

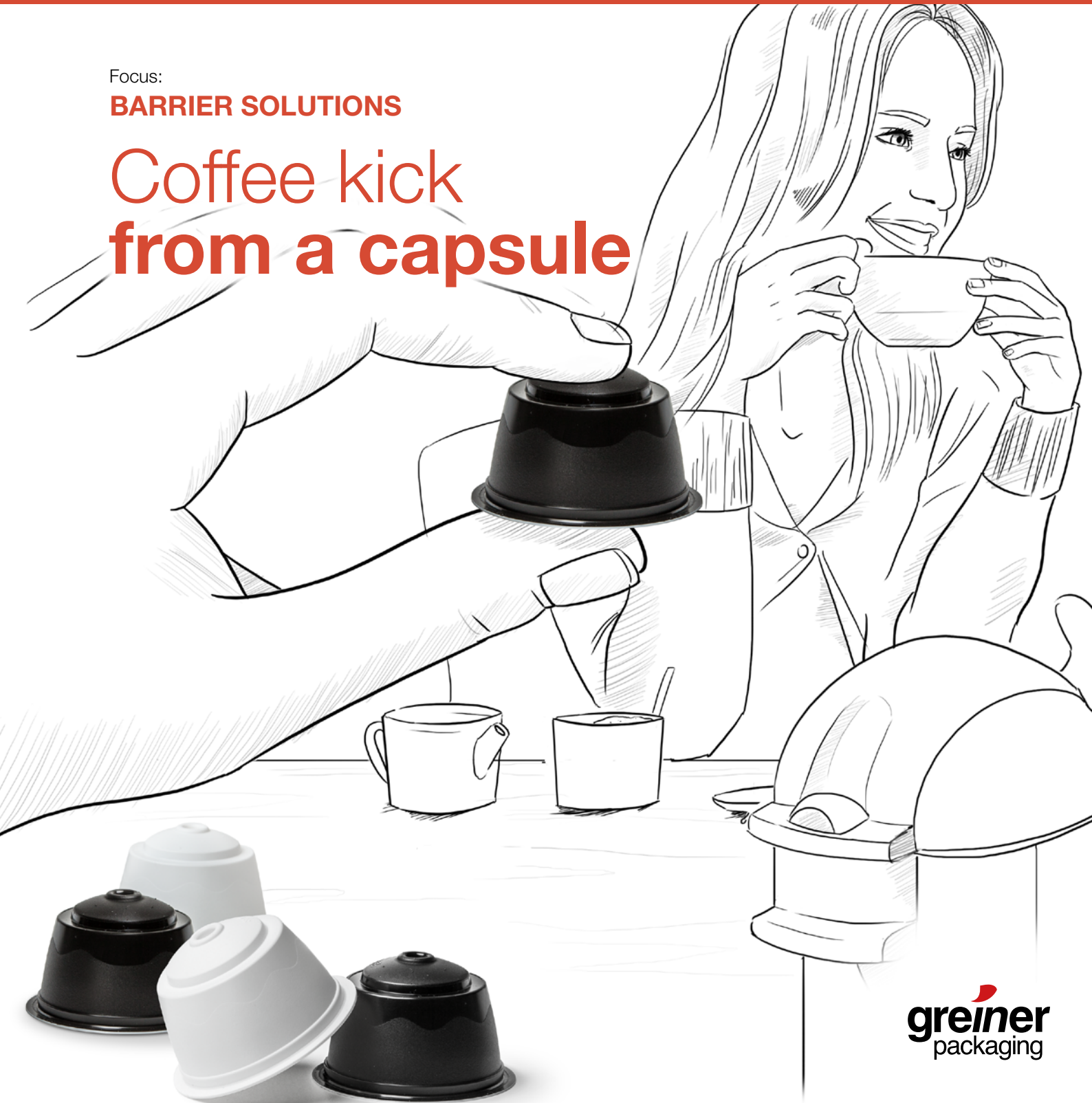
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The magazine for professionals

Focus:

