European press conference on 7 December 2021 at Cologne- press kit

Anuga Food Tec
26.04. - 29.04.2022
www.anugafoodtec.com

Agenda

European press conference

Anuga FoodTec 2022

07.12.2021, 15:00 Uhr, Rheinsaal, Congress Centre North, Koelnmesse

Anuga FoodTec
26.04.–29.04.2022
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Remarks

Oliver Frese
Chief Operating Officer, Koelnmesse GmbH

Simone Schiller
Chief Operating Officer, DLG, Technical centre for food

Matthias Lesch
Chief Operating Officer, Pöppelmann Holding GmbH & Co. KG

Katleen Haefele
Head of Food Services & Events, ProVeg International

Additional speakers

Anne Schumacher
Vice President Food and Food Technology, Koelnmesse GmbH

Matthias Schlüter
Director Anuga FoodTec, Koelnmesse GmbH

Christine Hackmann
Communications Manager, Koelnmesse GmbH

Welcome address, discussion host

Alexander Königsmann

Status: 7 December 2021
Initials: 2912-hac

Press release

No. 4 / December 2021, Cologne
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Anuga FoodTec 2022 - Special Edition: Convincing concept, also digitally

Most important international industry event in spring 2022

Special Edition: In addition to the presence trade fair, digital platform Anuga FoodTec @home offers additional contact opportunities

Anuga FoodTec, the international supplier fair for the food and beverage industry, plays a central role for the industry with its comprehensive concept, which covers all process steps from the processing of raw materials to the finished product. Thus, the trade fair, which has been postponed to April 2022, is also registering an unchanged high level of popularity in all product segments. Anuga FoodTec 2022 presents itself as a "Special Edition" and thus as a combination of a compact presence trade fair with the high-reach digital platform Anuga FoodTec @home.

As a result of the exhibitor and visitor surveys at Anuga FoodTec 2018, the product segmentation has been revised and structured in order to be able to present competences and solutions along the entire value chain. In this way, supply and demand can be brought together in an even more targeted manner.

The segments at a glance:
- Processing
- Filling & Packaging
- Digitisation
- Automation
- Intralogistics
- Safety & Analytics
- Environment & Energy
- Science & Pioneering

The new segments "Intralogistics", "Automation", "Digitalisation", "Energy & Environment" and "Science & Pioneering" focus on important key topics of the food and beverage industry.

"Intralogistics" deals with the internal flow of materials and includes, for example, product groups such as conveyors, large containers, storage systems or industrial trucks. All global producers of food and beverages need intralogistics solutions. Complementary topics such as warehousing and facility management are also touched on here.

"Automation" and "digitalisation" are closely related. Switching processes from

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Your contact:
Christine Hackmann
Tel.
+49 221 821-2288
e-mail
c.hackmann@koelnmesse.de

Koelnmesse GmbH
Messeplatz 1
50679 Köln
P.O. Box 21 07 60
50532 Köln
Germany
Tel. +49 221 821-0
Fax +49 221 821-2574
www.koelnmesse.com

Executive Board:
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manual to automatic operation, i.e. machine operation, is an important challenge in the food and beverage manufacturing process. Digitalisation connects the automated processes through innovative technologies that can control and network all applications according to demand and product.

"Energy & Environment" is one of the core fields in the production process of food and beverages. Energy, fresh water, waste and reprocessing are important factors in every production process that can be used to control costs and effort. In addition, these issues are moving strongly into the focus of the public, which increasingly expects food and beverage producers to have a clear attitude towards environmental issues. The area offers approaches to solutions and innovations at various levels across all process stages.

"Science & Pioneering" focuses on the future more than any other segment. Here, the experts are expected to identify today which solutions will be ready for the market in the next 5 to 10 years and where the industry is heading. In addition to start-ups and young, innovative companies, research institutes and universities can also participate here in the discussion about the future.

All segments will also be taken up by the event and congress programme, where they will be discussed by experts and presented in different approaches with a view to the future.

In addition to the presence fair, Anuga FoodTec offers additional information and networking opportunities on its new digital platform Anuga FoodTec @home. While the exhibitors of Anuga FoodTec can profile themselves through digital presentations in different formats, the virtual visitors have access to numerous contents and data offered by the trade fair. This is also relevant for all interested parties who cannot visit the trade fair. Anuga FoodTec @home offers them access to the relevant players in their industry, while at the same time providing exhibitors with an effective digital extension of their trade fair presence. At the same time, exhibitors can use an innovative lead tracking system to find out which visitors are interested in their virtual offer and contact them.

The event and congress programme will also be partially mapped at Anuga FoodTec @home. On the other hand, selected parts of the very focused professional programme can only be experienced at the fair. The lectures at Speakers Corner can only be followed at the fair and reinforce the live dynamics.

he programmes of the Main Stage and the Innovation Stage, on the other hand, will be offered both as a streaming service and on demand on the platform until 30 June 2022. On the Main Stage, for example, all the topics surrounding the main theme of Anuga FoodTec 2022, which is "Smart Solutions - Higher Flexibility", will be highlighted. In addition, there will be a strong focus on the trend topics of the industry, which include the focal points of sustainability and alternative proteins. To this end, Anuga FoodTec has put together a series of compact conferences under the motto "Food4Future @ AnugaFoodTec22" in cooperation with NXFood, among others. The conference series will run on the Innovation Stage, so will also be offered digitally.

The organiser of Anuga FoodTec is Koelnmesse. The DLG Deutsche Landwirtschafts-Gesellschaft (German Agricultural Society) is the technical and conceptual sponsor of Anuga FoodTec.

You can find the current list of exhibitors at www.anugafoodtec.de/ausstellersuche.

Further information.
www.anugafoodtec.com

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The next events:
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Anuga FoodTec - The international supplier fair for the food and drink industry, Cologne 26.04. - 29.04.2022
Cibus Tec - Exhibition & Conference on Food & Beverage Technologies Trends, Parma 25.10. - 26.10.2022

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Your contact:
Christine Hackmann
Communications Manager

Koelnmesse GmbH

Messeplatz 1
50679 Cologne
Germany
Tel +49 221 821-2288
c.hackmann@koelnmesse.de
www.koelnmesse.com

Press release

No. 2 / December 2021, Cologne
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Anuga FoodTec 2022: Sustainable Packaging:

Packaging industry demonstrates the next steps towards sustainability

The current trend in the packaging industry is clearly visible at Anuga FoodTec 2022: Sustainable packaging. The food and beverage industry is relying more and more on regrowing raw materials, recyclable materials and is increasingly replacing the conventional packaging concepts with other more contemporary ones. At the international supplier fair for the food and beverage industry from 26 to 29 April 2022 in Cologne, the visitors will find out how the packaging manufacturers and packaging machine builders are achieving the shift towards more sustainability and which challenges have to be overcome in the process. This important and future-looking theme is also competently addressed in the event and congress programme.

With a view to the coming Anuga FoodTec, it is becoming clear that there is no universal solution for the reduction and recyclability of packaging materials. Nonetheless, wherever possible composite films or plastic trays are being replaced by mono films or cardboard. The packaging machine specialists at the Cologne fair grounds are taking the increased demands for sustainability very seriously and are reacting with modular machine concepts, which thanks to intelligent robotics and automation, can process both conventional as well as sustainable packaging.

Sören Storbeck, Global Product Account Manager Packaging at KHS in Dortmund knows how significant this flexibility is, especially for the secondary packaging section because: "One has observed on the market that alternative packaging to disposable plastic is establishing itself especially in the beer and fizzy refreshing beverages segments." KHS offers the beverage industry the corresponding solution in the form of the Innopack Kisters CNP (Carton Nature Packer). The machine processes can attachments made of cardboard with a performance of up to 108,000 containers per hour. The alternative to plastic films or plastic rings offers different packing sizes for four, six or eight cans.

Flexible machines for future demands
Especially in the concept phase of a new packaging machine there is a lot of leeway for checking the sustainability of product packaging and developing the latter from the very start with good machinability in mind. At Gerhard Schubert GmbH in Crailsheim, Valentin Köhler is responsible for this task in the carton packing section. "The turnaround towards sustainable packaging solutions is in full progress," the expert confirmed. At the moment, many manufacturers and brand-name companies are critically examining their existing packaging, considering where they can do without plastic and subsequently switching over to regrowing fibres for instance. Köhler considers the implementation of plastic still necessary to seal packaging so

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Your contact:
Christine Hackmann
Tel.
+49 221 821-2288
e-mail
c.hackmann@koelnmesse.de

Koelnmesse GmbH
Messeplatz 1
50679 Köln
P.O. Box 21 07 60
50532 Köln
Germany
Tel. +49 221 821-0
Fax +49 221 821-2574
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that a longer sell-by date can be guaranteed - for instance in the area of tubular bag packaging. Schubert demonstrates what is possible here today with the flowpacker. The flexible machine can sparingly process both conventional composite films using the cold and heat-sealing process as well as recyclable mono films and paper-based films.

One of the key challenges involved when switching over to sustainable materials is keeping the machine's overall equipment effectiveness (OEE) at the same high level - because handling paper-based films is much more demanding than processing composite films. They tear and crease faster, are stiffer and need specially aligned forming shoulders to ensure a safe packaging process without interruptions. Furthermore, paper is abrasive, which means it grinds down mechanical parts of the machine over the course of time. That is why the format parts of the flowpacker are individually aligned to suit the packaging material using hardened and coated surfaces in order to attain an optimal result.

Bioactive coating extends durability
Up until now above all dry or already primary packed products were packed using paper-based films. Because the more complex and sensitive the food that has to be wrapped is, the more difficult it is to find an alternative for plastic packaging. A theme that is increasingly occupying applied research, as the joint project of the Fraunhofer Institute for Process Engineering and Packaging IVV and the Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, "BioActiveMaterials", demonstrates.

