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Art. code : 10002335 - 4x2,5kg

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Art. code: 10001228  
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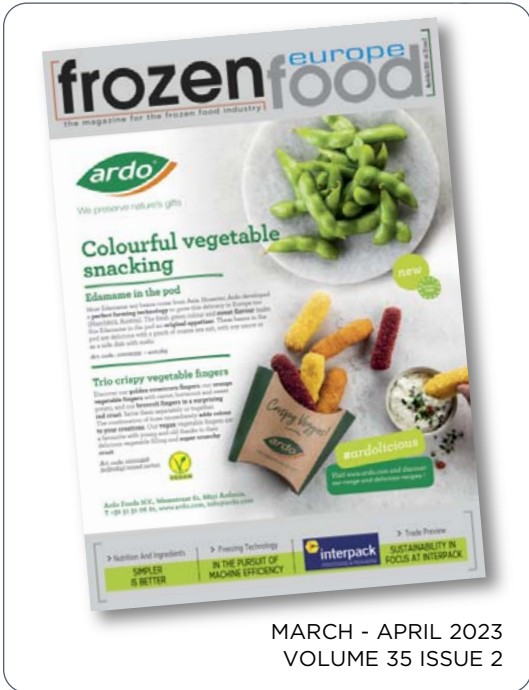
PACKING RECYCLABLE



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By **Bogdan Angheluta**,  
Editor in Chief



# WHAT IS THE KEY TO SUSTAINABLE PACKAGING?

As one of the world's most important packaging trade fairs, interpack will bring together most of the companies involved in the industry. It will be interesting to see what the latest trends are, especially in terms of sustainability and product safety, as the focus on hygiene is likely to remain important but take a secondary position in terms of priority. Organizers even stated that the main areas of interest will include circular economy, resource conservation, digital technology, and product safety. Obviously, sustainability is the umbrella that all industries need to operate under now. According to a McKinsey global survey, 75% of companies have already made sustainable-packaging commitments. The survey also found that for B2B and industrial companies, packaging sustainability has been given less attention, with about 66% of such companies having sustainable-packaging commitments compared with 80% of consumer goods companies. At the same time, however, McKinsey data showed that fewer than 30% of organizations overall are well prepared to meet their commitments. According to the research company, an often-mentioned factor challenging firms' ability to achieve their sustainability ambitions is the underlying complexity of their product portfolios. "In consumer companies, packaging design can often be determined by out-of-date technical requirements: it is not uncommon for companies to have product specifications carried over from earlier-generation products," the report shows. The important figure, though, is this: 75% of companies consider packaging sustainability only after the product concept has been finalized. So, could the key lie in the pre-development stages of the product? This will probably be one of the talking points at interpack, along with many others, and I'm looking forward to sitting down and having this conversation in-person.



*The important figure, though, is this: 75% of companies consider packaging sustainability only after the product concept has been finalized. So, could the key lie in the pre-development stages of the product?*

See you in Dusseldorf! ■



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## ITALY

## FERRERO BUYS ITALIAN FROZEN BAKERY PRODUCER FRESYSTEM

The Ferrero Group has acquired Italian frozen bakery firm Fresystem that makes loose bakery products for bars (brioche, muffins, sfogliatelle) under the Cupiello brand and also for large retailers and other commercial chains. It had a EUR60m turnover in 2021. The company has been working alongside Ferrero for a number of years, for which it already produces Nutella muffins for large chains such as Autogrill and McDonald's. The acquisition is part of Ferrero's strategic growth path in the high-potential segment of sweet out-of-home.

## EUROPE

## BÜHLER REACHES PRE-PANDEMIC LEVELS

In a risky and unstable business environment in 2022, Bühler increased its business and increased profits. The company was able to mitigate the consequences of the conflict in Ukraine, strained supply chains, and skyrocketing energy and raw material prices. At the group level, order intake rose 8.7% to CHF3.3bn and order backlog was robust at CHF2.1bn. Turnover increased by 10.3% to CHF3.0bn, and net profit went up 35.7% to CHF154m. With these results, Bühler has largely managed to reach pre-pandemic business levels.

## EUROPE

## DTI: FROZEN FOOD ENABLES SOCIAL IMPROVEMENTS

Frozen products have supported important social changes in nutrition and shopping and have had a positive impact on living environments. This is shown by the consumer survey "TK trend barometer", which the market research institute Innofact carried out on behalf of the German Frozen Food Institute e.V. (dti) on the occasion of the worldwide industry anniversary "100 years of frozen food". According to the frozen food trend barometer of the dti, 78% of those surveyed agreed that the possibility of shock freezing led to a decoupling of the time of harvest and consumption of the food and thus supported a series of social changes that made our current mobile society, based on the division of labour, possible in the first place. 74% of those surveyed say that frozen products have created better opportunities for varying working hours and shift times and generally brought more flexibility (71%). Other improvements that participants in the frozen food trend barometer associate with frozen food include easier meal planning (70%), easier catering to guests thanks to the option of stocking up (69%), healthier nutrition (65%) and better consideration of dietary preferences (62%). "The «disruption» of the food system through frozen products



has given us more flexibility and social freedom, also through a changed distribution of roles and enormous time savings in the kitchen," summarizes dti boss Sabine Eichner. "Needs that are often far too little taken into account in the nutrition debate. Here it is usually only about ingredients, cultivation and husbandry methods, labeling and advertising – the sociological and cultural aspects of nutrition are often only marginally dealt with. But it is precisely the relief of everyday life is a very important benefit of processed foods and especially frozen foods for people." The dti-TK trend barometer also asked consumers what improvements they would like to see in the frozen food industry. At the top of the wish list are more regional frozen products (44%), more environmentally friendly packaging (38%) and energy-saving preparation options (29%). Only 13% name more vegan or vegetarian products.

## BELGIUM

## ALAIN DUFAIT NAMED MANAGING DIRECTOR OF LUTOSA



Alain Dufait took over as Lutosa's new managing director on April 1, 2023. He succeeds Alain Duranleau,

who served in this capacity for the previous five years. With the departure of the incumbent Regional President Erwin Pardon, Alain Duranleau has

been named McCain's regional president for Continental Europe, Lutosa, and Van Geloven. Alain Dufait brings 28 years of industrial production, sales and general management experience at international level within the agri-food business. "Alain holds high all the values that are part of Lutosa's DNA, and we are confident that he will continue supporting strong growth at Lutosa on international level," said Alain Duranleau. Originally a Belgian family business, Lutosa NV runs two production sites: one in Leuze-en-Hainaut and one in Sint-ElooisVijve.

## GLOBAL

## COLD STORAGE MARKET SIZE TO INCREASE

According to a new market report by Technavio, the global market for cold storage is expected to grow by USD118.3bn between 2022 and 2027, at a CAGR of 13.47%. The market was worth USD48.71 billion in 2017. Rising consumer awareness of the need to reduce food waste, an increase in the consumption of frozen foods, and regulatory compliance will all contribute to market expansion. Throughout the anticipated period, the market for meat and seafood should experience significant expansion.



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## US

## GREAT KITCHENS FOOD COMPANY ACQUIRES UNO FOODS

Great Kitchens Food Company, a leading US manufacturer of private label take-and-bake pizzas and flatbreads wholly-owned by Brynwood Partners VIII LP, has completed the acquisition of the Uno Foods division of Uno Restaurant Holdings Corporation from its owner, Newport Global Advisors. The terms of the transaction are not being disclosed. Uno Foods manufactures and distributes frozen and refrigerated branded pizzas, calzones, entrees and appetizers across the grocery store, wholesale club, foodservice and e-commerce channels.

## US

## MICHELLE CARUSO-CABRERA TO WENDY'S BOARD

The Wendy's Company announced that on March 23, 2023 its Board of Directors increased the size of the Board from 11 to 12 members and elected Michelle Caruso-Cabrera to serve as a director of the company. Caruso-Cabrera is currently the Chief Executive Officer of MCC Productions LLC, the media content and production company she founded in 2018. An Emmy award-winning producer, Caruso-Cabrera has more than 20 years' experience as a business and financial journalist, including as a current contributor to CNBC.

## GERMANY

## ANUGA 2023 TO HAVE SUSTAINABLE GROWTH AS KEY THEME

"Sustainable Growth" is the key theme of Anuga 2023. This decision was made by the Anuga community as part of a digital communication campaign. Hence, the major international trade fair for food and drinks is putting one of the key topics of the sector on the agenda as an international trading platform and trendsetter. The focus is on a variety of topics, including how to resolve the food sector's conflict between economic growth and sustainability, the benefits of sustainable growth, and the best worldwide solutions and strategies. Anuga is emphasizing "Sustainable Growth" while also focusing on the industry's commitment to and efforts to address environmental and climate-related issues. These and other subjects will be specifically handled in the context of Anuga's event and congress program, in addition to being covered in the 10 trade exhibits. There are significant difficulties in the global food industry: By 2050, the world's population is expected to be over 10 billion, which would result in an increase in demand for food, particularly protein. The agriculture and food sector are under strain due to the threat of global climate change, energy and water limitations, and the loss of biological diversity. The conflict between



Ukraine and Russia is having negative economic and humanitarian impacts, such as disrupted supply lines and rising food and energy prices, which are making the situation worse. More than ever, there is a need for new products and solutions that will sustainably enhance the global food system. The major theme for this year, "Sustainable Growth," is exactly what Anuga is focusing on. A comprehensive congress and event schedule will be added to the top international trade show for the food industry, which also provides numerous possibilities for networking. The most significant issues facing the sector will be addressed, and ideas will be shown and discussed in the scope of conferences, seminars, experience zones, and speaker sessions, thanks to new partners including the EIT Food, Europe's premier initiative for food innovations.

## GLOBAL

## READY MEALS MARKET SIZE TO REACH USD187BN



The global ready meals market was evaluated at USD124.013bn in the year 2020, and with a CAGR of 6.07% it is expected to reach a market size of USD187.305bn by the year 2027. According to a new report by Knowledge Sourcing Intelligence, the changing lifestyle among the working-class population and the shifting preference towards ready meals owing

to the convenience and the easiness associated with it is driving the market growth. The different types of ready meals that are available in the market have to go through stringent checks and quality control checks to ensure that the product and its content will not pose harm to the consumers. This encourages the market players to manufacture and provide top-quality products to ensure that their products meet the HACCP (Hazard Analysis and Critical Control Point) guidelines so that the manufacturers do not have heavy penalties for defying the guidelines.

## LATIN AMERICA

## FPS FOOD PROCESS SOLUTIONS OPENS MEXICO OPERATIONS

FPS Food Process Solutions, a global leader in turn-key freezing and cooling equipment, opens a new facility in Monterrey, Mexico. The new office will oversee Latin American markets including Mexico, Chile, Colombia, Argentina, Ecuador, and Peru. The 10,600 sq ft (1,000 m<sup>2</sup>) facility is fully operational, providing sales, engineers and parts and services. The new office will provide support not only for Latin America but for Canada and the US as well. FPS currently services major clients with global connections.

## GERMANY

# GEA OPENS NEW TECHNOLOGY CENTER



GEA opened the doors of its new 1500-sqm Technology Center (XLAB) in Biedenkopf-Wallau for the first time on March 20. From now on, the new XLAB will be available to customers for product testing and training. During the opening ceremony, guests had the opportunity to be the first to get acquainted with the new location and technological developments of the internationally operating group for the food processing industry. "We are very excited to open our new Technology Center, after a short six-month construction phase. With the XLAB, we are taking product testing for our national and international customers to a whole new level. A special feature is the new 500-sqm air-conditioned hall, which can be cooled down to freezing point and enables customer tests under realistic conditions," says Moritz

Krunke, managing director of GEA's Wallau site. During the opening week, automation, digitization, sustainability, as well as training and performance support workshops will be offered to customers. Plant tours and live demonstrations on the slicing and packaging line, SmartPacker and CutMaster round off the program. Individual machines and complete, highly digitalized production lines are on display on the exhibition floor, and the business unit's entire product portfolio is available. This includes technically complex thermoforming and vertical packaging machines, high-speed cutting and loading systems for meat, sausage, ham/bacon, cheese, frozen foods and vegetables, as well as highly flexible bowl cutters for the production of sausages, cheese, fish and meat substitute products. In addition, this business unit of GEA offers solutions for the production and packaging of lollipops and other confectionery and food products. The XLAB combines expertise from across the GEA business unit at one location. In addition to consulting, GEA stands out as a full-line supplier of machines for the entire process line, automation and software, which is a huge plus in terms of efficiency.

## GLOBAL

### FROZEN FISH AND SEAFOOD MARKET SIZE TO INCREASE

Between 2022 and 2027, the market for frozen fish and seafood is expected to rise in size by USD28.58bn, with the growth rate accelerating at a CAGR of 7.26%, according to research company Technavio. Walleye, Alaskan pollock, and pangasius are common varieties of whitefish used in prepared foods. Additionally, frozen fish and seafood suppliers offer ease of handling and preparation, a wide selection of flavors and recipes, as well as the ability to customize servings or sizes. These elements will fuel the market's expansion during the prediction period.

## EUROPE

### HAITH STRENGTHENS EUROPEAN PRESENCE

The UK's leading vegetable handling equipment manufacturer has strengthened its European presence with the appointment of a new dealer. Haith Group has appointed Remach BV to represent it in Holland and Belgium. "Remach is an expert in its field and, like us, looks to establish long-term relationships with its customers. Customer satisfaction is a priority for both of us. By working with Remach, we have gained a knowledgeable and well-respected team who will help us continue to grow our business in Holland and Belgium," said Duane Hill,

## BULGARIA

### MULTIVAC EXPANDS PRODUCTION SITE

Following a construction period of around one year, the building extension at the Bozhurishte production site was officially opened yesterday by the MULTIVAC Management Board. The guests at the inauguration ceremony included Nikola Stoyanov, Bulgarian Minister of Economy and Industry, and Dr Antoaneta Bares, managing director of National Company Industrial Zones EAD. Additional production and assembly facilities, as well as state-of-the-art offices, covering a total area of around 5,600 square metres, are now available for use. The investment amounted to around EUR6m.

## GLOBAL

### COLD CHAIN MARKET TO REACH USD428BN BY 2028

The cold chain market is estimated at USD 278.2 billion in 2023; it is projected to grow at a CAGR of 9.0% to reach USD 428.4 billion by 2028, according to a new report by MarketsandMarkets. Asia Pacific region dominated the refrigerated warehousing segment by type and is projected to be the fastest-growing market during the forecast period. By temperature type, the frozen segment is projected to account for the highest CAGR growth in the cold chain market.



Haith's managing director. Established in 2019, Remach specializes in supplying sorting, washing and packing machinery to arable farmers, agricultural companies and processors and will offer the full range of Haith equipment and undertake servicing and maintenance.



# SUITED FOR EACH EATING OCCASION

*Consumer preference for frozen snacks and appetizers has grown during the past few years. The convenience of using them is one of the main reasons why individuals do so. As they can be made quickly and with little effort, frozen snacks and appetizers provide an efficient answer. More convenience has been the emphasis of recent product improvements in this area, such as pre-cooked and microwaveable choices.*

**T**aste is an additional factor. Manufacturers of frozen snacks and appetizers have responded by creating fresh and distinctive taste combinations as consumers become more experimental in their culinary preferences. Like their Thai Vegetable Gyoza and Indian Fare Samosas, Trader Joe's sells a selection of frozen snacks and appetizers with international cuisines. These goods not only give convenience but also a way for customers to sample novel and intriguing flavors without leaving their homes. Finally, the appeal of frozen snacks and appetizers has also been influenced by

health concerns. Many consumers are searching for more calorie-, fat-, and sodium-efficient food options. Manufacturers have responded to this trend by releasing items in this market that are organic, created with natural components, and free of preservatives. Popularity has increased with companies like Amy's Kitchen and Dr. Praeger's because they offer nutritious frozen snack options.

## ETHNIC OPTIONS AT HIGH DEMAND

**Arabatzis** is one of the leading producers of frozen dough products in Europe, and its consumer proposition is unique as it produces high-quality

products with Greek and Mediterranean recipes – products like filo Rolls, bougatsa with cream or hazelnut Praline, traditional country-style pies with spinach and Feta cheese (P.D.O.), puff pastries sheets and many more. Today, Arabatzis Michail SA 'Hellenic dough' produces many deep-frozen products like Filo Rolls, Puff Pastry sheets, Filo dough, Croissants, Traditional Pies, Pizzas, etc. which can be found in food stores, bakeries, hotels, supermarkets, and other retail outlets as well as restaurants worldwide. Greek specialist **Evoiki Zimi S.A.** has been in the export business for more than 20 years and expands every year its geographical distribution. One of its major products is fillo kataifi which is distributed in Europe (Austria, Germany, Belgium, United Kingdom, Italy, Baltic States), Asia (Japan, China, Taiwan, Singapore), and the Middle East (Iraq, Saudi Arabia, Bahrain, United Arab Emirates, Qatar, Oman). Another Greek producer, **IONIKI** last year showcased the world's first spiral yogurt pie.

#

152

*bn USD is the projected value for the health snacks market in 2029.*



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# **165.4**

*bn USD is the projected value of the global refrigerated snacks market by 2030.*

After several attempts, the company has discovered how to “bake” yogurt without changing its texture and rich flavor. Besides its 50% yogurt filling, this pie contains three other traditional products that complement its taste: Mediterranean olives, fresh oregano, and authentic Greek extra virgin olive oil. The spiral yogurt pie is available in three versions: Mini, Individual, and Pie. Companies can now offer it with their label on the packaging. Turning to innovation, **CGM** has brought values of customer service, innovation, product quality, and territoriality on the shelves of the best distribution brands, first with the fried line and now with a new oven line. The company says it is a unique project for a few reasons. First, it is digital: the packaging is “talking”. The QR code on the package will contain constantly updated and always different contents to allow the buyer to live a different experience every time. You will find recipes, tips for use, curiosities, and much more. It is also eco-sustainable; the packaging is compostable. It is also light,



# **6.5%**

*is the estimated CAGR of the market for healthy snacks for the long-term period.*

as the products that will be part of CGM's line are original, new tastes to be tried, moreover, they are all bakery products, therefore, attentive to health without sacrificing taste. The products that are part of CGM's Oven Line include Arancini with cheese and pepper, Bites of cod, Hearts with Parmigiano Reggiano, Stuffed olives all'ascolana, Green jalapenos, Breaded mini frankfurters, Mozzarella with truffles, and Breaded mozzarella. German-based Brezelbäckerei **Ditsch** has added further products to its range of filled snacks. Two new savory fillings – herb butter and garlic butter – have entered the range of

filled pretzels. Another new filling is salted caramel, which is a very popular flavor now, including in the baked goods market, according to a company statement. Ditsch's pretzels filled with sweet and salty butter caramel cream (81 g) appeal greatly to consumers, particularly the younger target group. This has been confirmed by a market research study commissioned by Ditsch. The filled pretzels not only offer consumers a wholesome snack but also a multi-sensory taste experience through the combination of filling, topping, and pretzel products. **Neuhauser**, a company that develops, manufactures and distributes a wide range of bakery (frozen bread, tray part-baked bread, stone part-baked bread, and specialty bread), viennoiserie (ready to prove, pre-proved, frozen or fresh - milk rolls, brioche, beignet), and pastry products (frozen ready to prove



or fully baked Pastel de Nata) has also expanded its range, introducing the Pastry Inspirations Shortbread tart with strawberries (a creamy recipe with a strawberry filling and a crunchy sugar topping and cookie pieces), Lemon Meringue (a lemon filling with a touch of Yuzu with a topping of crunchy meringue pieces), and Crème Brûlée (a gourmet recipe with vanilla filling and AOP Isigny salted butter caramel).

