MESSE DÜSSELDORF GROUP
BASIS FOR BUSINESS
The future connects. Not just people, but innovations as well. What makes this possible? The progress of digital technology. And us.

We connect by making a space for exchange and presentation. When generalists, specialists, strategic thinkers and visionaries get their heads together, exciting ideas and business opportunities result. Action plans frequently arise too, all doing their bit to help make the world a better place.

For example, there’s intelligent packaging that reports the use-by date on a carton of yoghurt to the refrigerator and encourages its owner to consume it by the expiration date. That’s an innovation that prevents food waste and is part of our Processing & Packaging Global Portfolio. Get a glimpse of the future of packaging. Because that’s also a part of this: sharing good ideas, just as we’ve been doing for the last 70 years. It is our pleasure to be celebrating this milestone anniversary with around 1.3 million guests. We hope to see you there!
Analogue. Digital. Bytegeist. Ever tighter global networking. Dialogue takes place in windows or rooms. And with us: in halls. That's where we interconnect networks. Around the world. We use them to innovate, create trends and branch out into new areas of business. After all, the digital transformation can only progress through analogue encounters. And through the exchange of ideas. We're on it! Offline and online. As a point of soul – the point where global relationships arise from local contacts.

The beautiful new www.world. We'll be happy to show it to you. At one of our 50 trade fairs, 24 of which are the number 1 in their industry. But also before and after: in our digital trade fair halls.

We're not just talking about a relaunched website for Messe Düsseldorf. This digital transformation encompasses all areas of business. That makes its design a central issue for us as innovation brokers. We offer the best prospects for our customers. By providing services in an entirely new dimension.

The more than 1 million visitors and 26,000 exhibitors from around the world who attend our trade fairs in Düsseldorf also benefit. As do the international industrial and growth markets where we are well positioned with our four Global Portfolios. We will continue to expand them in the future, thus strengthening the position of the world's foremost trade fair in Düsseldorf as a global brand platform. Our blueprint for the future: “Messe Düsseldorf 2030”.

That also includes redesigning our home base to make it one of the most modern and multifunctional trade fair and event locations in the world. We are becoming more flexible, more open, more sustainable – and more digital. That's how we intend to approach the future.

But if the truth be told, it's here right now; the interconnection of digital and face-to-face offerings is already expanding the scope of presentation spaces and networks available to our customers. It's changing structures. It's simplifying processes. The great strength of the trade fair remains its status as a place for real encounters and a platform for personal exchange. Of course, we are happy to start the dialogue with a contact request, but look forward to greeting you with a smile when we meet in person. And, as always, our work is our passion.
People, brands, possibilities. There’s a lot to see when it comes to our five areas of expertise. And a lot to be amazed about. Building blocks, for example. Made of wood, but sometimes also out of wire or bits and bytes.

It doesn’t matter what the product is made of, or even if it’s still in the pipeline – we don’t differentiate: all deserve our full attention. We observe markets, analyse trends, work consistently on the quality of our events and concentrate on the areas of expertise where our experience gives us an advantage. Maybe that’s why we get top marks in our five favourite subjects, whether the trade fair is small and trend-based or world leading. For cross-selling, which also raises our clients’ international business success. And for the framework programme we use to promote the international exchange of knowledge.
What’s 5 + 24 x 17? The formula for concentrated competence. Our five areas of expertise open up a host of opportunities that in turn leads to strong brand environments. So strong, that we dare call ourselves the global market leader for trade fairs specialising in capital goods. With 24 premier events, we’re more than a little proud of what we’ve been able to achieve.

» www.messe-duesseldorf.com/tradefairs
Our strategy for international business? Networked deployment of four strong pillars. We make sure we’re there and ready when businesses are ready to expand: in the most important industrial and growth regions of the world.

Guangzhou, Nairobi, Shenzhen. These cities, like Shanghai, Bangkok and Moscow, are also important commercial centres that are among the first to be exposed to new industry trends. And they are particularly close to our heart. That’s why we maintain a presence in these relevant growth markets with our Global Portfolios. Our goal is to nurture our international contacts, provide stimulus, create an effective global network and thereby strengthen the position of Messe Düsseldorf as a global platform on which to hold world leading trade fairs.

The fact that the international trade fair industry is blossoming in this way is due to its strong roots on the banks of the Rhine: wire & Tube, for example, is able to draw around 70,000 professional visitors from 130 countries and more than 2,600 exhibitors to Germany. And it’s the meeting place for local heroes and global players, where important decisions about the future are made.
MEET THE WORLD’S BEST

WE'RE ALREADY THERE

01 The head office of the Messe Düsseldorf Group.
02 In 2015, it hosted 15 events: out front is our Moscow location.
03 Here, we give customers direct access to a market of 1.3 billion consumers: Shanghai, Beijing and Hong Kong.
04 These are the gateways to the Indian market: New Delhi and Mumbai.
05 You can do business here with companies from the Asian tigers: Singapore.
06 A place where global business is still at home: Tokyo.
07 Here is where we coordinate all of our North American activities: Chicago.

Seven international subsidiaries and 71 international representatives covering 132 countries – our network for your trade fair business.

» www.messe-duesseldorf.com/international_representatives
It's a matter of the heart. That adds up to around 50 trade fairs a year. But we apply our skills to more than just the trade fair business – so that we can also get things moving in other areas.

