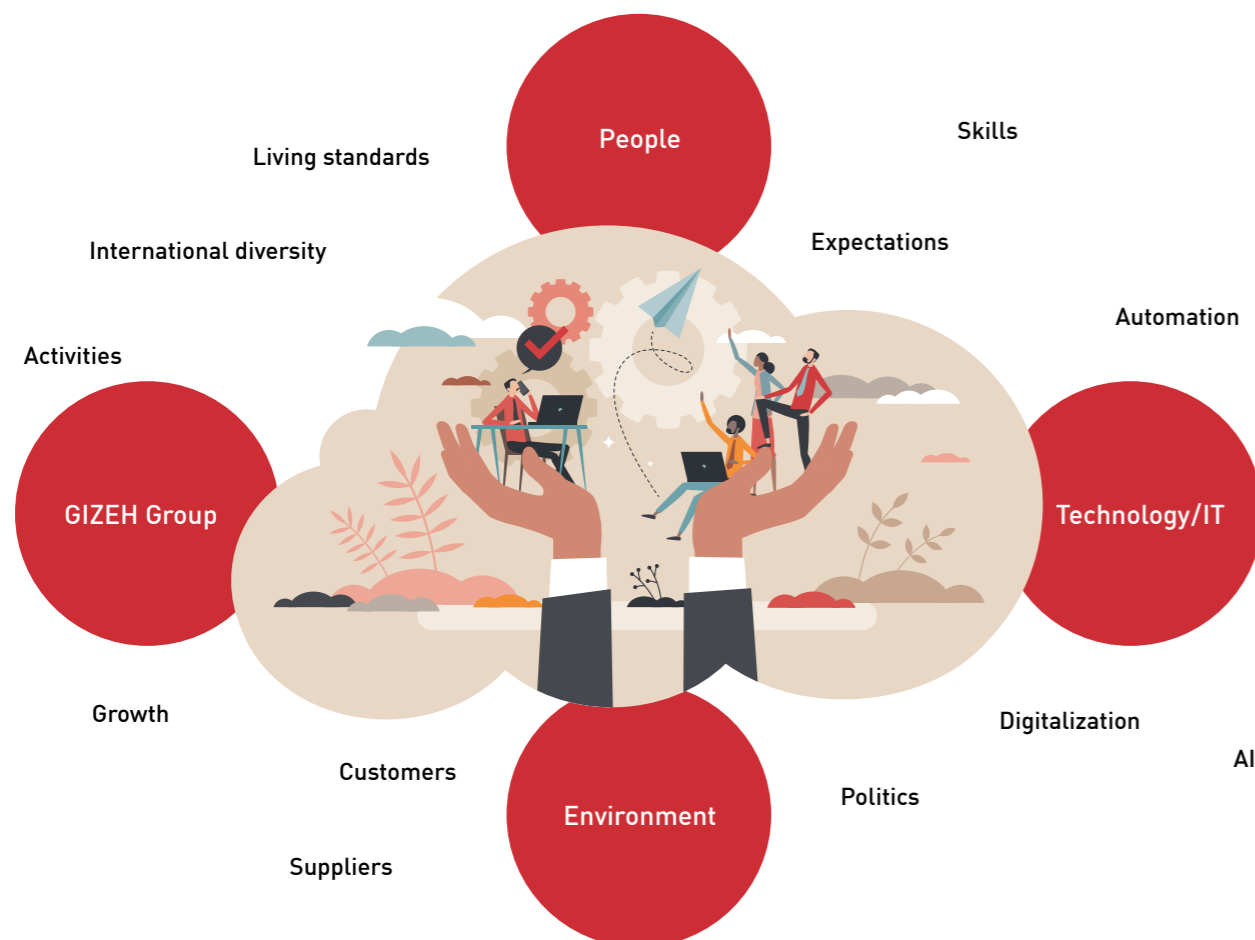


# We are GIZEH

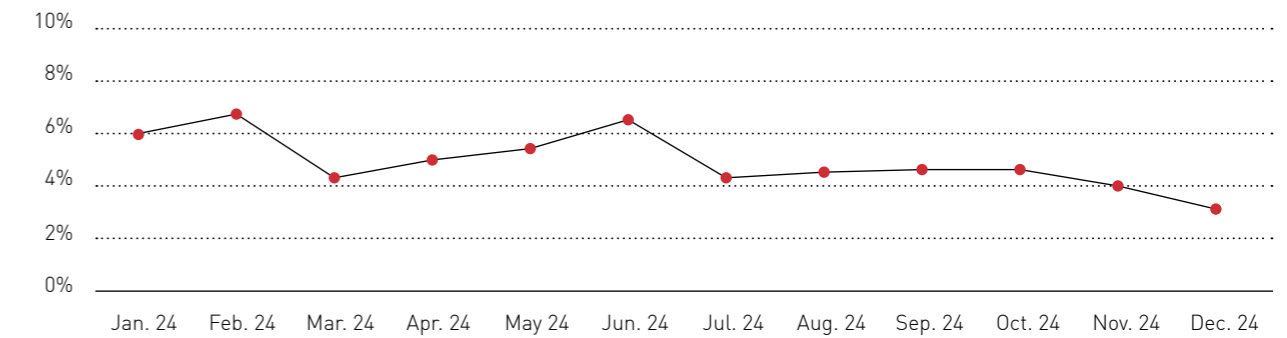
Our daily lives are shaped by ever changing demands. We are constantly facing challenges we set ourselves, those set by society and yet more set by the world of politics. A corporate culture that encourages loyalty is therefore more important than ever. As a family-owned company, we believe our job is to create a respectful and supportive company culture — one which both encourages and calls for cooperation. Together, we create appreciative and respectful dealings with one another, open communication, innovative ideas and a satisfied working atmosphere.

**WE are GIZEH — have you ever asked yourself what makes a company successful in the long run? It does, of course, take loyal customers and suppliers, business partners and much more, but at the heart of it all are our employees. This where “WE are GIZEH” plays its key role: promoting appreciation, innovation and respect.**

### For better cooperation



### Sickness rate trend in 2024, taking Bergneustadt as an example



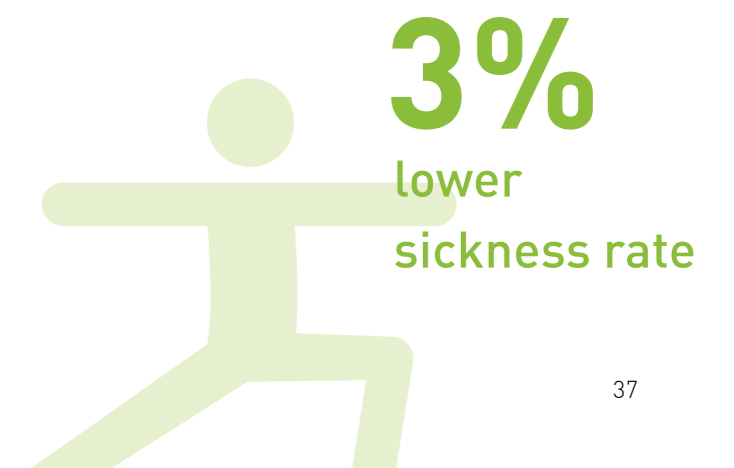
### Benefits

Everyone is talking about the skills shortage, and dealing with this is a challenge for many companies. To remain successful in the long run, we offer our employees a variety of targeted benefits that have proven useful and sensible to us as a company at the individual sites. To mention one cross-border example, at the Bergneustadt and Angers sites we operate bonus tickets and corporate benefits. In addition to open-ended employment contracts or flexible part-time models, we offer

- In-house childcare
- Canteens
- Medical officers (works medical centre)
- Flexitime accounts
- Employee events
- Company pension scheme / capital-forming payments
- Health management
- Corporate benefits / Ticket Plus company debit card

We should take a moment to highlight the topic of health. For several years now we have been working together with the works medical centre at Oberberg to offer our employees services above and beyond the legally required preventive occupational medical care, giving them the option of individual medical support. This support ranges from addiction counselling and psychological counselling, through to nutritional advice.