## INNOVATION IN THE CATEGORY

The **Frostkrone Food Group** is offering a large selection for the BBQ season with finger food and snacks to suit every taste. When they're barbecuing, consumers like things to be simple. So the Frostkrone Food Group introduced finger food and snack variations that can be prepared just as easily in the frying pan, oven or in the deep fryer. The product range includes a huge selection of meatless snacks: Sweetcorn & Chilli (sweet and spicy corn, seasoned the Mexican way and enveloped in crunchy batter), Grilling Cheese Sticks (the sticks of aromatic halloumi cheese are wrapped in a crispy batter, tempura-style),

Mozzarella Bricks (filled with soft, velvety mozzarella enveloped in a crispy coating, these Mozzarella Bricks taste especially good when they are prepared straight on the grill), Barbecued Gouda Patties (in their coating of delicate potato flakes, these patties oozing both Gouda and Cheddar cheese offer you the complete feeling of cheese straight off the grill), and Sweetcorn Burgers (the burgers made of sunny sweetcorn in crispy batter just need a few minutes on the hot grill and they're ready to go). Totally vegan product range also includes the Barbecued Vegetable Burgers (savoured "heat", served as a side dish or in a bread roll, the vegetable burger created out of corn, peppers, peas and sweet potato purée is cloaked in a crispy coating of potato flakes. The barbecued vegetable burger is also available without a coating). And for those who like their meat, Frostkrone presented the Corny Dogs (Every fan of the US knows and loves this typically American snack. These simple and traditional Corny Dogs are hearty little sausages covered in a particularly crunchy coating of cornflakes. A gorgeous snack perfected with just the right tomato and pepper dip) and the

Chicken Pops (tender chicken breast aromatically spiced is enveloped in a coating of crispy cornflakes. When these are barbecued all over to a crunch, it doesn't take long for the tasty Pops to be picked up and, true to their name, popped into someone's mouth). All products are pre-fried and deep-frozen. French bakery manufacturer **Bridor** has introduced a new cheese-based puff pastry snack, adding to its growing gourmet, ready-to-bake savory collection. The rising demand for convenience, protein-rich snacks and diversity in flavors is helping to propel the cheese snacks market across Europe. In fact, cheese snacks have fast become a consumer favorite, with 62% of consumers stating that cheese flavors add excitement to savory snacks. Globally, over three-quarters (77%) of consumers admit to enjoying the taste of cheese, with 22% favoring it for its versatility. In the UK, it is reported that 35% of UK adults eat cheese 2-3 times a week, with Europe leading the charge with an average consumption of 20.44kg per person. It is followed by the United States with an average of 17.9 kg per person, and Canada at 15kg per person. Enjoyed hot

# Our sweet pretzels will steal your heart away!

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or cold, Bridor's new Cheese Finger features pure butter, golden puff pastry, a generous and creamy cheese filling and a topping of grated Emmental to create a delicious and crispy, melt-in-the-mouth texture. Available in quantities of 60 pieces, the ready-to-bake format takes just 16-17 minutes in the oven at 165-170°C. Bridor recommends baking 10 items on a tray, with defrosting times suggested at 30-45 minutes at room temperature. **Tyson Foods** have brought back their Nuggets of Love - the brand's limited-edition release of heart-shaped chicken nuggets. This year, Tyson Foods has expanded distribution nationwide just in time for Valentine's Day. These nuggets have gained popularity as a heartfelt way to celebrate Valentine's Day with sweethearts, friends, and family by offering the same great taste fans know and love with a festive heart shape. Made with 100% white meat chicken raised with no antibiotics ever, Nuggets of Love chicken nuggets are pre-cooked and lightly breaded chicken nuggets. For the **Wright Brand's** 100th anniversary year, the brand has created a first-of-its-kind savory cake with layers of cheddar scallion combread, sandwiched together with a sweet corn bacon filling. The cake was topped with a salted hot honey cream cheese bacon spread, and Wright Brand Bacon. The brand team partnered with Darnell Reed, chef and owner of Chicago-based Luella's Southern Kitchen to develop the recipe. In addition to the Southern-inspired ingredients, the Wright Brand Bacon Cake featured bacon rosettes and 1.5 pounds of bacon incorporated throughout the cake. Other examples include **Wrights Food Group** and **Marks & Spencer**, who late last year debuted a year-round collection of bakery specials, as well as seasonal items. The pie line-up consists of Ratatouille Galette - an all butter, puff pastry open pie topped with vegetables; Chicken, Ham Hock & Leek Pie (frozen) - this pie features British chicken, shredded ham hock and sliced leeks in a creamy white wine sauce, in puff pastry and topped with breadcrumbs and herbs; Three Cheese & Potato Pie (frozen) - thinly sliced potatoes are layered with mature cheddar, mozzarella & Regato sauce in puff pastry topped with breadcrumbs and herbs; Layered Christmas Turkey Pie (frozen) - this Christmas limited-edition pie sees turkey,

layered with cranberry sauce, pork, leek & sage stuffing, and a turkey gravy encased in puff pastry; British Beef Bourguignon & Dauphinoise Pie (frozen) - a winter special as part of M&S' Collection range, this pie is filled with slow cooked beef in a red wine & mushroom sauce encased in all butter puff pastry and topped with creamy, garlicky potatoes.

### SHELF LIFE AS AN ARGUMENT FOR PURCHASE

The global refrigerated snacks market was estimated at USD94.8bn in 2020 and is expected to hit USD165.4bn by 2030, registering a CAGR of 5.6% from 2021 to 2030, according to the latest report by Allied Market Research. The savory snacks segment accounted for the major share in 2020, holding around one-third of the global market. The fruit snacks segment, however, would exhibit the fastest CAGR of 7.9% throughout the forecast period. Based on end-user, the residential segment generated the highest share in 2020, accounting for nearly two-thirds the global market. The foodservice segment, however, would exhibit the fastest CAGR of 6.4% from 2021 to 2030. The demand for refrigerated snacks experienced a steep incline during the pandemic as people were mostly avoiding stepping out of the home. Refrigerated snacks were easy to store and cook, which gave way to an upsurge in consumption of frozen or refrigerated products, especially during the initial phase of the outbreak, thereby boosting the growth of the global market. However, huge supply chain disruptions across the world affected the market to some extent, thereby giving the sector a mixed impact altogether.

Based on region, the market across Europe held the highest share in 2020, garnering nearly two-fifths of the global market. The Asia-Pacific region, on the other hand, is expected to cite the fastest CAGR of 7.3% by the end of 2030. The other provinces studied in the report include North America and LAMEA.

### HEALTHY SNACKS ARE MORE SOUGHT-AFTER

On the other hand, a recent market research analysis from Meticulous Research projects that the market for healthy snacks will grow at a 6.5% CAGR from 2022 to 2029 to reach USD152bn. The increased demand for functional/healthy meals, the rise in consumer health consciousness, and the expanding appeal of convenience foods and on-the-go snacks are all factors driving the expansion of this industry. Furthermore, this market is predicted to have a lot of room to grow as a result of emerging economies in Latin America, Asia, the Middle East, and Africa, as well as rising product sales through online channels. However, the high price of healthy snacks relative to traditional snacks limits the market's expansion. A significant obstacle for market participants is the volatility of raw material costs. Dietary habits have been significantly changed by changing lifestyles, societal shifts, and consumers' growing sophistication & awareness. A rise in the number of people who eat nutritious snacks throughout the day in recent years has created enormous opportunities for producers of such foods. Healthy snacks are devoid of harmful ingredients and have many positive health effects. ■



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# PLANT-BASED, VEGETARIAN, AND VEGAN TRENDS: A CLOSER LOOK

*There has been a noticeable shift towards plant-based diets, with more and more people adopting vegetarian and vegan lifestyles. Aside from the potential health benefits, plant-based diets can also be a more sustainable and ethical choice. And, as these diets become more mainstream, they are likely to continue to attract more and more people.*

One of the main advantages of a plant-based diet is the potential for improved health outcomes, as these have been associated with lower rates of chronic diseases. Studies have shown that vegetarians and vegans tend to have lower BMIs, lower blood pressure, and lower cholesterol levels than meat-eaters. This is because plant-based diets are typically lower in saturated fats and higher in fiber, which can promote healthy digestion and reduce inflammation. Moreover, plant-based diets are often more nutrient-dense than diets that rely heavily on animal products. Fruits, vegetables, whole grains, and legumes are excellent sources of vitamins, minerals, and phytochemicals that support overall health and wellbeing. Many are also rich in antioxidants, which can help protect against oxidative stress and inflammation. Vegetarianism and veganism take plant-based diets a step further by eliminating animal products entirely. Vegetarians typically avoid meat, poultry, and fish, while vegans avoid all animal products, including dairy and eggs. While these diets can be more challenging to follow, they offer additional benefits. Many retailers now have dedicated plant-based sections, which makes it easy to find plant-based alternatives to meat, dairy, and other animal products. These sections often include a variety of options, including plant-based meats, cheeses, milks, and yogurts. Some stores even carry plant-based versions of traditionally meat-based products like burgers, sausages, and hot dogs. In addition to dedicated plant-based sections, many grocery



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stores have also started to label their products as "plant-based" or "vegan." This makes it easy to quickly identify which products are suitable for a plant-based diet without having to read the ingredient list carefully.

### A FAST-GROWING MARKET

According to a Bloomberg Intelligence analysis, the market for plant-based meals could account for up to 7.7% of the global protein market by 2030 and reach a value of over USD162bn, up from USD29.4bn in 2020. (BI). The demand for animal and dairy proteins worldwide is predicted to exceed \$1.2 trillion by 2030, according to the report *Plant-Based Foods Poised for Explosive Growth*, which details growth predictions for the market for plant-based meals throughout that year. The study claims that as they work with restaurants and large chains, industry behemoths Beyond Meat, Impossible Foods, and Oatly are promoting an increase in plant-based food options. Competitors who are more traditional and well-established, like Kellogg and



*We're always on the lookout for what is changing on the market. What are the new trends? What could we imagine as the new finger food and snack constellations? How can we improve on products?*

*Jörg Koch, head of Innovation at the Frostkrone Food Group*



Photo: Frostkrone

Nestlé, are stepping up their distribution of plant-based goods and creating marketing campaigns that highlight their diversity of options to gain an advantage. During the next ten years, BI expects consumer behaviors to change as people get more familiar with plant-based products and projects. According to BI, the need for resources brought on by population increase will encourage the growth of plant-based foods. With a projected population of 4.6 billion people by 2030, the Asia-Pacific area is particularly vulnerable to a

lack of food supplies, the report states. As a result, the region is projected to dominate the market for plant-based proteins, which is expected to grow from USD13.5bn in 2020 to USD64.8bn by 2030. By 2030, alternative dairy products in Asia-Pacific will account for 57% of the market there. Comparatively, sales in North America and Europe will total about USD40bn, while those in Latin America, the Middle East, and Africa would total USD8 to USD9bn each. Through 2030, a sizable portion of all plant-based food prospects will be occupied by meat substitutes. According to BI, the alternative meat market will increase from USD4.2bn to USD74bn in the following ten years if its development path is comparable to that of plant-based milk. Growing public awareness of the health and environmental advantages of plant-based meat, as well as ongoing price declines, are major growth drivers. In a more ambitious but still plausible scenario, sales of plant-based meat could surpass USD74bn and reach as much as USD118bn by 2030.

### “VEGANISM HAS LONG BEEN REGARDED AS A DIET TYPE”

Since 2014, at the beginning of every year, various organizations have been encouraging consumers to follow a vegan diet. To this end supermarkets and discounters have on offer a huge variety of alternatives which make it



easy, tasty, and very tempting to dispense with animal products in one's diet completely. Jörg Koch, head of Innovation at the **Frostkrone Food Group**, talks about the development of vegetarian and vegan diets and highlights current trends and innovations. What was just seen as a mega trend in the past has now long since become – according to Jörg Koch, Head of Innovation at the Frostkrone Food Group – a recognised type of diet, which has already gained a remarkable share of the market: “But it is not only in the food trade but also in the gastronomic world that we increasingly see vegetarian and vegan items becoming a regular feature of the goods or meals on offer. And the diversity of these products has also grown enormously.” Approximately five per cent of British people declare themselves to be vegan or vegetarian. And according to a survey, during the Covid-19 pandemic every fourth Briton reduced his/her consumption of animal products. “Younger people are much more concerned about things like animal welfare, the environment and

awareness of healthy eating. But the older population is also choosing vegan and vegetarian products more and more frequently,” explains Jörg Koch. In the light of this, it is assumed that the market for plant-based alternatives in the United Kingdom and in the EU is set to grow to GBP6.6bn a year by 2025. Jörg Koch has been with Frostkrone since 2014 and is

support wherever we can. Within the Frostkrone Food Group there is so much expertise and such diverse kinds of competence at all the individual locations. The subsequent sharing of this knowledge enables us all to benefit from one another's skills.” The Product Development team is never short of creative ideas. “We're always on the lookout for what is changing on the market. What are the new trends? What could we imagine as the new finger food and snack constellations? How can we improve on products?” It is especially in Germany and in the UK that the Frostkrone Food Group offers their customers an extensive range of vegan and vegetarian finger food and snacks. It was only last year that a plant-based food range called “Really?!” was launched in Germany. And its selection includes delights such as the following: Fish Goujons (vegan fish sticks are enveloped in a crispy coating made of rice flakes), Vegan Chili Cheese Nuggets: So hot (crunchy coating is followed by a hot and punchy creaminess made of vegan cheese and fiery chili pieces), Fried Chicken (vegan-style fried chicken

# **64.8**  
*bn USD is the projected market size of plant-based proteins in Asia-Pacific by 2030.*

responsible for product development throughout the entire Company Group. He is in contact with all the locations via a team call every week. And every month a joint meeting for the product development teams across all locations and all country borders takes place: “We discuss new product concepts and technologies, and we offer one another



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Photo: Le Duc



that the company has on offer for the upcoming summer, such as the Veggie Cheese Jalepenos with big chunks of jalepenos that can be served together with the popular Chili Cheese Nuggets on a serving platter. "And of course, you can always add the newest veggie appetizers of Le Duc: the Nacho Cheese Bites." As such, she says, it's easy to create a Mexican serving platter or serving a Tomato mozzarella Burger next to the summer drinks, beers, or cocktails. Le Duc Fine Food, a family-owned company specialized in producing veggie fingerfood, launched the Nacho Cheese Bites at the Sial in Paris successfully. Getting a lot of reactions on this introduction translated in the fact that the second production is

in a crispy coating). One very important aspect for Jörg Koch and his entire team is this: that much thought is given to the subject of additives in the vegan product range. "When the first products came on the market, the list of additives found in many of them was long. I was hoping that we had eliminated many of these," reveals Jörg Koch who has been working in product development for 30 years. "At Frostkrone we have been striving for years to rid our products of modifiers, aromas, flavor enhancers and the like. So, for that reason we did not wish to return to such a beginning with the vegan finger food and snacks." But since then, much has changed for the better and Jörg Koch now sees all future developments in an optimistic light. "With the vegan products, too, we are heading most certainly towards clean label goods." Another reason for this is that suppliers have developed new alternatives, thus providing manufacturers with more possibilities. "The big challenge as regards substitutes or replacers is that we can recreate the taste and consistency of the original ingredient. So, in our Product



*The spicy snacks filled with firm melted cheddar cheese are, like all Le Duc cheese appetizers, made with vegetarian rennet. They are fitting in with the trend to go Veggie but also appealing to those who want to please the biggest group of flexitarians.*

*Jolanda van der Hak, marketing manager of Le Duc*

Development we try out and taste and test and test again until we feel that a product is ready to be launched on the market." And then, whether the product is meat, fish, something vegetarian or vegan, the aspirations and indeed requirements of the Frostkrone Food Group always remain constant: the creating of finger food and snack variations that are fun to eat and so delicious they are to die for, he concludes.

### A FOCUS ON VEGGIE FINGER FOOD

Jolanda van der Hak, marketing manager of **Le Duc**, talks about the products

already planned. "The spicy snacks filled with firm melted cheddar cheese are, like all Le Duc cheese appetizers, made with vegetarian rennet. They are fitting in with the trend to go Veggie but also appealing to those who want to please the biggest group of flexitarians. Many international clients in foodservice are searching for the currently very popular Nacho Bites, as the Mexican kitchen and nachos are trendy," Jolanda van der Hak adds. As Le Duc is strengthening their position in the European foodservice market, the company exhibits at several food exhibitions on the continent, like the Sirha in Lyon and the upcoming TUTTOFOOD in Milan. ■

# **7.7%**  
of the global protein market could be made up of plant-based meals by 2030.



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The Vegetarian Butcher, the traditional Dutch brand for plant-based meat, will launch four high-convenience dishes with products from its portfolio in the first quarter of 2023 as part of a licensing business with Prima Menü.



The Vegetarian Butcher and Prima Menü are thus responding to the global megatrend in regards of uncomplicated and time-saving food preparation and the steadily increasing demand for high-convenience products - including vegan and vegetarian variants - that goes hand in hand.

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Lena and Bastian Pauls represent the second generation involved in the company, ensuring the future success of this family enterprise.