In sport, for example: as a project partner for many years with the German Olympic Sports Confederation (DOSB) and the National Paralympic Committee Germany (DBS), we operate the "Deutsches Haus" team base and take on important tasks at German sporting appearances at the Olympic Games. Naturally, we also keep our own 76 walls in good shape. As of 2030, we will have invested 336 million euros in expanding the multifunctional usability of our 18 trade fair halls, providing more space for conferences and conventions, the perfect hardware for your event, and services to boot. Everything you need for yourself and your event. It's a point of honour.
YOU HAVE MAIL.

98 percent of all conversations we have with our customers and visitors begin this way. The initial contact is usually digital. But that’s only one of the many processes that digitalisation has changed. And we are taking active steps towards advancing this development.

That’s because the digital transformation accelerates the technical development of industry and retail, and creates opportunities: as a digital company, we now offer our services in an entirely new domain. Before and during the trade fair.

Take our online portals for our exhibitors, for example, that support them as they prepare for the trade fair and organise their stands, and that demonstrably simplify their online marketing and invitation management. And with our lead tracking system, which passes on customer data scanned in at the stand to assist with successful follow-up after the event.

Even our visitors benefit from optimal connection between the digital and real trade fair worlds, by means of online offers for customised trade fair preparation, for example. Via our social network pages that promote visitor-to-visitor communication. And via iBeacons, which you can use to receive customised messages on your smartphone during the trade fair.

Our digital trade fair halls are open 24/7. And are only one click away from anywhere in the world. But even though up to 90 percent of the internal trade fair processes run digitally, the encounter is still personal. And that’s a good thing.

WE ARE SERVICE THINKERS. ALWAYS HAVE BEEN.

That’s why we also love providing a fully analogue service. And what do we have for you? We offer the full package – from A to Z, everything you need, exactly when you need it.

The pillars of our service offering:

› Stand construction/technical equipment
› Infrastructure/food service
› Marketing/communication

The right service for each and every client:

› Exhibitor services
› Visitor services
› Services for partner/guest event organisers
› Services for conference organisers
› Press services
After all, we love our city. Because it provides us with one of the most beautiful trade fair locations in the world. And because we share a 70th anniversary.

That’s how long Düsseldorf has been the state capital of North Rhine-Westphalia. It’s also how long Messe Düsseldorf has been around. And how long the transformation and growth of Düsseldorf has been tightly intertwined with its development as an expo and trade fair city.

Right in the middle of the largest economic area in Germany – square one for foreign visitors. Direct foreign investment: 190 billion euros in North Rhine-Westphalia. Düsseldorf’s top investors: the Netherlands, Japan and the USA, putting their trust and money into more than 1,000 businesses. And speaking of Japan, around 5,000 Japanese reside in the “Japanese capital” on the Rhine. Complete with consular representation, chamber of commerce, foreign trade council and a large fireworks display on Japan Day. That’s something the other 107,000 non-native residents from across the globe also find quite amazing. As do around 600,000 Düsseldorf citizens.

High standard of living meets peak technology meets excellent research presence: 56 colleges and universities, 12 Max Planck Institutes, 6 international Max Planck Research Schools and 11 Fraunhofer Institutes in the greater Düsseldorf region. But research is also done elsewhere. Based on the formula for success, for example – in 674 companies for every 10,000 residents, many multinationals and more than 7,000 commercial enterprises. A few of these can be found along the K6 (Königsallee). Just a few steps away is the old town centre. Beautiful! The art and culture of the region is strongly in evidence – in museums, the opera house and even amongst the architecture of older brewery buildings. Another thing of beauty is the joie de vivre of the Rhine region. That’s Düsseldorf!
KEEP DREAMING.

About 2030, perhaps. About a future in which new technologies are adopted with complete ease. About it all continuing to happen here.

In one of our 18 trade fair halls that we will make even more adaptable and raise to an even higher technological standard. On every last one of our 304,817 square metres of exhibition space, in use since 1947. Or in our conference and convention rooms, which will soon have even greater space for exchanging ideas and more. Because leading trade fairs have long been the place where all business sectors engage in the international exchange of knowledge.

This is where global players and local heroes meet. Start-ups and established stalwarts. Experts from business and science. We are becoming more open and accessible to them all – with our plans for "Messe Düsseldorf 2030". Take the new construction of the south entrance and trade fair hall 1, for example. With continued rapid access to the city. To the main railway station. And, via Düsseldorf Airport, to the entire world.

So what will Messe Düsseldorf look like in 13 years? Here's a little preview: state of the art, the touchpoint between real experience and digital possibilities – and a place where you can relax and exhale. And inhale the trends and business opportunities of the future.

>> www.messe-duesseldorf.com/construction

TOP
» 20,000 parking spaces
» Bus shuttle service
» U-Bahn station at the front gate

GOOD TO KNOW
» Largest halls: 25,276 sqm
» Smallest hall: 3,883 sqm
» Floor loading capacity: 10,000 kg/sqm
EXPERIENCEABLE DIVERSITY
APPROACHABLE
CHANGEABLE
VALUABLE
DOABLE
SEPARABLE
EDIBLE
DURABLE
FOLDABLE
RECYCLABLE
UNMISTAKABLE
...

