

VETROTIME

Glass packaging
High acceptance

Müller + Krempel
Tradition
and innovation

Focus
Sensor technology
and glass



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Imprint

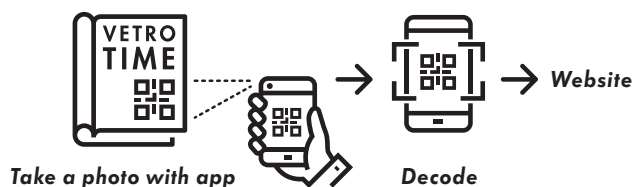
Editing and text:
Corporate Communications
Vetropack Holding Ltd, Bülach

Design: Arnold & Braun
Grafik Design, Lucerne

Printing: Kalt Medien AG, Zug

Paper: LuxoArt Silk, no ream,
wood-free, coated on both
sides, semi-matt

This edition of Vetrotime
is printed on climate-neutral,
FSC-certified paper.

**A direct link to Vetrotime: the new QR codes**

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Focus: When it comes to wine, the visual and tactile experience is just as important as smell and taste. Packaging plays a key role in the appreciation of wine. That's why producers use glass bottles and labels to create an impression of what's inside. It is about much more than just preserving the high-quality content.



Dear readers,

It is said that necessity is the mother of invention, as difficult situations often give rise to unusual ideas and solutions that would be unimaginable under normal circumstances. In this edition of Vetrotime, we can show you some examples.

Just a few weeks ago at the start of the coronavirus crisis, there was a real shortage of disinfectants. Some of our customers stepped into the breach to meet the huge demand. They produced their own disinfectants and bottled them in Vetropack glass bottles. Find out more on page 5. And on the same subject, page 4 is worth a look too. This shows a glass replica of a coronavirus. Who would have thought this menacing virus could look so beautiful?

This edition of Vetrotime is focused on "sensory aspects and glass" (pages 9 to 13). Our sensory organs, particularly our nose, mouth, and eyes, are always tasting and smelling things. And to ensure the original smell and taste of something is not modified in any way, many experts swear by glass packaging. This article features the views of a water sommelier and a perfumer among others.

But experts are not the only fans of glass. Many consumers regard glass packaging as the most environmentally friendly form of packaging. This is illustrated by the latest figures from a recent consumer survey commissioned by the European Container Glass Federation and the Friends of Glass movement. You can find the main results of the survey on pages 16 and 17. The survey shows we are heading towards a circular economy. And this is important if we are to achieve our European sustainability targets.

But we have some news of our own as well. Our Croatian subsidiary Vetropack Straža is celebrating its 160th birthday this year (page 19). The company can look back on an eventful history. Congratulations are certainly in order.

I would like to wish you a successful summer period and hope you enjoy reading about the latest developments in Vetrotime.

Kind regards



Johann Reiter
CEO Vetropack Holding Ltd



Eye-catcher



Artistic

The Glass Gardens of Frauenau

The site of the Eisch Glassworks in Lower Bavaria is an ideal starting point for exploring the Glass Gardens of Frauenau – the world's first glass sculpture park. The gardens in the centre of Frauenau contain a total of 28 large glass sculptures by international studio glass artists. Permanently installed audio stations tell the story of each glass sculpture and its creator. The three-kilometre circular route is open all year round and is accessible to people with disabilities.

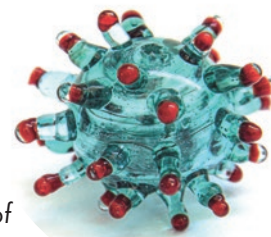
If you have the chance, a detour to the nearby glass museum is also worthwhile. This takes the visitors on a journey through the cultural history of glass, from its origins in Mesopotamia up to the present day.

Versatile

Glass makes the difference

After years of experimenting with different materials, artist Antonija Gospić found the most creative inspiration in glass. She's now performing glass-blowing workshops and making beautiful miniatures and jewellery in the Museum of ancient glass in Zadar,

Croatia. As an art reaction on the present pandemic, she has made a perfect glass replica of the coronavirus. Thanks to the transparency of glass and vivid colours, the notorious coronavirus looks even nice and attractive.



Antonija Gospić

Taking precautions

Necessity is the mother of invention

At the start of the coronavirus crisis, demand for disinfectant skyrocketed. In many countries, stocks of ethanol – the alcohol that forms the basis for many disinfectants – were running low. Resourceful businesses redirected their efforts towards producing disinfectants, some of which were packaged in Vetropack bottles.

In Slovenia, for example, the outbreak of the pandemic left disinfectant in seriously short supply, with supermarket shelves standing empty. Fructal, a company based in the Slovenian town of Ajdovščina that manufactures a range of non-alcoholic drinks, baby food, fruit bars and spirits, set about tackling this problem.

Since some of Fructal's own products were already based on ethanol, a substance that can also be used to produce disinfectant, the first thing the company did was get in touch with the Ajdovščina municipal authority. Supplies of ethanol were being donated to Slovenia's Agency for Commodity Reserves, but the general population still couldn't buy any newly produced disinfectant as the bottles needed to contain it were also in short supply. Fructal therefore took the decision to package its product in 1-litre glass bottles made by Vetropack Straža. These bottles have now been made available to consumers on the market.

The Czech Republic and Slovakia also had to resort to quick and unconventional emergency solutions to cope with the rapid rise in demand for disinfectant. Some Vetropack customers responded flexibly to the shortage in supply and decided to adapt their production systems so that they could manufacture disinfectant.

The Slovakian companies St. Nicolaus and Prelika, a.s. Prešov chose this option, as did the Czech enterprises Rudolf Jelínek and Stock Plzeň-Božkov. These businesses all shared a common goal, which was to supply the market with disinfectant quickly, but they have set about doing this in slightly different ways: Stock Plzeň-Božkov and Prelika, a.s. Prešov are producing ready-made disinfectant and offering it for sale, while Rudolf Jelínek is selling alcohol to other companies to use for producing disinfectant and St. Nicolaus is offering both ethanol and disinfectant on the market.



The well-documented benefits offered by glass are also proving useful when it comes to packaging disinfectant. Glass is completely impermeable, for example, and does not affect its contents in any way. This ensures that the disinfectant kept inside these containers retains its effectiveness.