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# FREEZING FRESHNESS: THE EVER-GROWING MARKET FOR FROZEN VEGGIES

*The availability and diversity of frozen vegetables have increased significantly in recent years, providing consumers with a more extensive range of healthy, convenient, and sustainable food options. Whether used as a side dish, ingredient, or a meal, the range of frozen vegetables, mushrooms, or even green herbs available offers something for everyone.*

**F**rozen fruits and vegetables can play an important role in today's context of sustainability by reducing food waste and promoting local agriculture. Its long shelf life helps to reduce food waste and support local farmers who may have surplus crops that would otherwise go to waste. Additionally, frozen produce can be transported more efficiently than fresh produce, which in turn can help to reduce carbon emissions and other environmental impacts associated with food transportation. Europe is one of the biggest markets for frozen veggies worldwide. According to The

Netherlands' Centre for the Promotion of Imports from developing countries (CBI), increasingly busy lifestyles and a need for healthy food that is inexpensive, delectable, and simple to prepare are the main factors driving this industry. Vegetables that have been frozen are a versatile and affordable option. While frozen kale is used to produce kale crisps, frozen berries are frequently utilized to make smoothies. Market expansion is also being fueled by shifting eating habits and rising consumer incomes. The market for frozen vegetables is expanding as European customers switch from eating foods derived from animals to

alternatives made from vegetables. Significant prospects exist for vegetable suppliers in nations like Germany, France, Belgium, Italy, and the Netherlands. There is knowledge that fresh veggies purchased and subsequently refrigerated are inferior to frozen vegetables in terms of vitamins and minerals. The younger generation is now more aware of this reality, which is driving up demand for frozen vegetables. With a market share of 38% in 2021, Europe will have the highest demand for frozen veggies globally, followed by North America. European imports of frozen vegetables total 2.8 million tons and EUR3bn in value in 2021. The value of imports into





*From that perspective the popularity of frozen herbs has certainly increased significantly in recent years. The convenience, quality and availability all year round obviously makes HerbaFrost the ingredient of choice for many of our customers.*

*HerbaFrost*

Europe grew 1.7% during the previous five years while volumes fell by 0.6%, indicating a rise in import prices. 91% of all imports into Europe are from within the continent, whereas only 9% are from developing nations. The reason that domestic trade accounts for such a big portion of overall imports is that Europe is the world's largest producer of frozen veggies. Over the previous five years, the volume of imports into Europe from emerging nations fell by 1.1%, totaling 2,537,929 tons in 2021. In terms of imports into Europe, Germany holds the largest market share (20%), followed by France (18%) and Belgium (14%).

### A SNAPSHOT OF THE EUROPEAN MARKET

According to CBI data, after the United States and Japan, Germany is the largest importer of frozen veggies worldwide and in Europe. In 2021, German imports of frozen vegetables totaled EUR598m, accounting for 20% of the European market. Between 2017 and 2021, German imports totaled 588,294 tons, a 2.1% yearly decline. Yet, during the same time period, their value climbed by 1.2% annually as a result of increases in import prices of an average of 4% in 2018 and 2019, 1% in 2020, and 5% in 2021. Germany imported 90% of its frozen vegetable imports in 2021 from other European nations and 10% from underdeveloped nations. With a 43% market share, Belgium is the top supplier to Germany, followed by Poland (16%), the Netherlands (13%) and Spain (10%). Despite the rise in import costs, China continues to be Germany's top non-European supplier of frozen veggies. The other major suppliers are Turkey, Ecuador, and Serbia. In 2021, Germany was the second-largest importer of mixed vegetables after the US and the third-largest importer of beans, with most of these imports coming from Belgium. Germany is also a major importer of frozen spinach from Belgium, ranking third globally. Frozen vegetables are also exported from Germany. Its exports primarily travel to the Netherlands (21%), Austria (17%), Belgium (10%), Italy (9%) and Poland (8%), ranking it as the sixth-largest exporter in

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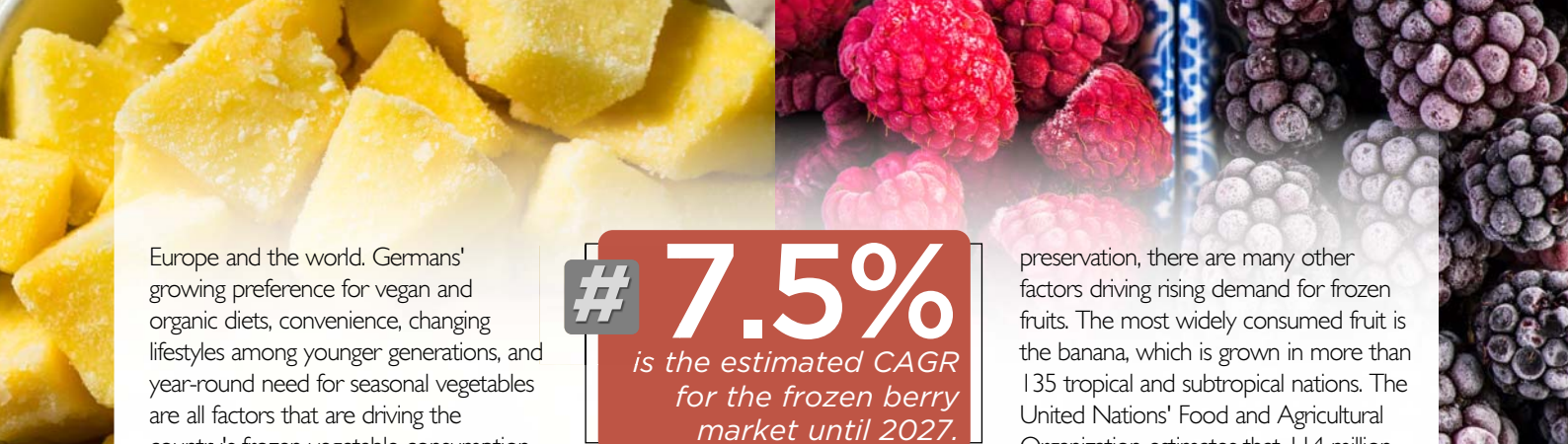
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Europe and the world. Germans' growing preference for vegan and organic diets, convenience, changing lifestyles among younger generations, and year-round need for seasonal vegetables are all factors that are driving the country's frozen vegetable consumption. According to ProVeg research from 2022, 51% of Germans have cut back on their meat consumption. Germany and Austria have the second-highest percentage of vegans after the UK, according to the Vegan Society. A flexitarian diet has been embraced by about 30% of Germans (a primarily vegetarian diet, with occasional consumption of meat or fish).

### AN INGREDIENT OF CHOICE

"IQF Herbs are indeed considered as the healthy alternative to season dishes while avoiding to use more salt or fat,"

**Herbafrost** representatives explain. "From that perspective the popularity of frozen herbs has certainly increased significantly in recent years. The convenience, quality and availability all year round obviously makes Herbafrost the ingredient of choice for many of our customers. Herb purees are absolutely the talk of the town at moment! With portions of 5gr and 20gr the Herbafrost drops are generating much interest with client in all type of industries: soups, sauces, dishes, sorbets." Extremely important is the premium quality of the product in terms of taste, cutsize/ structure and consistency, they emphasize. In terms of sustainability, frozen herbs and vegetables play an important role in reducing food waste in the food industry; but how can companies further minimize waste by utilizing these ingredients? "With a shelf life of multiple years and an agricultural planning in function of the required product demand, the waste from the harvested herbs to actual consumption is absolutely minimized. Production and packaging are being performed in a sustainable way," Herbafrost representatives conclude.

### SUMMER, TROPICAL FROZEN FRUIT GAIN TRACTION

According to a report from Grand View Research, the global frozen fruit market

# **7.5%**  
*is the estimated CAGR for the frozen berry market until 2027.*

size to be valued at USD5.59bn by 2027 and is expected to grow at a compound annual growth rate (CAGR) of 6.7% during the forecast period. Unseasonal fruits are likely to continue to grow in popularity because of their outstanding nutritional value and freshness on a worldwide scale. Summer fruits have gained popularity throughout the year in recent years, including watermelons, oranges, cantaloupes, honeydew melons, blackberries, raspberries, apples, figs, pears, apricots, peaches, and nectarines. Due to the general public's increased exposure to the evolving principles of food revolutions in recent decades, the culinary world has advanced significantly. Soon, it is anticipated that this will broaden the range of frozen fruits. Grand View Research claims that one of the main drivers of industry expansion is the rising demand for non-regional fruits. People are now more familiar with the cultures and lifestyles of various countries and areas thanks to the internet and other forms of media. Due to their expanded availability across all retail channels and their quick uptake by customers who are health-conscious, some regionally specialized food products have gained worldwide popularity. Fruits come in more than 2000 distinct varieties, and people all around the world eat them. Several of these products are only growing in a small geographic area, but they are becoming more and more popular worldwide. Hence, these fruits are exported after being refrozen. Hence, throughout the past few years, a rising trend in demand for these items' frozen versions has been noted. Beyond just

# **598**  
*million EUR was the value of Germany's imports of frozen vegetables in 2021.*

preservation, there are many other factors driving rising demand for frozen fruits. The most widely consumed fruit is the banana, which is grown in more than 135 tropical and subtropical nations. The United Nations' Food and Agricultural Organization estimates that 114 million tons of bananas were produced worldwide in 2017. Despite the vast production's assurance that fresh bananas will be available everywhere, the demand for frozen bananas is increasing. In addition to baking brownies, waffles, and muffins, they are used to make soft serve, milkshakes, chocolate-dipped frozen bananas, smoothies, ice creams, popsicles, and fudgesicles. Frozen fruit requirements are anticipated to increase soon due to rising demand for the prepared dishes or servings in the domestic and commercial sectors. Since frozen fruit keeps sensory qualities and associated nutritional values, it is preferred to canned and dehydrated fruit. The science and technology of freezing are extremely important to this sector of the economy. Air-blast freezers, tunnel freezers, belt freezers, fluidized bed freezers, contact freezers, immersion freezers, liquid nitrogen freezers, and liquid carbon dioxide freezers are only a few examples of the various freezing techniques that use various equipment. These products are additionally packaged to prevent contamination and maintain nutrients, flavor, color, and texture. Cans, paper bags, plastic pots, and bags made of plastic are all used for packing. Syrup pack, sugar pack, unsweetened pack, tray pack, and sugar replacement pack are just a few examples of the different types of packing.

### MARKET TRENDS FOR FROZEN FRUIT

The Grand View Research report also states that the youthful population has a clear impact on the food and beverage industry since market trends continue to change quickly. Most of today's consumers are health-conscious people who steer clear of processed foods and foods with artificial ingredients. The market is predicted to grow significantly over the course of the forecast period considering the growing demand for natural and organic foods. Demand is also anticipated to increase as consumer awareness of the possible advantages of

consuming natural food items develops. Also, a lot of local and business clients seek seasonal fruits that might not be offered at the time. The product satisfies the consumer's need for such fruit, especially during the off-season. The global frozen fruit market is growing as a result of the rising use of frozen fruits in bakery goods. The quality and shelf life of bakery products are being improved by manufacturers using new technologies or creative processes. Frozen fruit is being used in these goods to boost profitability. Modern bakery goods like cakes, rolls, jams, muffins, tarts, and jellies sometimes use frozen fruits. Moreover, frozen fruits, particularly frozen berries, are often utilized in smoothies, frozen fruit salads, yogurt, and fruit snacks. In 2019, frozen tropical fruits held the greatest market share of more than 40.0%. These fruits include passion fruit, avocado, guava, frozen papaya, pineapple, mangoes, coconuts, bananas, nance, and mamey. Obstacles in production caused by bad weather have a favorable impact on demand for these crops. Companies must develop frozen variations in response to the growing demand to prevent supply constraints. Avocado, mango, pineapple, and papaya are currently the most popular frozen tropical fruits. Among of the countries that produce the most of these fruits are Mexico, Costa Rica, and India. The quickest CAGR of 7.5% is anticipated for the frozen berry market from 2020 to 2027. Frozen strawberries, raspberries, blackberries, blues, chokeberries, cherries, black currants, mulberries, cranberries, gooseberries, red currants, and other fruits and vegetables are also included in the part. Blackberries and raspberries have been in high demand throughout North America and Europe. The continuous production of berries has been affected by the warm weather around the world, which has increased consumer demand for frozen kinds.

### THE FREEZE-DRIED FRUIT MARKET IS RAPIDLY GROWING

Freeze-drying, often referred to as lyophilization, is a method that uses low pressure and sublimation to remove water from a material in the form of ice. Many uses for this procedure exist in the manufacturing of high-quality foods. According to Future Market Insights, the global freeze-dried fruits market is

expected to record a CAGR of 7.5% from 2023 to 2033 and reach a valuation of USD8.63bn in 2033. In 2033, it is likely to reach a valuation of USD17.82bn. The steadily increasing demand for natural ingredients in the confectionery and bakery industries is going to propel the global freeze-dried fruits market. The elevated incorporation of freeze-dried fruits in daily diets to maintain a healthy weight and reduce the risk of cardiovascular illnesses is also likely to boost the market in the coming years. Consumers frequently select these as gifts and tokens of generosity, resulting in increased sales of freeze-dried fruits. The freeze-dried fruits market is expected to record a CAGR of 7.5% during the forecast period. The freeze-dried fruits and vegetable market is likely to expand due to increasing demand as consumers shift towards a more nutritional diet that includes fruits. Food has remained a vital food item since the outbreak of COVID-19. According to FMI, the food business is likely to record greater than 3% per year during the projection period. With changing consumer preferences, there is a surge in demand for healthy, cost-effective, and sustainable food items, which is expected to fuel the freeze-dried fruits and vegetables market size soon. A comparative analysis and review of market growth rates and potential future directions in the global freeze-dried fruit industry are published by FMI

# **8.63**  
*bn USD is the projected value of the freeze-dried fruit market in 2033.*

every two years. Demographic and advancement factors, which are subject to the arbitrary impact of macro and industry factors, are the main drivers of the market for frozen dried fruits. In the first half of 2023, the global freeze-dried fruits market is likely to grow by 5.0%. This growth is not fairly distributed across all regions, with the emerging freeze-dried fruits market expected to witness 5.5% growth. The key cause for this variation in growth rate is the slow/fast market uptake in the first half of the projection period. Improving end-user demand in big economies with the rapidly rising population. Consumption habits are changing, particularly in China and India, and demand in the freeze-dried fruits market is rising. Numerous other market segments are predicted to progress reasonably and attain excellent growth potential in the forecast period. Despite this optimistic future, the business faces potential obstacles, including shifting customer preferences, high trade barriers, uncertain raw material sources, and other production concerns. Freeze-dried fruits are created by freezing the fruits and then placing them in a vacuum under very low pressure. Due to their low-calorie content, various tastes, and nutrient-rich qualities, they are to be widely used in bread and confectionery items. Freeze dried fruits and vegetables are to be in high demand due to their increased use in breakfast cereals, snack mixes, bakery items, confectioneries, ice creams, and pastries. Fruits and vegetables that have been freeze-dried, such as pineapples, strawberries, raspberries, blackberries, and cranberries, are increasingly being utilized in ice creams, bakery products, and other ready-to-eat food items. ■





# SOLUTIONS FOR A HIGHLY CHALLENGING INDUSTRY

*Advancements in areas like artificial intelligence or machine learning have transformed the way machines solve different problems that were previously considered quite challenging. Manufacturers now make full use of these technologies, as it allows them to focus on different topics such as after-service solutions. Still, even on this instance, the use of data makes a huge difference.*

When selecting a sorting machine for a frozen food processing plant, the first consideration is what unwanted materials or product defects you need the machine to detect and eject. Some of these might be difficult to detect, and sorting machines differ greatly in their 'seeing' ability, according to Jacob Hobbel, **TOMRA Food's** global category director for vegetables and fruit. Another consideration is the sorter's ability to minimize food waste and maximize yields, he explains. "Will the machine work with a low level of false rejects, removing unwanted materials without also removing too much that's saleable? Machine performance also differs in this respect. Yet another consideration is downtime.

The sorter needs to be easy to operate, easy to set-up when switching from one type of food to another, easy to clean, and reliable. It must work well in the tough conditions found in IQF environments, in temperatures can be as cold as -30°C and as hot as 50°C. If a problem should occur, the machine user needs to know the manufacturer will quickly provide technical back-up, whether that's remotely or by getting a technician on site." One more factor to

consider is futureproofing, Hobbel explains. "Selecting a sorting machine is not only about current needs, but also what it will take to stay competitive in the future. As we move into an era of digital transformation, sorting machines with Artificial Intelligence will deliver advantages, as will machines which produce usable data." For example, connectivity to the TOMRA Insight customer portal and cloud-based data platform can show operators live data



Photo: TOMRA

*Sorting solutions need to be flexible and easy to set up for different types of product, because the same production and packing line will typically process multiple applications.*

*Jacob Hobbel, TOMRA Food's global category director for vegetables and fruit*



# Less Waste, Increased Profit

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which enables them to make line efficiencies almost instantly. This data can also ensure that when frozen vegetable products are mixed, each bag is packed with exactly the right mix. And by accessing data retrospectively it's possible to quantify the standards of raw materials from suppliers and to make better-informed business decisions. Sorting plays a vital role in ensuring the quality and consistency of frozen produce, he points out, as sorters are essential for ensuring the product consistently meets the required quality specifications. This is achieved by removing foreign materials and defective product according to shape, color, and structure.

Still, sorting frozen produce is particularly challenging, compared to fresh produce, because the production process requires multiple sorting interventions. Specifically: presorting to remove foreign materials when raw materials are accepted; sorting just before or after the freezing tunnel on color and shape; and sorting again at the packaging stage to remove any remaining foreign material. "Because profit margins with frozen produce are low, sorting must be very efficient and effective, to maximize yield and minimize food loss and downtime. Sorting solutions also need to be flexible and easy to set up for different types of product, because the same production and packing line will typically process multiple applications," Jacob Hobbel says. "To meet these challenges more effectively than any other solution available, last year we launched the TOMRA 5C premium sorting machine for frozen vegetables (mono and mixed). By using TOMRA Food's unique biometric signature identification (BSI) technology, this assesses every object passing down the line not only for its color and shape, but also biological characteristics. The

TOMRA 5C is located on the processing line between the IQF tunnel and the packing station, to make final checks for food safety and product quality with unrivalled accuracy. The sorter recognizes and removes any remaining foreign material, extraneous vegetable matter (EVM), and hard-to-detect product defects such as stems and stalks with green beans and nightshade with peas."