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TRADE FAIR
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» www.interpack.com
GRANNY HAD THE KNACK

THE HIGH-TECH PACKAGING GENERATION

For packaging designers, packaging makers and packagers. For initiators and visionaries. For machines and materials. For the good old and the future-oriented, Interpack. The world’s top hotspot for the packaging and processing industry. With a global network of trade fairs – the Interpack alliance. With the SAVE FOOD initiative, a mark of commitment to sustainable development. Inspiration and professional content for the innovative B: food, beverages, sweets, bakery goods, pharmaceuticals, cosmetics, non-food and industrial goods. Transfer of knowledge for a dynamic market and a better world.

We bring them together. The most capable minds. The freshest ideas. The producers and the customers from all over the world. Interpack. The leading trade fair for the processing and packaging industries.
Industrialisation was to the people of the 20th century what digitisation is to the people of the new millennium. Innovations change the world. And life. Industry 4.0, The Internet of Things, Artificial intelligence. These buzzwords only give an inkling of the innovative strength that comes with the new technologies. Amidst all of these developments, there’s the packaging industry – a sector roughly 6,000 years old. Leaves, clay pots, baskets: people have been packaging goods for thousands of years to preserve them, to make them easier to transport or to trade with them.

In times of urbanisation and steady population growth, packaging is now more important than ever. Half of the world’s population lives in cities, and rural–urban migration has escalated in emerging and developing countries, in particular. As the middle class grows, so product consumption increases. The United Nations predicts explosive population growth up to the end of the century, with estimates varying between just under ten billion to over twelve billion people worldwide. This will create tremendous demand for food and consumer goods alone, and the necessary packaging.

Without packaging, everything already grinds to a halt today. Packaging continues to fulfil its main purpose by protecting products – from being spoilt, lost or damaged. In addition to this, it acquired an array of additional features with the dawn of the digital revolution. It thinks for itself, can remind us when we should take our medicine, extend the shelf life of foods, heat food at the touch of a button, affect all of our senses, smell good, feel good, yes – it can even speak and, in the end, it can actually be eaten. That’s new packaging for you: smart, clever, sustainable.

Few industries are as innovation-driven as the packaging industry. Modern, highly automated machines use sensor- and microprocessor-controlled drive technology that makes it possible to produce thinner and lighter packaging and in this way to save energy and materials. Packaging can be recycled multiple times, composted and biodegraded. It is made from renewable raw materials and, especially sustainably, from production waste. Special absorbers in packaging film influence the oxygen content of packaged foods, thus protecting them from spoiling. Tiny, barely visible, integrated microchips provide information about the location of a product and prevent counterfeiting. Holograms, laser codes, invisible printing inks and personal messages, possible only thanks to advances in digital printing, today make each item of packaging unique.

Pick up any piece of packaging today and what you have before you is a high-tech product, a universal marketing tool equipped with cutting-edge technology. The packaging of the new millennium is many things – but one thing it is not: rubbish to be thrown away.

A SMALL PARCEL OF FUTURE, PLEASE
Not only in the food sector do industry, retail trade and consumer benefit from smart packaging. Intelligent developments also bring with them great advances in safety and service in many other sectors. Printed electronics, interactive displays, lighting effects and sensor technology, RFID and NFC – this is how the high-tech packaging of the future looks.

SMART EVERYDAY HELPFERS
These days, when Hans Schulze cannot remember whether or not he has taken his morning tablet, it’s not a problem because someone (or something) knows better than he does. And that is not necessarily his wife; it’s the package the medicine came in. It knows the patient’s individual dosage, has the right medicine at the ready at the correct time thanks to a time-controlled access system and raises the alarm if the patient misses a dose. The packaging does this by flashing, for instance, or notifying the doctor direct.

INNOVATIVE TECHNOLOGY FOR BEST AGERS
As demographics change, it is increasingly important to consider the needs of older people when designing packaging. Packaging should be easier to open because their hands have lost some of their strength or their fingers are no longer sufficiently flexible. Most people’s eyesight also grows weaker over the years.

Deciphering the small-print ingredients on the packaging or the information leaflet inside the pack can be a challenge even in our mid-forties. Yet the disclosure requirements for medicine packaging in particular are very strictly regulated, so the full content must be included. So what now? Pick up a magnifying glass – or switch on a loudspeaker. Speakers built into the packaging or sensor can be useful here. On demand, they read out the information leaflet along with individual specified dosage and have professional information at the ready for doctors and pharmacists.

SEAMLESS IDENTIFICATION FOR GREATER TRANSPARENCY AND SAFETY
They are so small that consumers can often barely see them, if at all, on labels or packaging materials. What we are talking about here is RFID – in other words, minuscule sensors that permit the seamless tracking of packaging and thus also of products. They are indispensable helpers in the battle against product counterfeiting as well as optimising transport, logistical and warehouse management processes.

Each packaging unit can be individually registered and, if necessary, promptly recalled. What’s more, the low-frequency transmitters enable the consumer to obtain additional information about the product. This puts consumers in a position to check where the raw materials were sourced or where and when the goods were further processed.