BARRIER SOLUTIONS

Coffee kick from a capsule



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Editorial



Robert Obermayr
Sales Director K Europe

Dear reader,

For many people, their morning coffee is a fixed part of the daily ritual. Many households now have practical capsule systems that quickly deliver the best cup of this fresh pick-me-up. Together with a company of international repute in the coffee industry, we have spent the past few months working on developing a new type of coffee capsule to help guarantee the best quality and the best taste. You will find more on the perfectly tailored production process and the “multi barrier technology” used in the process on pages 4-9. Likewise in this edition of unique packpaper, we will be reporting on the various kinds of technology we are able to offer our customers at our US location in Pittston, Pennsylvania. Opened in October 2014, the production possibilities there are constantly being expanded in order to satisfy customer needs directly on site

quickly and with the highest level of quality. See page 3 for more information on this and on our most recent successful trade shows. You will find current packaging solutions from Greiner Packaging on pages 10-13, while we will be presenting one of the newest packaging solutions from our Design & Prototyping department on page 14 – as well as our double success at the WorldStar Packaging Awards. Finally, we will give you an insight into the future of POS on page 15. On our Innovation Day, innovation consultant Nick Sohnemann spoke at Packworld on robots, digital shopping pleasure, and paying via an app. See for yourself!

Enjoy this year's first unique packpaper edition!

A wide variety of technologies for the US packaging market

Injection molding with in-mold labeling and 8-color cup printing is now available right in Pittston

Effective immediately, Greiner Packaging is now offering the following technologies— previously available only from Europe – directly to its customers in the U.S.: Injection molding with in-mold labeling as well as 8-color print technology. Initial collaborations have shown the advantages of these high-quality packaging options.

Various possibilities for packaging creation

With in-mold labeling, package shaping and decorating are done in just one step. This type of packaging creation offers diverse possibilities and ranging from the most varied surface qualities to photo-quality decoration motifs. WhiteWave Foods, the American company that started developing a new cup concept for soya yogurt with Greiner Packaging a few years ago, was thrilled with the advantages of the technology. Together, they created a new cup in Austria, for which two injection molding production machines were built with IML handling in Austria. These are now being transferred to the new US Greiner Packaging site in Pittston, Pennsylvania, in stages. One of the machines is already up and running, while the second will be relocated in the first half of 2016.

Aside from in-mold labeling, Greiner Packaging has yet another technological offering in Pittston.



Eight-color printing is now possible right at this location. This printing technology, which is already well-established and frequently used in Europe, offers the utmost precision in image composition. Yellow, red, magenta and black are for high-resolution images, while extra colors or spot colors give logos that certain bit of extra and provide wonderful impressions. With support from our locations in Europe, laser plates promise the highest quality and depth effect.

These two new technologies can quickly and efficiently satisfy the needs of American customers on the spot.

Trade fairs from East to West

Greiner Packaging presented in Iran and the UK

Greiner Packaging demonstrated its wide range of skills in the manufacture of plastic packaging at trade fairs in Iran and the UK in the past few months. The Pack & Print trade fair in Teheran, which took place from December 23-26, 2015, is among the largest industry fairs in the Middle East: Some 450 exhibitors, 180 of which came from abroad, used the opportunity to present their wide product range to many international guests. The lifting of the EU economic and financial sanctions has made

Iran an interesting market that Greiner Packaging is well-positioned to serve with its new location in Turkey. The Easyfair in Birmingham had over 10,000 visitors from February 24-25, 2016, and Greiner Packaging has been using the fair successfully for many years to meet with regular and potential new customers. K3® products – the cardboard and plastic combinations – were the focal point of the presentation, but Kavo products won over the visitors as well.



Focus:

BARRIER SOLUTIONS

Coffee from a capsule

Greiner Packaging forges ahead
in the coffee capsule market

**kick
capsule**



Focus:

Barrier solutions

Coffee kick from a capsule

Greiner Packaging forges ahead
in the coffee capsule market

The plastic experts are revolutionizing the quality of coffee capsules with a new, perfectly tailored production process. The process uses “multi barrier technology” or mbt, which provides longer-lasting protection for the coffee aroma.