## RECENT TRENDS

"Consumers all over the world are getting fussier about the quality of food they buy," according to TOMRA Food's Global Category Director for Vegetables and Fruit. "They want food that's healthy, safe, tasty, and conveniently easy to prepare. This means that the customers of food processors are getting more demanding about their product specifications. Consumers are also becoming increasingly conscious of our planet's fragile environment and the need for sustainability. This, too, is changing the expectations of the retailers who buy from producers. There's increasing pressure to grow and produce frozen vegetables and fruit with the smallest possible ecological footprint by reducing food waste and energy consumption." One consequence of environmental awareness is the increasing popularity of organic foods and the reduction in the use of chemicals for growing, he goes on to say. But organically-grown fruit and vegetables typically get delivered to processing lines containing more unwanted materials including the poisonous datura and nightshade weeds. Another advantage of the TOMRA 5C is that's best-in-class at sorting out these weeds, even the hard-to-see datura without spikes. Regarding food waste, the best sorters minimize false rejects, so less good-in-bad gets taken off the line.

"Two-way and three-way sorting also allows reject streams to be reused for other purposes, such as animal feed or pastes. This is good for food processors' profits and for the planet," Jacob Hobbel concludes.

## IDENTIFYING THE CHALLENGES IS PARAMOUNT

When considering a sorter, it's important to identify the challenges you want to solve and the quality you want to achieve. Generally, for frozen food, the sorter needs to have sufficient technology to increase your yield and your quality, explains Stephen Jacobs, **Bühler's** head of segment fruit & veg.

"Beyond this, I also think it is important to look at the wider company, the customer experience, the history, and the locations when deciding upon a sorter." The sorter can look at every individual piece of produce, and depending on set parameters, examine whether this individual piece is acceptable or unacceptable. In early stages, batches of produce can contain different types of defects and foreign material, this can include EVM, stones, wood, plastic, mold, color defects or even misshapen produce. Simply, the sorter will eliminate all produce that isn't of acceptable standard, providing uniformity and safety to frozen food." But what are some of the challenges involved in sorting frozen produce, and how can they be addressed? The challenges can be logistical, for example, ensuring the machine is in the right location with the right space, and making sure that the product is brought to the machine in a way that can feed it efficiently, Stephen Jacobs. Other challenges can involve problems in the process line such as blocked ice chunks and clumped product etc. Sorters with high levels of connectivity, for example, the new SORTEX range, can alert processors of any blockages in the process line, ensuring that the problem is solved without much waste. "For sorting, the trend is towards zero tolerance for foreign material, as well as uniformity in shape and size," Bühler's Head of Segment Fruit & Veg says. "Customer expectation for high-quality produce (not just in freshness but also in how it looks) is at an all-time high. Even buying lower-cost produce, customers still want the quality to be as high as if from a



Photo: Bühler

*Customer expectation for high-quality produce (not just in freshness but also in how it looks) is at an all-time high. Even buying lower-cost produce, customers still want the quality to be as high as if from a premium marketplace.*  
Stephen Jacobs, Bühler's head of segment fruit & veg

premium marketplace. For this reason, sorting is essential to meet market needs." In terms of reducing food waste, due to the sorter looking at every individual piece of produce, "we can remove only the individual defect, instead of throwing away the whole batch. On top of this, with the latest technology in connectivity, processors are immediately alerted to issues in the process line, allowing them to fix problems before too much wastage has occurred," Stephen Jacobs adds.

## PROVIDING AN INTELLIGENT ANALYSIS OF OBJECTS IN THE PRODUCT FLOW

On the wet end of frozen food production, processors rely on belt-fed sorters to remove foreign material (FM) and product defects, explains Marco Azzaretti, director of marketing at **Key Technology**. "Most belt-fed sorters inspect wet product with only top-mounted sensors looking at the product on-belt and only partially in-air – this fails to detect defects located on the side of the product that rests on the belt. VERYX® belt-fed sorters are unique in that they inspect product entirely in-air, from the top and the bottom, to see every facet of each object in the product stream. Featuring sensors, light sources and optical backgrounds positioned away from product splatter zones, VERYX sustains all-sided surface inspection in messy operating environments throughout long production cycles without operator intervention." For frozen product inspection, he goes on to say, chute-fed sorters are usually preferred because they take up less space than belt sorters and frozen foods convey well on a chute. Here, immediately prior to packaging, the sorter's ability to ensure a product is in-grade and free of FM is critical since this is the last product inspection opportunity on the line, according to Azzaretti. "To maximize product quality and yield, VERYX sorters can be equipped with our Pixel Fusion® inspection technology. Pixel Fusion combines pixel-level input from multiple cameras and laser sensors, producing higher contrasts to find even the most difficult-to-detect product conditions and FM while virtually eliminating false rejects." On the wet end of a frozen food production line, the primary objective of the sorter is to

*In particular, frozen vegetable and fruit processors look for optical sorting technology that provides an intelligent analysis of each object in the product flow, which can be used to identify trends in incoming product quality.*

*Marco Azzaretti, director of marketing at Key Technology*



Photo: Key Technology

remove FM and defects so that only good product is further processed. After freezing, immediately prior to packaging, the primary objective of sorting is to ensure final product quality and safety. At the same time a sorter improves product quality by removing FM and defects, it should help maximize yield by reducing false rejects, Key Technology's Director of Marketing adds.

## ADDRESSING THE CHALLENGES OF SORTING PRODUCE

FM and contaminants that have a color, mass and shape that are similar to good product can be difficult to detect and remove. This scenario is most common when inspecting fresh products at receiving or pre-processed foods prior to blanching. According to Marco Azzaretti, after freezing and immediately prior to packaging, the sorter is responsible for ensuring the quality and safety of the final product before it reaches consumers. Sorters at the end of the line must be able to find and remove any FM that could have been introduced into the line inside the plant – things like a rubber gasket, a piece of glass or materials from protective gear worn by line operators – as well as possible contamination from other products that may be produced on the same line. Here, at this critical inspection point, the challenge is in the variety of different FM types the sorter must be able to detect and remove. Regarding the trends on the frozen vegetables and fruit market, Marco Azzaretti says he continues to see growing demand for equipment that can collect and share information to support an Industry 4.0 approach that can better manage food processing operations. "In particular, frozen vegetable and fruit processors look for optical sorting

technology that provides an intelligent analysis of each object in the product flow, which can be used to identify trends in incoming product quality and to automatically control upstream and downstream processes to improve line performance. Improving detection capabilities and minimizing the need for human intervention during operation are both driving innovation in inspection systems today. These objectives are being addressed with new sensor technology and new software, including the use of artificial intelligence. If operator intervention is required, the User Interface must allow a minimally skilled operator to manage the system intuitively after a short training session. Easy to operate equipment helps processors cope with the limited availability and the high turnover rates they are experiencing with labor on the line." Key's advanced sorting technology improves product quality and yield simultaneously, Azzaretti points out. Traditionally, sorting technology forced users to choose between quality and yield – there was an inherent trade-off to manage because removing more defects and FM meant that more good product was inadvertently ejected. "Now, innovations such as our Pixel Fusion® detection module and Discovery™ suite of software capabilities enable our VERYX® optical sorters to optimize product quality and maximize yield at the same time. Key's proprietary Pixel Fusion technology combines pixel-level input from VERYX's cameras and laser scanners that share the same line of sight to create a one-of-a-kind 'signature' for each type of material in the product stream, ensuring FM and defect removal while virtually eliminating false rejects. Key's Discovery information analytics software enables our VERYX sorter to collect, analyze and share data about the



Photo: FAM STUMABO

*We understand the flexibility needed in the very diverse vegetable processing industry and design machines to empower customers with the ability to make more products with one machine. The ability to quickly change the setup of cutting tools allows the customer to do many recipes in a very short period.*  
**FAM STUMABO**

sorting process and every object flowing through the line at the same time it sorts, revealing patterns and trends via real-time data or batch reports. The data collected via Discovery enables a processor to better manage their product quality, increase yield, reduce downtime and minimize labor to improve profitability," he concludes.

## INNOVATION IN THE CUTTING SEGMENT

**FAM STUMABO** has a range of innovative cutting solutions dedicated to frozen food processors. Its cutting solutions are designed for even the most demanding production environments with the highest efficiency level at peak production volumes, with minimal downtime and the lowest TCO in mind, according to company representatives. The choice of the right blade is also critical to the cutting process: at FAM STUMABO, blades are made in-house from the best food-grade stainless steel materials. Modern fully automated production lines guarantee that the same quality is produced blade after blade. Expert selection of the proper blade will contribute to the blades' efficient cutting and longer lifetime. The latter impacts again the efficiency and production cost on the customer's side. "Sustainability is another important driver in the food industry, all the way from farm to fork. On the processing side, this results in a firm commitment from processors to reduce food waste as well as limit water and energy consumption. By choosing FAM STUMABO, you don't buy just another cutter, but a solution that also helps reach your sustainability goals with almost no off-cut product sent to waste, extended product life, energy-efficient motors, and machine designs

that limit the use of water both during production as well as for cleaning of the equipment," representatives add. All FAM machines are designed for flexible and effortless operation with a special focus on ensuring the safety of operators and maintenance personnel at every risk level. The design of our machines and cutting tools assures long service life under all conditions with a minimum of maintenance costs and downtime through simplified, yet rugged construction. Standardization of cutting tools and knives helps to avoid human errors. The simplicity of changing the cutting tools helps solve the problem of hiring qualified operators. "We do not just design a classic model. We adapt our machines to allow the processing of specific products and develop special tools adapted to the characteristics of the product," FAM STUMABO representatives add. On the sanitation side, all FAM STUMABO equipment is designed to allow fast, yet thorough cleaning. High-volume production also requires solid maintenance programs. FAM STUMABO offers several packages for preventative maintenance. Our in-depth training programs are perfect for improving operator knowledge and the overall effectiveness of your installation. We design machines, blades, and cutting heads that respond to customers' unique processing needs. This allows them to easily integrate the machinery into any full line with quick and effortless switching of the cutting equipment. We also offer clever infeed systems on our machines for conveyor feeding." The FAM STUMABO machines offer great flexibility on a large variety of fruit and vegetable cutting solutions. "We understand the flexibility needed in the very diverse vegetable processing industry

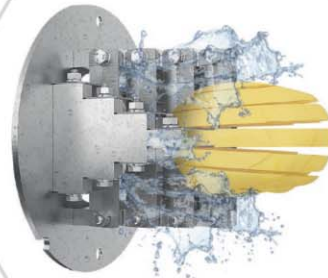
and design machines to empower customers with the ability to make more products with one machine. The ability to quickly change the setup of cutting tools allows the customer to do many recipes in a very short period, without compromising on the cut quality," representatives say. FAM Tridis™ 240 HD is the workhorse drum dicer in our range, designed for high volumes and continuous product flows, suitable for many different products, both hard and soft, such as carrots, turnip, celeriac, broccoli, onions, potatoes, mango, apples, pears, strawberries, and many more. It has a capacity of up to 15,000 kg per hour, depending on the type of product, cut size, and shape. A wide range of cut sizes is available between 3 mm and 25 mm in dices, strips, flat, or crinkle shapes. Its advanced design incorporates a quick change-over of cutting tools thanks to the 'set and forget' principle." FAM Tridis 180 is the lower-capacity version of the Tridis 240. It has a smaller footprint yet offers equally reliable cut performance with the same proven technology. It has a capacity of up to 6,000 kg per hour, again depending on the type of product, cut size and shape, and similar cut sizes as the Tridis 240. Volantis is FAM's latest V-belt slicer designed for the precision transverse slicing of a wide variety of elongated and oblong products such as green beans, carrots, zucchini, etc. up to a diameter of 160 mm. Its 2-meter-long V-belt brings the product perfectly aligned and with optimal speed towards the slicing wheel. The machine accepts various cutting tools for more product differentiation, such as flat cut, crinkle cut, julienne cut, and halving of products. The highly efficient machine

design results in low maintenance and easy accessibility for cleaning. Volantis is the preferred slicer for cross-cutting of green beans which is a seasonal product. The machine can also be used outside of this season for elongated products such as carrots, celery, zucchini, etc. FAM Yuran Hytec is a belt-fed dicer designed for dicing, strip-cutting, and shredding at high capacities. It comes with a hygienic 240 mm wide belt with guide strip and belt edge sealing. The cutting principle incorporates a feed roll that positively transfers towards the cutting spindles, making it suited for spinach, radish, peppers, etc. The machine allows a quick change-over between cut sizes due to the fast removable cutting spindle shafts. FAM Centris™ 400, with its revolutionary GapSet 16-station cutting head, offers all the latest innovations in centrifugal shredding and slicing. It is designed for consistent cut quality, flexibility, and speed at high capacity. It provides a perfect cut quality on a wide range of round and elongated products at full length or pre-cut to determine the

length of the shred. The Centris machine allows processors to slice or shred a wide variety of products, like carrots, celeriac, onions, cabbages, and many more. The cutting head assembly for Centris consists of sixteen individual, stationary cutting stations. The highest number of cutting stations in the market, offering higher capacities and improved yield. The quickly interchangeable cutting heads with simplified design minimize downtime and maximize operator-friendliness. "The FAM STUMABO baseline is «Together we cut your product to perfection». Consistent cut quality is the first and most important element. Using state-of-the-art cutting equipment helps processors optimize their efficiency and yield. With typical mid- to high-capacity, continuous production environments, the frozen vegetables and fruit industry puts great importance on equipment performance and reliability." The choice of the right blade is crucial: at FAM STUMABO, blades are made in-house from the best food-grade stainless steel materials. Modern fully

automated production lines guarantee that the same quality is produced blade after blade. Expert selection of the proper blade will contribute to the blades' efficient cutting and longer lifetime. "It may seem easy, yet a thoroughly scientific approach is key to getting the best results. Strict tolerances are set for producing all critical components of the cutting tools bearing in mind the high capacities at which the frozen food industry works. Seeing the importance of cutting equipment in a processing line, we at FAM STUMABO, are committed to driving innovation in the field of food cutting. We work closely with our customers to feel their pulse on new trends, needs and requirements. Our in-house engineering, design, and manufacturing of precision blades, cutting tools and machinery, combined with a highly qualified team of application experts of the Food R&D Team allowed us to launch a multitude of innovations that have set several new standards in industrial food cutting," FAM STUMABO representatives conclude. ■

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INDUSTRIAL FOOD CUTTING SOLUTIONS



# A CONSTANT SEARCH FOR INNO



*As CGM saw a 15% increase in turnover in 2022, and the overall market has now returned to normality, the company is striving to innovate and be "in step" with the times, with a new plant being 4.0 certified, according to Giuseppino Marinangeli, CEO of CGM SRL.*

***CGM has recently concluded a major expansion project. What results has CGM achieved so far or does it expect from this facility? (in case the production plant is already in operation)***

At the moment the new factory is not yet operational, but we hope it will be very soon. The project, which came to life in 2016, immediately encountered numerous obstacles, such as the earthquake in central Italy, the pandemic and finally the war in Ukraine and all that followed.

Once completed, the sustained investment will guarantee us innumerable benefits, as it will allow us, among other things, to have an additional production line and to internally move some operations that we currently carry out at other companies, such as the storage and pre-frying of some products.

***Please discuss the evolution of the restaurant industry over the past year. Is CGM satisfied with the evolution of the market?***

The market, as well as consumption, have returned to the almost normality of the pre-Covid period, as evidenced by the trend in our turnover which in 2022 increased by 15% compared to the previous year. Despite this, the pandemic has profoundly changed the lifestyle of many consumers, in fact, markets such as retail, e-commerce and food delivery have undergone a significant increase and attention to product quality has significantly increased. At the same time, everything related to "away from home", Happy Hour and Street Food is going through a clearly positive trend, a situation from which we are able to derive considerable benefits since our products lend themselves very well to this type of market.



*The company constantly seeks to innovate and be "in step" with the times, both from a structural point of view, but also from that of the products offered to the public.*



# VATION

## **What does CGM's investment budget look like for 2023?**

Currently, CGM has no plans to make any further investments. We are waiting for the conclusion of the works regarding the new storage and packaging plant.

## **Describe the innovation process that takes place in CGM. Also, how does CGM select the suitable products to enter the market?**

The company constantly seeks to innovate and be "in step" with the times, both from a structural point of view, but also from that of the products offered to the public. The new plant will be 4.0 certified, which means that all the machines will be interconnected in a network and will be able to "communicate", constantly providing useful data and information to the operators. In addition, the creation of virtual company tours is planned.

As regards the products to be placed on the market, analyzes are first carried out on what the consumers' wishes may be. Once the type of product to be developed has been understood, internal procedures are started, which include, among other things, the study of the product itself and realization tests and finally internal tests are carried out. If these tests give a positive result, the product is tasted at the fairs or tastings that we carry out with our customers. If they also get a positive response here, the product is included in our catalogue.

## **What are CGM's current expansion plans, both in terms of business and product range? Is the company targeting new consumer groups?**

Surely the imminent inauguration of the new plant will allow us, not only to expand on a structural level, but also to improve ourselves from a working point of view. Every year we launch an average of 3/4 new references and usually some of them are added to our catalogue. We have recently developed a line of 8 products in a box for the retail channel, which is enjoying considerable success, and a line of products aimed at vegetarian consumers.



## **CSR (Corporate Social Responsibility) and sustainability are two of the trends which, in recent years, have shaped the way European companies operate. What is CGM's view on the matter and how has the company adjusted its standards with respect to these trends?**

It is a theme that over the years has become increasingly important and to which we are particularly attached. In fact, we constantly try to limit the waste of the raw materials used, to keep energy consumption under control and, where possible, to use recyclable or compostable materials, as happens for the packaging of our retail line.

## **Please comment on the current state of the industry. What challenges does CGM expect in 2023?**

The sector suffered a sharp setback due to the pandemic and the recent war in Ukraine which led to a sharp decline in consumption. Unfortunately, not all companies have managed much in the face of this crisis. We personally do, and after a non-positive 2020 we are back to levels above the pre-Covid levels, both in terms of turnover, but also in terms of quantity.