THE HIGH-TECH PACKAGING GENERATION
RELIABLE IDENTIFICATION AND PREVENTION OF COUNTERFEITING

The origin of goods is a key focus, especially in the context of product piracy. The losses incurred as a result of counterfeiting worldwide amount to 1.5 billion euros. In addition to luxury goods, counterfeit products are frequently also encountered among medicines. Here, new packaging solutions can be among the means of ensuring greater security. Holograms, synthetic DNA, laser codes and special printing inks guarantee the authenticity, so-called tamper-evidence seals and locks show when an item of packaging has been opened, and track-and-trace systems with RFID chips and individual product numbers permit seamless tracing of products.

CONTROLs ARE A MUST

Control also plays a crucial role where medication requiring refrigeration is concerned. Temperature-controlling packaging solutions ensure that such sensitive products reach the patient unimpaired – even if their transport may occasionally take a little longer. Special containers can maintain a likely record-breaking -150 °C for up to ten days.

Printed electronics with time temperature indicators (TTI) guarantee reliable temperature monitoring at fixed intervals and raise the alarm if it falls below or exceeds the prescribed threshold value. That’s how simple – or how complex – packaging can be. The reason is that there aren’t many things humankind has been further developing and optimising as consistently over such a long period as packaging. And that development is far from complete.

PRINTED ELECTRONICS:

“Printed electronics” refers to the process of printing conductive synthetic materials or inks in liquid or pasty form cheaply and extensively on film, paper, glass and textiles. Whether it’s RFID, NFC, touch sensors, displays, solar cells, electrochromic film or smart labels, the materials used are often organic, which is why printed electronics counts as a sub-field and key technology in so-called “organic electronics”. Unlike conventional electronics, printed electronics use extremely fine, flexible and transparent electronic components. The areas of application span packaging, cars, energy and white goods.

RFID:

Radio frequency identification (RFID) technology was first used towards the end of World War II, when it was deployed for military purposes as an “identify friend or foe” (IFF) system. The identification system was later used by the car and train industries as well as for tagging animals in agriculture. Consumers have been familiar with the small chips at the latest since the 1970s, when retailers decided to protect their wares from theft with RFID technology. Meanwhile, the systems have come to transmit information practically everywhere – in traffic, for cashless payments, on admission tickets and ski passes. And the packaging industry is also making greater use of the chips today.

NFC:

The three letters “NFC” stand for “near field communication” – in other words, for communication between two devices that are quite close together. And this is also where the greatest advantage of this new technology lies: since transmitter and receiver must be located in close proximity to each other, there is relatively little likelihood of “eavesdropping” during data transmission. The first fields of application for this technology are cashless payments, advertising posters, tickets and also packaging.

KPM stands for Königliche Porzellan-Manufaktur (Royal Porcelain Manufactory)

Berlin – and for perfection. The KPM hallmark for the finest in craftsmanship is the cobalt-blue sceptre, which is bestowed on the precious wares only after the most stringent quality controls before they embark on their journey to customers all over the world in first-class packaging.

MADE TO STAY

Coveted by connoisseurs and collectors, the KPM artworks have a timeless beauty and, thanks to their correct packaging, have stood the test of time. Made to stay – that’s the company’s slogan and it’s right on the mark. Some rarities slumber in private ownership: exquisite unique Rococo pieces, splendid vases from the Classical and Belle Époque periods and inventive creations from the Golden Twenties.

TRADITIONAL MEETS MODERN

Managing Director Jörg Woltmann started by setting himself the goal of reviving interest in fine dining and has been going new ways ever since. Now contemporary artists are re-interpreting KPM’s traditional shapes and designs, and their modern creations are winning design awards. Brand experience and living manufactory are the focal points of a new marketing strategy featuring individually designed, custom-made products, exhibitions and partnerships.

HANDLE WITH CARE

A precious product calls for packaging to match its value. The fact that packaging doesn’t need to have corners is demonstrated by the round hatbox in which delicate porcelain plates are safely stowed. The main considerations for KPM when choosing the right packaging are quality and aura in addition to protection. “The attention to detail that goes into the products must also be reflected in their packaging”, Woltmann explains. “For the customer, the product experience begins with the right packaging. We use only first-class materials in combination with embossing, special inks and exclusive lacquers.” Because the packaging, too, is an essential element of the signature of the Royal Porcelain Manufactory on the River Spree.

www.interpack.com/non-food
If the packaging appeals to the customer’s emotions, the product has already practically made it into the shopping basket. Surveys have shown that the majority of purchases made at the point of sale are decided emotionally. And what could be more personal than a name?

**LET THE PACKAGING SPEAK**

**ANNE, ALEX AND ARNO**

The clever idea of addressing customers by their name was first taken up by the soft drink giant Coca-Cola, when it launched its Share a Coke campaign. From A to Z, 1,000 given names were chosen and then printed on the cans and bottles of the famous, dark-brown beverage. If a name was missing from the supermarket shelf, its owner could simply order a personal edition online. So far, several similar campaigns have followed that overwhelmingly successful promotion. The trend toward personalised packaging is nowhere near over yet.