Here, the researchers also use paper as the basis for the production of functional packaging materials such as sealable sealed-rim pouches or wrapping paper. Using a standard process, the paper is covered with a coating, for which natural, food-safe proteins and waxes with bio-based additives are implemented. Thanks to the special formulation, the long-time stable coating serves several functions: "On the one hand the proteins serve as an oxygen barrier layer and the waxes as a steam barrier, so fruit doesn't dry out as quickly for example. On the other hand, the bio-based additive has an antioxidant and antimicrobial effect. Hence, meat and fish don't go off as quickly. Overall, the durability is extended significantly," explained Dr. Michaela Müller, Director of the field of innovation, Functional Surfaces and Materials, at the Fraunhofer IGB. "After use, the packaging is disposed of in the wastepaper bin, the coating is biodegradable and doesn't affect the recycling," added Dr. Cornelia Stramm, Department Head at the Fraunhofer IVV. The packaging is also suitable for foodstuffs that have to be refrigerated, such as meat for instance. The protective function against oxygen remains intact here. It can even be used to pack frozen food.

Digitalisation meets circular economy
As promising as paper-based solutions may presently be: According to today's state of technology, plastic is still indispensable as a material for vacuum or MAP packaging, especially in the meat and convenience food segment, as a means of packing products safely and hygienically. The industry is thus working flat out on the further development of concepts that contribute towards minimising the implementation of fossil raw materials for the production of films, trays and

universal packaging. Matthias Lesch, Executive Director of Pöppelmann GmbH & Co. KG from Lohne, explains how this can become possible. "Our developments consistently follow the principle, 'Reduce, Reuse, Recycle'. The buckets of the Reduce+ series that are made from polypropylene are an example of this. They not only convince in terms of their appearance and functionality, but also because they save a significant amount of material." Thanks to an innovative lattice structure, between 15 and 40 percent less plastic is necessary for their production. Available with a cardboard lid made from regrowing raw materials, the Reduce+ bucket is ideal as a resource-saving packaging solution for tomatoes, berries or stone fruits. Lesch is convinced that a true circular economy is possible for plastics: "The numerous projects of our initiative 'Pöppelmann blue' prove this." Together with further partners, this project is working on the development of completely recyclable pouch packaging that can be implemented as a raw material for the production of new pourers, caps and pouches after its initial usage - and in this way also ensure a closed material loop.

At the same time, effective recycling processes have to be ensured to promote the circular economy. "The exchange with partners from all industry sections involved is essential here," stressed Stefan Scheibel. For the Vice President Corporate Training & Innovation Center of the Multivac Group, above all the digitalisation has "huge potential in bringing about high-quality recycling processes for sustainable packaging." Precisely this is the aim of R-Cycle. The cross-industry standard is being developed through to market maturity by different technology providers and organisations across the value chain of plastic packaging, including also the Multivac Group. R-Cycle can record packaging properties such as plastic types, adhesives, printing inks and additives in a digital product pass during the manufacturing process already using an automated technique. Here, all relevant parameters are automated via an IoT gateway entered in the database, the packaging is clearly labelled and serialised with globally valid identification numbers. Calling up the recycling-relevant data enables the subsequent sort-pure separation and thus also reusability of the plastic for high-quality applications.

Event and congress programme:
The following events are planned on the theme Packaging (extract):

26.04.2021 10:00 – 11:30 a.m.
"Sustainable bottles and packaging for beverages" - hosted professional discussion
Organiser: DLG

28.04.2021 1:40 – 3:10 p.m.
"Tailor-made food packaging: Are you already on board too?" - hosted professional discussion
Organiser: NVC Netherlands Packaging Centre, Gouda, the Netherlands

29.04.2021 10:00 - 11:30 a.m.
"Intelligent packaging - modern packaging "thinks" ahead" - hosted session
Organiser: DLG
(Event can also be called up digitally)

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Your contact:
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Communications Manager

Koelnmesse GmbH
Messeplatz 1
50679 Cologne
Germany
Tel +49 221 821-2288
c.hackmann@koelnmesse.de
www.koelnmesse.com

Press release

No. 3 / December 2021, Cologne
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Anuga FoodTec 2022 puts the focus on alternative protein sources

Plant-based food has become a success factor in the food trade. From 26 to 29 April 2022, Anuga FoodTec will focus on the processing of alternative proteins and the necessary know-how along the entire process chain. The international supplier fair for the food and beverage industry not only covers the wide range of solutions for the production of plant-based meat alternatives, but also takes a look at a future in which insects and cultured meat are to ensure greater sustainability.

Gone are the days when a wholesome meal necessarily included meat. This is the conclusion of a joint survey by the nutrition organisation ProVeg, Innova Market Insights, the University of Copenhagen and Ghent University, which finds a clear shift towards a plant-based diet across Europe. The survey, conducted as part of the Smart Protein research project, found that 46 per cent of European consumers have significantly reduced their meat consumption in 2019. Germany came in second behind Romania in the European comparison with 51 percent. Matthias Rohra, Managing Director of ProVeg, confirms: "Our diet is changing at great speed and the demand for innovative protein alternatives is increasing. Germany has the potential to become a centre of innovation, and we need to make use of it."

The innovation drivers as guests in Cologne
Anuga FoodTec in Cologne from 26 to 29 April 2022 will show how this potential can be tapped for the food industry. In addition to soy, raw materials based on legumes are becoming increasingly important. Katleen Haefele, International Head of Food Services & Events at ProVeg, believes that regional ingredients are currently particularly popular. "Resource-efficient and local protein sources, such as pea, field bean or lupine, are particularly in demand," says Haefele, confirming the ongoing boom in the market for plant-based alternatives. Algae are also a popular raw material at the moment, he adds. "In order to be able to feed more than ten billion people in 2050, we have to rely heavily on plant-based supply and invest in new agricultural technologies and cultivated meat products," she says.

But it is not enough to partially or completely replace animal protein with alternative proteins. The products must also convince in terms of appearance, mouthfeel and juiciness. This calls for know-how at all levels of production. The focus of the ingredients specialists is primarily on improving the texture, aroma and taste of the new foods. At the same time, the mechanical engineers are optimising the established plant technology and working on new, innovative processes to open up a wider range of vegan and vegetarian products for

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Christine Hackmann
Tel.
+49 221 821-2288
e-mail
c.hackmann@koelnmesse.de

Koelnmesse GmbH
Messeplatz 1
50679 Köln
P.O. Box 21 07 60
50532 Köln
Germany
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the manufacturers.

Technology for the entire veggie process chain
Extrusion therefore plays a central role at Anuga FoodTec. Its versatile applicability enables the production of textured proteins from vegetable raw materials, the structures of which create flavour and texture profiles similar to those known from chicken, pork or beef. The latest trends in this field will be presented by Coperion GmbH, among others, in the event zone "Advances in food extrusion" on the Main Stage Topics, Trends, Technologies, Hall 6, A 100/C129 on 28 April. The technology provider from Stuttgart offers a twin-screw extruder in hybrid design for the production of such meat substitute products. Thanks to a flexible adapter solution, the discharge can be converted from a die with centric granulation to a cooling die in a very short time - so textured vegetable protein, meat analogues with a high water content and numerous snacks and cereals can be produced on one and the same line. The textured vegetable protein can be further processed on modern equipment that is also used in traditional meat processing.

From comminution and portioning to packaging: Anuga FoodTec offers solutions for almost every process engineering task. The exhibitors in this segment include market-leading companies such as Maschinenfabrik Seydelmann KG from Stuttgart and Vemag Maschinenbau GmbH from Verden. At the heart of their modular and (partially) automated complete solutions are not only cutters, mincers, mixers and vacuum fillers, but also moulding systems. Especially in the case of meat substitutes based on vegetables or tofu, which can be prepared quickly or eaten as a snack, much more variety is required in the shaping of vegan and vegetarian convenience products than was the case a few years ago.
Albert Handtmann Maschinenfabrik GmbH & Co. KG from Biberach responds to this, for example, with the FS 525 forming and cutting system, which combines two forming principles. With the perforated plate forming technology, freely formed 3D products such as balls and meatballs can be produced. The rotary cutter, on the other hand, can be used to produce different cross-sections with a smooth cut, for example for vegetable patties or nuggets. The optional use of a flattening belt with textured rollers further expands the possibilities.

Insects as part of a sustainable future
For a long time now, experts have been advising people to switch to alternative sources of protein, not only to reduce the consumption of classic animal foods or to replace them, but also to contribute to greater sustainability. As a cooperation partner of Koelnmesse GmbH, BALPro, the Association for Alternative Protein Sources, will use the Innovation Stage at Anuga FoodTec 2022 to provide information on this aspect. In addition to residual flows from food production, which are to be further processed into protein-rich innovative products, insects will also be in the spotlight. And for good reason, because insect-based food production is more resource-conserving and climate-friendly than conventional meat production. According to an FAO study, it uses up to twelve times less feed than the equivalent amount of beef, which also reduces water and land consumption. At the same time, insects contain up to 66 percent protein, all essential amino acids and vitamin B12.

Since the European Novel Food Regulation came into force in 2018, there have been

around fifteen test applications for insect-based foods. At the beginning of May 2021, the yellow mealworm became the first insect ever to receive approval as a novel food in the EU - a development welcomed by the BALPro working group "Edible Insects Germany". "Together with partners from science and industry, our working group wants to find starting points that will enable political promotion of the issue surrounding edible insects," explains Marc Schotter, founder of Insnack GmbH, a Berlin-based start-up specialising in the production of insect-based snack snacks. The head of the working group sees another advantage: "Insects can be fed on food waste. In this way, keeping them creates a complete value chain that conserves resources," says Schotter.