We will soon face a transition period with the entry into operation of the new plant, it will not be easy, but we hope to be able to obtain the benefits we expect as soon as possible. ■





# IN THE PURSUIT OF MACHINE EFFICIENCY

*As the search for a cleaner lifestyle continues, which obviously relates to increasing the quantity of frozen vegetables and fruit in each diet, so does the pursuit of machine efficiency. If the former creates demand, then the latter is the one responsible for assuring the supply – and it falls solely into the hands of the manufacturers.*

At this year's Foodex Manufacturing Solutions, **GEA Frozen Foods** is showcasing CALLIFREEZE, a unique new energy saving freezer control system developed for use with the GEA range of freezers for the food industry. The new system can be configured for freezers

handling a wide range of food products, including meat, poultry and fish, ready meals, bakery, and dairy products. It monitors the condition of products exiting the freezer, and then automatically calibrates the freezer parameters to ensure that every product is frozen according to optimum requirements. CALLIFREEZE

automatically adjusts product retention time in the freezer, air temperature and fan speed to achieve the precise level of freezing required, with minimum energy consumption. In detail, according to GEA's product specifications, CALLIFREEZE monitors the condition of products exiting the freezer, and then automatically





Curly



Standard



Waffle



Crinkle

# GEA A-series IQF Tunnel Freezer, a sustainable solution



22%

Reduction of  
CO2 emissions



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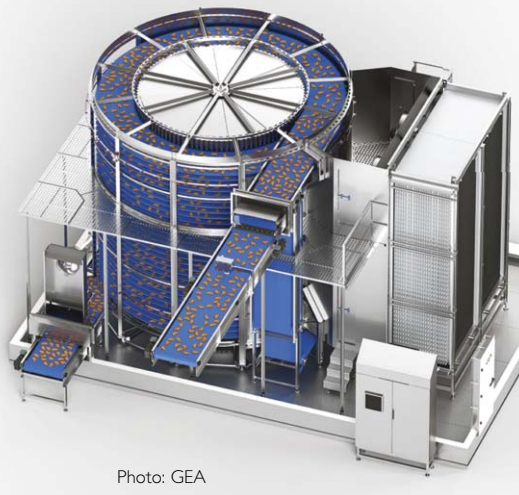


Photo: GEA

**“** *CALLIFREEZE monitors the condition of products exiting the freezer, and then automatically calibrates the freezer parameters to ensure that every product is frozen according to optimum requirements.* **”**  
GEA

calibrates the freezer parameters to ensure that every product is frozen according to optimum requirements. The control system achieves this by continuously monitoring the level of crystallized water in the food products, and automatically adjusting product retention time in the freezer, air temperature and fan speed to achieve the precise level of freezing required, with minimum energy consumption. Continuing to cool a product once it has already reached the required degree of freezing is not only unnecessary, but it is also a waste of energy. Some products need to be 100% frozen, while for other applications an 80% level of frozenness at freezer discharge is acceptable, with product ‘finish off’ occurring in the cold store, to maximize energy savings. However, until now there has been no way of checking the level of frozenness of products as a continuous part of the cooling process. CALLIFREEZE uses GEA’s unique sensing technology to measure the level of frozenness inline, at the freezer exit, without direct contact with the food product. The system then automatically adjusts the freezer parameters to maintain perfect

freezing conditions according to customer and product requirements. CALLIFREEZE helps food processors to produce the finest quality frozen food. The ability to continuously monitor product frozenness and automatically adjust freezer conditions ensures that products exit the freezer in optimum condition, so customers can be confident of the highest quality output, whether freezing meat cuts or the most delicate baked goods. The system has been proven to reduce power consumption and improve freezer efficiency. Tests running CALLIFREEZE with GEA freezers have resulted in a considerable increase in production capacity - by up to 20%, whilst also achieving a reduction in energy consumption of 10%. Maximum benefits are achieved when the system is combined with GEA energy saving and heat pump solutions. CALLIFREEZE can be specified as an option for GEA S-Tec and A-Tec spiral freezers or may be installed in existing spiral freezers, including freezers from GEA and OEM systems.

### HARVESTING THE POWER OF AI

Predicting maintenance, preventing downtime, and creating a more efficient food processing line is always challenging. But with OmniBlu, **JBT’s** new AI-powered subscription-based

platform that combines Parts & Service, Maintenance manager, and Machine performance, providing customers with a powerful tool that creates more value, maximizes uptime, and improves yield should be easier than ever, according to Guilherme Goinhas, general manager of Customer Care Protein, EMEA at JBT. “OmniBlu will bring our customers unmatched visibility of their operation and help them improve it even in the smallest detail,” he points out. OmniBlu is JBT’s new generation customer care and a service designed around improving customer operations and includes services and parts supported by digital tools. This is intended for one single goal: optimizing customer results. Consequently, OmniBlu includes spares on stock, preventive maintenance activities, and a customer success manager to support the customer with operations and maintenance activities. JBT has optimized the monitoring to an expert level by building and continuously improving its digital tools. Therefore, joining the OmniBlu program is like having a specialist always next to your JBT machine, guiding you and your team, the company states. OmniBlu monitors the machine’s performance, gets all the different data, and generates alerts and graphs depending on equipment and application. OmniBlu can also help predict the future based on the new algorithms that have been developed. The data presented in the monitoring tool is designed to control the most critical value levers that operations and maintenance can use to improve. “The information collected from the machines is merged with the customer’s operation because food processing works differently for different customers.

**“** *If a customer has all their processes well under control, the improvements are more subtle and need enough data to improve the process, like avoiding micro stops, for instance.* **”**  
Guilherme Goinhas, general manager of Customer Care Protein, EMEA at JBT



Photo: JBT

This is designed to generate more value for the customer on their operations by analyzing and optimizing their performance and more accurately predicting future maintenance needs”, says Guilherme Goinhas. For years, JBT’s PProCARE® service contracts have effectively maximized the longevity of JBT machines through high-quality support and maintenance. At the same time, JBT’s iOPS® offered machine performance monitoring and analytics to give customers insight into equipment performance data. Now with OmniBlu, JBT combines these different services, PProCARE and iOPS, and takes this to a new level, providing smart insights and connected care designed around customer value. “OmniBlu has been field tested on various food production sites in US and Europe for almost a year. During this time, much information has been collected and used to finetune the tools and validate the data and what conclusions one can draw from it,” says Auke Bouwense, global commercial director of JBT OmniBlu. “The testing

guarantees that the tools will work as intended. We will keep learning while we keep implementing OmniBlu for more customers. Our customers are diverse and different, so we are never done learning and improving.” When OmniBlu is implemented, data is collected from day one, but how much information is needed to analyze a trend depends significantly on the customer’s conditions, like how many hours they work, how many shifts they have, or if they frequently change products. “If a customer has an inefficient process, we will see it immediately and get insights into what to adjust after a few weeks. But if a customer has all their processes well under control, the improvements are more subtle and need enough data to improve the process, like avoiding micro stops, for instance”, adds Guilherme Goinhas.

### SETTING THE STANDARD FOR EFFICIENT FOOD PROCESSING

Subsequently, as more and more food processing plants use OmniBlu, the aggregated data creates a standard

industry benchmark for individual food products. Even if the plants are different and located in separate regions, the processing of, for instance, poultry is done in the same way on the same JBT equipment. However, there can be minor differences depending on the chosen options. “Now we can support our customers in more ways than before. We have created a form of best practice regarding how the customers should run their process under certain conditions. Another benefit is that by analyzing aggregated data, we will be able to provide feedback on the development of our equipment and improve it in a way that will benefit our customers even more, says Auke Bouwense. OmniBlu is developed to work with all JBT food processing equipment, although it will be launched in different steps. “First connected was the JBT Frigoscandia GYRoCOMPACT® self-stacking spiral freezer, and we are now deploying ovens, fryers, and the DSI Waterjet portioners. OmniBlu can also be connected to older machines depending on age,” says Auke

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## Take your Overall Equipment Effectiveness to the next level.

With OmniBlu™, JBT's new AI-powered subscription-based platform, it becomes easier than ever to predict maintenance, prevent downtime, and create a more efficient food processing line. OmniBlu combines Parts & Service, Maintenance planning, and Machine performance, providing a powerful tool that creates more value, maximizes uptime, and improves yield.

Getting smart insights and connected care have never been easier.



Bouwense. “Machines up to ten years old are pretty easy to connect. If they are older, they need an upgrade that could be more or less expensive, depending on what kind of machine it is. All devices can be connected, but if it's too old, it's probably a good idea to invest in new equipment anyway”, Guilherme Goinhas points out. OmniBlu offers a high degree of predictability, making it possible to anticipate problems and thus decrease downtime. “OmniBlu allows us to add more sensors on the equipment, which gives the customer a better understanding of their process by using specific parameters for specific operations and needs. It also makes it more convenient to plan maintenance by predicting it and making it easy to order spare parts through the Parts portal. With OmniBlu, we are a strategic partner to our customers, working with them to maximize performance and yield while minimizing downtime. And although we have just launched OmniBlu, the interest is huge.” With OmniBlu, JBT also introduces the new Parts portal, where customers can order parts online for their equipment. They will see a digital twin of their machine on their tablet or PC and can drill down to a specific section or detail of the device and look for the components or parts they want. There they will see the part number, price, availability in stock, and delivery time, and they can order the part with one click. With the new Maintenance manager, they will also get a visualization of all the maintenance activities they need to do in the next couple of months. All the data being uploaded from the equipment and analyzed by the algorithms are used to adjust the Maintenance manager continuously. Based on machine learning, it will

extend or reduce activities of maintenance to make it as efficient and predictable as possible. “With OmniBlu, we will also be able to detect things in the customers' operations that they don't see and help them improve their working flows. We can show them how they can reduce cleaning cycles or adjust them to make them more efficient, for example”, says Guilherme Goinhas.

## GETTING THE BEST OUT OF YOUR MACHINERY

According to **Tecnopool** representatives, discussing industrial freezing machinery with potential accounts requires addressing several issues, such as ensuring that End-Users are properly trained in all aspects regarding operations, cleaning, and maintenance of a spiral freezer before it enters service. Another issue to manage is how to create and grow a relationship of trust with a potential account: a performing industrial food processing machinery is not enough on its own unless an OEM is capable of putting in place dependable aftersales support. Speaking about difficulties, the market circumstances of today may occasionally cause changes to the levels and a mix in the demand for baked goods. Making sure that industrial bakers can adjust their production to the needs of the market they serve is one of the issues that Tecnopool must address while designing spiral freezers. The industrial process that is currently being used is a good place to start looking for in the short term. Optimizing processes to prevent production gaps, pursuing machine efficiency, and avoiding unneeded temperature fluctuations in machines that operate at low temperatures may be a good tactical

approach. Additionally, it's imperative to follow the cleaning and maintenance schedules recommended by the OEMs. For instance, in spiral freezers, dirt can lower the thermodynamic efficiency of heat exchange batteries, and it's important to monitor the efficiency of drive transmission elements to prevent wasting energy. Bakers may search for equipment that consumes less energy if they are thinking about future investments. A spiral freezer can offer many ways to reduce its energy requirements. Airflow optimization, lower inertia of moving parts, smaller footprints, and improved designs of thermal exchange batteries are some examples of design features that can help bakers more effectively guard against fluctuations in energy prices. Regarding freezers, technology can surely be of help in maximizing efficiency and uptime, according to Tecnopool representatives. A spiral system can integrate a data link and a wide array of sensors to collect and share with the OEM motion and energy consumption data which can help maintaining high efficiency levels of industrial operations. Furthermore, renewable energy production can be a benefit in offering a partial hedge against fluctuating energy prices that affect the operating costs of industrial freezers as a greener economy becomes more prevalent. In addition, from a fiscal point of view investments in renewable energy can generate savings anytime governments provide incentives to “green transitions”. But when it comes to preventing downtime, what technology is available for avoiding or preventing an unexpected event of such kind?

“OEMs prescribe preventive maintenance checklists in their «use and maintenance» manuals. Such checklists focus, most of the time, on moving parts and sensors,” company

representatives say. “Cleaning routines are also important. Users of spiral freezers should wash and sanitize their machines with the frequency the OEMs prescribe in their «use and maintenance manuals» which are

*A spiral system can integrate a data link and a wide array of sensors to collect and share with the OEM motion and energy consumption data which can help maintaining high efficiency levels of industrial operations.*

*Tecnopool*

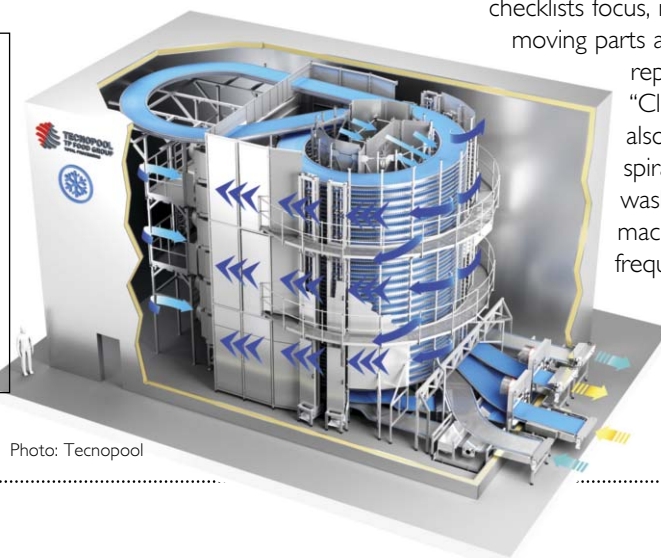


Photo: Tecnopool



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# TOP OF THE FOOD CHAIN



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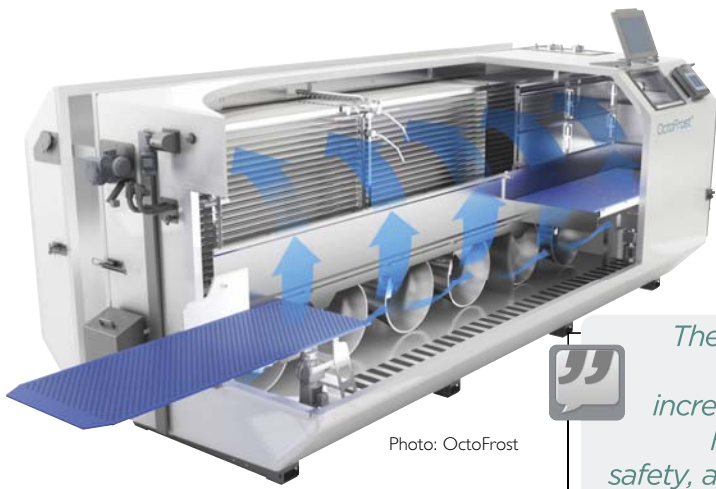


Photo: OctoFrost

tailored to the food product being processed. As previously mentioned, proper sensors to gather diverse «operations and consumption data» together with a policy of «data sharing» with the OEM, can surely be of help in supporting bakers maximizing freezer's uptime," they conclude.

## THE IMPORTANCE OF AIRFLOW OPTIMIZATION

**OctoFrost's** freezing technology is engineered to preserve the natural appearance and taste of the products. This is achieved by using unique fluidization techniques and minimizing dehydration, OctoFrost representatives explain. "Firstly, the optimization of the airflow and the use of patented bedplates keep individual pieces of product in motion and separated from each other during freezing. This method prevents lump formation and product damage, which is crucial when processing delicate or sticky products. Secondly, the quick-freezing process, which only lasts a few minutes, minimizes ice crystal formation reducing the risk of damaging the product's cellular structure and preventing moisture loss. This results in higher yield and business profitability." OctoFrost's freezing technology is designed to maximize efficiency and reduce food processors' costs, representatives add. A key element is the aerodynamics of the IQF Freezer, which involves optimizing the right pressure, air speed, and temperature in each zone of the freezer to achieve the highest product quality, minimize dehydration, and optimize energy usage. In addition to this, the oversized coil enables fans

to operate at lower speeds. Furthermore, the elevated housing of the OctoFrost freezer allows for air circulation underneath,



*The demand for IQF products has increased due to their high level of food safety, achieved by quick freezing at low temperatures. OctoFrost's IQF Freezer takes safety to the next level with its patented, easy-to-clean exchangeable bedplates.*

**OctoFrost**

eliminating the need for floor heating to avoid floor and equipment damage. "The demand for IQF products has increased due to their high level of food safety, achieved by quick freezing at low temperatures. OctoFrost's IQF Freezer takes safety to the next level with its patented, easy-to-clean exchangeable bedplates. These bedplates can be easily removed and thoroughly cleaned outside of the unit, ensuring a high level of hygiene. Moreover, they enable processors to avoid the risk of cross-contamination between different product batches." IQF technology offers multiple sustainable benefits, such as reducing food waste and extending the shelf-life of food products, OctoFrost representatives go on to explain. "Furthermore, as it is a quick-freezing method, it contributes to reducing energy consumption. As the food industry strives to become more sustainable, companies must find innovative ways to improve efficiency



*The freezing systems continually lower the surface and core temperatures of individual food products using high performance technology to deliver consistent manufacturing results.*

**Starfrost**

while still meeting their sustainability goals. One such example is the Crossflow water system developed by OctoFrost, which recirculates water to improve efficiency and reduce waste, ultimately enhancing sustainability."