For many people, a good start to their day begins with a cup of freshly brewed coffee. Some 2.5 billion cups of coffee are consumed globally on any given day; Northern Europe especially, but also Austria, Switzerland, and Germany, rely heavily on this pick-me-up. While there are numerous legends surrounding the origin of this popular drink, there is only one magic formula – aside from the requirement of top-quality water – consisting of five things that coffee experts worldwide rely on for the perfect cup of coffee: mixing, grinding, quantity, machine, and people. These five factors must be tailored to one another in order to obtain the optimum taste and aroma. A slight deviation in even one of the parameters can have a considerably negative impact on enjoyment of the coffee. In order not to leave anything to chance, the majority of households have been relying on practical capsule systems that magically produce cappuccino, espresso, and others, at the touch of a button. In Germany alone, according to the German consumer foundation Stiftung Warentest, approximately three billion capsules were consumed in 2014, and this has been increasing worldwide. This is reason enough

for Greiner Packaging as well to enter the booming coffee capsule market by producing coffee capsules. Together with a company of international repute in the coffee industry, a great deal of work has been done in the past few months on the implementation to guarantee the best quality.

New market standards

The result is a capsule that sets new standards not just in how the coffee tastes, but in sustainability as well. The production process begins with the extrusion of the foil from which the capsules are thermoformed. A hole is punched in the center of each capsule through which the coffee can flow. A precise fit is the key premise here. The same goes for the edge at the bottom of the capsule where a filter is inserted. Only a precise production process allows smooth processing of the capsules. A fully automated camera system (Vision Control) monitors the entire production process. The packaging is also fully automated and touchless. To meet the high quality requirements, the capsules are measured and examined touchlessly using computer tomography, thus guaranteeing perfect measurement.

The accurate production and control processes both ensure that rejects are reduced to a minimum. Nevertheless, any capsule reject is ground up and fed back into the production process – an absolute plus for environmental protection. “Together with our client and our client’s experience, we have been able to define a new level of quality for coffee capsules. That has allowed us to set new market standards through this,” says Kenneth Boldog, Sales Director K, Europe.

Barrier technologies for the best aroma and long shelf life

The capsules consist of polypropylene plastic incorporating a barrier layer of EVOH. This “multi barrier technology”, or mbt for short, produces a higher oxygen barrier in the packaging. This protects the filling – in this case the coffee – from external effects, thereby substantially increasing the shelf life and aroma protection. Even the best coffee quality can now be ensured over a long period. But mbt does not just protect coffee – it can be used anywhere in the food industry as well as in packaging pet food, enabling manufacturers to dispense with preservatives or additives more often. In this way, Greiner Packaging is meeting the strong customer demand for longer shelf life, while considering naturalness and sustainability. There are hardly any limits to the many applications of mbt: The technology also allows production of highly transparent products that can be hot-filled – many products that were previously packed in glass or metal containers can also profit from the advantages of the barrier solution. Also ibt, or “inert barrier technology,” used for plastic cups, promises longer shelf life. Compared to mbt where the barrier layer is placed in the center, a silicon oxide layer is placed on the plastic cups. The use of both barrier technologies, namely mbt and ibt, minimizes the migration between the filling and the packaging, while at the same time protecting the filling

from external effects. Barrier solutions thus set new standards where safety as well as shelf life and aroma protection are concerned. The barrier coatings have no impact on disposal or recycling.

Technological skill guarantees individual solutions

“Our barrier solutions are currently concentrated in five market segments: baby food, ready meals, pates and spreads, pet food, and now, coffee capsules,” says Robert Obermayr, Sales Director K Europe. “With ibt and mbt, we are broadly positioned and can offer our customers the precise solution that best suits their product.” The barrier technology to be used will depend on the product itself, the visual packaging, as well as the filling technology used for the given product. Here, Greiner Packaging places importance on objective consultation: “We have built our own barrier core team based in Kremsmünster. We know what is needed, and thanks to our technological base and our years of expertise, we are also able to offer our customers varied individual solutions, tailored to their needs,” says Obermayr.