Innovative and sustainable

Sustainable products, energy efficiency and renewable energy, minimisation of CO₂ emissions, waste reduction, water consumption



With glass production being so energy intensive, increasing energy efficiency is very much a top priority at Vetropack. The top-level management is making sure that company-wide measures for reducing energy consumption, and therefore also CO₂ emissions, are being put into practice. In addition, Vetropack is joining forces with other glass packaging producers from International Partners in Glass Research (IPGR) and getting actively involved in further developing the glass-manufacturing process in a sustainable way.

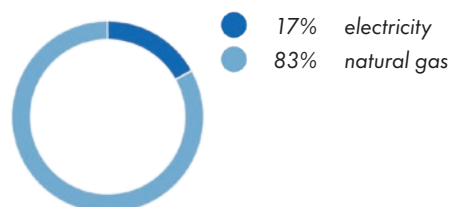
Glass is a sustainable packaging material, which is manufactured from natural raw materials and is optimally recyclable. Environmentally friendly business is therefore a fixed component of the Group's business philosophy and core business. The company endeavours to reduce its environmental footprint every year, as customers and consumers increasingly expect transparency with regard to environmental impact and the traceability of glass packaging. The glass industry, which can make a major contribution to energy efficiency and climate protection because of its substantial energy consumption, is also subject to increasing regulatory pressure.

The relevant parameters for the environmental footprint of glass production include production technology, energy consumption, the weight of the manufactured glasses, the proportion of used glass processed, and distance and mode of transport. Vetropack therefore works continually at making the production steps more energy efficient, increasing the proportion of used glass and making the glass containers lighter without impairing the quality and safety of the products as a result. Vetropack also pays attention to reducing water consumption and generating as little waste as possible.

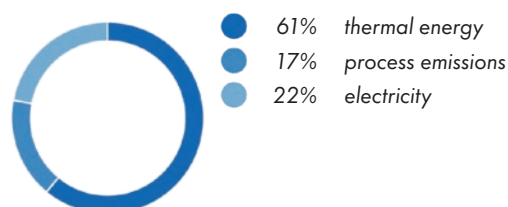
Vetropack works at various levels to live up to this aspiration. The company promotes environmentally friendly innovation via internal specialist groups, invests in new technologies, compiles environmental figures across the Group and is involved in international bodies. Through its involvement with the International Partners in Glass Research (IPGR), Vetropack encourages research into environmentally friendly technologies, such as CO₂-neutral

glass production, which could be achieved through the use of renewable electrical energy to melt used glass and the other raw materials. Other initiatives look at approaches to increase the collection rate with the aim of increasing the proportion of used glass in production.

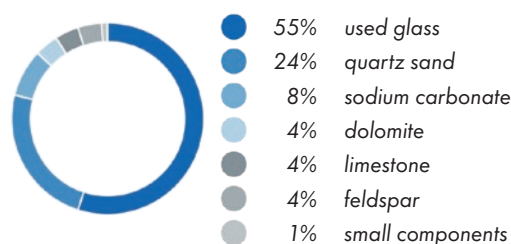
Total energy consumption (GWh)



Greenhouse gas emissions by source (t CO₂e)



Mix between raw materials and used glass



Increasing the energy efficiency of glass production

Glass production is associated with substantial expenditure of energy, which is incurred above all in the operation of furnaces. This is why efficiency measures are not only of benefit to the environment but also to the bottom line. The greatest leverage in the reduction of specific energy consumption comes from the repair or construction of a new furnace. With each refurbishment, Vetropack tries to achieve two things: an increase in efficiency of usually around 10% to 15% and a longer useful life. This ensures that Vetropack's investment projects always involve state-of-the-art technology.

In 2019, the company refurbished the furnaces in Nemšová (Slovakia) and in Gostomel (Ukraine). The specific energy



consumption of both furnaces was cut, which led to a reduction in CO₂ emissions.

Furnace overhaul figures

Furnaces in Nemšová and Gostomel

	Before refurbishment	After refurbishment	Improvement (%)
Maximum capacity (t/day)	640	680	+6
Energy consumption (GJ/t)	4.25	3.56	-16
Melting surface (m ²)	223	234	+5
Number of forehearth	6	6	-
Average NO _x emissions (mg/Nm ³)	2 200	1 450	-34

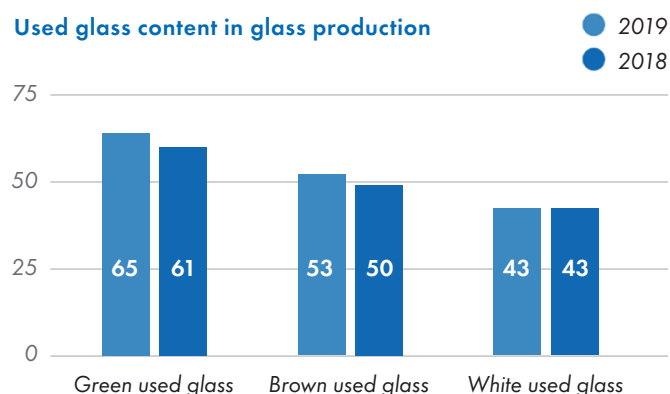
Optimising use of raw materials

A high used glass content is key to environmentally friendly glass production. The proportion of used glass accounts for up to 80% of processed raw materials in some plants. Across all plants, the proportion of used glass was 55% in 2019. Vetropack focuses on measures that increase

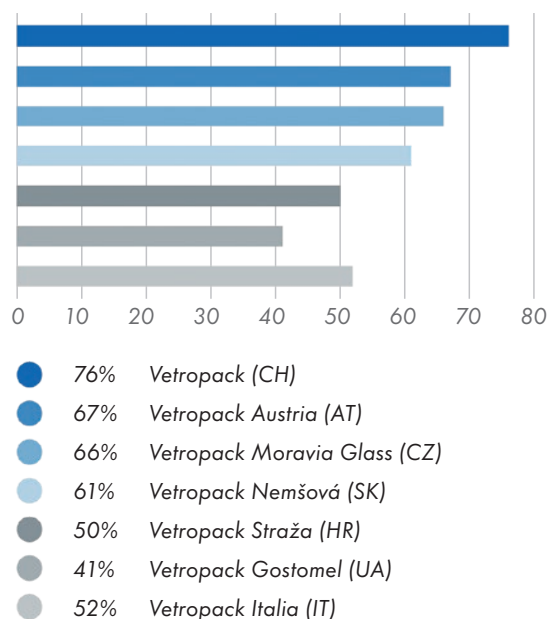
collection rates since the availability of high-quality used glass remains a key matter of consideration for the Group.