Meetings with supervisors when returning to work after an illness are the first communication steps towards reducing lost days and visualising success with our performance indicators. In 2024, we managed to reduce our sickness rate by 3 percentage points. Besides healthy and varied food in our canteen, we offer services such as advice on how to maintain a healthy back at work.



Together at GIZEH

- Benefits

  - Canteen
  - Ticket Plus card
  - Employee discounts when buying a bicycle
  - Corporate Benefits
  - Company pension scheme
  - Capital-forming payments
  
- Health care

  - Meetings after returning from a period of illness (statutory occupational integration management)
  - Medical officer
  - Nutrition and holistic advice
  - Flu vaccine
  
- Organization

  - Work clothes
  - Works council
  - Company instruction (training)
  - GIZEH events (Christmas, summer, anniversaries etc.)
  - Christmas gift bags
  - Parking spots
  - Water, coffee free of charge
  
- Communication

  - GIZEH WIKI
  - Weekly team meetings
  - GIZEH News
  - IT solutions such as Cloudya, Teams
  - Q & A (training)
  
- Development

  - Internal and external training courses (safety, compliance, IT, management etc., on and off the job)
  - Language lessons
  - Individual development plans
  - Onboarding and offboarding
  - Qualifications matrix
  
- Employer branding

  - Family-owned company
  - GIZEH values (respect, responsibility, team spirit)
  - Social media
  - Website
  - Career fairs
  - Employees recruit employees
  - GIZEH shop



Training and development

Our training concept covers a total of 10 skilled occupations, offering a variety of possibilities that extend beyond just training itself. This is complemented by study and trainee opportunities, individual advanced training offers and deployments abroad. We are very happy to start with a school internship or practical training period before you begin your vocational training or further education or start at GIZEH. This is all part of our holistic approach to personnel development. We are currently training 34 young people in Germany in various different vocational jobs and fields of study.

Individual flow charts and development plans supplement the targeted planning of our further training courses. We don't train just for the sake of it, we again take an appreciative, innovative and respectful approach to our employees to decide what is beneficial and useful for both parties.

As soon as they begin their training, our apprentices and trainees start English courses, manual training, Finance Fit, communication courses and are introduced to the company's culture and values in a GIZEH code of conduct.

The programme is accompanied by team events and group tours organised by the youth training representatives (such as a Christmas celebration). Our in-house training workshop completes the range of offers.

**Knowledge management**

Starting work in one of our companies always involves an in-depth onboarding process. In addition to individual onboarding plans, our new employees gain insights into the various divisions and get to know the most important contact persons. The in-house intranet and our training courses on DataGuard help employees access up-to-date news, system manuals and all the information they will need, promptly. System training courses included in the onboarding plan help you get to know the most important things right from the start. Topics here include data protection, cyber-crime, AI etc.

But the topic of knowledge management covers much more than just a detailed onboarding process. GIZEH started 2024 with a new personnel development concept. The decision to take an integrated approach to human resources development means, when it comes down to it, nothing less than supporting our GIZEH employees throughout their entire working life cycle. This approach is the way we have been doing things for a long time, but now also taking into account the needs of today's and future generations.

Early monitoring of the start of retirement and available employee potential allows for a smooth change-over for everyone involved. Knowledge transfer is a key factor in ensuring quality performance and customer satisfaction, but it also represents a respectful and appreciative transition to retirement, for example.