“With ibt and mbt, we are broadly positioned and can offer our customers the precise solution that best suits their product.”

Robert Obermayr,
Sales Director K Europe



Coffee enjoyment worldwide

Number of cups drunk worldwide

28,935 per second

1,736,111 per minute

104,166,667 per hour

2,500,000,000 per day

76,041,666,667 per month

912,500,000,000 per year



Did you know ...



... that the word "coffee" stems from the Arabic word "qahwa", which more or less means a "stimulating drink"?

... that coffee grows only in the so-called "coffee belt"? This is the name given to the subtropical and tropical zone around the equator. In 2014, 32 % of coffee came from Brazil, giving the country the highest percentage of worldwide raw coffee production.

... that no other country has as many coffee variations as Austria? More than 40 creations are known, from Einspänner ("one horse carriage"; a double espresso with a dollop of whipped cream) to Franziskaner ("Franciscan monk"; a single espresso with warm milk and whipped cream topping) to Maria-Theresia-Kaffee (a double mocha coffee with orange liqueur and whipped cream).

... that espresso is more digestible than filter coffee? The brief contact period of the water with the coffee grounds releases fewer acids from the beans.

... that moderate coffee consumption can have a positive impact on your health? In small doses, caffeine has a stimulating effect and increases concentration and memory capacity in the brain.

Who invented it?



There are numerous legends surrounding the origin of coffee. According to a story passed down from 1671, shepherds in the Kingdom of Kaffa (Ethiopia today) noticed behavioral changes among their goats after they had eaten red fruits from a shrub with white flowers. The animals were friskily jumping about well into the night while the animals in another pasture were already asleep. The shepherds then prepared a drink made from the fruits and were then able to stay awake, pray and talk to one another far into the night.

Today, it is assumed that the region of Kaffa in Southwest Ethiopia is the area of origin of coffee. From there, coffee reached Arabia, presumably through slave dealers, and from there, it advanced triumphantly around the world starting from the 15th century.

Coffee consumption in selected countries Cups per capita per day



Finland
4.1



Norway
3.3



Denmark
3



Austria
2.9



Switzerland
2.7



Germany
2.6



Sweden
2.4



Greece
2.3



France
2.0



Italy
1.9



Belgium
1.8



Portugal
1.7

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Height in meters that an Arabica or Robusta plant can reach.

3–4

Time in years after which a coffee plant yields first returns.

0.8–1.5

Caffeine proportion in an Arabica coffee bean, in percent.

Source:
Kaffee in Zahlen 2013, 2015

Vitamins to go

Valio Eesti / Yogurt drinks

Packaging facts

Material:	HDPE
Technology:	
Bottle:	Extrusion blow molding
Closure:	Injection molding
Decoration:	Sleeve
Flavors:	
100 ml:	Kiwi, Strawberry-Banana, Plum, Tutti-frutti
275 ml:	Banana-Strawberry-Kiwi, Mango-Passion Fruit, Pear-Apple-Banana
300 ml:	Natural, Blueberry, Cappuccino, Chocolate-Mint

Healthy nutrition is a hot trend today: Protein-rich yogurt drinks are enjoying the same popularity as vitamin-rich kefir and berry smoothies. In order to win over consumers, they are increasingly being offered in practical and at the same time good-looking bottles – easily re-closable, making them the perfect drinks to go. Especially for children, healthy and nutritious dairy drinks offer a welcome alternative to sweet juices. These tasty drinks are also part of the product range offered by the Estonian dairy Valio Eesti, now bottled in new packaging from Greiner Packaging. Easily digestible probiotic kefir drinks are offered in 300 ml and yogurt shots in 100 ml consumer-friendly HDPE bottles. Using Greiner Packaging's know-how, the bottles have been produced at the optimal weight to improve sustainability as well as cost effectiveness. In the case of the 100 ml bottle, the closure was developed according to specific requests of Valio Eesti, allowing the customer to profit from the complete solution expertise of Greiner Packaging. Aside from traditional kefir drinks and yogurt shots, Valio Eesti is also using the new packaging for their innovative 300 ml yogurt drinks – first in the Estonian market.