Although recycling rates in Switzerland and Austria are very high, providing a sufficient quantity of used glass to many locations is still proving a problem. It is not just supply that is an issue – the quality of the used glass needs to be improved too in future in order to produce glass containers to a satisfactory final standard. The EU's targeted glass collection rates are aimed at feeding more used glass into the recycling process. Increasing the supply of high-quality used glass would make it possible to use a higher proportion of them in production, thus making the end products even more sustainable. However, it remains to be seen whether, and how quickly, the EU member states achieve the higher collection targets. Progress in this respect depends largely on national legislation, something over which Vetropack has virtually no influence.

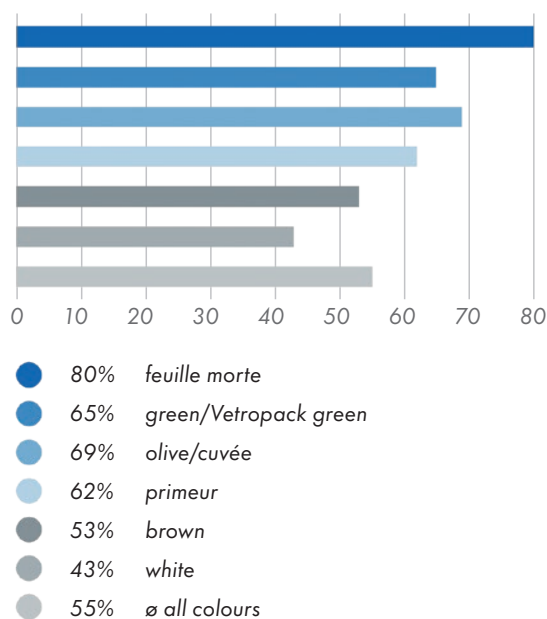
Used glass content in glass production



Used glass content in production
(by Group company)



Used glass content in production
(by glass colour)



This article is taken from the first Integrated Annual Report of Vetropack Group. For the 2019 fiscal year, the Sustainability Report was integrated into the Annual Report for the first time and only published online.

Vetropack aims to be as environmentally sustainable as possible in its production and has made using natural resources sparingly a key tenet of its corporate strategy. Most notably, the large amount of energy required in the glass-making process poses a particular challenge, one that Vetropack is tackling by continuously modernising its production facilities and implementing an energy management system.

Management approach

The energy management system developed especially for Vetropack measures the energy consumption of all glass production facilities and allows it to be managed and potential improvements be identified. The system was tested in a three-year test phase in Croatia, meaning that the first results have already been obtained at the plant in Straža. With the introduction of the energy management system in all plants, Vetropack will further expand its measurement of energy consumption in the coming year so as to implement even more effective energy-saving measures in future across the Group.

Another important way to conserve natural resources is to reduce the weight of glass containers. Production operations already conserve water resources to a very large extent because water is used only as a coolant in glass production and its consumption is regulated in a closed-cycle system. Vetropack also seeks to produce as little waste as possible. Such waste that is produced mainly results from the processing of used glass, and this in turn is due to the fact that large amounts of foreign materials are still being deposited into used-glass collection containers.

The Environment specialist group is responsible at the Group level for coordinating and monitoring all environmentally relevant activities. This group develops and issues binding guidelines and minimum requirements on the basis of the Vetropack corporate strategy and sustainability policy and the Group's environmental management targets with respect to energy and water consumption, emissions and waste volume.

Vetropack Group's online reporting 2019





Glass and the sensory process

Glass makes for attractive packaging

The human sense organs are extremely sensitive and are able to detect smells and tastes individually. The sensory process involves using our sense organs to help determine the characteristics of something such as a wine, for example. However, the visual and tactile properties of a product also play an important role when it comes to our sensory hedonic response. That's why a wine bottle made from glass is far more than "just" a vessel for preserving its contents at their finest.

"Fruity, intense and complex, with notes of blackberries and roasted flavours, igniting memories of liquorice and dark chocolate. Taste: full and with a powerful kick. Fruity, smooth and elegant; full-bodied with mature, perfectly integrated tannins." The sensually seductive descriptions of wines

usually go something like this. Apart from the label, the consumer's first impression of a wine is also influenced by the shape and colour of the bottle it comes in. But can connoisseurs of these fine wines really pick up on all of these nuances? Are they in agreement with the wine

growers and producers and can recognise all the aromas from nature in the wine? The answer is “rarely”, as people’s sense of smell is very individual. Even the associations of a smell or taste vary from person to person and are highly personal.

During the sensory process, the sense organs, spatially separated from one another, absorb information via largely independent sensory channels in order to then combine them to form a holistic picture. It should come as no surprise that the nose plays a key role in tasting wine: it is the most sensitive sensory organ – and not only when it comes to detecting specific smells; it can appreciate them selectively. It also has a kind of dedicated connection to the brain.

Smells are sent directly to the limbic system, which is responsible for emotions, and to the hippocampus, which is responsible for memories.

Interplay between sensory inputs forms an overall impression

Researchers in the field of food sensing are increasingly looking into the question of how different sensory inputs



“Carbonated mineral water from a glass or a plastic bottle differs in taste. Glass bottles are better at preserving the original carbon content and therefore also the taste of the water.”

Arno Steguweit
German water sommelier

such as smell, taste or even colour and sound interact with one another when we are enjoying wine and how they are processed to form an overall impression when we smell, taste and swallow it. They are investigating which physiological impressions accompany the experience of drinking wine and what happens when the wine unexpectedly smells different to what the label suggests. The annoying “corky” smell usually masks even more scents and impressions, which need to be identified and named.