**MY SERIES, MY FOOTBALL CLUB, MY FAVOURITE COLOUR**

After names came the various favourites. An evening on the sofa with your favourite beer and your favourite star? No problem. A visit to the stadium with the right club logo and your favourite player on the limo? No problem. Personalised overprints advance preferences to statement status. Whether it’s “I love pink” on the pink can or “Today I feel snippy, spacey, sleepy” on the chocolate bar, personal messages on favourite products are trendy and, above all, highly successful marketing tools. With limited special editions, branded companies appeal particularly to the younger demographic known as “millenials” or generation Y – in other words, those born between 1980 and 1999. Individualised products enhance self-esteem and make their users stand out from the crowd. Highly sought-after are single editions with personal congratulations for nearest and dearest on special occasions, such as Valentine’s Day or Mother’s Day. And when your best friend is lying sick in bed, perhaps a can of soup carrying a “get well soon” wish will do her good.

**FLEXIBLE, INDIVIDUAL, ON DEMAND**

The printing industry was producing personalised products long before the big brands launched their campaigns. It used digital printing processes to personalise products, such as promotional gifts and office equipment, in particular. Thanks to the progressive digitalisation of printing processes, it is possible these days to produce individual packaging prints flexibly, promptly and at low cost, even in small print runs.

Printing machines are equipped with special personalisation features. Customer data can be retrieved from database systems at any time. On demand, a specific quantity of a particular item can be produced just in time. This reduces unnecessary waste as well as storage and delivery costs. And that’s not all. With the new generation of digital printing machines, companies have the flexibility to test packaging ideas without additional extra outlay, in terms of staff, time or material.

According to the experts, consumers’ growing desire for customised, personalised packaging will continue to increase the global market share of digital printing. In addition to limited editions and individualisation, digital printing will bring with it more economic benefits and make new and faster processes in the graphic design of mainstream packaging possible.
6.30 pm: The end of a day in the office. On my way to the car, the small computer on my arm plays back my latest voicemail messages. It’s turned cold – I say “Heat car” to the display and at the same time press the button of my jacket. Within seconds, I am encased in a wonderfully warm cocoon.

6.45 pm: The car door is already open. It recognised me coming towards it. I sit down in my preheated leather seat and tell the friendly on-board computer my destination. The vehicle manoeuvres itself elegantly out of the rather small parking space and pilots us safely through the Berlin rush-hour traffic. Along the way, I receive information from home. The fridge reports that the milk’s use-by date runs out in two days’ time and the orange juice should be consumed today.

6.55 pm: My Omega-3 level is at a low, my digital helpers tell me and suggest I order myself a portion of salmon. I agree and at the same time request the automatic replenishment of the other missing foods.

7.15 pm: I arrive in the multi-story car park at home. The lift is already waiting for me and takes me to my apartment door, where the battery-operated supplier is just setting down the ordered goods. I scan my credit card and earn ten bonus points for my order. The door opens and I am met by my house robot, which proceeds to put the chilled products in the fridge and everything else away in its proper place.

8.00 pm: It’s been a hard day. I sit down on the sofa. My favourite TV series comes on and, waiting at my elbow, are my baked salmon and a glass of juice. Time to unwind!
This, or something like this, is how the future could look if intelligent packaging were hooked up by sensors to household appliances, vehicles, personal devices and health kits. The automated car is already on the road today, if only for test purposes. Where the journey will take us in the coming ten to twenty years is predictable. Digitisation, Industry 4.0 and the Internet of Things are all set to revolutionise our everyday life.

FASCINATING PACKAGING

Nanotechnology has made its entrance into the world of packaging. Smart, active packaging solutions have long since ceased to be little more than a bold vision. Today’s smart packaging can identify the freshness of foods and can even extend it and report when the item is no longer edible. Thanks to their RFID and 2D codes, organic and printed electronics help to combat product piracy and even ensure the optimum supply of medicines with the aid of chips and LEDs. Experts estimate that the market for smart packaging currently exceeds 16 billion US dollars – and growing.

FRESHENERS AT WORK

In the food sector, there’s an impressive array of innovations for packaging solutions that can actively enhance the performance of the packaged goods. They can regulate the humidity inside the packaging, prevent the formation of germs or even selectively kill them off – and at the same time, they are absolutely food-safe, odourless and tasteless. Absorbers built into the packaging material are capable of neutralising unwanted gases. Iron, for example, ensures that oxygen-sensitive beverages, such as beer and fruit juices, stay fresh longer. The fresheners are also used in the packaging of meat, fruit and vegetables packaging. Apples, for instance, give off ethylene gas as they ripen. Special absorber films soak up the gas and stop a rotten apple from “infecting” the other five in the pack.

ACTIVE IN THE FIGHT AGAINST FOOD WASTAGE

However, while active packaging makes for a longer shelf life, some impressive new developments have also been made in connection with food loss. The Food and Agriculture Organization of the United Nations, FAO, estimates that 1.3 billion tonnes of food is lost every year. The largest share (40%) of these losses arises with the consumer, who unnecessarily throws away food that is still edible. Thanks to some high-profile campaigns and directives, international awareness is gradually changing.

For many customers, the “Best before” date printed on the pack is still the only guideline – also because in many cases it is difficult to ascertain whether or not a food is still edible. That’s because, along the process chain from manufacturer to consumer, a variety of factors, such as an interruption in the cool chain, its storage and tiny, sometimes invisible damage to the packaging, may affect the life of the product.

