

INTERNATIONAL

DAIRY

November/December 2024

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SCAN ME



Climate neutrality

Ever new obligations



Anja Hoffrichter
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The EU Commission recently initiated infringement proceedings against 17 EU member states for failing to transpose the Corporate Sustainability Reporting Directive (CSRD) into national law on time. The implementation deadline would have been 6 July 2024.

As is well known, the CSRD reporting obligations were adopted as part of the 'Green Deal' with the aim of encouraging companies to become more sustainable. However, the directive has significantly expanded the reporting obligations. For example, new regulations were introduced for sustainability reporting: large companies and listed companies (not micro-enterprises) must disclose information on the environmental and social risks to which they are exposed and the impact of their activities on people and the environment.

This raises the question of whether these measures will really contribute to a transformation towards climate and environmental sustainability and climate neutrality for dairies, or whether they will simply create a new bureaucratic monster that will present the industry with new challenges.

What is clear is that companies are once again facing a new extreme time and financial burden with regard to the new obligations on sustainability and social responsibility throughout the supply chain. The pressure to embed social, climate and environmentally friendly business practices into corporate objectives in a timely manner is increasing enormously.

Whether it is the EU Packaging Regulation, the Deforestation Regulation or the CSRD, the bundle of old and ever new legal requirements will certainly not contribute to strengthening the competitiveness of the EU dairy industry on the world market thinks ...

Anja Hoffrichter

HANDTMANN**The multi-lane DS 560 P**

The multi-lane DS 560 P model from Handtmann offers a high line output in the dosing of fluid, low-viscosity, high-viscosity, pasty, inhomogeneous and chunky filling dairy products, above all thanks to its coordinated interfaces to packaging machines. The intuitive, easy-to-operate and servo-controlled lifting and lowering device in combination with servo-driven flow technology with integrated cutting function in the valves ensures drip-free and weight-accurate dosing. As a result, the flexibility of Handtmann valve technology allows the production of very different filling products and various portion sizes with just a few simple steps.

The continuously servo-controlled vertical traversing movement of the DS 560 P depositing system offers safe and non-drip dosing with additional cutting action. The servo-controlled Z-movement of the pneumatically actuated valves ensures perfect product appearance and optimally filled packages. The automatic dosing process with the possible use of 2 to 12 valves for portion sizes in a range of 3 to 1,000 grams and a portioning speed of up to 50 cycles per minute offers flexibility.

The servo-driven flow divider integrated in the depositing system ensures the accurate-to-the-gram dosing of a large variety of products, from fluid and pasty to viscous and even chunky. In combination with the Handtmann valve technology with cutting action, it is ideally suited for a wide range of applications such as spreads, dips, fillings, topping, cream cheese, herb butter and much more.

Thanks to its modular design, the DS 560 P can be integrated in line solutions with thermo-forming machines, tray sealers or conveyor belts with great flexibility. Parameters such as packaging dimensions, geometries and weights are simply input via the vacuum filler's control system, which controls the fully automatic dosing process centrally. A standardised Handtmann safety housing, which is individually adapted to customer requirements, ensures high level of safety.



Handtmann DS 560 P Depositing system for various dairy products (photos: Handtmann)



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Hattrick in Colombia

Postobón installs three KHS lines at once

Newly formed teams quickly discover that there are plenty of synergies to be explored. This also holds true for the partnership between South American beverage multi Postobón and KHS – which in a very short time indeed has yielded not one but three filling lines featuring various block systems.

With over 50 million inhabitants Colombia is the second-largest state in South America after Brazil and one of the most substantial growth markets on the continent. The country is characterized by

the mountain peaks of the Andes that reach heights of almost 6,000 meters above sea level and its around 3,000 kilometers of coastline more or less equally distributed between the Pacific and Atlantic oceans. Colombia's best-selling beverage producer is Postobón, a big player that exports its products to 27 different countries worldwide. Its vast and highly diverse portfolio not only includes water and soft drinks but primarily juice, teas, energy drinks, beer and coffee. In its role as contract filler the company also bottles Pepsi, Gatorade, Mountain Dew and Seven Up, for

Postobón's wide range of products not only includes juice, soda pop and energy drinks but also other carbonated soft drinks, water, beer, tea and coffee (source: Juan Cristobal Cobo)



example, plus Lipton Tea and Heineken beers. Of its 71 facilities, 20 are production sites that accommodate more than 100 filling lines, 20 of which are used for PET bottles. The company's two largest complexes are located in the capital Bogotá, a metropolis of ten million, and in Malambo, a suburb of Barranquilla in the north of the country, where a greenfield project designed to house a total of eleven lines was begun in 2018.