Admittedly, it is difficult for the average person to precisely define these “off-odours”. However, different odour sensations can be classified using the terms of the language of taste, although it must be said that human senses

are not 100% reliable. A prominent example of this is the red-coloured white wine which, in an early study, was wrongly identified even by wine experts as red wine.

Even water has a variety of tastes

Subtleties in smell and taste are also easily distinguishable in water. According to Arno Steguweit, Europe’s first water sommelier, there are a number of reasons for this. The





minerals contained in water have different tastes: sour, salty or bitter. It is mainly the composition of these minerals that gives the water its flavour. Carbon dioxide also has a significant influence. Less carbon dioxide allows the mineral flavours to come through more intensely. This is because carbon dioxide stimulates the papillae on the tongue so much that the other tastes, whether sweet or bitter, cannot be perceived so easily. However, packaging in particular is another factor that has a considerable influence on the taste of the water. Mineral water from a PET bottle differs in taste from the same water served from a glass bottle. This is because glass allows less carbon dioxide to evaporate when opening the bottle, so the original taste can be better preserved.

Drinking with our eyes

When it comes to wine, too, packaging plays a significant role for a number of reasons. At the heart of the sensory hedonic response (hedonic = Greek for desire and pleasure) is the question of how a product needs to be designed to be as attractive as possible to consumers. Visual and tactile aspects are important in this respect, as well as smell and taste. Although our sense of smell is instrumental to our appreciation of wine, the packaging also plays a vital role. First impressions count and that's why producers use glass bottles and labels to create an impression of what's inside. The shape illustrates the character of the wine, or simply makes a reference to the region where the wine is produced. For example, a Bordeaux bottle is clearly different from a Burgundy bottle. It is also interesting that red wine is rarely marketed in a clear glass bottle. This colour of glass appears to be reserved for white or rosé wines. And this is not just because it is widely recognised that darker glass protects the contents against the negative effects of sunlight. So is it simply a custom? A white glass bottle provides an unadulterated view of the deep red colour of the wine – even before the bottle is opened and decanted – yet only





very few producers are already using this design possibility to show their wine in its natural colour.

A virtually endless variety of shapes and colours

Humans have been using glass containers for thousands of years. Offhand glass has been in use ever since Roman times. However, it was not until industrialisation took hold in the early 19th century that bottling wines and spirits became common practice. Now, there is no question that wine bottles are made from glass and they are one of Vetropack's main product segments. There are hardly any limits when it comes to the shape, size and colour of glass bottles. The interplay of the different design possibilities offered by glass are what makes each item of packaging unique. Glass reliefs, for example, give the wine bottle a characteristic look, while paper labels create a specific appearance and transparent labels add a modern touch. The colours, shapes and pleasantly tactile surfaces are the first elements that allow us to experience the quality and value of the wine inside.

Flavour – nothing more and nothing less

Just as important as the visual appreciation of the wine, however, is the preservation of the quality of the contents thanks to the glass packaging. Glass bottles offer great advantages – and not just for water, but also for wine or spirits in particular: they are completely neutral in taste and allow our view of the contents to be controlled. The taste and characteristics of high-quality drinks remain untainted in glass bottles for a long period of time. Nothing gets out of the glass and into the product, nothing penetrates through the glass from outside and gets into the product that way, and nothing leaks out. Glass packaging is like a safe which protects its valuable contents and preserves them for the long term.



Glass flacons – a safe for



Humans have been trying to capture particularly pleasant scents for thousands of years and use them to create new fragrances, for example for perfume. Back then, like today, these scents were largely inspired by nature and their original aroma is usually taken from plant extracts. It's easy to imagine the profession of a perfumer as rather glamorous:

***“Nothing on earth
makes the past so living as
does odour.”***

*Eugenie Marlitt (1825–1887)
Writer*

what a thrilling idea, to imagine a room full of fragrant glass bottles whose essences are mixed in a flacon and, voilà, the soon-to-be world-famous luxury perfume is finished. But it is certainly not as easy as it seems. Though today's perfume industry does require creative minds, most of the actual work takes place in a simple laboratory.

Part of the art of producing a perfume also lies in preserving a scent so that it does not evaporate as it does in nature. This is why the right packaging is vital. From the outset, perfumes have almost always been marketed in glass flacons because



precious scents



the characteristics of the glass fulfil the requirement for high quality. Glass prevents outside smells from penetrating and also prevents the scent of the perfume from escaping.

Just as for wines and spirits, the range of design possibilities that glass offers in terms of the shape and colour of the material also makes it irreplaceable in the perfume industry. The individuality of a scent is also highlighted by the design of the flacon: it communicates character, conveys the sensuality and core message of its contents, the personality and lifestyle of its wearer, and reveals that what you don't see and makes it possible to grasp what you can't touch.



Questions to Andreas Wilhelm, perfumer

What skills does a perfumer need?

A good imagination, creativity and a sensitive sense of smell so that you can memorise raw scents, because perfumers only smell the product at the end!

How do you learn fragrances by heart?

This takes a lot of training, smelling fragrances every day and committing scents to memory. I place them in a kind of spider web, connecting them to one another.

Why is glass still considered the ideal packaging for perfume today?

Glass is inert – it doesn't react with the perfume and its weight gives an impression of high value.

As a perfumer, are you also involved in designing the glass flacon?

Yes, we also collaborate with the glass designers. However, we generally entrust this work to the customer. We simply stand by to advise and support. My expertise is, of course, in the contents of the flacon.



Andreas Wilhelm (43) has been a perfumer for over 20 years. In 2018, he was the winner of the first "Duftstars" award in Switzerland and knows 10,000 fragrances by heart.



Packaging

The TSÜRI SAUCE bottle from Bülach

Since 2016, Zurich-based restaurateur and chef Christian Heusser has been putting his heart and soul into conjuring up unique BBQ sauces under the brand name TSÜRI SAUCE. Four different flavours are already on the market. The sauces are produced exclusively by hand and each sauce is bottled and numbered in glass bottles from Müller + Krempel.