## PROVIDING A RELIABLE FREEZING SOLUTION

Another manufacturer active on the freezing sector is **Starfrost**, which has recently provided custom-built Helix spiral freezers to Pukka, the UK's biggest pie brand. Pukka hired Starfrost to build and install two Helix spiral freezers at its bakery in Syston, Leicestershire, as part of its three-year growth plan. This technology allowed Pukka to improve both its commercial and production capacities. The brand-new Starfrost spiral freezing system was created to take the place of outdated machinery and offer a dependable freezing solution that increases manufacturing output, decreases downtime, and uses the least amount of water possible. Up to 12 hours of uninterrupted operation are possible thanks to a cutting-edge air defrost mechanism, while automatic cleaning systems save downtime and save water. As a result, Pukka's production capacities are future-proofed by the spiral freezers to support any forthcoming product development or growth ambitions. Spiral freezers made by Starfrost are intended to automate production lines to boost output effectiveness, improve product quality, save operating expenses, and increase revenue. The freezing systems continually lower the surface and core temperatures of individual food products using high performance technology to deliver consistent manufacturing results. "Starfrost were an obvious choice for us, we were aware of the quality engineered equipment they produced and their position within the food processing industry. Central to the decision for selecting Starfrost was the company's ability to offer a bespoke solution that worked within our existing infrastructure and tailored to our products and production line as opposed to an «off the shelf» standard design," Peter Gull, engineering and projects manager at Pukka said. ■



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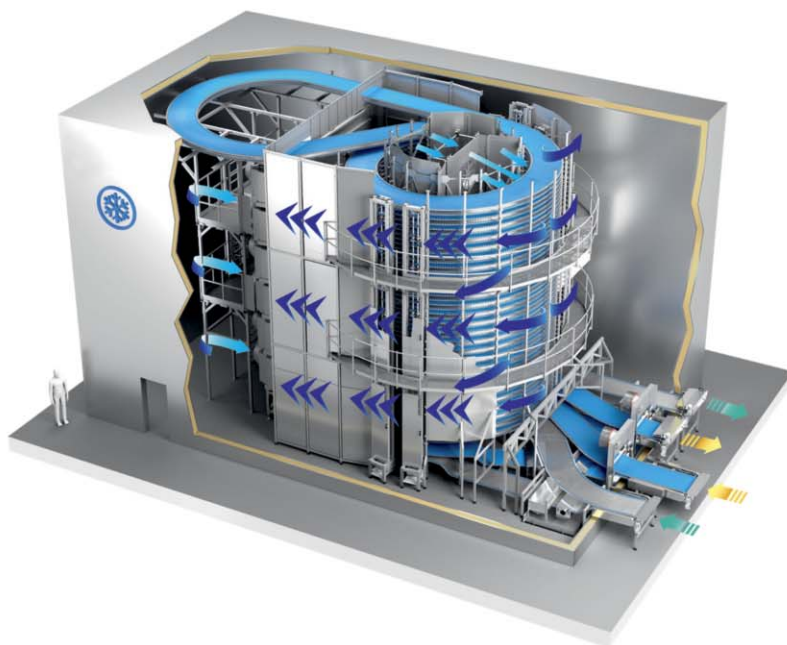
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# SIMPLER IS BETTER

*Fruit and vegetables will always be viewed as a simple yet healthy food.*

Foods such as vegetables, fruit and herbs appear ideally positioned to benefit from the current consumer trend towards natural products containing as few additives as possible. All are recognised as having an important role to play in terms of better diets, especially in the post-pandemic world where health and nutrition continue to advance up the agenda. With Covid-19 mortality rates having been highest in countries where a comparatively large proportion of the population ranks as overweight or obese, more efforts from the world's authorities can be expected to encourage people to up their intake of fruit and vegetables.

At present, large sections of the European population do not consume sufficient quantities of fresh produce according to the official guidelines. According to Eurostat, a third of consumers within the EU region do not eat any fruit or vegetables during a

typical day, while only 12% consume the recommended five portions. Fresh produce appears to be more popular with women – for example, 15% of the female population in the EU eats five a day, compared with only 10% of males. The percentage of people eating the recommended amount is highest in countries such as Ireland (33%) and the Netherlands (30%), and lowest further east in Romania (2%) and Bulgaria (5%). A greater desire for clean-label products without artificial ingredients and additives represents just one of the health trends impacting upon the global food industry at present. In the US, the 2022 version of the Food & Health Survey undertaken every year by the International Food Information Council (IFIC) found that almost 40% of consumers regularly purchased food and beverages promoted as 'natural.' Other key findings included the fact that environmental considerations affected food purchases for 39% of people, while

57% were concerned over levels of food waste. The IFIC survey also found that over half (52%) of respondents were following a specific diet or eating pattern in 2022, up from 39% the previous year. The main motivations for this lifestyle choice included the desire to follow a clean eating pattern and to be more mindful of calories consumed. Global demand for vegetables (and, to a slightly lesser extent, fruit and herbs) should also derive some benefit from the growing percentage of the world's population now following vegetarian and/or vegan diets. According to data from the German-based retailer Veganz, the number of vegans in Europe has increased from 1.3 million people in the middle of the previous decade to more than 2.6 million today. The vegan trend appears to be strongest in Western European countries such as Germany and the UK. The desire to pursue what is perceived as a healthier diet remains an important factor behind the increased prevalence of plant-based diets, as well as other reasons such as animal welfare concerns and

environmental sustainability. As further evidence of the reduced reliance on meat as part of the diet, data from the same source suggests that the number of so-called flexitarians (i.e. people consuming meat less frequently) is also on the rise. This consumer group currently accounts for almost a quarter (23%) of the European population, with health often cited as a reason for the lower frequency with which meat is being eaten. Of Europe's flexitarians, 57% could envisage switching to a vegetarian diet at some point in the future, while 8% claimed to be considering becoming vegans. Plant-based foods can therefore be expected to further increase their share of diets at the expense of meat within the next few years. Furthermore, the IFIC study found that almost a third of US consumers are now obtaining more protein from plant rather than animal sources.

## VEGETABLES

Vegetables play an important role within the daily diet and are eaten on a range of occasions – examples include as an accompaniment in main meals, as well as within prepared foods such as ready meals and soups and, increasingly, as a snack. At almost 387 kg, per capita consumption of vegetables in 2019 was highest in China, ahead of Turkey (239 kg) and Belgium (almost 136 kg). Lower down the scale, per capita consumption decreases to under 80 kg in the UK and the Netherlands.

In recent months, availability of certain vegetables such as peppers and tomatoes has been impacted by cold weather conditions affecting crops in Spain and northern Africa. Furthermore, many UK and Dutch-based growers have reduced their output due to increased energy costs. This could potentially boost sales of frozen vegetables, the health appeal of which is now more widely recognised. As vegetables begin to age, vitamin and mineral depletion takes place, and freezing can delay this process. According to Future Market Insights (FMI), the global market for frozen vegetables is set to increase from over USD32bn in 2022 to almost USD56bn by 2032, with annual growth averaging almost 6%. The immediate prospects for the market are promising, with health concerns expected to represent one key growth driver. In a poll of 1,000 US shoppers carried out in 2022 by Advantage Solutions, 56% of respondents stated they expected to

purchase more frozen vegetables within the next 3-6 months, while 53% considered them at least as nutritious as fresh vegetables.

Much of the appeal of frozen vegetables lies in their high content of various vitamins, minerals, dietary fibre, antioxidants, etc., as well as being lower in calories. One of the more popular cooking methods for frozen vegetables is steaming, which can help to retain flavour and texture. This can also avoid depletion of key vitamins and other nutrients, as often happens when vegetables are boiled in water. Health concerns have also played a role in the growing popularity of air fryers, which are used to cook vegetables by spraying hot air around. This produces crunchy vegetables in a comparatively short time, while they require far less cooking oil than deep fat fryers.

## FRUIT

Fruit is recognised as another vital component of a healthy diet. Besides offering many essential vitamins, minerals and nutrients, some fruits enjoy so-called 'superfood' status, such as berries. Per capita consumption of fruit tends to be highest in Europe's more southerly regions, specifically countries such as Portugal, Turkey and Italy. At more than 100 kg, per capita consumption of fruit is also relatively high in countries such as the US and China.

Fruit has a wide range of applications. Not only is it frequently purchased by consumers to eat between meals as a snack, but there is also a sizeable



PER CAPITA CONSUMPTION OF VEGETABLES IN SELECTED COUNTRIES (KG), 2019

Country	kg
China	386.9
Turkey	239.0
Belgium	135.9
Portugal	132.4
Poland	124.2
Spain	119.2
US	107.5
Italy	99.6
France	96.3
India	89.2
Germany	88.5
Australia	85.7
Sweden	83.9
UK	79.3
Netherlands	71.1

Source: ourworldindata.org

# **40%**  
of US consumers regularly purchased food and beverages promoted as 'natural'.

# **35%**  
of the UK population  
buys frozen fruit.

industrial market for fruit, which is used in the manufacture of foodstuffs such as bakery goods (e.g. cakes and muffins), as well as dairy products (e.g. ice cream and yoghurt) and confectionery. Fruit is also used in the manufacture of beverages such as juice and smoothies, the latter of which have increasingly come to be seen as an easy and convenient way of reaching the '5 a day' target and now represent a popular breakfast option for consumers, either within the home or at one of the smoothie bars now present in parts of the world – in the UK, for example, there were over 130 smoothie bars as of early 2023, up by more than 2% from the previous year. In many instances, the presence of fruit within these products is used to advance various health claims, such as being rich in vitamin C.

Although fruit is produced in most of the world's regions, its availability can sometimes be adversely affected by environmental conditions such as weather, as well as various supply chain issues. Frozen fruit represents one potential solution to this situation, enabling consumers to buy products even when they are out of season. There are two main methods of

freezing fruit, namely the individual quick freezing (IQF) process and freeze drying. With the IQF process, fruit is sent through a cold blast which freezes the pieces individually, after which it is packaged. One of the main benefits of the IQF process is the fact that ice crystals do not have time to form, with the result that cells within the fruit remain undamaged.

According to data from Transparency Market Research, the global market for frozen fruit is poised to increase from around USD11bn in 2020 to USD21bn by the end of the present decade, with annual growth averaging nearly 6%. Some of the leading market sectors include tropical fruits (e.g. mangoes, pineapples, bananas and passion fruit) and berry fruits (e.g. raspberries, strawberries, blueberries and blackberries). The latter sector has been one of the better performers in recent years, with annual growth having averaged almost 8%. As is the case with vegetables, the essential nutrients within fruit are preserved during the freezing process, adding to their perception of healthiness.

Much of the anticipated growth in demand for frozen fruits is likely to come from the fact that they represent a convenient and affordable yet healthy option for consumers. Frozen fruit also has a long shelf-life, with the result that it is less prone to spoilage (and therefore creating unnecessary food waste) than its fresh equivalents. Most recent evidence suggests that the consumer base for frozen fruits has expanded for these reasons – in the UK, for example, data from Kantar indicates that almost 35% of the population now buys into the category, up from around 20% in 2017. Many of the country's leading supermarkets now stock an extensive range of frozen fruit and smoothie packages.

While many varieties of frozen fruit contain inherent health benefits, consumer interest in products offering additional nutritional qualities remains high. The organic sector has been one of the better performers in recent

years, driven by brands such as Duchy Organic and PACK'D. Not only do organic varieties satisfy the demand for clean-label products, but they are recognised as being more beneficial to the environment and possibly also higher in antioxidants.

## HERBS

Many of the most popular herbs used for cooking purposes appear in frozen format – examples include dill, oregano, tarragon, parsley, basil, chives, coriander, lemongrass, sage and thyme. These are typically frozen using the IQF process, which is done quickly after harvesting to ensure the nutrients are conserved. The IQF process ensures that no large ice crystals are created while freezing takes place, which could potentially damage the structure of the herbs.

Global demand for herbs remains buoyant, due to the ongoing expansion of the market for ethnic cuisines and dishes as consumer tastes become more sophisticated. The market is also benefiting from increased consumer awareness of the health and nutritional benefits offered by many herbs – for example, many are rich in antioxidants, while others have been linked with a lower risk of developing heart disease, cancer and diabetes. More specifically, garlic has been shown to assist in lowering blood pressure, while lemongrass has been linked with lower cholesterol levels.

As is the case with fruit and vegetables, many of the suppliers active within this category are keen to stress the inherent nutritional benefits of herbs, which are 'locked in' during the freezing process to preserve essential vitamins and nutrients. One of the leading suppliers to the European market is Nomad Foods, via brands such as Iglo and Findus. The Iglo range in countries such as Germany and Austria includes a wide variety of frozen herbs, encompassing both standard varieties and mixtures geared towards more specific dishes. Examples of the latter include herb mixtures for meat and fish-based dishes, as well as Garden Herbs and Italian Herbs. ■

**PER CAPITA CONSUMPTION OF FRUIT IN SELECTED COUNTRIES (KG), 2019**

Country	kg
Portugal	131.7
Turkey	128.2
Italy	123.0
US	106.7
China	102.4
Netherlands	101.6
Belgium	99.1
France	91.2
Spain	86.2
UK	78.8
Germany	75.5
Australia	65.1
India	63.6
Poland	61.8
Sweden	59.3

Source: ourworldindata.org

# La Pinsa

It's not a Pizza, it's a PINSA



The great Italian and international success of the Pinsa is to be found in the general health trend which tends to reward those products characterized by eating healthily and genuinely. The lightness of the Pinsa derives from a higher hydration of the dough unlike traditional pizzas, and therefore a better digestibility. Consequently, the type of water used to make a Pinsa is a fundamental element to obtain its taste. Even the ancient Romans, from whom the recipe comes, knew its lightness, so much so that they used the Pinsa in its original oval form, like an edible dish on which they spread the main dish, usually meat or fish. Svila, the company that has been producing exclusively bakery products, for over 45 years, masterfully approached the ancient Roman recipe of Pinsa, maintaining all the features connected with tradition. The company is nestled in the Sibillini mountains, where the air is always sparkling, and the pure water has always distinguished all its production, guaranteeing an index of lightness and purity among the highest in the category.

The lightness and tastiness of Svila Pinsa is also the result of the raw materials used: a mixture of wheat and cereal flours, carefully selected, which make the product crispy on the outside but extremely soft inside. The high digestibility of the Svila Pinsa is guaranteed by an exceptional water that perfectly hydrates the dough, by a very long leavening and above all from the "pinsatura" made by hand, without ever stressing the base. It is this slow movement that brings us back to the real name of Pinsa, which comes from the gesture of stretching, of enlarging, in fact the Latin word is "pinsere"! When you cut a Pinsa produced by Svila, you already recognize the quality by eye: the presence of its innumerable alveolus represent the essence of its lightness. The crunchiness of its crust preserves the secret of softness! Svila has been producing baked products every day for 45 years. Millions of hours of experience that pass through wise daily gestures. The choice of excellent raw materials, is combined with a constant care for product control. Because everything done in Svila, before others, is eaten by them and their children. This is their quality assurance!



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# AI & DIGITALIZATION ARE MERGING INCREASINGLY, EVEN IN THE OUT-OF-HOME MARKET

*In the 2000's, digitization was understood to mean converting analogue information of individual areas of the workflow into digital data. Since approximately ten years, the term digitization was expanded to digitalization. This much more complex term means the digital transformation of nearly all processes in industry, administration and in the private sphere and therefore in all areas of modern societies. Artificial intelligence and digitalization are merging increasingly as complex data volumes can be processed more efficiently. This development has long since even included the out-of-home market.*

**D**ear Readers, have you once entered the following question into your search machine: "What can't be digitized?" You were perhaps not really surprised that only a few areas were shown which cannot be digitized; at least not completely as, for instance, conveying recognition or appreciation, working creatively, exuding empathy or trust, answering moral and ethical questions or those that explore the depths of our human existence. It is good news for us as sentient and thinking beings that these areas exist. Thus, we are still challenged with our hearts and minds.

## DIGITALIZATION - A GROWING DYNAMIC

From this starting situation, let's turn to the growing dynamic of the digitalization of our sector. This transformation embraces not only more and more traditional working areas, but is also opening ever new applications as a short review shows: shortly before the turn of the millennium, the first nerds developed merchandise management systems (MMS). The people responsible were able to purchase and calculate computer-aided food, create meal plans, and calculate nutritional values with them. A few years later, the first apps followed

whose data would soon be stored in clouds. This made it possible for kitchen professionals to read out the consumption data of their network cross-site at any location in the world and if necessary to access them in a controlling manner. Initially, these applications were strictly manufacture-related. Developers of load managements systems pulled out their hair because they couldn't simply bring together the different standards for hot air steamers, dishwashing systems, cold storage cells, etc. into one network. But in the meantime, more and more manufacturers are willing to post them on service platforms. An essential

prerequisite for this was that their operators guarantee the protection of their data. By now, thanks to this transformation, one doesn't only operate his equipment anymore but observes entirely other processes such as complex supply chains too.

## DIGITAL INNOVATORS

One can observe at the large European trade fairs for the out-of-home market where the market is going, so too in Hamburg at the Intermorga in the middle of last March. For starters, the exhibition management has set up a forum for artificial intelligence (AI) based innovations with the AI Center, at which AI and digital innovators can present themselves to the trade fair public.

## SALES FORECASTS FOR FRESH BAKED GOODS & SNACKS

One of the companies deals with sales forecasts for fresh baked goods. Those responsible for hypermarkets know the problem from the operators of their bakery stores or snack counters. On the one hand, customers should receive an attractive offer until closing time, on the other hand operators like to avoid food waste due to ecological and economic reasons. The AI-controlled, cloud-based software of two exhibitors record the sales of the deposited commodity groups in the chain stores continuously during the entire opening hours and forecast the further sales on an ongoing basis until closing time and for the following days. Users of the systems speak of considerable savings and noticeably increased efficiency.

## LOCATION INTELLIGENCE

Another exhibitor in the AI center of the fair connects location data (so-called geographical data) on his platform with information about the local competitive situation, demography, purchasing power, or foot traffic. They are combined with other data which provide information about the visitor magnets of an area. So, the expansion managers from gastronomy, retailing, and other sectors are getting ideas about the pedestrian frequency of potential locations.

A company of the foodservice industry that manages different restaurant brands has been testing locations for their suitability for different brands of their

portfolio for some time with the help of this platform. The impact: The uncertainty with location decisions could be reduced noticeably according to the testimonies of the senior finance manager. One of the international reference customers is McDonald's. The history of this company is also interesting. In 2013, it was outsourced from a privately financed institute of a university, whose investors is one of the founders of the software company SAP. Now, ten years later, the concept was presented at a foodservice trade show.

## MORE SECURITY WITH RECRUITING AND ONBOARDING

A spin-off of another university put a platform on the market on which AI-based human behavior can be analyzed. The goal is to support the company with their recruitment and especially to find suitable team players. In a second application, a successful behavior is supposed to be strengthened in sales and ser-vice. Both are based on interactive video simulations that provide valid assessments of how well the ap-applicants fit to the requirements of a job and the desired corporate culture based on their observable behavior. The system can be used to accompany employees in their daily work after their onboarding. Then the AI, for example, can give back concrete feedback on their behavior in conversations and make suggestions on how it can be improved.

## SENSOR-BASED TEMPERATURE MEASUREMENT FOR FOOD

Sensors gradually replace the temperature control of cold stores or refrigerators as well as the core temperature measurement of cooled and deep-frozen food. The AI-based sensor technology of an exhibitor monitors the core temperature of cooled and regenerated food in the retail industry, commercial kitchens and in gastronomy without having to touch or prick the products. The basis is the temperature of the air in cooling chambers and refrigerators, insulating boxes, etc., which is measured by contactless sensors and processed by AI-supported algorithms. According to company information, 5% of the energy

costs can be saved with this system, food waste reduced, and quality controls are digitized.