Sweet on top

Verona / Syrup & toppings

Packaging facts

Capacity:	800 ml
Material:	PP
Technology:	Extrusion blow molding
Decoration:	Label
Flavors:	over 20 different flavors of sweet toppings and syrups



For many people, desserts are the crowning glory of every meal. These little indulgences become even more irresistible when refined with sweet toppings. In Russia, the company Verona, with its Torry brand, is one of the most popular manufacturers of toppings and syrups. To distinguish itself from the competition not just in the way it tastes but also in the way it looks, the company decided to try out a new packaging solution with Greiner Packaging: Together, the companies developed a bottle design unique in the Russian market. "It's not just at the point-of-sale that the shape of our newly designed packaging is attracting attention. It also ensures particularly consumer-friendly handling," Tatyana Martynova, director from Verona happily notes. The card that seals the bottle, giving it one hundred percent impermeability, is also new and makes annoying leakage during transport or in the shopping bag a thing of the past.

A successful comprehensive approach

Hexi Pharma Co / Hygiene products

Pharmaceutical industry suppliers – and their suppliers in turn – have to be able to meet the highest quality standards. Greiner Packaging's current concept for its new customer, Hexi Pharma, is proof of the fact that it is taking on a leading role in this field. It is currently packaging disinfectants and a variety of hygiene products used in Romanian hospitals. Greiner Packaging's qualification to produce them stems not just from its certifications, but also from its comprehensive production and process know-how. Moreover, Greiner conducts stress tests on the bottles, allowing Hexi Pharma to transport its products safely and in accordance with ADR regulations (the European Agreement concerning the International Carriage of Dangerous Goods by Road). The bottles are produced with two different mouth sizes. Thanks to interchangeable attachments, this can be done using a single tool. The result: significant cost savings for the customer.

"Not only are we completely satisfied with the packaging concept designed by Greiner Packaging, we also feel that the company is taking very good care of us," says Mihai Leva, production manager from Hexi Pharma enthusiastically, speaking about Greiner Packaging's reliability and customer service.



Packaging facts

Capacity:	1.000 ml
Material:	HDPE
Technology:	Extrusion blow molding
Decoration:	Embossing

Water in a class of its own

Princes Gate / Drink bottles

Living in harmony with nature is a top priority at Princes Gate, as nature is the primary supplier of its natural mineral water. That water flows through the mineral-rich rocks in Pembrokeshire, Wales, UK, for 15 years before finally being bottled. Love of nature

can also be felt in Princes Gate's social commitment. It can state with pride that it is the only flavored and non-flavored spring water manufacturer in the UK that meets 100 % of its energy consumption needs from its own "green" sources of energy. In order to help children become more environmentally conscious at an as early age as possible, Princes Gate has started a project of its own: In cooperation with Greiner Packaging, the proven 500 ml Kavodrink bottles will be printed with the attractive Princes Gate design.



On the back of the bottle, children will be able to write their names in a space provided for this purpose. Unlike other disposable bottles, children will keep reusing their Kavodrink bottles, thereby making an important contribution to the environment. This is a project whose time is right: "The children are thrilled with the bottles. The practical flip-top seal is easy to open and close and makes it easier for children to drink regularly. Parents are likewise delighted with the bottles because they are BPA-free. And, thanks to tritan®, the material used for the bottles, they are break-proof and dishwasher-safe," says Glyn Jones of Princes Gate Cool Water.