Tsüri sauce aims to reflect the wonderful city of Zurich in all its aspects: diverse like the people, creative like the city's restaurant scene and quite simply a pleasure, just like life in Zurich. The creative mind and inventor behind Tsüri sauces is Christian Heusser, who, as a chef, has many years of personal experience of wielding a saucepan, including as a saucier. Now he is the owner of Café des Fleurs in Wangen bei Dübendorf and produces the Tsüri sauces with his team in Bachenbülach.

Four flavours

The first of the four sauces was created in 2016, though it wasn't something that just happened overnight. The recipe for the sauce was painstakingly formulated, continuously improved and originally used to produce a sauce for hand-made burgers at Café des Fleurs. This ignited a passion

which would be transformed into a business idea.

There are now four different flavours available that vary in terms of heat. The fourth Tsüri sauce sets itself apart from the others because it is the first BBQ sauce designed to accompany seafood dishes.

For Christian Heusser, working closely with companies from the local region during production is extremely important. Not only is

this more sustainable, but it also adds great value to the product. All sauces are produced exclusively by hand and are carefully bottled and numbered.

The glass bottle: a sign of quality

For Christian Heusser, there is no question: his products must taste good and they must not harm the environment. The glass bottle, furnished with an aluminium lid, is fully recyclable. The glass bottles used for all four Tsüri sauces are made by Müller + Krempel in Bülach, which owns the design of the spirit-bottle-style glass packaging and has them produced in small batches in Spain. Good quality is at the heart of every aspect of this product, so using glass bottles for packaging Tsüri sauces made absolute sense. Christian Heusser is convinced that glass is much more tactile to hold and feedback from customers confirms this.



"We love good quality, and this also applies to our choice of packaging. The glass bottle with its aluminium lid is fully recyclable."

Christian Heusser
Owner and founder of TSÜRI Group GmbH

Award

Müller + Krempel strikes gold with bronze award for project

Müller + Krempel Ltd received a 2020 SAP Quality Award this year in the "Innovation" category. It won this prize for implementing a chatbot solution that simplifies communication with customers and alleviates work for office staff.

SAP Switzerland awards the SAP Quality Awards across a range of categories every year. The awards are presented to customers who set themselves apart with their outstanding work in planning and executing projects. Müller + Krempel was honoured with a bronze award in the "Innovation" category for its newly introduced chatbot solution. At Müller + Krempel, this software is used to provide customers with information on their orders quickly and easily, and also to relieve the burden on office staff who would otherwise have to undertake lengthy searches for information. Customers can now follow the delivery process of their orders themselves and no longer have to waste time waiting in call queues on the phone. Feedback from customers is equally positive, and Müller + Krempel staff are now free to concentrate more on their key responsibilities again. The introduction of the chatbot has already led to a 70% fall in the number of customer calls.

"The SAP award is a welcome acknowledgement for this project and the fact that it has been implemented so successfully means even more to us."

Mark Isler, CEO of Müller + Krempel Ltd



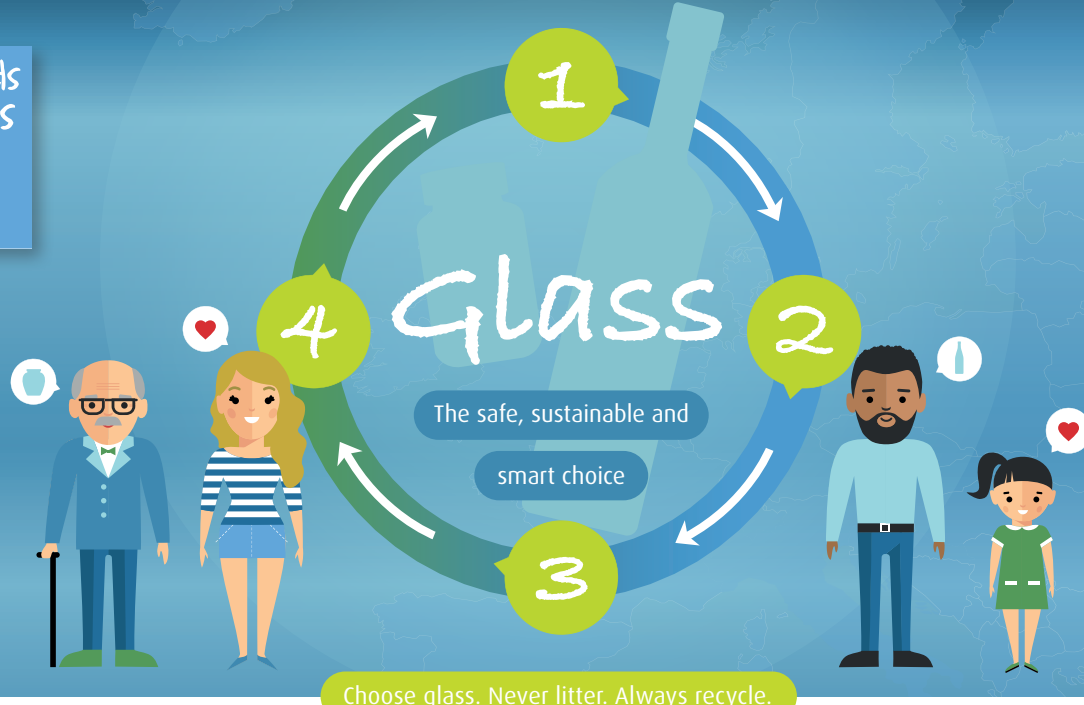
Thanks to the newly implemented chatbot solution, Mark Isler and his team can devote more time to their core duties.

Other aspects of the project included the automation of the packaging and shipment process, which successfully boosted both quality and efficiency. Müller + Krempel also considered it important to secure the jobs of employees with disabilities despite the move towards digitalisation. Care was therefore taken to ensure that the technical aids were easy to understand and simple to use. Müller + Krempel takes social responsibility very seriously and also actively promotes a good work-life balance by offering part-time positions.

Müller + Krempel implemented the SAP project in two months, thus underlining its commitment to a customer-focused approach. The implementation of the chatbot marked an important step in the digital transformation process. Even after just a short amount of time, the new features enabled the company to make significant savings.