## THE CENTER OF DIGITAL EXCELLENCE

Finally, without reference to the fair, another interesting example of a company that markets many-faceted services in the areas of cleaning, catering, security, personal service, airport service, and integrated services. Their people responsible founded a Center of Digital Excellence (CoDE) some time ago. The company's employees take care of the use of digital innovations and digital transformation in the company across all disciplines. The CoDE team analyzes digital innovations and forward-looking digital technologies like the Internet of things, artificial intelligence, digital twins, virtual reality, robotics, and assistance systems. If it identifies relevance, then it organizes and accompanies pilot projects and if they are successful put it into praxis. The area of recruiting is also a part of innovative digitalization. An online application platform offers an intuitive candidate journey that supplements the established desktop quick application procedure. The key menu items are to find jobs, the company as employer, benefits, working environments, tips for applications, and the process of applying. In 2022, the company presented its WhatsApp as the new application channel.

## A LOOK INTO THE FUTURE

Where is the development going? Until recently, digitalization has meant that all information and data are shown by two different digits, for instance, 0 and 1 (the binary system). Quantum computers overcome these limitations. The experts can show all statuses between 0 and 1, thus infinitely many because there are no limits of numbers behind the comma. This enables entirely new dimensions including complex machine learning with the help of artificial intelligence. These systems still only run in experimental environments, therefore in laboratories. The roll-out will come but it is currently still difficult to estimate when. It will still take some time before this technology is also relevant for kitchen appliances and kitchen systems – but the clock is ticking. ■



# PRESERVING THE FLAVOR AND QUALITY: THE IMPORTANCE OF FOOD PACKAGING IN ENSURING SAFE DELIVERY TO CONSUMERS

*The packaging industry plays a crucial role in ensuring that products are protected, preserved, and delivered safely to consumers. In particular, the food packaging industry is critical as it is responsible for ensuring the safe and hygienic delivery of food products to millions of consumers around the world.*

Apart from its protective function, packaging also plays a significant role in marketing, branding, and consumer communication. One of the significant challenges that the packaging industry faces is the increasing demand for sustainable and eco-friendly packaging solutions. Consumers are increasingly concerned about the impact of packaging waste on the environment and are actively seeking products that are packaged in environmentally friendly materials. Therefore, the industry is continuously exploring new and innovative ways of designing packaging that is not only effective in preserving the product but also sustainable. One of the trends in sustainable packaging is the use of recyclable and biodegradable materials. Packaging made from materials such as paper, cardboard, and other plant-based materials are gaining popularity because they can be easily recycled, and their production has a lower carbon footprint. Additionally, biodegradable materials such as corn starch, bamboo, and mushroom-based materials are being used to create packaging that can easily decompose,

reducing the amount of waste that ends up in landfills. Another sustainable trend is the use of reusable packaging, which not only reduces waste but also saves on production costs in the long run. For instance, many food outlets are now encouraging consumers to bring their reusable containers, cups, and bags, which they can fill with their preferred food items. This practice not only reduces waste but also encourages responsible consumer behavior. In addition to sustainable packaging, the industry is also exploring ways to reduce food waste through packaging. Food waste is a significant global challenge, with approximately one-third of all food produced globally going to waste. This waste occurs at every stage of the supply chain, from production to consumption. Packaging plays a crucial role here by preserving food products, extending their shelf life, and protecting them from spoilage and contamination. For instance, vacuum-sealed packaging, modified atmosphere packaging, and aseptic packaging are just a few examples of packaging solutions that help to extend the shelf life of food products.

## SYNTEGON UNVEILS INNOVATIVE PACKAGING SOLUTIONS

At interpack, **Syntegon** is presenting a flexible line concept for packaging sensitive baked goods – from product distribution to case packaging. The seamlessly integrated packaging system is equipped with numerous technological innovations: “Manufacturers looking for an efficient solution in the medium output segment will find from Syntegon fully automated lines from a single source – including gentle handling, sustainable primary packaging and high format flexibility for different products”, says Stefan Schulze, product manager at Syntegon. The Syntegon DCG (Distribution Continous Gentle) distribution station is making its debut at interpack. The new station continuously discharges 400 sliced cakes onto the downstream packaging leg at 18 cycles per minute. Using the pullnose method, the DCG discharge belt lowers and deposits the cakes gently and in a controlled manner onto the downstream cross belt. Thanks to its gentle handling, the distribution station is ideally suited for delicate baked goods or sticky bar



Photo: Syntegon

products. "When we were developing the Syntegon DCG, we placed particular emphasis on flexibility and hygiene. Depending on production requirements and layout options, different modules can be easily combined with each other. In addition, the distribution station's open design makes it easily accessible. Sloped surfaces help catch product residue and keep the production environment clean," explains Stefan Schulze. Once the sliced cakes have been discharged onto the packaging leg, the FIT inline module continuously feeds them to the flow wrapping machine while preventing products from accumulating along the way. Linear motors ensure gentle handling of sensitive products. Each mover can be controlled and only accelerates when the product has been safely captured. This means that the individual sliced cakes do not come into contact with each other, which in turn reduces mechanical stress. In addition to gentle handling, the FIT impresses with its high flexibility: Operators can switch between different formats at the push of a button via the HMI. The sliced cakes are then packed by the robust and reliable Pack 403 flow wrapping machine. Thanks to fast and tool-free format changes, it is suitable for a wide range of products. At interpack, the Pack 403 will pack up to 400 cakes per minute in gusseted flow wraps. The recyclable mono material film will be heat-sealed. The subsequent robotic pick-and-place platform RPP ensures a high degree of flexibility. The modular platform has been tried-and-tested in different systems since 2022 and will now be shown as part of the exhibited line with a new grouping and loading function. The primary packaged cakes are inspected and then continuously placed into the robot's collation chain. Defective packs are discharged instantly. A robot arm picks the individually packaged sliced cakes at 50 cycles per minute. The products are separated at the gripper into groups of two by four. The robot deposits the grouped products in the integrated bucket chain of the endload cartoner. The speed of the robot and

*Manufacturers looking for an efficient solution in the medium output segment will find from Syntegon fully automated lines from a single source – including gentle handling, sustainable primary packaging and high format flexibility for different products.*  
**Stefan Schulze, product manager at Syntegon**

the cartoner's infeed chain are fully synchronized. With the showcased application, manufacturers benefit from the flexibility and scalability of Syntegon's robotics platform. In addition to fast and seamless system integration, all RPP versions also meet IP65 protection class and high hygiene standards. This means that it can even cater to applications with demanding cleaning requirements. As part of the line, Syntegon will also present the latest version of the compact Kliklok BEC endload cartoner. At interpack, the RPP and BEC are integrated into one unit with the machines connected via Ethernet for easy operation. The endload cartoner packs the pre-grouped sliced cakes and sideloads them at a speed of 100 cartons per minute. Show visitors can experience the machine's new technical features: In addition to a new Human Machine Interface (HMI) 4.0 for connection to the digital service portfolio, it also features improved controls. Control technology from Beckhoff in discreet CPU boxes enables cabling without control cabinets – resulting in a compact layout as well as easy system integration. Moreover, Syntegon will showcase the BEC with an optimized drive system: With the switch to servo technology, various drive components can be optimally synchronized so that the processes during loading are completely reproducible. In addition, the BEC uses the proven rotary carton infeed system. More precisely when the cartons are drawn up and the products are placed inside, there is less waste and downtime. Then, the new Elematic 1001 TL Topload case packer loads the packed

products into RSC cases – two rows, three cartons each in six layers. The compact case packer is specially designed for ergonomic operation and can be easily integrated into any packaging line. Its wide format range of up to 600 mm in length, 400 mm in width and 350 mm in height allows it to be used for a variety of products. In addition, the Elematic 1001 TL processes pre-glued RSC and HSC blanks of different corrugated board thicknesses. The dotted application of hot-melt glue used to seal the cartons saves around 10 percent of energy and up to 40 percent of glue without sacrificing stability. Synexio also contributes to the optimal monitoring of the equipment: The new cloud-based software solution collects, evaluates and visualizes machine and production data. Syntegon will offer Synexio in three consecutive packages. The basic package "Monitor" visualizes various KPIs and thereby improves production transparency. "Now that our customers are successfully implementing the basic package, we are ready to upgrade to the next level," says Elisa Hein, product manager expert services at Syntegon. At interpack, Syntegon will present the second Synexio package "Uptime". "With this, we are delving deeper into the details: Besides machine availability, we can now also identify specific potential for improvement, for example by visualizing the most frequent reasons for stops," explains Hein. Synexio is also part of the Service Agreements that Syntegon offers for the machines of the bakery packaging lines. They provide the foundation for effective equipment and maintenance management at fixed prices. Seven dedicated levels help customers from the pharmaceutical and food industries to reduce production risks, gain predictability on service costs and simplify complex processes – enabling them to focus on their core business. With each level, the scope of services covered increases – from basic service, including inspection and remote service, to guaranteed production performance of the machines. From Level 4, customers can enjoy peace of mind about the total cost of



Photo: MULTIVAC

ownership for the lifetime of their equipment. Besides preventive maintenance and operator training, services at this level include all spare parts at a fixed cost.

### MULTIVAC TO SHOWCASE SMALL-BATCH PACKAGING SOLUTIONS

Also, at interpack 2023 **MULTIVAC** will be showing practical and needs-based solutions for packing small and medium-sized batches, as well as complete processing and packaging lines for the food industry. These small-batch solutions enable hand-craft businesses and smaller processors to make entry into automatic packaging – with the aim of achieving maximum flexibility and cost-effectiveness. In addition to chamber machines of different sizes, the exhibits will also include compact thermoforming packaging machines and tray sealers. “This year we are very consciously putting our smaller and more compact models center stage as well. They are very versatile in their use, as well as being cost-effective, efficient, very sustainable, and a resilient link in virtually every production process,” emphasizes Dr Tobias Richter, director and CSO of the MULTIVAC Group. The heart of the line for applications in the Food service sector is the R 085 e-concept thermoforming packaging machine, which is designed for packing small batches very efficiently. This proven entry-level model can run sustainable materials as well as conventional flexible and rigid films. Another benefit: This compact allrounder requires only a small footprint, it operates with electricity only, and does not need compressed air or cooling water. This means that it can be used very flexibly within the production area. In Düsseldorf the R 085 e-concept will be shown in conjunction with a Handtmann dosing system, which is used to dose food directly into the thermoformed packs. A stand-alone machine for thermoforming

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*Dr. Tobias Richter, director and CSO of the MULTIVAC Group*

packaging, the R 105 MF thermoforming packaging machine is an entry-level model for packing a wide range of food products, such as for example steaks or salmon cuts, in attractive MultiFresh vacuum skin packs. This enables maximum shelf life and perfect product presentation to be achieved even in small batches. The quality, freshness, color, and texture of the product are presented in a natural way, and the content is held without any tension within the pack. The special packaging materials, which are optimized for the MultiFresh process, are also available from MULTIVAC.

### SEMI-AUTOMATIC AND FULLY AUTOMATIC TRAY PACKING IN THE SMALLEST SPACE

The T 255 traysealer is a space-saving, free-standing unit, which enables many different types of tray packing to be produced on one machine in small and medium-sized batches. The visitors to the MULTIVAC stand will be able to convince themselves during regular demonstrations of the die change how highly flexible this efficient traysealer is, and how it offers maximum machine availability. The machine can be converted in a very short period and with just a few hand movements from producing MultiFresh packs to MAP packs. The T 305 is the smallest fully automatic traysealer from MULTIVAC, which can be fully integrated into lines. It is way ahead in its class as regards output performance, and it can accommodate formats from one to four tracks. Thanks to its range of available loading areas, this

allrounder can be perfectly matched to the individual production environment, and it can run trays up to a depth of 110 mm. Recently it has also become possible to have PaperBoard applications and MultiFresh trays with 50 mm product protrusion. An optional DP 115 direct web printer from MULTIVAC Marking & Inspection is available for marking the packs. The film is printed by means of the thermal transfer process, and the printer is situated at the film in-feed on the packaging machine. With its B 425 compact chamber belt machine, MULTIVAC is showing a model which offers a very high output, particularly when packing smaller products such as ham, cheese, poultry and fish. The main features of the machine are its durability, very easy operation, and the highest level of hygiene. The new B 425 will also be appreciated by cost-conscious companies, who are looking for a higher product throughput when packing small products, since the 1,300 mm long sealing bar makes it possible to load many products. Another benefit of its compact design is the small space requirement of the machine, and this means that it can even be used in small production environments. When packing products on chamber belt machines, the filling of the film pouches and the loading of the machine are often a bottleneck in the process. By using the new MULTIVAC Pouch Loader (MPL) and MULTIVAC Pouch Rack (MPR), the loading of the chamber belt machine is performed semi-automatically, enabling significant efficiency to increase and cost reduction to be achieved. In Düsseldorf the chamber belt machine will be combined with a SE 320 shrink unit, which thanks to precisely controlled heat exposure produces shrink packs in a way that is particularly reliable and gentle on the product. MULTIVAC tabletop machines are an ideal solution for the quick and easy packaging of smaller products. They can be used very flexibly due to their compact dimensions. They provide the highest output and offer outstanding pack quality, even when operated in commercial non-stop mode. With its C 200 tabletop chamber machine, MULTIVAC is showing at interpack a proven model, which is also suitable for larger products, such as for example cheese portions, ham, or fresh meat, thanks to its chamber size of 465 x 355 x 150/220 mm. ■

# FROZEN FOOD EUROPE



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# WE'RE JUST STARTING TO SEE IT ALL PICKING UP AGAIN

*The United Kingdom is certainly one of the most important European markets for frozen food, but recent years have brought several changes and challenges, such as Brexit. So, what are the prospects going forward? I sat down with **Rupert Ashby, the CEO of the British Frozen Food Federation (BFFF)** to learn more on the state of the industry in the UK.*



## **First, how have frozen food sales evolved in the UK in 2022?**

The most recent figures show that the takings from frozen have increased. I think you've got to be careful with that, though, because the tonnage hasn't increased by as much. So that suggests that a lot of the increased spending on frozen will be food inflation. The cost of living, the cost of energy, the cost of raw materials, etc., etc. And so obviously food has gone up in price. And so that's now quite a bit of a reason. But there are signs that certain areas of frozen food are growing. The plant-based side is growing quite a lot. And quite a lot of these sorts of takeaway style meals are being referred to as fakeaways, but where you can get restaurant-grade food, take it home and cook it at home rather than necessarily going out. There's a sort of increase in those sorts of areas. In terms of food, since the pandemic, frozen food had a boom, obviously during the Covid pandemic, as I'm sure it did all over Europe. We've

seen that demand go back to pre-pandemic levels. But again, we're just starting to see it all picking up again because with the cost of living and the fact that people are wanting to be more careful about how they spend their money, frozen food is increasing there because certainly in this country, you can save quite a bit by buying frozen food. I mean, if you take the top 10 retail items that an average family of four buys, if you buy frozen, you can make up to a 30% saving on your shopping bill. Obviously, everyone will mix and match that. Recently, several of our retailers have been reporting increased footfall in the frozen aisle. So, there's quite a lot of movement on that.

## **What is the status of foodservice and QSR now in the UK?**

Foodservice suffered terribly during lockdown. We are now back to everyone being able to eat out. I think one of the challenges for our foodservice, particularly in the big

cities, is the new ways of working. Companies tend to be much more flexible now with their working patterns than they were pre-lockdown. And so, there are quite a few companies that are finding in a big city that from Tuesday to Thursday, they're very busy and full of people. But on Monday and Friday, there's a lot less people around to buy the food. And I think that that is really hitting the foodservice. And some are reacting in different ways. Some have moved to looking to have more of their product on a retail basis. So, they've almost flipped to more retail and less foodservice. Others are just simplifying what's on offer, going for the sort of staples they know people will buy regardless. So almost they're going for a sort of a slightly more restricted menu of the staples that they know that people will buy. So, they don't get into trouble with spending a lot of time and effort on products that people don't buy, because there's not so many people around. I was in a

restaurant just this week in London and it's taken weeks to get a booking there. The sad thing for restaurants is if your footfall is down and your electricity has gone up and the food you're buying has gone up, it's sort of almost a perfect storm that's not helping them. There are some that are still struggling. But hopefully, I think once we get through this year, everything will start changing. There are signs that some firms are going back to work. But there are others who are saying, right, no, we are going to close the office on Monday and Friday. And of course, that will have a very long-term effect.

### **Which frozen food categories performed best last year?**

Certainly, the plant based is growing. It's a small base, but it is growing. It is growing quite well and ready meals are doing quite well. And the likes of pizzas and pies. Vegetables were slightly down, but that's also not helped by the fact that last year the harvest here was very difficult. We had extreme heat, not enough rain. And so, yields and production were down and you get issues. For instance, one member of ours who usually makes a lot of sliced beans for the industry said this year, the beans are too small to slice properly. So, this year you're getting beans, not sliced beans. Because harvest was down, the crop was much smaller. I know some of our members have land all over Europe as well as here and supplies all over Europe to mitigate against something like that. We've got enough vegetables, but there won't be promotions and things like that because they need to manage the stock.

### **In terms of logistics and the supply chain, have there been a lot of moves, any certain directions where companies invested more in 2022?**

Our members that are in the logistics side, in general, they are investing, they're expanding. I have a lot of people who are saying we need more frozen storage. And so, I think it's an area that's in demand and will continue to be so. That's good for the frozen industry. On the other hand, so many other products are

frozen that aren't viewed as frozen. So, Christmas, when you're eating your biscuit selection pack or your pork pie or things that you're buying fresh, they were made months ago and frozen and then tempered up for Christmas. And a lot of people don't really realize that. And so, I think that also is a case that so much that you buy now has been frozen, even if it's been frozen sort of minus eight or minus nine rather than your standard minus 18 degrees centigrade. That is how the food industry maintains its supply and keeps you going. I think I sort of changed direction a bit, but I think one area that frozen really has an opportunity in is here. And this will help both people at home who don't like preparing certain types of things or particularly help with the foodservice industry where they need to manage their costs.

### **Could we get your take on the signing of the Northern Ireland Protocol?**

I think the main thing is that since Brexit, a lot of our businesses have struggled in terms of trade. And that can be for all sorts of reasons. If they are exported, there's obviously additional tariffs and things which they didn't have to deal with before. I was with a member yesterday, their company has a packaging plant in Germany, so, they've always done all their packaging. Now, if they use that packaging plant, they must pay a tariff on that packaging as well as the product coming into the UK. So, they're now having to subcontract packaging also in the UK as well as in Germany. So, there's lots of little hidden things that just make life difficult that weren't there before. I think the reality is that we welcome the



*I think the main thing is that since Brexit, a lot of our businesses have struggled in terms of trade. And that can be for all sorts of reasons. If they are exported, there's obviously additional tariffs and things which they didn't have to deal with before.*

conclusion of the negotiations. We're pleased that it's moving along. But with all these things, until we see exactly what's going to happen, we don't know the details yet. So, from our point of view, from our members' point of view, particularly those that have faced difficulties since Brexit, hopefully this is the beginning of a new and exciting chapter. And as frozen food now is becoming more popular and the innovation and new product development is really taking off at the moment, we hope that that gives us an opportunity to trade through Europe as a result of it and obviously solve the Northern Ireland border issue.