Packaging facts

Capacity:	500 ml
Material:	Tritan®
Technology:	Injection stretch blow molding
Decoration:	Screen printing

Well-protected

Berglandmilch / Fruit yogurt with cereal

Packaging facts

Material:	
Lid:	PET
Spoon:	PS
Technology:	
Lid:	Thermoforming
Spoon:	Injection molding
Decoration:	
Lid:	IML
Flavor:	Apple-Banana, Raspberry-Cherry, Natural

Practical, space-saving and more: Today, plastic lids are used for more than just protecting the filling. In many cases, they take on a considerable number of storage functions. The hooded lid (topping lid), for example, provides for more complete enjoyment of the cups' contents, such as cereals, sauces or dressings. Berglandmilch is also resorting to a hooded lid (topping lid) for its crunchy delight. Aside from crunchy muesli, a plastic spoon has been incorporated into the hooded lid so that the yogurt can also be eaten on the go. Thanks to the way it slides in and out, the spoon developed by Greiner Packaging is quite stable. "We decided to use the longer of the two spoon variations; at 102 mm, we guarantee our consumers optimal yogurt enjoyment, down to the last spoonful," says Gerald Kotzauer, manager for Sales and Marketing at Berglandmilch.



Comfortable through the cold season

ThoMar / Air dehumidifiers

Packaging facts

Capacity:	500 g
Material:	
Cup:	PP
Lid:	PET
Technology:	Thermoforming
Decoration:	Cardboard wrap with window



Fogged-up car windows are a part of winter, just like snow, New Year's, or home-baked cookies. Together with Greiner Packaging, the company ThoMar has now developed a practical new solution to this problem: a plastic cup containing a tray loaded with granules. The granules draw moisture from the air, preventing car windows from fogging, or mold or unpleasant odors from forming. A viewing window in the cardboard wrap enables the driver to see just how much liquid the cup has already absorbed at any time.

"Because of the practical shape of the cup, the dehumidifier can be placed directly and securely in the vehicle's cup holder. We have three different cup designs that are each practical and visually pleasing, even for use at home," says Daniel Schubbach, manager Consumer Products from ThoMar.

Starting together

Rockfield Dairy / Sheep's milk yogurt

Records show that yogurt has a long tradition and that people have been enjoying it since the 7th century. Many positive features, like lots of vitamins and good digestibility, have been attributed to the fermented milk product. It is therefore no wonder that the number of types of yogurt continues to grow. Many yogurt lovers reach for sheep's milk yogurt when in search of an alternative to traditional products from cow's milk. Sheep's milk yogurt contains even more calcium, zinc, vitamins, and protein than yogurt from cow's milk. Rockfield Dairy, the Irish family enterprise, has been passionately farming sheep for generations and has just entered the market with the "Velvet Cloud" brand, making tasty sheep's milk yogurt accessible to a wide market. And when it comes to packaging, the Irish company trusts the specialists of Greiner Packaging. "It was a big step for us to decide to

offer our product in the supermarkets as well. We are very happy to have had a partner like Greiner Packaging from the outset," says Aisling Flanagan, Marketing Manager from Rockfield Dairy. Together, the two family-run traditional companies decided on K3®: a packaging that reflects the high quality of the sheep's milk and that can also be economically produced in small quantities.



Packaging facts

Capacity:	450 g
Material: (Cup+Lid)	PP
Technology: (Cup+Lid)	Thermoforming
Decoration:	Cardboard wrap
Flavor:	Natural

Lunch snack for those in a hurry

Parmentine / Potato dish



When you're in a hurry at lunchtime, sandwiches, noodles, or junk food become your hungry stomach's best friend. If you're looking to introduce more variety in your menu, you would be well-advised to try the new potato dish from the French company Parmentine. The potatoes in a cup can be heated in the microwave, then enjoyed hassle-free, even on the go, together with the sauce in the lid, thanks to the fork included in the lid. Greiner Packaging is responsible for the manufacture of the cups as well as the lids. "The K3® cups from Greiner Packaging don't just meet our expectations visually. The cardboard wrap also reduces the contact heat with the hot potatoes, allowing our tasty dish to be enjoyed simply and directly from the cup," remarked M. Thierry Lamblin, Marketing Manager from Parmentine with pleasure when talking about the packaging solution. A window has also been incorporated into the cardboard wrap to allow consumers to see the nutritious potatoes before they buy.