Müller + Krempel – producing packaging since 1920

Müller + Krempel Ltd (M+K) is a leading service provider for packaging for the food, pharmaceutical and cosmetics industries. As a service partner for industry, retail and trade, M+K focuses on offering high supply availability for any order volume, along with attractive prices and a wide product range. The company, founded in 1920, has been part of Vetropack Group since 1959 and now employs 14 members of staff at its two sites in Bülach and St-Prex.



European consumer survey

Glass packaging: the top choice for environmentally conscious consumers

The latest figures from the European glass industry show that awareness of recycling and environmental impact is increasingly driving everyday purchasing decisions, with 90% of survey participants saying that would recommend glass as the best packaging material to friends and family – an 11% increase compared to 2016.

A consumer survey commissioned by Friends of Glass and the European Container Glass Federation (Feve) and carried out among more than 10,000 consumers across 13 European countries has revealed that people are buying more glass than ever: half of the consumers are now buying more products in glass packaging than three years ago.

resource for new production. In fact, 40% of all consumers actively choose glass over other packaging materials specifically because they see it as more recyclable than any other packaging.

Sustainability matters

According to the survey, the environmental impact of packaging is seen as an important decision driver in food and beverage purchases, with the majority of consumers (75%) “highly concerned” about throwing away food containers and one in three respondents citing the need to reduce this as their most important consideration. At the same time, 46% of Europeans state that they have significantly decreased their consumption of plastic to prevent environmental pollution.



These findings are driven by the exceptional recyclability of glass and a growing awareness among consumers of its environmental credentials: thanks to an extensive network of local recycling facilities and the fact that it is made from recycled glass and raw materials (sand, soda ash, limestone) found in nature, glass is 100% and infinitely recyclable in a local closed loop system, making it, as ever, a vital



Glass is generally considered to be the most environmentally friendly packaging material: overwhelmingly, it comes out on top in addressing contamination and environmental issues, particularly when it comes to avoiding throwing away food (glass is rated “best-in-class material” by 42% of European respondents), avoiding packaging waste and addressing climate change (48% of respondents).

The findings also reveal that the vast majority of consumers are recycling their glass packaging: 84% of Europeans keep their glass separate for recycling, with 80% correctly dis-

posing of caps and lids separately. Taking used glass to a local bottle bank is considered the most convenient disposal method across Europe.

All these figures mark a step in the right direction for Europe towards a circular economy and achieving important sustainability goals, such as a real glass-recycling rate of 70% by 2025, and 75% by 2030, across all European nations.



“Furnace of the future”

The members of the European Container Glass Federation (Feve), including Vetropack Group, have joined forces to build the world’s first large-scale hybrid electric furnace to run on 80% green electricity, which is set to replace current fossil-fuel energy sources and cut CO2 emissions by 50%. This groundbreaking hybrid technology marks an important milestone in the industry’s mission to make glass packaging climate neutral. CO2 emissions have already been dramatically reduced by the use of recycled glass.

The 20 glassworks will finance the pilot project and Ardagh Group, the world’s second-largest glass-packaging manufacturer, has already declared it is willing to build the proposed furnace in Germany. It is due to be operational and ready for testing under real conditions (the aim is to achieve a capacity of more than 300 tonnes of glass per day) by 2022, to see whether it can meet both the necessary technical and market criteria. The initial results from this testing are expected to be released in 2023. By taking this collective approach, the members are hoping to obtain support from the EU’s funding scheme for financing EU emissions trading systems (ETS) in 2020.

Feve

The European Container Glass Federation is the federation of European manufacturers of glass packaging for food and beverages as well as bottles for perfumes, cosmetics and pharmaceutical products. Its members produce over 80 billion glass containers per year. With its 160 manufacturing plants located across 23 European states, the glass sector is a key economic partner in Europe and maintains 125,000 jobs along the entire supply chain.



Multi-trip

LIMÖ in the multi-trip glass bottle

Glass is suitable for one-way and multi-trip containers in equal measure. As a multi-trip container, it can be used numerous times and can be melted down again any number of times at the end of its life cycle without any loss in quality and processed to make new containers.

The soft drinks range in Austrian food retail has been heavily dominated by one-way containers up to now. With the introduction of a new 1-litre multi-trip glass bottle for the Limö brand, Egger Getränke GmbH, based in Unterradlberg in Lower Austria, is starting a new trend and enhancing the soft drinks range for environmentally conscious consumers. Vetropack Austria produces the eye-catching newly designed white glass bottles at its plant in Pöchlarn.

Vetrotime caught up with Martin Forster, General Manager of Egger Getränke GmbH, to ask him about his initial experiences with the new containers.

Your business is exploring whole new avenues with the large investment in a new glass filling line at your plant in St. Pölten. Why did you end up opting for glass?

We at Egger Getränke are a proud family enterprise – this



Martin Forster, General Manager of Egger Getränke GmbH, with the new 1-litre Limö glass bottle

We want to help glass to have a revival: in the 1980s, the share of multi-trip glass bottles in Austria was 80%, and we want to get back to this.

What opportunities does the new glass filling line offer you?

The new glass filling line provides us with the largest possible choice of bottles sizes and shapes. The facility is a real jack of all trades, allowing the most diverse bottle shapes

to be filled, from 0.2 to 1 litre, using all kinds of secondary packaging. From multi-trip boxes to solid cardboard, from glue labels to transparent adhesive labels, over 300 different combinations are possible. The maximum output of the new glass facility is up to 30,000 bottles per hour. The plant is 100% climate neutral, as is all the production at Egger Getränke. In addition, the technology used enables the consumption of 25% less energy and 50% less water, in comparison with conventional production facilities.

Your business is synonymous with tailored solutions and innovative products. The new multi-trip glass bottles have been on the market since the middle of March. How enthusiastic are consumers about the new glass packaging for Radlberger Limö?