Cultured meat and its future prospects
Tapping new sources of protein from plants or insects are two of the options on the path to more sustainable food production. Cellular agriculture goes one step further. To make the vision of "animal products without animals" possible, it creates meat products from animal cells or microorganisms such as yeast, bacteria and fungi that are in no way inferior to the original - directly in the fermenter, thanks to modern biotechnology. Already more than 70 start-ups worldwide are dedicated to research in the field of Cultured Meat. Some of them were represented at the New Food Conference in October, which took place during the Anuga food fair. But will consumers actually buy the products? "The younger, well-informed ones are very open to it," says Mathilde Alexandre, who coordinates the "CellAg" project at ProVeg International. Cultured meat is still a vision. So far, only chicken nuggets from Eat Just in Singapore are on the market. However, the experts agree that the approvals will come and the technical challenges will be mastered.

The following events on the topic of alternative proteins are planned (selection):

Food4Future @ AnugaFoodTec22 - Conferences
Organiser: Anuga FoodTec in cooperation with NX Food, Netherlands

26.04.2022, 15:00 - 17:00 hrs.
Conference 1 - Next Generation FoodTech
Alone is not enough - ecosystems pave the way for change in the food system

27.04.2022, 15:00 - 17:00 hrs
Conference 2 - Functional Food
"Food with benefits - When food is more than just food

28.04.2022, 15:00 - 17:00 hrs
Conference 3 - Alternative protein sources
Next Generation Alternative Proteins - When Milk Comes from Bacteria and Meat from the Bioreactor

29.04.2022, 13:00 - 15:00 hrs
Conference 4 - Brand Empowerment
Brands in transition - "Love brands" and "Influencers" chase market share away from established companies

28.04.2021 10:00 - 11:30 a.m.
Advances in Food Extrusion
Organiser: GDL

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Your contact:
Christine Hackmann
Communications Manager

Koelnmesse GmbH
Messeplatz 1
50679 Cologne
Germany
Tel +49 221 821-2288
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www.koelnmesse.com

Media Service

DLG e.V., Eschborner Landstr. 122, 60489 Frankfurt/Main, Germany,
Tel.: +49-(0)69-24788-206, Fax: -112; r.huebner@DLG.org, www.dlg.org

Frankfurt am Main,
7 December 2021

Anuga FoodTec 2022

Focus on Global Technology Trends

Five developments and their relevance for the food and beverage industry

(DLG). Which global trends currently determine innovations in food technology? As the professional partner of Anuga FoodTec, the DLG (Deutsche Landwirtschafts-Gesellschaft - German Agricultural Society) provides compact insights into the developments currently relevant and their impact on the food and beverage industry. In keeping with their high relevance, the technical programme of Anuga FoodTec 2022, organised by the DLG, will also deal extensively with these top topics under the main theme of "Smart Solutions - Higher Flexibility". Anuga FoodTec 2022 will take place from 26 to 29 April on the Cologne trade fair grounds. As the leading international trade fair for the food and beverage industry, it is the ideal information and ordering platform for all areas of production, processing and packaging.

The complexity in the food and beverage industry is increasing and with it the demands on companies. More than ever, the challenge is to find optimal solutions for cost and resource-saving, high-frequency production accompanied by rising consumer expectations for variety, innovative packaging and sustainability.

Five trends and their impact on food technology at a glance:

1. Sustainability

Worldwide, about one third of all food produced is lost during production, processing in the trade or by the consumer. This involves considerable financial losses and wasting of precious resources. The losses for meat, grain and milk products are especially significant here. Smart solutions promise relief. How

they can help minimise overproduction and avoid unnecessary waste will be presented at Anuga FoodTec 2022.

Today, food producers are also expected to show a strong commitment to sustainability: Improved traceability, supply chain accountability and sustainable packaging are at the top of the wish list. With **Blockchain**, digital tracking along each individual link of the delivery chain becomes practicable: Digital product information, such as the holding of origin, batch number, processing data, expiration dates and delivery details, like compliance with the cold chain – all of these are stored in the Blockchain. This creates new dimensions of transparency and trust and the basic conditions for higher food safety, more sustainability and improved efficiency. Visitors to Anuga FoodTec will learn about the potential of Blockchain.

Corporate environmental protection has also become an integral part of companies in the food industry. It is no longer just a matter of implementing legal requirements to protect people, nature and the climate, but of uncovering and exploiting attractive advantages. Whether in wastewater treatment and processing, waste treatment, air pollution control technologies or exhaust gas purification: The goal in the food industry is to find strategies and technologies to use resources in intelligent cycles in such a way that they are maintained in the long term - and with the greatest possible economic benefit. The basis for implementing energy efficiency and environmental protection measures in the company is the know-how of the various technologies. Anuga FoodTec offers this necessary expertise - comprehensively, in a sector-specific manner and in line with requirements.

2. Industry 4.0 (digital transformation)

The food and beverage industry is characterised by high cost sensitivity and mass production, while increasingly innovative packaging and a growing variety of flavours as well as rising consumer expectations define the market. Digitalisation opens up many new opportunities for the food and beverage industry to meet these challenges and individualise products.
Along the entire value chain, digital technologies offer optimised processes and greater product efficiency. Processes and workflows can be optimally coordinated. This creates a continuously high product quality, increased sustainability and a more flexible work organisation. Competitive advantages that also drive the food and beverage industry.

Whether it's IoT (Internet of Things) as an engine for ideas, 3D printers for individual products, ERP systems for controlling business processes, virtual reality as a computer-generated reality with images, IT security for protecting the entire production plant, artificial intelligence for machine learning, Blockchain solutions for traceability, Big Data for processing and evaluating huge amounts of data: Anuga FoodTec provides answers and shows how the digital transformation for small and medium-sized enterprises (SMEs) and large corporations can be designed in concrete terms and how processes can be networked.

3. Packaging

Efficient and economical filling and packaging processes require a high degree of automation while at the same time placing high demands on the functional safety of the machines and systems. At the same time, consumers expect sustainable, individual and intelligent packaging solutions. For food and beverage manufacturers, it's all about balancing safety, automation and economy. The digital transformation offers great opportunities and changes everything, especially in packaging and filling: Supply chain management, optimised throughput times, minimised error rates and absolute product safety with maximum precision are just some of the important issues here.
Anuga FoodTec presents highly flexible machines for individual packaging and filling processes in the food and beverage sector.

4. New products, new technologies

The growing world population and its increased need for protein-rich foods creates a high demand. New forms of food production are therefore on the rise, for example vertical framing, aqua farming or the production of artificial meat. The demand for plant-based protein sources is also growing. Sustainability concerns are leading some consumers to choose products made from grains, legumes and algae. Anuga FoodTec demonstrates how extruders can be used to achieve the right texture for vegetable proteins.

Upcycled foods, which help to reduce waste, are also trendy: These include by-products that are processed into nutritious ingredients for soups, meal replacement bars, drinks and much more. The growth market of snack products also needs to be served.

5. Climate neutrality

Climate change is a central topic that is at the focus in both society and politics. Global warning and the related consequences, e.g. rising sea levels, extreme weather conditions and droughts that accompany global climate change require a package of measures to counteract them. Emissions can be reduced and climate neutrality achieved by investing in renewable energy, energy efficiency and other clean and low-carbon technologies.
Anuga FoodTec showcases technologies aimed at optimising production processes in the industrial manufacture of food and the associated greenhouse gas emissions.

For additional information, go to www.anugafoodtec.de

Media Service

DLG e.V., Eschborner Landstr. 122, 60489 Frankfurt/Main, Germany,
Tel.: +49-(0)69-24788-206, Fax: -112; r.huebner@DLG.org, URL: www.dlg.org

Frankfurt am Main,
15 November 2021

Guiding Theme of Anuga FoodTec 2022: Smart Solutions – Higher Flexibility

Smart solutions for the challenges of the industry – specialist forums shed light on a variety of current topics – guided tours offer a compact overview and provide orientation

(DLG). "Smart Solutions – Higher Flexibility" is the guiding theme of the Anuga FoodTec, the leading supplier trade fair of the food and beverage industry. It will take place in Cologne, Germany, from 26 to 29 April 2022. The technical programme organised by the DLG (Deutsche Landwirtschafts-Gesellschaft - German Agricultural Society) systematically offers trade fair visitors numerous approaches to process optimisation. The focus is on smart solutions for the current challenges of the industry. The goal is to enable even more flexible, more efficient and at the same time environmentally and climate-friendly production. Against this background, specialist forums will illuminate a variety of current topics in food technology and link scientific findings with business practice. During the guided tours on the trade fair grounds, visitors to Anuga FoodTec will also be provided with a compact overview and orientation with regard to pioneering innovations in the area of food technology. Koelnmesse's comprehensive package of measures #B-SAFE4business will ensure that the safety of exhibitors, visitors and partners at Anuga FoodTec 2022 is guaranteed in the best possible way.

Volatile markets, an adjusted supply of raw materials and increased competitive pressure pose considerable challenges for food manufacturers worldwide. Added to this are the considerably more demanding requirements of consumers for the

quality and safety of products and the sustainable production of food. In addition, this development is spurred by the trend toward individualised products and ever shorter product life cycles. In this context, in the future it will be more significant than ever that suppliers and manufacturers produce according to need in a resource-saving, customer-specific manner. The key to a diversified product range adapted to meet customers' requirements are flexible, efficient and at the same time environmentally and climate-friendly production methods. Processes in development, production and logistics must react increasingly dynamically in order to achieve a maximum degree of changeability. Smart solutions are in demand.