Now and again, discoloration, which is not necessarily a sign of spoilage, may put buyers off. Mushrooms, for example, change colour and look unappetising after only a short time, generally due to humidity. Humidity-regulating packaging with worked-in cooking salt prevents the formation of condensation and so also help to maintain consistent quality.

FRESHNESS CHECKS FOR FOODS

But how can consumers tell whether a product is fresh? This is a highly complex matter since each type of food spoils differently. Research and industry are currently working on some promising solutions, such as intelligent nanosensors that use colour to indicate the degree of freshness of a product. Changes in colour and fluorescence in the highly sensitive materials indicate the presence of certain substances responsible for spoilage.

Other technologies make it possible to feel freshness. This means that a freshness seal with a built-in layer of gelatine can be used in packaging for meat, milk and cheese. When the product goes off, the gelatine begins to disintegrate. It then feels hard and broken from the outside of the packaging. Another solution is provided by time temperature indicators (TTI), which measure and record the temperature inside a packaging over a certain period of time. The recorded times can be retrieved via mobile devices or read straight off printed displays or LEDs. This technology is frequently used in the pharmaceutical industry, especially for medicines that require refrigeration.
DON’T TALK, WORK

German small and medium-sized enterprises (SMEs) are exceptionally grounded. They think and work in places barely anyone in the world has heard of, places like Osterburken in Baden-Württemberg, home of AZO GmbH. At AZO, people rely on the interpack alliance and take advantage of the global network of Messe Düsseldorf to sound out and work markets.

INTERNATIONAL CUSTOMER PORTFOLIO

“Our customers are multinational companies all around the globe. That’s also why attending international trade fairs is vital to us. One of the most important trade fairs for our line of business is the top international event interpack. So you could really say that having a presence there is a must for us.” But AZO GmbH is a fixture on the list of exhibitors at other trade fairs, too. AZO has been showing at upakovka in Moscow since 2005, for example, as Russia is traditionally one of AZO’s biggest markets – the food sector in particular, but also other industries. In the years 1987 to 1991, AZO delivered large installations for industrial bakeries and toothpaste manufacturers to Russia. According to Zimmermann, demand in the machinery sector of the most populous country in Europe is consistent: “Even if investment confidence is very low there at present, the Russian market still holds enormous potential, particularly also for German engineering”, he points out. Many of the production plants were erected in the 1980s and ‘90s and now need to be replaced or modernised.

Zimmermann, a qualified engineer himself, also maintains that there is ample potential on the African continent. In East Africa, especially, he expects to see the standard of living rise as middle-class numbers swell. Growing urbanisation is creating demand for investment. Specialist Zimmermann anticipates that a large share of imports will be food and packaging machinery. “That’s why in 2014 we decided to exhibit at the fppe in Kenya for the first time. The region offers enormous development opportunities, but the market also poses the challenge of finding the right local business partnerships. Working a market from Germany is extremely difficult to do”, says Zimmermann.

AZO took the plunge into the US market as long ago as 1978, when it founded its first sister company in Memphis. The American market still has great relevance for AZO. Today, it employs a workforce of 36 there, in four business units – AZO Food, Vital, Chem and Poly. The Germans have earned the trust of their customers with reliability and quality. “In the 67 years the company has been in business, we have never had to take back an installation – and that’s the way it’s to stay. As a family business, we stick to what we’ve agreed and our customers appreciate that.”
MR STEINLE, IF YOU COULD SEE INTO THE FUTURE, HOW WOULD PACKAGING LOOK IN TEN OR FIFTEEN YEARS’ TIME?

I don’t need second sight to be able to tell you how the packaging of the future will be. Three words suffice: smart, sensual, non-toxic. Once upon a time, packaging tended to be designed to serve a sole purpose. In other words, it was there to protect the product. Later, the marketing value of packaging was recognised and its surfaces used for advertising.

These days, packaging has several extra functions: it communicates, it informs and it emotionalises. And that trend will continue. Packaging is becoming more and more intelligent. In the pharmaceutical sector, it will become the norm for packaging to take on a control function and monitor medication. One example: If there are two types of medicine in the medicine cupboard that should not be taken together, the packaging will be capable of giving off warning signals. But it will also know when which medicine should be taken, and how. The packaging will retrieve this kind of information from personal “Me-Clouds” in which customer specifics are securely saved.

YOU YOURSELF ONCE SAID THAT THE PACKAGING OF THE FUTURE WOULD BE ABLE TO TALK. WHAT DO YOU MEAN?

Packaging is increasingly becoming an active element in our media landscape. Built-in sensors will make it possible to give customers feedback – about the best temperature at which to consume the food or ingredients that could be added to produce a special dish. Such sensors and chips – which are becoming less expensive all the time – will play a key role in the packaging of the future. With them, the packaging will to a certain extent learn to “speak”.

TO WHAT EXTENT CAN PACKAGING BE SENSUAL?

Emotions play a crucial role in consumption. This applies all the more in a complex and fast-moving world because deciding on the strength of a gut feeling rather than an intellectual consideration saves time. People today are basing their decisions more and more on situations and emotions. The packaging is the ideal medium with which to convey emotions. With many products, the initial contact with the consumer is made via the packaging, so if it chimes with customers’ emotions, the likelihood of them making a purchase increases enormously. Touch is a deciding factor here, too, and one that is set to become even more important. We know from surveys that it is mostly women who take products off the shelf and touch them. It is the task of sensual packaging design to take this into account. The packaging must enter into a dialogue with the customer at the point of sale – not obtrusively, but by awakening interest. In order to be able to do this, packaging requires greater communicative intelligence.