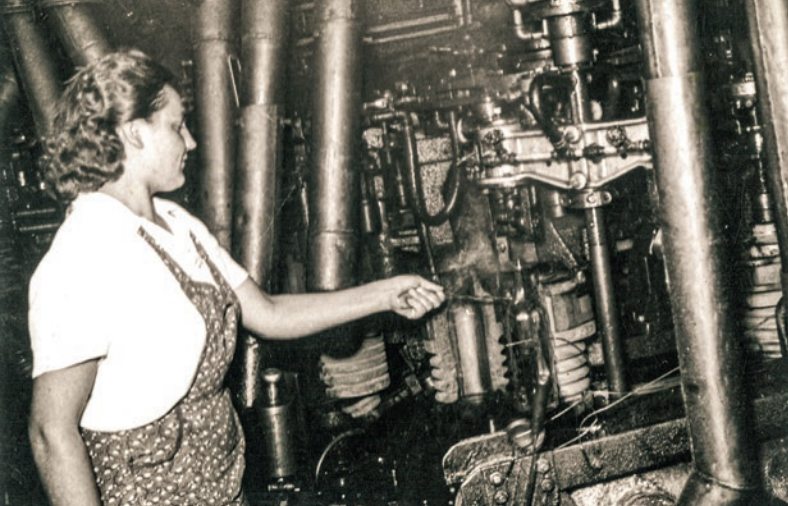
As we already knew, consumers are responding extremely well to the new packaging – indeed, 91% of consumers think that multi-trip glass is the most environmentally friendly packaging. And, of course, the glass bottle is not new – we are picking up exactly where the beverage industry left off at the end of the 1990s. Dealing with bottle and box returns is nothing new either: the very same thing happens with beer and mineral water.

You have decided to have Vetropack Austria produce the 1-litre multi-trip glass bottle. Why?

As a food producer, we value professional and sustainably minded suppliers, who we can 100% rely on, extremely highly in all our partnerships. Vetropack is this type of partner for us and has been for many years. Vetropack's knowledge and decades of experience in the manufacture of glass packaging also work in its favour.

Geographical proximity to our plant in Unterradlberg was also a decisive factor for us, alongside these quality and safety issues. Sourcing multi-trip glass bottles from far away makes no sense to us.

Many thanks for speaking with us.



ANNIVERSARY

160 years of glass production in Hum na Sutli

Vetropack Straža is celebrating its 160th anniversary. In 1860, the Bavarian industrialist Michael von Pochinger built a small glass factory in Hum na Sutli and named it after the land on which it was located – "Straža". The factory has an eventful history to look back on.

The history of Vetropack Straža is a story of people who were brought together thanks to their common passion for glass. The craft of glassmaking was passed down through the generations from glass masters to their children and grandchildren. Although working in the glass factory has always been challenging, the fascination for glass is still unbroken among the people of Straža.

The location of the factory was not chosen at random; the decisive factor was its proximity to the mineral water spring in Rogaška Slatina – the company's first customer. Over the course of the last 160 years, the factory has gone through some turbulent times. The most significant changes all took place during the last three decades – the break-up of Yugoslavia, Croatian independence, the Homeland War, privatisation and changes in ownership. Thanks to good strategic management, Straža has managed to survive these challenging times.

The major milestone in the history of Vetropack Straža was joining the Vetropack Group in 1996. Vetropack and the Cornaz family brought new projects and investments and

a well-organised team of experts. In Straža, they found a group of skilled and dedicated people who were poised to learn and adapt.



Production manager Josip Šolman (right), who has worked at the plant for 38 years, witnessed some key moments. "Glass production has always been more than a job to me. It was my passion, a constant challenge to improve the process and the product. Looking back, I can say that we have made tremendous progress in the field of glass technology, especially after joining Vetropack. The cooperation between management and junior staff as well as customer requirements, which allow us to constantly improve, are a fundamental and long-term driving force behind our development."

The corona crisis has forced the company to give up on most anniversary events. Yet, the renovation and further equipping of local Vetropark was done – a wonderful surprise for the children when they returned to school after two months of isolation (see picture on the left).





At a glance:
the latest products



Pure

Gift of the Carpathian Mountains

The natural mineral water Karpatska Dzherelna is extracted from the depth of 90 metres in the untouched nature of the Carpathian Mountains. In order to preserve the healthy properties of the water, the producer has opted for an environmentally friendly packaging solution – glass bottles of premium quality manufactured by Vetropack Gostomel.

The original 0.5-litre bottle has a teardrop shape that fascinates with its elegant simplicity. The engraving on the surface depicts the mountain landscape and a soaring eagle, thus highlighting the natural origin of the mineral water. The bottle enjoys both a pleasing design and utility: the thickened bottom guarantees stability while 100% recyclable material represents the producer's respectful attitude to the environment.

At Karpatska Dzherelna, the health of the consumer is at the centre of attention. The mineral water is filtered from solids without changing its natural formula. This preserves the primary set of minerals and microelements such as calcium. The mineral water is available both with and without carbon dioxide.

Sparkling

Timeless design

In the course of the last decades, the bottle designed for Fonti S. Bernardo with its water drops motif has become a style icon. Today, the 26 cl white glass bottle is produced at Vetropack's Trezzano sul Naviglio plant.

Fonti S. Bernardo was founded in 1926 in Garesio, in the Piedmont region (Italy), to bring the purest and lightest of waters that flow from the nearby springs to all the Italian tables; this mineral water, in fact, comes from the Maritime Alps, an uncontaminated environment at 1300 metres above sea level. In the mid-90s the famous designer Giorgetto Giugiaro designed for this brand the famous bottle "Gocce", which is still appreciated all over the world and characterises Acqua S. Bernardo for its elegance and distinguished Italian style.

S. Bernardo entered the world of carbonated soft drinks in 2017 and the 26 cl bottle, produced in white glass at the Vetropack Italia plant, is dedicated to this line with its bright colours, strong aromas and unforgettable taste. Freshness is a concept that is clearly expressed throughout this refreshing drink range, including great fresh flavours (lime and ginger, lemon and mint, and bitter orange and cinchona) as well as more traditional varieties such as orange, pink grapefruit, ginger ale, soda and many others – all available to enjoy.



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Regional

A wine bottle for Bern

Vetropack's Swiss plant in St-Prex is producing new cuvée-coloured wine bottles for the canton of Bern. The 0.75-litre bottles may only be filled with wine made in the canton.