And that's exactly what Anuga FoodTec 2022 will present with its guiding theme: Smart Solutions – Higher Flexibility. From Tuesday to Friday, the technical programme will offer trade fair visitors an attractive mix of forums, discussions and presentations, and will focus on smart solutions for the industry.
In the process, a broad range of topics on food and beverage technology, including packaging will be covered. Particular emphasis will be placed on technological innovations in the meat, dairy, bakery and beverage industry, as well as other segments of the food industry. Among the topics to be highlighted are innovations in logistics and the digital supply chain, automation and robotics, smart solutions against food waste, innovative tools in data and production security, intelligent packaging and artificial intelligence. The entire Technical Programme is available online starting immediately at **www.anugafoodtec.de**

Guided Tours

Visitors to Anuga FoodTec will be provided with a compact overview of pioneering innovations in the area of food technology during guided tours of the trade fair grounds. As part of the approximately one-hour guided tours offered by the DLG, exhibitors will present and explain their latest products and optimum solutions. From March 2022, visitors can register to participate in the guided tours on the Anuga FoodTec website.

Professional partners

The organisations participating in the technical programme of Anuga FoodTec 2022 include the Gesellschaft Deutscher Lebensmitteltechnologen (GDL e.V. - German Food Technologies Society), the European Hygienic Engineering & Design Group (EHEDG), the Nederlands Verpakkingscentrum (NVC - Netherlands Packaging Centre), the Industrievereinigung für Lebensmitteltechnologie und Verpackung e.V. (IVLV - Industry Association for Food Technology and

Packaging), foodjobs GmbH, AFC Personalberatung GmbH (human resources consulting firm), the Wissenschaftlerkreis Grüne Gentechnik e.V. (WGG - Scientific Circle on Green Genetic Engineering), the Deutsche Schüttgut-Industrie Verband e.V (DSIV - German Bulk Material Handling Industry Association) and the Bundesvereinigung der Deutschen Ernährungsindustrie e.V. (BVE - Federal Association of the German Food Industry).

DLG – professional and conceptual sponsor of Anuga FoodTec 2022

The professional and conceptual sponsor of Anuga FoodTec is the DLG (Deutsche Landwirtschafts-Gesellschaft - German Agricultural Society). The DLG is an open network and professional voice of the agricultural, farming and food industry. It promotes progress in the agricultural, farming and food industry with a worldwide transfer of knowledge, quality and technology and contributes to sustainably ensuring the global basis for life. Anuga FoodTec is organised by the Koelnmesse (Cologne Trade Fair).

For additional information, go to: www.anugafoodtec.de

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Tel: 069/24788-206, Fax: -112; E-Mail: r.huebner@DLG.org, URL: www.dlg.org

Frankfurt am Main,
7 December 2021

International FoodTec Award 2021: Focus on Award Winners

Award for pioneering innovation projects by companies in the food and supplier industry - www.foodtecaward.com

(DLG). This year, the DLG (Deutsche Landwirtschafts-Gesellschaft - German Agricultural Society) presented the International FoodTec Award 2021 to 20 award winners. This year, the renowned prize was awarded to innovation projects from the international food and supplier industry. Five innovations received the International FoodTec Award in gold and fifteen innovations were awarded silver. The award winners include companies from Australia, Italy, Switzerland, Spain and Germany. The International FoodTec Award is presented every three years in the run-up to Anuga FoodTec.

The DLG awarded the Innovation Prize in cooperation with the following trade and media partners: EFFoST (European Federation of Food Science and Technology), Anuga FoodTec, the trade journals "Fleischwirtschaft" and "Fleischwirtschaft international" published by Deutscher Fachverlag, the trade journals "European Dairy Magazine" and "Deutsche Milchwirtschaft" published by Th. Mann publishing house, the trade journals "European Dairy Magazine" and "Deutsche Milchwirtschaft", the trade journal "FOOD Lab - Qualitätsmanagement, Analytik und Nachhaltigkeit" published by Bücker-Fachverlag, the trade journal "DLG-Lebensmittel" published by DLG-Verlag and the magazine "Lebensmitteltechnik" published by LT Food Medien-Verlag.

Gold medals were awarded to products with a new concept in which the function has significantly changed and the use of which gives rise to a new process or materially improves an existing process. Silver medals were awarded to existing products which have been developed to such an extent that a substantial improvement in their function and the process is achieved.

Winners of the International FoodTec Award 2021 in Gold:

- **Seydelmann Ohmic Systems - SEYOS GmbH (Aalen, Deutschland):**
  Ohmic heating of meat and sausage products
- **Kuchenmeister GmbH (Soest, Deutschland):**
  Multi-variable baking process - oven with combined heat transfer
- **ALPMA Alpenland Maschinenbau GmbH (Rott am Inn, Deutschland):**
  Butter packaging with freshness seal
- **HIPERBARIC SAU (Burgos, Spanien):**
  „ Hiperbaric HPP In-Bulk Technology “
- **Allgaier Process Technology GmbH (Uhingen, Deutschland):**
  Allgaier CDry® food type contact disc dryer

Winners of the International FoodTec Award 2021 in Silver:

- **Albert Handtmann Maschinenfabrik GmbH & Co. KG**
  (Bierbach a.d. Riß, Deutschland):
  FS 525 all-in-one forming and cutting system
- **CSB-System SE (Geilenkirchen, Deutschland):**
  CSB Jamboflash: artificial intelligence for raw ham quality control
- **K+G WETTER GmbH (Biedenkopf-Breidenstein, Deutschland):**
  Vakuum Industrie VCM 360 und/and VCM 550 HYGENIC SECURE
- **MADO GmbH (Dornhan, Deutschland):**
  Finger Protection System (FPS)
- **Maschinenfabrik Seydelmann KG (Stuttgart, Deutschland):**
  RFID cutting set
- **Peerox GmbH (Dresden, Deutschland):**
  Self-learning assistance system for machine operators
- **VEMAG Maschinebau GmbH (Verden/Aller, Deutschland):**
  VEMAG LL335 universal solution for the automatic grouping and packaging of fresh sausages in trays
- **GEA Westfalia Separator Group GmbH (Oelde, Deutschland):**
  IDEAL Whey Separation
- **Krones AG (Neutraubling, Deutschland):**
  Aseptic dosing for minimum quantities

- **OPTIMA consumer GmbH (Schwäbisch Hall, Deutschland):**
  EGS: development of an innovative system for evacuating, gassing and seaming infant formula containers
- **Plasmion GmbH (Augsburg, Deutschland):**
  SICRIT® – innovative ionisation technology for real-time analyses
- **StarVac Systems GmbH (Kandern, Deutschland/Australien):**
  Jupiter 445 High Speed Vacuum Packaging machine
- **Tropical Food Machinery SRL (Busseto, Italien)**
  Cerere 6000, The New TFM Automatic Banana Peeler
- **Habasit International AG, Reinach, Schweiz (Switzerland)**
  The innovative Habasit Super HyCLEAN Modular Belt
- **STORR GmbH, Stadtlohn, Deutschland (Germany)**
  Food Distriwall

Jury of experts

The winners were selected by a an international jury of distinguished experts from different fields: Prof. Dr. Ir. C.D. (Kees) de Gooijer (Food & Nutrition Delta, Wageningen / Niederlande), Prof. Dr. Antonio Delgado (Friedrich-Alexander-Universität, Erlangen-Nürnberg), Prof. Dr. Michael Doßmann (Hochschule Weihenstephan-Triesdorf, Weidenbach), Prof. Dr. Michael Gänzle (University of Alberta, Edmonton / Kanada), Prof. Dr. Tilo Hühn (ZHAW Zürcher Hochschule für Angewandte Wissenschaften, Wädenswil / Schweiz), Prof. Dr. Henry Jäger (Universität für Bodenkultur, Wien / Österreich), Prof. Dr. Alexander Kolesnov (Peoples´ Friendship University of Russia, Russland), Prof. Dr. Horst-Christian Langowski (Fraunhofer Institut für Verpackungstechnik und Verpackung, Freising-Weihenstephan), Prof. Dr. Helmy T. Omran († Suez Canal University, Ismailia / Ägypten), Prof. Dr. Achim Stiebing, i. R. (Hochschule Ostwestfalen-Lippe, Lemgo) und Prof. Dr. Jochen Weiss (Universität Hohenheim, Stuttgart).

Short profiles of the award-winning innovations are available on the following pages and online at: **www.foodtecaward.com**

Short profiles of the winners of the International FoodTec Award 2021

Gold prize-winners

Ohmic heating of meat and sausage products, Seydelmann Ohmic Systems - SeyOS GmbH, Aalen, Germany

The ohmic heating of meat and sausage products is a heat treatment process. When an electrical current is passed through the food, the food is heated due to its ohmic resistance. In this process, the sausage meat or piece of meat serves as a conductor between the electrodes. Heating takes place uniformly over the entire length and over the entire cross-section within a very short period of time. Besides an energy saving of over 80% and a significant time reduction, this results in a continuous production process that takes up a fraction of the space required by a conventional cooking facility. Microbiological risks are minimised due to the steep heating curve and flavours are preserved better thanks to the short heating time. The resulting cooking loss is also less, jelly formation is reduced and no overcooked or dry edge strips occur.

Multi-variable baking process - oven with combined heat transfer, Kuchenmeister GmbH, Soest, Germany

This newly developed process enables the optimum heat transfer required for the respectively desired quality of the baked goods to be selected in each phase of the baking process. The methods primarily chosen are convection or radiation. The intensity of the radiation and convection is adjusted continuously in the lower and upper heat area in each oven segment. The process is used mainly in continuous ovens. The segments have a length of 2,500 mm; with a baking area of 100 m^2, this means that the heat transfer can be adjusted between 12 and 20 times to ensure an optimum baking process flow. The specific, independent input of the thermal energy using the optimum heat transfer method in each case leads to efficient energy consumption while delivering high-quality baked goods at the same time. All baked goods and long-life baked goods can be produced in the oven with combined heat transfer.