WHAT CHALLENGES DO INCREASINGLY MOBILE CONSUMERS REPRESENT FOR PACKAGING?

The successful companies of the future will be those with a holistic attitude to production and consumption and which apply the cradle-to-cradle approach. What this means is that the right materials are used in the right place and at the right time using biotech food chains. Instead of reducing the linear material flows of today’s production methods, the cradle-to-cradle approach redirects them into periodic nutrient cycles.

The basic principle: as much packaging as necessary, as little packaging as possible. Recycling and CO₂ reduction play a vital role. This is where there are savings to be made which so far have never been factored in, for instance the cost of protecting the coasts from the effects of global warming caused by CO₂, and the consequent melting of the North and South Poles. If we could uncouple production from CO₂ emissions, humankind would save an endless amount of money.

WHAT WILL BE THE PACKAGING MATERIALS OF THE FUTURE BE?

The use of algae is extremely promising. Algae are a cheap, renewable resource that take up no land, occur worldwide and can be used both as a source of energy and also as a raw material for the production of packaging. The goal should be “zero waste” – with everything bound into a periodic nutrient cycle.

HOW MUCH INNOVATIVE POTENTIAL MUST THE PACKAGING INDUSTRY HAVE IN ORDER TO KEEP PACE WITH THESE CHALLENGES?

The packaging industry is a global and technology-driven sector. That means it’s in a tough competitive environment, which makes innovation a must. This is why, in my opinion, the packaging industry is far more innovative than other sectors. I see the Americans currently in the forefront of developments, first and foremost in the IT sector. World-dominating companies, such as Facebook, Google (Alphabet), Microsoft, Amazon, Uber and others, started off in the USA. The main reason for their success was their “think big” attitude. Google veteran Patrick Pichette hit the nail on the head when he said, “If it’s not going to be at least a billion people, it’s probably not worth our time.” That’s the secret of real success and what drives innovation – also in the packaging industry.
Now that’s how a coffee cup should be. Deliciously al dente. With bite. And perhaps also with a slight hint of amarettini flavour. One more reason to simply gobble up the cup.

Coffee to go can be had on every street corner. Buy it, drink it! But now there’s a tasty complementary packaging idea to go with it – a really good one, an innovative one that has the coffee cup disappear when the coffee’s finished. No, there’s no witchcraft involved, the cup simply gets eaten up. According to the motto “first sip, then nibble”, wafer coffee cups with sugar paper and heat-resistant chocolate as an extra treat can simply be gobbled up like an ice-cream cornet.

In Italy, there’s a stylish variation on the theme. There even the espresso cup is edible. Ice cream, yoghurt, cheese, fruit, vegetables, water, cocktails and soup are encased in an electrostatically charged edible skin strong enough to hold its contents. In India, they have edible rice bowls, and in New York, edible beakers for fruit and veggie juices. They are made of agar-agar, a vegetable gelling agent frequently used in Asia. It’s easy to digest, vegan, gluten-free and compostable.

Mobility changes people’s expectations of services and consumer goods: everything has to be fast, flexible and practical. Even if there are more critics and countermovements, such as “slow food”, around these days, the “to go” trend is still very much a part of society today. It could be a healthy smoothie for on the road, a snack in-between or a coffee to go for an afternoon boost of energy. It makes sense because people on the move tend not to have kitchen appliances – such as cooker or kettle – to hand. This applies equally to mountain climbers and managers travelling on business.

The packaging industry has come up with the ideal solution: self-heating packaging. Beverages, soups and other meals, too, can be heated in minutes thanks to an exothermic reaction. The packaging shows when the meal has reached the correct temperature and is ready to eat, and retains the heat for up to 45 minutes.
CAREER OPPORTUNITIES FOR BOTTLES

Bottles for cult drinks actually already look pretty cool – so cool, in fact, they deserve better than a place in a bottle bank. When designers give some thought to recycling the cool bottles, objects that win design awards are the result.
UPCYCLING TREND

Obviously, there are fantastic ways to recycle glass, but bottles and glasses are often design pieces that are simply too gorgeous to be thrown away. Secondary use, or upcycling, of packaging used to be common practice and the German pantry was unthinkable without its reusable jam jars.

Today, a little more design goes into the upcycling of glass packaging. Old bottles re-emerge as veritable eye-catchers and as a business model with a future, as exemplified by the true fruits story.

TRULY CREATIVE

The plain glass bottles used for true fruits are particularly good for upcycling because instead of a label, they have a high-quality ceramic oversprint and cheeky texts. The cylindrical, non-returnable bottles inspire new creations. Fans and members of staff have already turned the bottles into lamps, cake stands, candlesticks and even bird-houses. “We were particularly fascinated by one fan who made all the lamps in his home using our bottles – from the standard lamp, to the ceiling, bathroom and desk lamps”, says co-founder and CMO Nicolas Lecloux, adding: “The craziest thing is that our customers can even earn money by upcycling our bottles. These days we even receive enquiries about empty bottles from people wanting to turn them into all kinds of things, including a music box.”