There are many ways to draw a bear. But when it comes to the one engraved on the wine bottle with its high cork finish, there is no room for compromise. This is because the famous bear of Bern is depicted here: a black bear also adorns the coat of arms of the city and canton of Bern. Vetropack Switzerland is producing the wine bottles in cuvée. The design of this special bottle is simple and yet very elegant.

The 0.75-litre bottles may only be filled with wine made in the local area. Varieties including Chasselas, Pinot Noir and Chardonnay are cultivated in the canton, which is divided between two winegrowers' associations – covering the Lake Biel and Lake Thun/Bern areas, the two associations represent their respective region's interests.

Diverse

Refreshing and herbal

Refreshing herbal bitter drinks are popular at the moment. Spar Austria has launched two particularly popular varieties as a squash in an elegant white glass bottle from Vetropack Austria.

Bitter drinks are particularly popular, not least due to the diverse range of gin specialities and the associated revival of long drinks. They are no longer just alcohol mixers but can also be drunk neat or enjoyed as an alcohol-free cocktail.

In line with this trend, Spar Austria has expanded its squash range to include the Tonic and Wild Berry varieties. A specially developed slender 0.5-litre white glass bottle is being used for these new, bitter varieties, thus achieving a particularly high-quality appearance. The slightly inward-curving shape beneath the shoulder means the bottles sit particularly well in your hand. Vetropack Austria manufactures these bottles in its Pöchlarn plant in Lower Austria.

When mixed with mineral water, Spar Tonic and Wild Berry taste exactly like premixed bitter drinks. However, the amount of squash in the drink can be adjusted to suit individual tastes.



At your request, we can develop and produce the perfect customised glass packaging for you: coloured and finished – the choice is yours.

Common standards

Quality takes top priority – including for multi-trip secondary packaging for glass containers

If our glass containers are to make it to their destination safe and sound, they have to be packaged securely – using pallets and plastic intermediate layers that are in perfect condition and suitable for transport. These are really items of value. Our aim is to work with our customers to improve the quality of our shipments and increase our mutual satisfaction.



Vetropack's own pool consists of 1.1 million pallets and 6 million intermediate layers, which are in circulation more than twice a year and travel an average of 500 kilometres on each trip. The number of returns that have to be scrapped has been increasing recently. We check, repair and clean all packaging and dispose of it if necessary. Since all of this costs a lot of time and money, Vetropack will be focusing on working more closely with its customers in future, not least with sustainability in mind.

Our quality criteria have been set in stone

Vetropack undertakes to only use packaging material that meets the requisite specifications and level of suitability. To make sure this is the case and keep its shipments in tip-top condition, Vetropack has been investing selectively

in its own pool of pallets and layers and replacing them on an ongoing basis – and it plans to continue in this approach.

These investments are a reflection of Vetropack's commitment to quality assurance. We will not accept any further deterioration in the returns we receive from our customers. That is why our newly defined quality acceptance criteria for multi-trip packaging are a fixed, non-negotiable component of contracts. These clear criteria form the basis for reviewing and sorting the pallets and layers.

Vetropack will take back a lot, but not everything

Of course, Vetropack will accept the usual signs of wear and tear on its packaging as well as some that need repairing or discarding – but we have to draw a line somewhere. In the case of pallets, this line is crossed if 5% of a shipment needs

repairing and 2% needs scrapping. For intermediate layers, a shipment is accepted if no more than 3% needs scrapping. Vetropack will no longer tolerate any excessive damage or any material that is returned incorrectly in terms of its dimensions, properties or quantities. The costs of disposing of or returning material of this kind will be borne by the customer.

New returns management

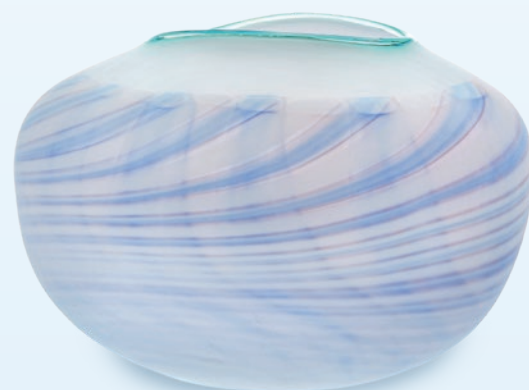
The new returns management procedure is specified in a flyer, which will be sent to customers in due course. Everyone – your company, Vetropack and the environment – benefits from pallets and plastic intermediate layers being handled with due care.



Mabritt Jansson & Peter Humer



Glasmuseet Ebeltoft



Mabritt Jansson & Peter Humer

Glasmuseet Ebeltoft

Clear forms and strong colours

The glass museum in the Danish town of Ebeltoft offers a wonderfully symbiotic blend of artisanry and art. The main aim of the museum's collection is to raise awareness of contemporary glass and generate a greater appreciation for it.

The museum invites visitors to take a leisurely stroll through the history of glasswork over the past 40 years. In its light-filled rooms, it showcases contemporary, international glass art and boasts a permanent collection of some 1,600 objects. Artists are carefully selected before being invited to add to the collection and the pieces they contribute are sent to the museum either as a gift or on loan, setting Glasmuseet Ebeltoft apart from other institutions of this kind. The artists regularly share their work or add to it, which means that the museum can chronicle current trends in glass and exhibit the latest pieces at any time. The collection includes works by more than 700 artists.

In addition to the permanent collection, the museum organises several international exhibitions focusing on individual artists or groups of artists every year. These exhibitions then often go on tour to other countries afterwards. In the past, the museum's main exhibition activities were primarily restricted to prominent, well-established and experienced glass artists. Over the years, however, the focus has shifted towards young, up-and-coming students and graduates who

have only been working with glass for a few years and often have a rather experimental approach.

A historical promenade

The small Danish town of Ebeltoft is situated on Jutland's Djursland peninsula and serves as a fishing port and yacht harbour as well as a tourist destination. Tourists like to stroll through the 14th-century old town or visit the local glass museum, whose reputation extends beyond the borders of Denmark. Ebeltoft Glasmuseet was set up in a former customs house in 1986. A modern wing designed by Danish architects 3XN was added to the building in June 2006 and the museum's patron is Queen Margrethe II.



Glasmuseet Ebeltoft

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