Butter packaging with freshness seal, ALPMA Alpenland Maschinenbau GmbH, Rott am Inn, Germany

The ALPMA freshness packaging is folding packaging whose packaging film is continuously sealed on the closure side. Very special, innovative film cutting can be used to fold the film so that sealing zones occur outside of the product area. As a result of this, fresh butter aroma is verifiably kept in the packaging for longer and the shelf life is extended. This process also leads to tamper-proof and hygienic packaging which ensures that the consumer is the

first to open it. Practical opening tabs enable easy opening without fingers becoming greasy. In addition, less packaging material is required for optimum product protection in comparison with a plastic tub.

Hiperbaric HPP in-bulk technology, HIPERBARIC SAU, Burgos, Spain

Hiperbaric has developed a HPP in-bulk concept (high-pressure processing) for beverage industry production lines. So far, HPP has been operated as an in-pack process in which packaged products are packed into baskets and inserted into a container with a fill level of 45-55%. The new technology achieves a fill level of over 90% and maximum productivity for HPP beverages with lower processing costs and lower energy consumption. With the new technology, product filling takes place downstream of HPP. This simplifies the production process, because only four steps are required in contrast to the six steps necessary in the in-pack process: while the packaged product has to be loaded and unloaded from the baskets in HPP in-pack units, all of these steps are fully automatic in Hiperbaric in-bulk systems, as the fluid passes directly into the filling pipeline to the filling line without intermediate steps. This makes traceability simpler and reduces labour costs. The HPP in-bulk concept also represents a significant improvement in flexible production as any type of packaging can be used irrespective of material, design or size.

Allgaier CDry® food type contact disc dryer, Allgaier Process Technology GmbH, Uhingen, Germany

The central component of this efficient contact dryer is a bundle consisting of hollow discs that are mounted vertically on a carrier shaft and heated from the inside with saturated steam. The liquid is dried on the disc surfaces during rotation. Stable and, above all, self-adjusting knives scrape the dried product from the discs. This enables a large drying surface in a very small space while ensuring maximum drying process robustness. The Allgaier CDry contact disc dryer is already being used successfully in the chemicals industry and other non-food sectors. Giving consideration to the EHEDG's latest Hygienic Design Guidelines, the machine has been further developed for the food industry while retaining its proven functional principles.

Silver prize-winners

FS 525 all-in-one forming and cutting system, Albert Handtmann Maschinenfabrik GmbH & Co. KG, Biberach a. d. Riß, Germany

The production of visually appealing products consisting of diverse input materials and geometries is now part of the portfolio of modern food producers. Products with rounded corners or spheres, for example, are shaped using moving plates that are positioned above one another. Cylindrical products with sharp edges are cut using a knife. Accordingly, various machines are needed to be able to offer a wide variety of products.

The all-in-one forming and cutting system from Handtmann solves this problem by enabling the application of both forming and cutting technologies within one machine. This innovative concept increases flexibility, reduces purchasing costs and boosts efficiency. The prerequisite for this is a machine design with an innovative drive concept. Depending on the product, either perforated plates are attached for forming or a rotating knife for cutting.

CSB Jamboflash: artificial intelligence for raw ham quality control, CSB-System SE, Geilenkirchen, Germany

CSB Jamboflash is an image processing technology that independently classifies and evaluates raw ham meat with the aid of artificial intelligence. Based on the determined quality level, the system fully automatically determines the ideal method for further processing the raw ham to form different processed foods, such as high-quality ham or sausage products, for example, in the downstream production processes. Classification is carried out based on the objective assessment of the degree of raw ham destructuring. The constantly uniform and precise measurement level reduces error rates and costs and standardises the product quality. CSB Jamboflash was developed in the context of international project work undertaken by CSB-System SE and the French IFIP institute.

Industrial vacuum cutters VCM 360 and VCM 550 HYGENIC SECURE, K+G WETTER GmbH, Biedenkopf-Breidenstein, Germany

So far, seals in cutters are pressed and bonded into corresponding grooves. Contamination gradually occurs in the non-visible area behind the seal. Regularly removing these seals for safe cleaning and subsequent visual inspection is not feasible in practice.

The new knife cover seal can be installed and removed without tools thanks to a simple clip system in the cutters' knife cover. This means that the seal itself and the contact area can be cleaned in a hygienically safe manner, quickly and easily. Thanks to its flexible clip function, the new seal solution is also able to absorb the frictional resistance that occurs, thus significantly reducing possible plastic abrasion.

Finger Protection System (FPS), MADO GmbH, Dornhan, Germany

The Finger Protection System increases the safety of operating personnel working on band saws in the butcher trade and the meat industry and therefore prevents serious injuries. The system consists of three sub-sections: the image processing system, the evaluation electronics and the mechanical brake unit to bring the saw band to a stop in a matter of milliseconds. The image processing system recognises the gloves that the operator is required to wear. As soon as these are detected in a defined area in front of the saw band by the image processing system, the saw is immediately stopped. In addition, replacement of the saw band is not necessary following a stop. The saw band's function is maintained despite the abrupt stop.

RFID cutter set query, Maschinenfabrik Seydelmann KG, Stuttgart, Germany

Incorrectly inserted cutter sets cause enormous costs – firstly due to raw material loss and secondly due to possible damage to the grinder. RFID codes in the cutter set parts enable the detection of perforated discs and grinder knives while they are being inserted into the machine. The machine's control system indicates the necessary cutter set for the product to be manufactured. Before inserting them, the operator scans each cutter set part in succession at a reader integrated into the machine. The control system indicates whether it is the correct cutter set part for the selected recipe and whether it is in the right position. Once all of the cutter set parts for the desired recipe have been detected, the machine can start. At the same time, it is not possible to produce certain products using the recipe selected on the control system as long as an unsuitable cutter set is installed.

Self-learning assistance system for machine operators, Peerox GmbH, Dresden, Germany

The efficiency of production machines is largely dependent on the machine operator's experience and knowledge. Without this knowledge, it is often impossible to rectify the causes of malfunctions adequately. During daily production, documentation and particularly finding the appropriate information pose a major challenge. This problem is solved by the self-learning assistance system MADDOX. The software analyses the current malfunction situation using machine learning methods and searches for comparable events that have occurred in the past. The related solution strategies are then presented on a tablet in the form of texts, images and videos. The structure of this knowledge documentation and presentation has been developed in cooperation with engineering psychologists and in numerous tests involving volunteers. The search is not carried out by the user but by an adaptive, automatic search algorithm. This results in an exchange platform for digitalising knowledge in the company. Machine manufacturers can also offer and integrate their own digital products, services, e-learning modules and much more besides.

VEMAG LL335 universal solution for the automatic grouping and packaging of fresh sausages in trays, VEMAG Maschinenbau GmbH, Verden/Aller, Germany

The VEMAG LL335 is used to sort sausages according to various casing types, calibres and lengths, to group them into the desired number and to place or insert them into a packaging medium in a guided process. In the first step, the products are checked. All improperly separated or damaged products are recognised by the LL335 and discharged by a blow-out system. In the second step, the products are transferred to the chamber belt. The chamber belt is used to align the sausages laterally in preparation for grouping. After lateral alignment, the sausages pass through the turning unit, which aligns the products to one another based on their curvature. The sausages are then fed to the triangular conveyor, which forms them into a compact group according to the specified number without backing them up and while in motion. The products are subsequently fed to the depositing mechanism, what is called the 'impeller'. The sausages are transferred to the packaging in a controlled 90° rotary movement. This controlled depositing enables even very narrow trays to be filled and, ultimately, packaging material to be saved.

IDEAL Whey Separation, GEA Westfalia Separator Group GmbH, Oelde, Germany

IDEAL Whey Separation is a system for the resource-optimised operation of whey separators. This is accomplished by using various measurement variables to control whey separator discharge and through the continuous and electronically supported regulation of the optimum discharge volume.

The focus here is on reducing product losses, which typically occur when discharge is carried out too frequently for cleaning purposes, and on reducing water and electricity consumption. In detail, this is achieved through the use of a sensor for registering the skimming quality in combination with the following parameters: smart discharge for cleaning, optimisation of the drum rotational speed depending on the automatically registered operating status, addition of digital components and functions to the mechanical discharge system for automatic adjustment of the discharge quantity and real-time visualisation of productivity-relevant operating parameters.

Aseptic dosing for minimum quantities, Krones AG, Neutraubling, Germany

The aseptic dosing station enables minimum quantities to be dosed into a product stream from pouches. The dosing capacity is 2-20 litres per hour and offers e.g. application options for cultures, hop oils, aromas and enzymes. The media to be dosed are typically supplied in special, individual pouches for the corresponding emptying system; these are connected to the dosing system by means of injection facilities such as needles and tubes. The solution from Krones AG requires no special injection systems and therefore enables the secure use

of 'commercially available' pouches. The pouch surface and the dosing facility are sterilised fully automatically. The pouch is placed onto the work platform and fixed in position using a vacuum. The pouch is pierced by means of an installed mandrel, and can now be emptied. Dosing into the product stream is carried out using a peristaltic pump. The mixture ratios are monitored and controlled accordingly. Up to three dosing platforms are available in one machine for continuous operation.

EGS: development of an innovative system for evacuating, gassing and seaming infant formula containers, OPTIMA consumer GmbH, Schwäbisch Hall, Germany

Optima has developed a solution concept for the fully automatic evacuation, gassing and sealing of infant formula containers in the high care sector. The innovative machine concept which makes the processes safer and more efficient is called OPTIMA EGS.

Besides the reduced amount of space required, users benefit from the clear traceability of all containers. EGS enables important production data to be assigned clearly and verifiably to each container throughout the processing processes (track & trace). The requirement of reduced residual oxygen values has been met with an evacuation process developed specifically for powdered baby food. The powder is fluidised in the process by means of various pressure stages without the use of valves and the oxygen bound in the powder is released. Depending on product, a residual oxygen content of 0.5% is achieved with a yield of up to 250 doses per minute. A patented function cover protects the containers from contamination and the machine from soiling throughout the entire evacuation and gassing process.