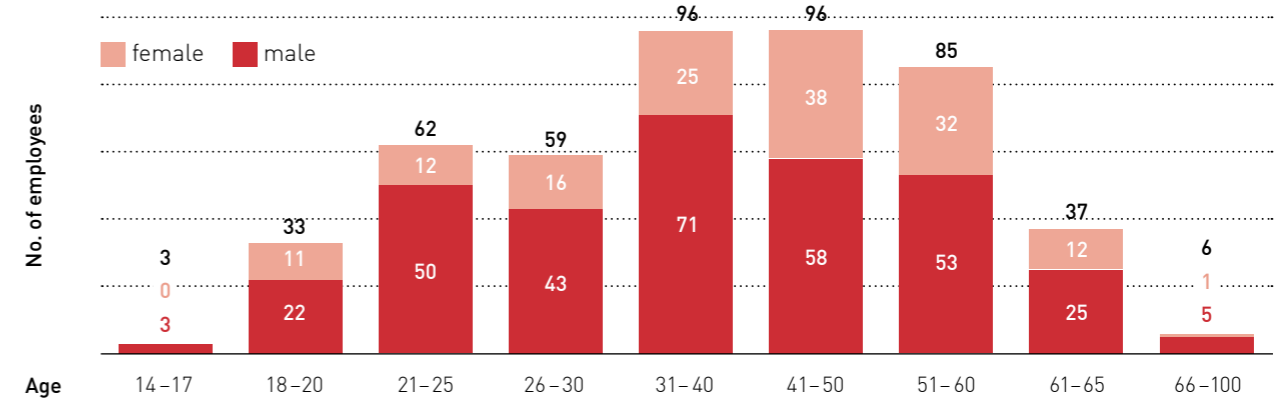


**Equal treatment and opportunities**

We are actively committed to ensuring that all our employees have the same opportunities and rights regardless of gender, origin, age, religion or other personal characteristics.

More and more of our long-term employees are starting to enter retirement, which inevitably involves a process of rejuvenation. In 2024, we experienced an employee turnover rate of 17%. Our aim now is to bring this rate down with the help of the employee loyalty measures described above and to keep on experiencing a continuous transfer of knowledge. Personnel development is the key to gaining the specialists of tomorrow and safeguarding healthy company growth.

**Demographics — Bergneustadt and Elsterwerda plants**



We believe in diversity and foster our employees' strengths and potential. For example, in 2024 people from 25 different countries worked at our headquarters. By providing the right supportive framework, such as help finding a place to live, contacting health insurers and the authorities, language courses etc., we are able to ensure a positive and respectful working relationship. We are active around the world as a corporate group, with a total of six company sites employing 806 people. Thanks to an active network between the sites and the centralization of certain functions at headquarters, we offer the best possible equality of opportunity. Our corporate guidelines set the direction and are supplemented by a code of conduct for suppliers, among others, and our whistleblowing process. We promote a working atmosphere where diversity is valued, and everyone has the opportunity to make the most of their talents and skills.

**Appreciative, innovative and respectful — WE are GIZEH Packaging!**



# OUR SOCIAL CONTEXT

Committed to people,  
committed to our community



## ... AT A GLANCE



### OUR HIGHLIGHTS

As a family-run company, we embrace social responsibility with heart, attitude, and a lasting impact on the local community.

- Around 60 social projects sponsored each year
- All sites actively included — regional roots for a far-reaching network
- Driven by the workforce: many of our employees are involved in volunteer work and initiate social campaigns — which is something we actively encourage.



### OUR VISION

- 100% family-run — values-based dealings as the foundation of our actions
- Targeted sponsorship in the fields of education, health and civil protection
- Long-term partnerships with charitable organizations
- Long-term involvement thanks to personal presence and close cooperation with local initiatives

We contribute to the following SDGs:



## Responsibility as a family-owned company

As a family-owned company in the packaging industry, we see our responsibilities as more than just obligations, we see them as lived values. Over the generations, we have built up a corporate culture shaped by trust, cooperation and long-term thinking. We don't just focus on economic success, we also believe in respectful and fair dealings with the people around us.

Our actions are based on sustainable, long-term principles, and not just when it comes to our products and processes but above all with the people we have dealings with each and every day — our employees, our partners and the communities at our locations.

### Social responsibility as a family-owned company

For us, social commitment is not a short-term project, it is a fundamental part of our company's identity. We are convinced that companies — especially those, like us, with strong regional roots — can and should play an active role in maintaining a supportive and united society.