Packaging facts

Capacity:	450 g
Material: (Cup+Lid)	PP
Technology: (Cup+Lid)	Thermoforming
Decoration:	Cardboard wrap
Flavors:	Tomato-basil, Quark-chives

Sophisticated spring cleaning

DesPro solution persuades with its creative approach

Marvel EasyClean from every angle on the DesPro homepage – with our new rotatable 360° product view.

www.despro-gpi.com

Whether you love it or hate it, cleaning is a must, and any tool that makes the cleaning process easier is a welcome one. The Design & Prototyping department of Greiner Packaging has come up with a creative all-around solution for this process: EasyClean is a trigger bottle with its own sponge guaranteed to make the heart of any neat freak beat a little faster. The product is made up of a spray bottle and a grid compartment into which a sponge or towel can be placed. The compartment can be opened and closed by means of a guide rail incorporated into the bottle. Holes in the compartment

will allow the sponge to dry quickly, so that it can be put back in its place immediately after cleaning, even while wet. The bottle can be produced using the extrusion blow molding process. The grid compartment is injection-molded. The bottle can be labeled on both sides. At least from an optical point of view, nothing should stand in the way of the next spring cleaning.



WorldStar Packaging Awards

Double success for Greiner Packaging

Greiner Packaging has gained international recognition for its innovative packaging solutions at the WorldStar Packaging Awards in Mumbai, India. The ibt or “inert barrier technology” won an award, as did the innovative packaging concept for the Hungarian company Sága Foods. With the award-winning “inert barrier technology”, Greiner Packaging has succeeded in bringing food shelf life for plastic cups to a whole new level. Whereas the shelf life of foods was previously extended through ultra-high heating or adding preservatives, ibt now makes longer shelf life possible without these measures. Greiner Packaging gained the second WorldStar Packaging Award with its innovative packaging solution for the Hungarian company Sága Foods. In its search for a new packaging concept for its Frankfurter sausages, the company turned to the

plastics expert. Together, they created a K3® cup (a cardboard-plastic cup) with a resealable IML lid. The packaging is practical and heat-resistant, while offering optimal protection.



The future of the POS is digital

Nick Sohnemann on Innovation Day 2015



We are now in the age of digital transformation, so much so that even companies are increasingly being faced with digitalizing their core business. Especially, the young generation is online 24/7. A life without smartphone, Apple Watch and so on? Unimaginable! Nick Sohnemann, founder and managing director of the Hamburg innovation consulting firm FUTURECANDY, enlightened everyone on Innovation Day 2015 as to just how much the "technology wave" will be influencing our future.

Technical devices are facilitating online trade of an entirely different kind. Instead of marveling at just the photos of products, consumers of the future will be able to dive into a virtual shopping center. Products can be observed from all angles, and online shopping together with friends through live connections will be no problem at all. And as a matter of course, even robots will enrich our everyday lives. Instead of a salesperson at the DIY store, for ex-

ample, a robot will show which wrench is the right choice for which needs – including all information that are relevant for the purchase decision. Payment will not be made in cash, but via apps on our smart devices that are activated automatically as soon as a consumer enters a store. Also promotions and offers can be targeted specifically on each individual customer.

What all these developments mean for the packaging sector remains to be seen. Do supermarkets, for example, lose their right to exist? Which selection criteria play a role online, which customer demands need to be satisfied? One thing is certain – it will be an exciting future!



Experience the digital sales trends of the future.



i Nick Sohnemann is founder and managing director and, therefore, leader as well as visionary of FUTURECANDY. A practicing cosmopolitan, always in pursuit of state-of-the-art methods for successful innovations.

He has been supporting companies on their path toward innovation as a pragmatic problem solver and a strategic "business brain". In 2013, he founded the innovation consulting firm FUTURECANDY. He is currently working as director of InnoLab at the Hamburg Media School.

upp Fairs & events calendar

Date	Fair / Event
27.09 – 29.09	FachPack DE, Nuremberg
06.11 – 09.11	PackExpo US, Chicago
16.11	Innovation Day AT, Oberwaltersdorf

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The magazine for professionals

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