SICRIT® - innovative ionisation technology for real-time analyses

Plasmion GmbH, Augsburg, Germany

Plasmion has developed an innovative ionisation technology (SICRIT) for mass spectrometry (MS). The SICRIT technology decouples the supply of specimens from ionisation. This enables a simple design that radically simplifies sampling. The volatile flavouring substances are directly 'sucked in' through the ionisation source due to the vacuum prevailing in the mass spectrometer and are ionised during transfer. The new technology reduces the costs and effort involved in laboratory analyses, extends the spectrum of substances that can be analysed and improves the performance of existing devices. The new geometry, the simplicity (plug&play) and the robustness of the method enable any atmospheric pressure mass spectrometer to be transformed into what is called an 'electronic nose' and therefore obtain laboratory-grade chemical analyses on site even in an industrial environment. SICRIT thus permits one of the most high-performance analysis methods to be used in new application areas such as the real-time quality control of products and foods.

Jupiter 445 high-speed vacuum packaging machine, StarVac Systems GmbH, Kandern, Australia/Germany

The core innovation of the Jupiter 445 vacuum packaging machine involves an entirely new, patented packaging concept (oscillating system). This concept consists of two adjacent vacuum chambers that move on a high-speed horizontal tracking system driven by a servo motor. The two chambers operate alternatingly and thereby double the possible packaging quantity. While one chamber is being loaded and unloaded, the other chamber is vacuumed and the product sealed. Once these process steps have been completed, the two chambers switch positions and the process is repeated. The sealed products are unloaded and the new product is loaded. Synchronised with the latest, intelligently integrated vacuum technology, this lowers energy consumption by up to 50% while additionally reducing operating costs.

Cerere 6000, the new TFM automatic banana peeler, Tropical Food Machinery SRL, Busseto/Parma, Italy

Tropical Food Machinery has patented the new, automatic banana peeler Cerere 600, which has a working capacity of 6 t/h fresh produce and a pulp extraction yield of 60%. Peeling the individual fruits guarantees the clear separation of the peel and fruit pulp. Processing is carried out in an inert atmosphere with anti-oxidation treatment, i.e. the Cerere 6000 peeler carries out automatic peeling in a nitrogen atmosphere chamber. This prevents product oxidation and delivers outstanding end product quality.

The use of labour is significantly reduced. Only 10-15 persons are required for the processes related to sorting and loading the 'banana hands' at the infeed system (process of removing the top edge of the banana). Cleaning can be carried out continuously with water to facilitate the ejection of peel residues from the peeler.

Habasit Super HyCLEAN modular belt, Habasit International AG, Reinach, Switzerland

Super HyCLEAN is a new concept for plastic modular belt systems. The products have been developed for applications in which maximum hygiene standards are required, with particular focus being placed on processing poultry and fish. The hygiene design significantly reduces the deposition of organic waste and enables simple and efficient cleaning processes at the same time. The Habasit Super HyCLEAN functions and the related advantages are as follows:

Thanks to the minimised use of hinges and rods, there are fewer pockets and corners where contamination is able to collect. The flat surface and minimal cavities in the rear section of the belt ensure that less organic waste is deposited. The risk of bacteria colony proliferation and the resulting cross-contamination of the product is reduced thanks to the dynamically open hinges and the wide modules. Rinsing with water from the side ensures simpler, faster and less expensive hygiene.

Food Distri Wall, STORR GmbH, Stadtlohn, Germany

With its Food Distri Wall partition wall system, STORR has developed a new concept for the distribution of fish, chilled and deep-frozen goods that minimises the opening time and is able to adjust the cargo area to be cooled as the cargo volume decreases. When the Distri Wall is used, the swing door automatically seals the cooled cargo area again after passing through. This significantly reduces energy consumption and supports the guaranteed observance of the cold chain. Thanks to the independently closing partition wall system, less moisture also enters the chiller or freezer segment, thus minimising ice formation. The system is easy to position due to the low weight of the partition wall, the user-friendly folding system and flexible Velcro strap fastening. The Distri Wall is a very good solution for distribution traffic but is also outstandingly suitable for permanent installation at all sluices and interfaces in refrigerated warehouses.

Further information under: **www.foodtecaward.com**

Focus on fully recyclable food packaging - Pöppelmann FAMAC® relies on sustainability initiative PÖPPELMANN blue® and powerful partnerships

The European Commission's European Strategy for Plastics in a Circular Economy, adopted in January 2018, aims to lay the foundation for a new and sustainable plastics economy. After all, according to the Commission, Europeans generate 25 million tonnes of plastic waste every year. In view of climate change, pollution, population growth and resource dependence, environmental and climate protection have become a global challenge. One goal of the European strategy is to reuse or cost-effectively recycle all plastic packaging in the EU by 2030. Stakeholders along the plastics value chain are thus called upon to lead the way by changing design and manufacturing and improving recycling. The aspect of sustainability in relation to packaging is also having an increasing impact on consumers' purchasing decisions. It is therefore worthwhile to set the course as quickly as possible in the direction of a sustainable circular economy and to take advantage of the opportunities to bring economy and ecology into harmony.

One company that has launched a broad-based initiative in this field is Pöppelmann GmbH & Co. KG from Lohne in Lower Saxony. It is one of the leading manufacturers in the plastics processing industry. With more than 2,000 employees, five locations and four different business segments, the Pöppelmann Group supplies very different industries in over 90 countries with its products - from the food industry to commercial horticulture, mechanical and apparatus engineering, the automotive, pharmaceutical and cosmetics industries to medical technology.

The use of recycled materials is an important part of the company's sustainability strategy: Pöppelmann has been using recycled materials in its various business units for around 20 years. These are mainly post-industrial recyclates, i.e. production waste from other production processes. In the Pöppelmann TEKU® division, the company's horticultural division, the proportion of recyclates for the various plant pots is already more than 80 percent. Pöppelmann K-TECH®, the company's automotive division, also already uses recycled materials in its technical products.

PÖPPELMANN blue® initiative for more sustainability

Now the Pöppelmann Group is going one step further: as part of its PÖPPELMANN blue® initiative, it is bundling all activities throughout the company that are intended to promote a consistent recycling economy. Matthias Lesch, Managing Director at Pöppelmann, explains: "As one of the leading companies in plastics processing, we see ourselves as having a great responsibility to make our processes and products as environmentally compatible as possible - throughout the entire life cycle, from development to use and recycling. Meeting this responsibility with solutions that also have to meet the needs of our customers and be economical is the great challenge for us and our industry."

With PÖPPELMANN blue®, the group strives, where possible, for a closed material cycle in which the plastic used comes from one and the same stage of the value chain. This means that 100 percent recycled material is used, which must be 100 percent recyclable again afterwards. The biggest challenge here is to maintain the physical properties of the different plastics during recycling. Clean separation and professional processing are important to produce a truly equivalent secondary plastic. "In some sectors, such as the automotive industry, there was considerable resistance to the use of recyclates for a long time. In the meantime, the technical possibilities for clean material separation and reprocessing are so good that we can reduce reservations," explains Matthias Lesch.

"Design for Recycling" helps determine product development

To ensure that the recyclability of a product is taken into account as early as the design stage, the topic of "Design for Recycling", which has become increasingly important throughout the packaging industry, has long been a high priority at Pöppelmann. In its product development, the group of companies incorporates aspects that positively influence the recyclability of plastic packaging. These include, among other things, a bright colouring to reliably filter out the products in the

recycling companies' plants, the use of monomaterials that are easier to recycle, the use of optimised label and closure solutions, and the separability of all components in the recycling process.

In the non-food sector, successful pilot projects by the Pöppelmann Group show that the closed material cycle can indeed be realised. For example, the Pöppelmann TEKU® division recently presented plant pots made of Pöppelmann PCR, a post-consumer recycled plastic that is 100 percent recycled material from DSD collections. The Pöppelmann KAPSTO® division will also be manufacturing its plastic protective elements for industrial customers from post-consumer materials in the future. After use, these stoppers and caps are collected from the users, returned to Pöppelmann for recycling and fully recycled.

Focus on recyclability for food packaging

The experts at Pöppelmann FAMAC® are also convinced that a closed material cycle is feasible from a technical point of view, because many food packaging materials are already highly recyclable today. Materials such as pure polypropylene (PP) can already be recycled and cleaned according to type. In the case of plastic packaging for food, however, the regulatory requirements that apply to food must also be met. "This is the big challenge, because there are currently no certified recycling processes for food packaging," says Marco von Döllen, Sales Manager Pöppelmann FAMAC®.

This is why Pöppelmann FAMAC® conducts intensive research for continuous further development in this area and relies on close partnerships, e.g. with food manufacturers and retailers, research institutions such as the cyclos-HTP Institute for Recyclability and Product Responsibility, as well as other recycling experts such as Der Grüne Punkt ¬- Duales System Deutschland GmbH (DSD). Matthias Lesch explains: "In the development of new sustainable technologies and materials, we rely on finding solutions as a team. That's why we are always open to a close exchange and new partnerships with other companies that are also committed to more sustainability in the field of plastic packaging."

However, the packaging specialist also reminds us that in the whole discussion about improved recycling, it is important to keep a holistic view of plastic packaging. "These cannot be replaced by other materials in certain cases so far. With their various protective functions, e.g. against the spoilage of food or pharmaceutical products, they themselves contribute to reducing the waste of resources. But we must see to it that we close the loop and design packaging in such a way that it provides maximum product protection and is sustainable at the same time. The declared goal is that packaging ends up in the yellow bag and also becomes packaging again after the recycling process," says Marco von Döllen.