This is why we sponsor social projects and initiatives that can make a real difference on the ground — whether this be in education, health or civil protection. Our aim is to give help where help is needed: pragmatically, without red tape and with passion.

### Selected examples of our social projects

As part of our community involvement, we support a variety of initiatives. We are especially proud of our cooperation with:

#### City of Bergneustadt

##### Multi-functional court for secondary school

GIZEH helped sponsor a project to ensure that schoolchildren and the entire community will have access to a modern and versatile sports facility in the future. After school hours, the facility can also be used by clubs and children outside the school.

### Strahlemännchen

"Making wishes come true for children with cancer"

Strahlemaennchen.de — Herzenswünsche für krebskranke Kinder e.V. is a non-profit organization based in Finnentrop, Germany, committed to helping seriously ill children and youths, young cancer sufferers, and their families, all over the country. It offers emotional and practical support, organizes special experiences, provides recreational opportunities such as holiday homes, and is involved in projects like the inclusive Rabaukenland adventure playground.



### Lebensfarben

"Help for children and young persons"

Lebensfarben is a non-profit organization based in Wiehl, Germany, that supports children and youths in the region with parents suffering from mental illness or addiction. Its primary focus is on individual counselling, voluntary sponsoring, help for parents, and group work.

These projects are all examples of our conviction that every bit of help counts, and social responsibility starts right on your own front doorstep.



### Local commitment

Our sites are more than just places where value is created, they are a part of living communities. This is why we specifically sponsor local initiatives, organizations and facilities that dedicate themselves to the common good. Whether this means supporting the local fire brigade, providing high-vis jackets to primary school pupils, or our apprentices selling waffles to raise funds for seriously ill children — we want to be an active and visible part of the community.

And our employees are key drivers of this: many are involved in voluntary work, come up with ideas for social campaigns or organize in-house charitable fund-raisers. We strongly value and support this type of personal commitment.

# Commitments of the GIZEH Group

As an internationally active, family-owned company with six sites, it seems obvious to us that our social responsibility is not restricted to our local area, it is something that stretches across national borders.

We take a decentralized approach here: each site is involved individually and decides for itself about regional partnerships and commitments, tailored to the specific local needs and cultural circumstances. What connects them all is a shared understanding of values, and a will to make a positive contribution to society.

So, for example, our site in Poland supports an association committed to helping people with disabilities, while our site in Canada is actively involved in an organization that advocates for people with dementia. In Elsterwerda, Germany, one focus is on supporting children's hospices, while our colleagues in France sponsor the local fire brigade.

The variety of our commitments reflects the variety of our sites, and helps make our social contributions particularly effective. We believe that social responsibility works best when it comes from within the community in question.

**Below is an overview of the further numerous smaller and larger local and regional projects we have supported:**

#### **Bergneustadt/Germany:**

- Oberbergische Tafel e.V.
- Bergneustadt fire brigade training project
- Tafel Bergneustadt
- Stadtsportverband (defibrillator)
- THW "Helfervereinigung"
- Ärzte ohne Grenzen

#### **Elsterwerda/Germany:**

- Kinderhospiz Magdeburg
- Förderstiftung der Pfeifferschen Stiftung
- Kinderheim Walda e.V.
- Generation next gemeinnützige GmbH

#### **Brantford/Canada:**

- St. Joseph's Lifecare Foundation
- Alzheimer's Society of Brant, Haldiman Norfolk, Hamilton and Halton
- Brant County SPCA
- Brant food for thought

#### **Tarnowo Podgórne/Poland:**

- Stowarzyszenie na Rzecz Dzieci ze Złożoną Niepełnosprawnością "Potrafię Więcej"
- Dom Dziecka "W Stońcu"
- Stowarzyszenie "Piątka"  
Zespół Szkół Specjalnych im. Jana Brzechwy

#### **Angers/France:**

- Sapeurs-pompiers de Maine-et-Loire
- Angers Hospital

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We look forward  
to a sustainable future!