### **Can you share a few thoughts regarding 2023?**

In the UK, we throw away an unbelievable 9.5 million tons of food waste every year. And 70% of that is from households rather than the industry itself. That is something that we need to look at, because it results in about 10% of our carbon emissions. And so, if we could reduce food waste, it would make such a difference to our carbon output. Of course, frozen food helps with that because it doesn't get thrown away. You take out what you need, you cook it. You very rarely throw frozen food away because it sits there in the freezer. If you forget about it, it doesn't matter because it's not going off. I think frozen has a very important part to play in sustainable food future in the years to come. So, I think that's another thing through 2023 and beyond is that the frozen industry can really help the UK move to a sort of a more sustainable approach and reduce its carbon. Every September we will run frozen food week. Last year was the first one we did, and the idea about it was twofold, really. It was to promote frozen food and show how nutritious and good it was and what all the options were. It also highlighted the fact that we all need to reduce our food waste and we can really help the planet by doing that. And this is the role that frozen plays. It's our role all year round, but in terms of a sort of big promotion piece in September this coming year, we'll be doing a frozen food week again and pushing all those points yet again. ■



# SUSTAINABILITY IN FOCUS AT INTERPACK

*Even though there is hardly another industry that is as diverse as the packaging industry, there are persistent problems that equally affect the most diverse sections. At interpack 2023, which will be held from May 4-10 at Dusseldorf, several of these hot topics will be addressed. Such issues include the circular economy, resource conservation, digital technology, and product safety; interpack is the trade show where you can discover all about pertinent solutions and cutting-edge technologies.*

From packaging world stars and newcomers to roving reporters, food rescuers and the co-packer scene, to unique women and the movers and shakers of today and tomorrow, visitors can look forward to many exciting specials at interpack. Whether it's Deep Dive in the in-house TV studio, the renowned awards ceremony, or the focus on moving topics of the future in the lecture forum – at interpack from May 4 to 10, there will be numerous new special areas and promotions to complement the offerings of the approximately 2,700 exhibitors. As such, this trade fair offers a broad spectrum on the critical issues facing the industry for 2023 and beyond. “We’re diving deep into the most important topics in the processing and packaging industry”, said Thomas Dohse, director of interpack. “We are about putting tomorrow’s opportunities and challenges on the agenda. That is why we have redesigned our supporting programme. We look forward to numerous voices from experts as well as ground-breaking innovations and projects”.

## SPOTLIGHT ON THE DEFINING INDUSTRY ISSUES

“Spotlight talks & trends” at interpack means seven days of input around the most important topics and trends in the industry, best practices, exciting



Photo: Messe Düsseldorf/Cillmann

applications and their drivers for innovation and growth. Deutscher Fachverlag is the partner of the lecture forum. Each day of the trade fair will have a different focus topic and will feature presentations, case studies and interactive sessions with top industry experts. The focus will be on topics related to logistics, circular economy, sustainability, digital technologies, product safety and e-commerce. Companies such as Siemens, Schütz and Markem-Imaje have already announced their attendance at presentations. Like no other trade fair, interpack stands for major product launches, technological news and packaging innovations. These will be highlighted again this year through award ceremonies. The “WorldStar Packaging Awards” 2023, which will be presented by the World Packaging Organisation, WPO, at interpack, will be of appeal. The award is considered the most prestigious

packaging award in the world. A total of 228 award winners demonstrates the innovative strength of the industry. This year’s edition also features new and exciting categories: Gift Packaging, Digital Packaging and the special category Accessible Packaging. Around 400 participants are expected to attend the award ceremony on May 6. The “PackTheFuture Award” of the German IK Industrievereinigung Kunststoffverpackungen and its French partner ELIPSO will also be handed out during interpack. The award honours innovative and sustainable packaging solutions made of plastic. The aim is to promote and publicise the contribution of plastic packaging to climate protection, the circular economy and responsible consumption. Awards are given for the best designs for recycling, sustainable material sourcing or consumer benefits, among others. ■



# PLMA BRINGS THE INDUSTRY TOGETHER AT ITS “WORLD OF PRIVATE LABEL”

*The largest private label exhibition in the world, "World of Private Label" by PLMA in 2023, will include more than 2,500 exhibitors from 70 countries, including 1,000+ sustainable product exhibitors and 60 national and regional pavilions. The RAI Amsterdam Exhibition Center will host this international gathering from May 23 to 24.*

**T**ogether with more than 60 private label ranges from retailers all around the world in the PLMA Idea Supermarket, more than 500 products will be on exhibit in the New Product Fair. The PLMA's International Tribute to Excellence Awards, which recognize merchants for excellence in private label food, non-food, and packaging items, are another highlight. At the show, more than 100 winners will be declared.

Fresh, frozen, and chilled foods, dry groceries, beverages, as well as non-food items from the cosmetics, health and beauty, home and kitchen, auto aftercare, garden, housewares, and DIY categories will all be on show. To make the most of visitors' time, the show floor is divided into separate food and non-food halls.

"World of Private Label" raises significant interest as, according to a report by the PLMA International Council, the

pandemic caused major changes in how consumers think about and buy food and non-food products for their households, and many of the most significant changes are still in effect. One of its main conclusions is that private label items are more well-liked than ever, as seen by consumers' present and future product purchases as well as their favorable comparisons to manufacturers' brands. About three out of ten respondents claimed they are now purchasing more private label products than they were prior to the outbreak. Notably, the survey's youngest respondents, Gen Z and Millennials, increased their own-label purchasing the most among all age groups. Growth opportunities also appear promising. Four out of ten consumers overall stated that they anticipate increasing their own label purchases during the next two years. With more than 15,000 attendees from more than 120 nations, the show truly is a global event. A NielsenIQ presentation on the most recent private label sales data and trends will be among the free educational courses offered at the event. Retailers and manufacturers have been able to connect at the PLMA's annual "World of Private Label" International Trade Fair for more than 35 years. This has allowed them to find new products, contacts, and ideas that will help their private label programs flourish and expand. The show this year takes place at a time when products sold under private label account for more than 40% of all sales in seven European nations and more than 30% in another nine nations in Europe. ■





# TUTTOFOOD RETURNS UNDER THE BANNER OF SUSTAINABILITY

*TUTTOFOOD 2023 restarts at fieramilano from May 8 to 11, 2023 with an aim on sustainability. This is the first edition in pre-pandemic conditions that already hints at numbers of great relevance, such as the more than 1,000 brands present to date, representing at least 35 countries: not only an international platform for meeting supply and demand, but also a moment of training, sharing and reflection thanks to quality content, expressed in a rich schedule of events and authoritative partnerships.*



A particularly high number of representatives from Spain, the Netherlands, Belgium, Germany, Greece, Ireland, Denmark, Turkey, and the US are expected. New entries include Ecuador, Faroe Islands, New Zealand, Romania, Sri Lanka, Sweden, Switzerland, Taiwan, and Hungary. Top names will showcase their offer together with a significant number of DOP (PDO) and IGP (PGI) Italian consortia and foreign collectives. Italian consortia include, among others: Aceto Balsamico di Modena, Agnello di Sardegna, Finocchiona, Formaggio Gorgonzola, Formaggio Montasio, Mozzarella di Bufala Campana, Parmigiano Reggiano,

Pecorino Romano, Pasta di Gragnano, Pecorino Toscano, Prosciutto di Modena, Prosciutto Toscano. TUTTOFOOD 2023 will be attended by hosted buyers from all over the world, with a special focus on North America, Gulf Countries, Europe, and Asia. Key target areas include large/medium scale distribution and retail; restaurant, food service and out-of-home services; hospitality; catering; import-export companies. Retail Plaza by TUTTOFOOD is a unique format established in conjunction with Business International, Fiera Milano's content company, in which the leading Italian and global retail brands interact with companies and other

stakeholders in a close interaction that is difficult to achieve in other settings. The partnership with the Retail Institute, which has assisted in identifying the hot-button issues that will also be addressed from a sustainability point of view, has also been confirmed for TUTTOFOOD 2023, which will take place at Fiera Milano from May 8 to 11. These topics include supply chain innovation, the opportunities offered by digital transformation - such as the metaverse - or the Green Retail approach.

Also in the exhibition layout, new this year will be the GreenTrail: a transversal pathway identified by a specific visual identity and dedicated signage, which will help people discover green, plant-based, km zero, as well as healthy, rich in and free-from products through all areas of the event and at the stands of all exhibitors. In the edition-scheduled to be held at fieramilano from May 8 to 11, 2023, TUTTOFOOD will reintroduce the TUTTOGOOD initiative in collaboration with Banco Alimentare and other Third Sector entities, including Pane Quotidiano, which over the years has made it possible to recover tons of usable food at the end of the event days. ■

# [frozen dossier food]

*Click it or flip it: read, discover and lead!*



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PRINT

hardcopies available complimentary to **Frozen Food Europe** magazine

## 2 times a year STATE OF THE FROZEN FOOD INDUSTRY

is a project which contains reports on the most important frozen food categories, as well as technical equipment innovation related to product manufacturing, published both in print and on-line.



## TYSON BRAND INTRODUCES CHICKEN SANDWICHES AND SLIDERS



The new Tyson Chicken Breast Sandwiches and Sliders by Tyson Brand are available in Original and Spicy. The restaurant-quality sandwich is ready in minutes, made with breaded, all-natural white meat chicken and an artisan bun. The new product is available in the frozen snacks section at retailers. Tyson Chicken Breast Sandwiches are available in 24-ounce packages, providing four sandwiches per carton and 23 grams of protein per serving. Tyson Chicken Breast Sliders are available in 21-ounce packages, providing eight sliders per carton and 19 grams of protein per serving.

[www.tyson.com](http://www.tyson.com)

## PREMIER NUTRITION, DE WAFELBAKKERS PARTNER TO DEBUT FROZEN PANCAKE LINE

Premier Nutrition and De Wafelbakkers, leader of the frozen pancake category, announced the launch of Premier Protein Frozen Pancakes. With 15 grams of protein per serving and about 60-seconds in the microwave, these pancakes will keep you full and focused without the mess and cleanup in the morning. Premier Protein Frozen Pancakes are available now at grocery stores nationwide in the US. Premier Protein Frozen Pancakes are available in packs of 12 and 24. Premier Protein Frozen Pancakes can be enjoyed as part of a delicious and nutritious breakfast when you're in a hurry, an afternoon snack, or as a post workout boost.

[www.premierprotein.com](http://www.premierprotein.com)



## VALSOIA LAUNCHES NEW LINE OF PLANT-BASED GELATO FLAVORS



Valsoia, Italy's leading producer of plant-based products, presented a new line of authentic Italian Plant-based Gelato. Valsoia Gelato offers consumers across Europe the chance to try a host of new flavours with this unique Italian treat. Valsoia's factory is 100 % dairy-free, so there is no risk of cross-contamination with dairy products. Valsoia has enriched its Plant-based Gelato range with new flavours, such as The Espresso cones with chocolate chips, and the indulgent Triple Pistachio Mini Sticks.

[www.valsoia.com](http://www.valsoia.com)

## V SUPREMO FOODS LAUNCHES NEW PRE-COOKED FROZEN CHORIZO LINE

V&V Supremo Foods introduces its latest product for the foodservice industry: pre-cooked frozen chorizo. The new V&V Supremo Mexican-Style Pre-cooked Frozen Chorizo is crafted from lean, fresh pork and high-quality spices with no nitrites, fillers, or MSG. This new chorizo line features the product in two formats for a wide range of applications: frozen pre-cooked chorizo crumbles and distinctive nuggets. The new V&V Supremo Mexican-Style Pre-cooked Frozen Chorizo is bright and robust in both appearance and flavor, displaying an optimal balance of heat and complex spices to create the perfect "pop" on the palates and plates of consumers.

[www.wsupremo.com](http://www.wsupremo.com)



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## JANUARY/FEBRUARY

Ad closing 03.02  
Publishing 14.02

### Frozen Pasta for Catering and Foodservice

product innovation, manufacturers, suppliers

### Bakery and Pastry

key market players, producers, suppliers

### Bio and Organic Products for the Food Industry

trends and innovations

### Frozen Potato Market

innovative products and European overview

### Frozen Potato Technology

sorting, peeling, cutting, slicing, dicing

### Freezing Technology

conveyor belts, freezers and chillers, tunnel & spiral freezing systems

### Transport & Logistics

developments, distribution, and cold storage

### Artificial Intelligence

update on applications for automation & robotics

### Frozen Desserts & Ice Cream Market in Europe

market dynamics, new product development

### Nutrition & Ingredients

for frozen bakery and potato products

### Frozen Food in Germany

recent developments, review, estimates

**Trade fairs:** BIOFACH Nürnberg, GULFOOD Dubai, FOODEX JAPAN, INTERNORGA Hamburg, CFIA Rennes, FOODEXPO Greece, M.A.D.E. Paris, IFE London, CIBUS CONNECTING

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## MARCH/APRIL

Ad closing 24.03  
Publishing 07.04

### PLMA, TUTTOFOOD & INTERPACK SPECIAL EDITION

### Appetizers, Snacks and Pies

high convenience, filo pastry & pies, pizza & ready meals

### Frozen Vegetables, Fruit, Mushrooms, Green Herbs

trends and market overview

### Technology Innovation for Frozen Vegetables & Fruit

sorting, peeling, cutting, slicing, dicing

### Packaging Technology

state-of-the-art equipment and solutions

### BeNeLux Market Review

major players and new products

### Cooked & Pre-Cooked IQF products for the Food Industry

rice, pasta, sauces, cereals, noodles, vegetables

### Technology and Equipment

industrial freezing, freezers, coolers, proofers, ovens

### Plant-based & Vegetarian Products

meat-free and protein substitutes

### Digitalization & Networking

smart solutions for the food industry

### Frozen Fish & Seafood

sustainable practices, market overview, major processors

### Nutrition & Ingredients

vegetables, fruit and herbs

### Frozen Food in the UK

market overview

**Trade fairs:** PLMA Amsterdam, TUTTOFOOD Milano, INTERPACK Düsseldorf, SEAFOOD EXPO GLOBAL Barcelona, FOODEX Birmingham



TUTTOFOOD  
MILANO

interpack

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## MAY/JUNE

Ad closing 26.05  
Publishing 09.06

### Frozen Food from Italy

market overview for retail and foodservice

### Frozen Pasta & Sauces Market

trends, new product development, producers, suppliers

### Frozen Pizza Market

major producers, suppliers, country breakdown

### Technology and Innovation for Frozen Pizza

processing machines, toppings, portioning and forming

### Ingredients for the Food Industry

herbs & mixed herbs, rice, noodles, vegetables, processed meat, and sauces

### Frozen Finger Food, Fried & Baked Products

trends and successful products

### Frozen Burgers

new products, producers and suppliers

### Frozen Snacks and Pastry

innovative products for retail and foodservice

### Optical Sorting Technology

innovation and latest equipment

### Deep Freezing Technologies, Proofing, Baking, Cooling

for bakery applications

### Multifunctional Cooking Devices

one device for different cooking processes

### Frozen Food in the US

evolution, challenges, opportunities & major players

**Trade fairs:** SUMMER FANCY FOOD SHOW NY

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## JULY/AUGUST

Ad closing 28.07  
Publishing 11.08

### ANUGA SPECIAL EDITION 1

### Coated/Breaded/Batter Foods

new products, market evolution

### Ethnic Foods - Greek, Mexican, Italian, German, French & Asian Food

product trends, producers, markets overview

### Potato Market Update

frozen fries market overview in retail & foodservice

### Potato Technology Innovation

new equipment for potato processing

### Vegetarian and Vegan Food

product trends, innovations

### Technology for the Frozen Food Industry

maintenance & after sales services

### Frozen Food in Spain and Portugal

latest market developments

### Industrial Freezing Systems

latest equipment and technologies

### Dishwashing Machines for Professional Kitchens

saving resources, networking of devices, hygiene optimization - what next?

### Nutrition & Ingredients

trends for coated and breaded products

**Trade fairs:** ANUGA Cologne, PACK EXPO Las Vegas



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## SEPTEMBER/OCTOBER

Ad closing 15.09  
Publishing 29.09

### ANUGA SPECIAL EDITION 2

### Key Exhibitors Road Map and Event Agenda

#### ANUGA Trends

special report

### Bread, Bakery, and Pastry

sweet & salty products

### Frozen Vegetables, Fruit, Mushrooms, Green Herbs

solutions for retail and foodservice

### Technology Innovation for Frozen Vegetables and Fruit

sorting, peeling, cutting, slicing, dicing

### Technology & Logistics

trends and solutions in packaging equipment

### Blast Chilling and Shock Freezing

versatile applications between shock freezing and pasteurizing

### Meat and Poultry Products

new technologies for product development

### Frozen Food in France

key players, product innovation, suppliers

### Global Retail Market

consumer behavior, new products, processors, suppliers

### Nutrition & Ingredients

for pre-baked and ready to bake foods

**Trade fairs:** ANUGA Cologne, IBA München, INTERPOM Kortrijk, PLANT BASED World Europe, PLMA Chicago, GULFOOD MANUFACTURING Dubai



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## NOVEMBER/DECEMBER

Ad closing 24.11  
Publishing 08.12

### Ready to bake & Pre-Baked Foods

market innovation, producers, new products

### Convenience Food for Retail & Foodservice

European market evolution, category breakdown

### Frozen Products for Catering & Foodservice

suppliers, producers, processors

### Meat and Veggie Burgers

product development & trends

### Freezing Technology

refrigerating and freezing equipment

### Quick Service Restaurants & Bar and Snack Channel

leading operators in Europe and market evolution

### Going Green

substantial contributions of equipment manufacturers

### Nutrition & Ingredients

ethnic food innovation

### Frozen Food in Scandinavia

producers, suppliers, consumer trends

### European Retail Market

suppliers, major retail categories, food trends

**Trade fairs:** SIRHA Lyon 2024, MARCA Bologna 2024, FRUIT LOGISTICA Berlin 2024, Gulfood Dubai 2024

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