Pöppelmann is a member of the IK Industrievereinigung Kunststoffverpackungen e.V., which in turn is involved in the SAVE FOOD initiative. SAVE FOOD has calculated that about one third of all food is wasted or lost. Together with its members from politics, industry and society, the initiative aims to drive innovation, promote interdisciplinary dialogue and initiate debates to find solutions on a broad scale. A small part of this is to develop smart and sustainable packaging solutions that tackle the general 'throwaway mentality' and increase respect for food. And plastic packaging, with its multiple product protections, can contribute significantly to this.

"A recycling-friendly packaging solution is sustainability in its purest form. Intensive work on this topic holds a great opportunity for European industry, and the plastics sector in particular, to become a global leader in new technologies and materials. With the company-wide PÖPPELMANN blue® initiative, we are taking up this challenge," Marco von Döllen concludes.

About Pöppelmann

Pöppelmann GmbH & Co. KG from Lohne in Lower Saxony is one of the leading manufacturers in the plastics processing industry. With over 2,000 employees worldwide, the company produces standard and customised plastic products at five locations.

About the Green Dot Group

As a service provider for extended producer responsibility, as a leading secondary raw material supplier for plastics and as a premium producer of plastic recyclates, the companies of Der Grüne Punkt are the solution provider for the needs of the circular economy. Der Grüne Punkt - Duales System Deutschland GmbH (DSD) is the market leader of dual systems in Germany and stands for intelligent take-back systems as well as the development and marketing of innovative recyclates and services. Systec Plastics produces premium recyclates of the Systalen brand for the international market at its sites in Eisfeld and Hörstel. The companies are combined in DSD - Duales System Holding GmbH & Co. KG.

www.poeppelmann.com/blue

MEDIA RELEASE

SMART PROTEIN SURVEY: MAJORITY OF GERMANS NOW EAT LESS MEAT

Over half of consumers have significantly reduced their meat consumption

Berlin, November 10, 2021 – A joint survey by ProVeg, Innova Market Insights, the University of Copenhagen and Ghent University has found a clear shift towards a plant-based diet across Europe. The survey, conducted as part of the Smart Protein Project, found that 46 % of European consumers have significantly reduced their meat consumption over the last year. At 51 %, the figure among German consumers was even more than half. This puts Germany in second place behind Romania of the eleven countries consulted.

The results of the survey on attitudes towards plant-based foods, especially among flexitarians, were published ahead of the meeting of heads of state and government at the UN Climate Change Conference in Glasgow (COP 26). Currently, animal products account for 82 % of dietary CO_2 emissions in Europe.[1] Research shows, however, that switching to a plant-based diet could reduce personal dietary emissions by up to 50 %.[2] [3]

Among the respondents, 30 % already follow a flexitarian diet and reduce their consumption of animal foods. At 10 %, the proportion of respondents with a vegan or vegetarian diet was highest in Germany. More than 7,500 people in 11 European countries took part in the survey. Among other things, respondents were asked about their attitudes towards plant-based foods, their trust in these products, their consumption habits, and the most important reasons for their food choices. The results are also available as country-specific reports.

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[1] Sandström, V., H. Valin, T. Krisztin, et al. (2018): The role of trade in the greenhouse gas footprints of EU diets. Global Food Security 19, S. 48–55. DOI: https://doi.org/10.1016/j.gfs.2018.08.007

[2] Wissenschaftlicher Beirat Agrarpolitik, Ernährung und gesundheitlicher Verbraucherschutz & Wissenschaftlicher Beirat Waldpolitik beim BMEL (2016): Klimaschutz in der Land- und Forstwirtschaft sowie den nachgelagerten Bereichen Ernährung und Holzverwendung, Berlin

[3] Hallström, E., A. Carlsson-Kanyama & P. Börjesson (2015): Environmental impact of dietary change: a systematic review, Journal of Cleaner Production 91, S. 1–11. DOI: http://dx.doi.org/10.1016/j.jclepro.2014.12.008

ProVeg e.V.
Genthiner Straße 48 · 10785 Berlin
Tel: +49 30 29028253-0 Fax: -26
www.proveg.com
proveg.com/de/kontakt

Vorstand
Sebastian Joy (Bundesvorsitzender)
Thomas Schönberger (stellv. Vorsitzender)
Geschäftsführung
Matthias Rohra

Vereinsregistereintrag
Amtsgericht Berlin (Charlottenburg)
VR 32501
USt-IdNr.
DE115669781

Spenden- und Beitragskonto
Bank für Sozialwirtschaft
IBAN DE25 2512 0510 0008 4612 01
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Germany highlights

- More than half of the respondents (51 %) said they had already significantly reduced their meat consumption
- 2 out of 5 participants (41 %) see themselves reducing their meat consumption in the near future
- Around 1 in 3 (32 %) would also like to reduce their consumption of dairy products

Consumer opinions on plant-based products

- More than half of the respondents (55 %) named the price as the biggest obstacle to switching to plant-based products. However, 1 in 4 (26 %) said they would be willing to pay a higher price for plant-based meat than for animal-based meat
- 43 % of respondents would try plant-based alternatives with the taste and texture of animal meat, and 41 % would buy them regularly
- Respondents particularly asked for plant-based mince and burger patties (32 % each) as well as chicken breasts and sausages (30 % each) in supermarkets
- Plant-based fish fingers (27 %) and smoked salmon (22 %) were also high on the wish list
- In terms of plant-based cheese, respondents particularly wanted fresh cheese (32 %), sliced cheese (32 %), and mozzarella (31 %)
- The most consumed plant-based products are milk (28 %), yoghurt (21 %), poultry and beef (20 % each, all at least weekly)
- Potatoes, rice and lentils are the preferred main ingredients for plant-based foods

"Consumers are showing the way: They want even more and even better plant-based foods. The demand is there, now the supply must grow. This is a great opportunity for all stakeholders."
Dr. Kai-Brit Bechtold, Senior Consumer Research Scientist ProVeg Germany

"Our diet is changing at great speed, and the demand for innovative protein alternatives is increasing. In view of our climate goals, this trend gives us hope. However, in order for the development to continue, the next government should urgently focus more sharply on research and development around sustainable proteins. Germany has the potential to become a centre of innovation, and we need to seize the opportunity."
Matthias Rohra, Managing Director ProVeg Germany

Overall report + country specific insights
smartproteinproject.eu/consumer-attitudes-plant-based-food-report/

Contact
Lena Renz
PR Manager ProVeg Germany
presse@proveg.com
+49 176 177 858 52

About Smart Protein
Smart Protein is a €10-million, EU-funded project that seeks to develop a new generation of foods that are cost effective, resource efficient, and nutritious. Alternative protein sources such as legumes and side streams from beer and pasta production are used to generate plant-based ingredients and plant-based meat, seafood, dairy products, and baked goods.
www.smartproteinproject.eu

About ProVeg
ProVeg International is a food awareness organisation working to transform the global food system by replacing animal-based products with plant-based and cultured alternatives. ProVeg works with decision-making bodies, companies, investors, the media, and the general public to help the world transition to a society and economy that are less reliant on animal agriculture and more sustainable for all humans, animals, and our planet. ProVeg has offices in nine countries across four continents and is active around the world. ProVeg has permanent observer status with the UNFCCC, special consultative status with ECOSOC, is accredited for UNEA, and has received the United Nations' Momentum for Change Award.
www.proveg.com

KEY INSIGHTS

Overall report + country specific insights
smartproteinproject.eu/consumer-attitudes-plant-based-food-report/

Consumption behaviour

- Overall, **30 %** of participants identify as **flexitarian**. The Netherlands (42 %) and Romania (40 %) had the highest share of flexitarians. **7 %** of the total sample are **plant-based eaters** (vegan & vegetarians).
- In terms of animal-based food, European consumers **most frequently consume milk** (38 % daily), **cheese** (25 % daily), and **yoghurt** (25 % daily). In terms of meat, **poultry** is the most consumed category (55 % at least once a week). Looking at plant-based food, **plant-based milk** (28 % at least once a week), **plant-based yoghurt** (23 % at least once a week) and **plant-based beef** (22 % at least once a week) are most frequently consumed.
- European consumers are most likely to go to the **supermarket** (65 %) and **discount stores** (43 %) when purchasing food products.

- European consumers are most likely to use **search engines** (58 %), **health/nutrition society websites** (46 %), and **online videos** (41 %) in order to get information about plant-based foods products.[1]
- European consumers **trust health/nutrition society websites** (52 %) and **search engines** (50 %) the most.[2]

Plant-based meat and fish

- **46 %** of European consumers **eat less meat** now, compared to a year ago.[3] **39 %** intend **reducing their meat consumption** (e.g. beef, pork, chicken) in the next six months.[4]
- **25 %** of Europeans intend **increasing their consumption of plant-based meat products** (e.g. plant-based burgers/sausages) in the next six months. The Netherlands and Spain show the highest intention to increase their plant-based meat consumption: 28 % of Dutch and Spanish state that they will do so.[5]
- Consumers in **Italy, Denmark** and **Germany** are the most likely to eat plant-based meat products rather than conventional meat products.
- Overall, **38 % are likely to try plant-based meat** if it becomes widely available and is tasty and affordable.[6]
- **36 %** of European consumers are more likely to **eat plant-based meat** than animal-based meat, **35 %** are likely to **purchase it** regularly and **22 %** are likely to **pay a higher price** for it (if it has the identical taste and texture as animal based meat).[7]
- European consumers show high demand for **plant-based poultry** (43 %) and plant-based **beef** (41 %). Specifically, they wish they could buy **plant-based burger patties** (34 %), **chicken breasts**, and **minced meat** (31 %) in the supermarket.
- Overall, European consumers show a high demand for **plant-based salmon** (31%) and **tuna** (29 %). Specifically, they wish they could buy **plant-based fish sticks**, **smoked salmon** (24 %) and **fish burgers** (22 %).