The juice people from Bonn hit on the upcycling idea a few years ago because they, too, felt the bottles were simply too good to throw away. “In our office, we had flowers or pens and pencils standing in the bottles and gradually the idea matured that we ought to develop attachments for the bottles that would be useful for a new application and, above all, that would last”, says Lecloux.

The bottle itself was already a little piece of design. So the juice makers put their heads together with the design consultants and developed additional products to transform the empty smoothie containers into true gems for any designer kitchen: shaker, permanent cap, spout or tea sieve, all made of finest stainless steel and simply screwed onto the bottle. This is how the small smoothie bottles became genuine transformation artists. The idea even won the German Design Award 2016 in the category “Excellent Product Design – Kitchen”.

JUICY FUTURE AHEAD

And these are unlikely to be the last innovations of the flourishing juice company on the Rhine. What the trio has set in motion in the past ten years even has big companies like Schwartau, Chiquita and Coca-Cola holding their breath. The original workforce of three has swelled to 33 in ten years, while turnover shot from 40,000 euros in 2006 to more than 40 million euros. Business with the liquid foods is booming. Anyone wishing to treat themselves to a powerful boost of natural vitamins without having to do any chopping gladly reaches for the smooth fruit purées, true fruits also benefits from the population’s improved health consciousness and can be expected to continue leading the field in the future.
A TASTY FRUIT, A FRESH IDEA, AN INTERNATIONAL PROJECT, A SUCCESS STORY FOR KENYA
MANGOS THAT CANNOT STAVE OFF HUNGER
More than half – 64 per cent or 300,000 tonnes, to be precise – of the mangos that grow in Kenya never make it to market. There are many reasons for this. The greatest loss arises at harvest time and in the retail chain – much of the fruit spoils on the tree because it is not picked in time or, if it is picked, cannot be processed quickly enough. Given the many starving people in the country, this is tantamount to a catastrophe. As a result, mango purée is actually bought from India to make mango juice in Kenya.

DRIED MEANS FRESH FOR LONGER
How to escape this dilemma is demonstrated by Azuri Health and its managing director Tei Mukunya’s success story. A native Kenyan, Mukunya came to the mangos by chance. She had worked as a marketing consultant for one of the largest tobacco groups in the world and then she decided to throw in from India to make mango juice in Kenya.

The hardest part is generally getting started, and so the mangos were first processed by five employees in a hut in the garden of the house, using an electric dryer and a solar dryer to turn them into tasty dried fruit. A local supermarket showed interest and the project got off the ground.

INITIAL SUCCESS WAS INSPIRED HANDIWORK
Now it was time to roll up our sleeves and lend a hand. “To start with, I had no idea about business at all. I knew about figures and marketing opportunities, but nothing about agricultural production. That was something I had to learn.” Not quite ten years later, the small operation in Mukunya’s garden has become an expanding company with 30 employees, one proper, if small, production line and a monthly output of ten tons of dried mangos – and the trend is upwards. “We’re well short of the million yet, but I am very proud of what we have achieved and experienced. These past few years have been important years of learning for us, with many experiences, good and bad, and times of sacrifice that were also filled with passion and innovation”, Mukunya says looking back. And an awful lot of new, specialist knowledge that also came from the SAVE FOOD initiative.

MANGOS TO TAKE AWAY
The successful Nairobi businesswoman was noticed by the initiative founded in 2011 by the world food organisation, FAO, the environment programme of the United Nations, UNEP, Messe Düsseldorf and interpack, the leading international trade fair for the packaging industry and the related process industry. The aim of the international network, which has members from leading international companies, organisations and research institutes, is to develop ways to avoid loss and spoilage of food along the entire value chain.

Following a market survey conducted by the German consultancy africon for the SAVE FOOD initiative, it became clear to everyone concerned that the most suitable way to prevent as much fruit as possible from rotting was to dry it. Needed to do this are local partners and above all the necessary know-how and the right infrastructure. Azuri Health received support from the SAVE FOOD members Messe Düsseldorf, the packaging company WEPF, the trade associations EAFU – European Aluminium Foil Association e.V. – and FPE – Flexible Packaging Europe e.v., the machine manufacturer Multivac, the Bosch Group, the printing ink producer Siegwerk and africon. And that is how the Kenyan self-made company became a project with international partners. In addition to financial backing, the company received important advice about building and operating new production plants and about necessary lean-management measures – and last but not least, the right contacts a network needs to pursue the grand goal of expanding to Europe, the UK, USA and Japan. With the right packaging, the goal should be achieved some years on.

INTERNATIONAL SUPPORT
From field to the entire world
Azuri Health’s success story appears to be attracting emulators. Since 2011, Kenyan mango exports have risen by 400 per cent. Most exports go to established markets in the Middle East: the United Arab Emirates, Saudi Arabia, Bahrain and Qatar are the biggest buyers. Way behind them come growing exports to countries such as Tanzania, Somalia and South Africa. The focus in the coming years, however, will be on Europe – and above all on the UK, France and Germany. The basic prerequisite for increasing export success is to ensure safe conditions in the fresh goods business with the mangos. A deciding factor here is the packaging, which must ensure the quality of the fruit in line with strict international safety standards, even during the lengthy transit from remote Kenyan villages to the recipient countries.

www.save-food.org
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