Plant-based dairy

- **28 %** of European consumers intend **reducing their dairy product consumption** (e.g. milk, yoghurt, cheese) in the next six months.[8]

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[1] Share of people who selected 'likely '+ 'Very likely' at the respective statement
[2] Share of people who selected 'Fairly trustful'+'Very trustful' at the respective statement
[3] Share of people who selected 'A lot less'+'Slightly less' at the respective statement
[4] Share of people who stated 'I will consume less'+'I will consume a little less' at the respective statement
[5] Share of people who selected 'I will consume a little more'+'A lot more' at the respective statement
[6] Share of people who are 'Very likely'+ 'Extremely likely' to the respective statement
[7] Share of people who are 'Very likely'+'Extremely likely' at the respective statement
[8] Share of people who selected 'I will consume a little less'+'I will consume less' at the respective statement

ProVeg e.V.
Genthiner Straße 48 · 10785 Berlin
Tel: +49 30 29028253-0 Fax: -26
www.proveg.com
proveg.com/de/kontakt

Vorstand
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- Overall, **26 %** of European consumers intend to **increase their consumption of plant-based dairy products** (e.g. soya/oat milk, coconut, yoghurt) in the next six months.[9]
- Consumers in **Italy, Denmark,** and **Spain** are most likely to **replace conventional cheese products** with plant-based cheese products.
- **26 %** of European consumers are likely to **eat plant-based cheese products** instead of conventional cheese products, if these are identical in terms of taste and texture.[10]
- **28 %** of European consumers would most likely **purchase plant-based cheese on a regular basis** if taste and texture were identical to conventional cheese.[11]
- **20 %** of European consumers are willing to **pay a higher price for plant-based cheese** than for conventional cheese products.[12]

Attitudes, beliefs and purchase drivers

- **Price** (52 %) is the main barrier to eating more plant-based foods, followed by a **lack of information** (45 %) and a **lack of choice when eating out** (41 %).[13]
- **58 %** of European consumers believe that consuming high amounts of **meat might cause serious health problems** and **51 %** of people would **reduce their meat consumption if their doctor recommended** doing so. **45 %** choose food that **minimises animal cruelty** and **43 %** feel able to **reduce their meat consumption** in the coming months. **47 %** of consumers believe that eating **meat** at every meal **is expensive** but also think that plant-based meat is too expensive.[14]
- When choosing **food products,** European consumers rate **taste** (83 %) and **freshness** (80 %) as the most important factors.[15]
- When choosing **plant-based food products, taste** (40 %), **healthiness** (34 %), and **freshness** (29 %) are the most important factors for European consumers.[16]
- European consumers trust that **plant-based protein food** is **safe** (51 %) and **accurately labelled** (50 %).[17]
- When asked about plant-based protein, insect-based protein, cultured protein, algae-based protein, and fungi, European consumers **trust plant-based protein the most** (39 %) and insect-based protein the least (35 %).[18]

[9] Share of people who selected 'I will consume a little more'+'I will consume more' at the respective statement
[10] Share of people who are 'Very likely' + 'Extremely likely' to the respective statement
[11] Share of people who are 'Very likely' + 'Extremely likely' to the respective statement
[12] Share of people who are 'Very likely' + 'Extremely likely' to the respective statement
[13] Share of people who 'Agree' + 'Strongly agree' with the respective statement
[14] Share of people who 'Agree' + 'Strongly agree' with the respective statement
[15] Share of people who think the respective statement is 'Somewhat important'+'Very important'
[16] Maximum of five answers were allowed out of 22 options
[17] Share of people who 'Agree'+'Strongly agree' to the respective statement
[18] Ranking from 1 (trust the most) to 5 (trust the least)

Vegan baked goods

- Consumers in **Denmark, Spain,** and **Italy** are the **most likely to eat vegan baked goods** instead of conventional baked goods.
- **26 %** of European consumers think it is **important that baked goods exclude animal-based ingredients.**[19]
- **29 %** of European consumers are **likely to eat vegan rather than conventional baked goods,** while 30 % are likely to purchase vegan baked goods on a regular basis and 19 % are likely to pay a higher price for vegan rather than conventional baked goods if they have the same taste and texture.[20]

Remaining outcomes

- **49 %** of European consumers think that an **organic label plant-based food products is important.** Out of all the countries in Europe, **Italy** and **Romania** place the highest importance on organic labels, while 61 % of Italian and Romanian consumers think that an organic label on plant-based food products is important.[21]
- **Potatoes** and **rice** are Europeans' favourite ingredients in plant-based foods: 43 % are in favour of plant-based food products that include potatoes as a main ingredient, while 41 % selected rice.

[19] Share of people who think the respective statement is 'Somewhat important'+'Very important'
[20] Share of people who are 'Very likely' + 'Extremely likely' to the respective statement
[21] Share of people who think the respective statement is 'Somewhat important'+'Very important'

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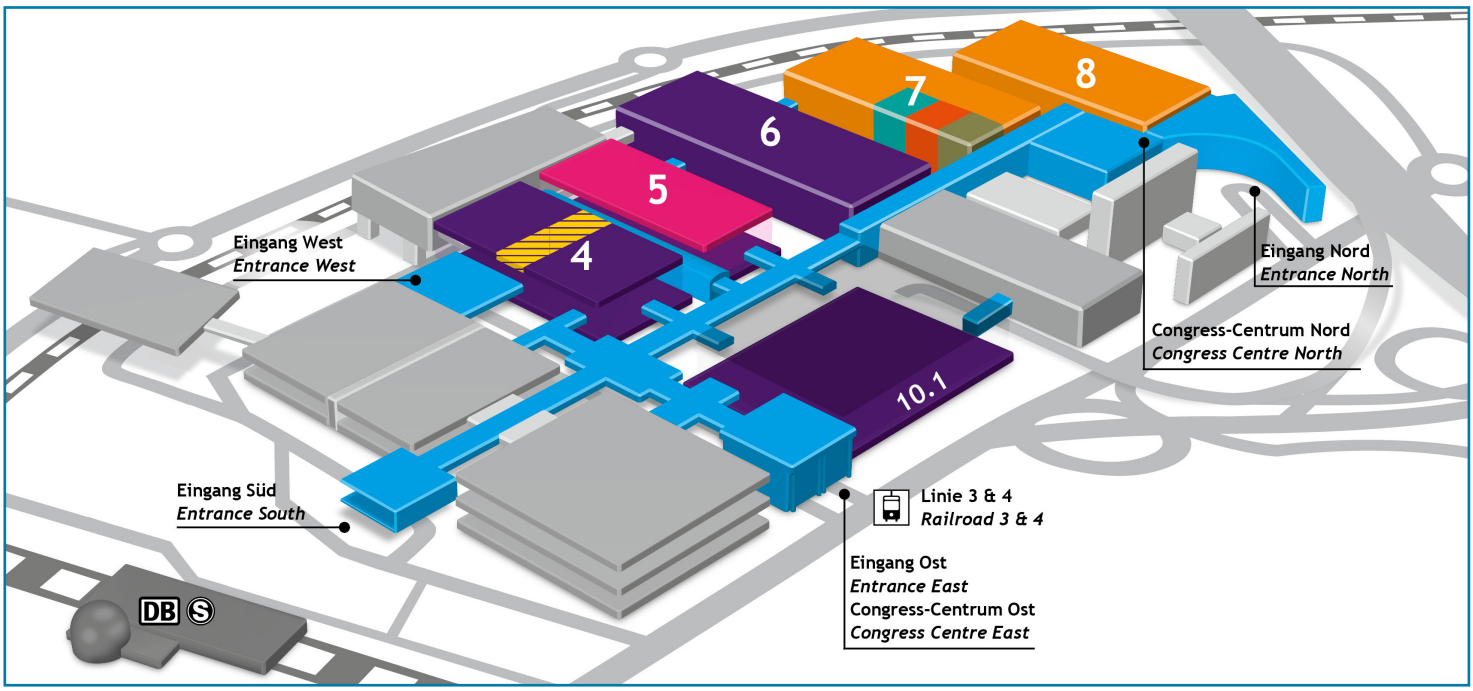
Köln · *Cologne*, 26.-29.04.2022

Internationale Zuliefermesse für die Lebensmittel- und Getränkeindustrie
International supplier fair for the food and beverage industry

Hallenbelegung · *Hall allocation*



Hallen · *Halls*	Segment	Beschreibung · *Description*
4.1	FOOD PROCESSING	**Food Processing** Getränke- und Molkereitechnologie · *Beverage and dairy technology*
4.2	FOOD PROCESSING	**Food Processing** Technologie für feste und pulverisierte Lebensmittel · *Technology for solid and powdered food*
	SCIENCE & PIONEERING	**Science & Pioneering** Start-Ups & junge innovative Unternehmen, Hochschulen & Institute *Start-ups & young innovative companies, universities & institutes*
5.1	FOOD PROCESSING	**Food Processing** Getränke- und Molkereitechnologie · *Beverage and dairy technology*
5.2	SAFETY & ANALYTICS	**Food Safety & Analytics**
6	FOOD PROCESSING	**Food Processing** Fleisch- und Fischtechnologie · *Meat and Fish Technology*
7, 8	FOOD PACKAGING	**Food Packaging**
	DIGITALISATION	**Digitalisation**
	AUTOMATION	**Automation**
	INTRALOGISTICS	**Intralogistics**
10.1	FOOD PROCESSING	**Food Processing** Technologie für feste und pulverisierte Lebensmittel · *Technology for solid and powdered food*

Stand: 01.07.2021, Änderungen vorbehalten | *As of: 01.07.2021, subject to change*