Three block systems from KHS

Whereas in the past Postobón's long-term relations with KHS focused on the supply of stretch blow molders, in 2018 the Colombian bottler opted for its first block system from the Dortmund systems provider. The first procured line includes an InnoPET Tri-Block for water in plastic containers that comprises a stretch blow molder, labeler and filler. At a maximum capacity of 54,000 bottles per hour, the line is technically convincing with its consistent neck handling from the preform to the bottled product. With the help of the experts from KHS' Bottles & Shapes program, a 600-milliliter bottle was specifically developed for this application that saves on material and weighs no more than ten grams. One particularly remarkable attribute in the dry section of the line is the multifuel burner on the Innopack Kisters SP that enables the shrink tunnel to be flexibly heated by either natural or propane gas.

Postobón was so pleased with the quality and speed of the installation and the work performed by the team on site that it subsequently ordered not one but two more block systems within the space of just 18 months. The second KHS line went into operation in Bogotá in 2021. This is also a turnkey filling line where a BloFill duo block for the hot filling (HotFill+) of juice, tea and energy drinks with optional nitrogen dosing forms the heart of the line. Finally, the third KHS line was installed at the aforementioned site in 2023 – with a TriBlock for carbonated beverages such as Pepsi Cola.

Hot fill highlight

At a rate of 2,250 0.5-liter bottles per hour and station the new HotFill+ line achieves an overall capacity of up to 54,000 containers per hour and is thus the fastest KHS line of its type to date worldwide. This is largely down to the reduced weight of the container design optimized by KHS' Bottles & Shapes experts and extremely stable process control throughout the entire block. Thirteen products from three different categories are filled in eight formats holding between 200 milliliters and 1.5 liters on the flexible line. A filling valve specially developed for the customer can fill all beverages without the need for any format changeovers – regardless of whether these contain pulp or fruit fibers.

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Sustainable and climate-friendly

It was important to the Colombians that the beverage containers use as little plastic as possible – and not just for financial reasons: besides quality and efficiency, sustainability and protection of the climate are further major issues the bottler invests considerable sums of money in. In 2021 alone, approximately US\$30 million was spent on various social and environmental programs. Postobón's biggest water brand Aqua Cristal, for example, is filled into bottles made entirely of recycled PET that themselves are fully recyclable. All told, the legal requirements for the avoidance of waste are more than met: for instance, the Colombians are proud of the fact that 72% of the packaging materials circulated by the company are recovered and reused. This figure even runs to 95% for glass bottles.

Any reduction in the amount of material used for the company's PET bottles must not be allowed to have a detrimental impact on their stability, however. On the small-format bottles for juice and tea, whose weight has been cut from 22 to 20 grams, this is mainly prevented by nitrogen being injected into the head space, thus increasing the interior pressure in the container until it's first opened. The six feet on the bottle base provide added rigidity and sturdiness.



Up to 54,000 bottles per hour are filled on each of the three new PET lines (source: Juan Cristobal Cobo)



Cutting-edge stretch blow molding technology

Further resources are saved with the help of KHS' latest generation stretch blow molding technology. The focus heater on the near infrared or NIR heating system allows optimum use of the material directly below the preform neck ring for the bottle walls and is largely instrumental in helping to cut down on weight. While the stretch blow molds are heated to a high of 120°C, the neck ring and base are water-cooled down to 10 to 15°C. This adapts the properties of the container in such a way that filling at a beverage temperature of up to 85°C takes place with just a minimum of shrinkage.

Solutions to meet all challenges

The third KHS line covers a further segment, processing not just water but also carbonated soft drinks. The line is built around an InnoPET TriBlock featuring a KHS roll-fed station for hot-melt wrap-around labeling, also for a maximum of 54,000 bottles an hour. Formats range from 300, 400 and 600 millimeters through 1.0 and 1.5 liters to the 2.5-liter container that's very popular in Colombia.

The most recent project to come out of the two companies' technological partnership is a new KHS InnoPET Blomax V stretch blow molder. Integrated into an existing PET line by Postobón's own converter Iberplast at the Caloto bottling plant, with its 20 cavities it can produce up to 45,000 bottles per hour in sizes ranging from 500 milliliters to one liter. On the line the containers are filled with beverages such as juice, tea and energy drinks at temperatures of up to 85°C.

On the highly flexible HotFill+ line thirteen products from three different categories are produced in eight formats holding between 200 milliliters and 1.5 liters (source: Juan Cristobal Cobo)

Process optimization in dairy production

How Artificial Intelligence sets new standards



Author: Agnes Tholen,
Authorized Officer and Head of Marketing & Sales at CompanyMind GmbH & Co. KG

The dairy industry faces significant challenges, driven by increasing demands for efficiency, sustainability, and top-quality products. With rising cost pressures, stricter environmental regulations, and more demanding consumer expectations, dairies must continuously optimize their processes to remain competitive. Innovative solutions are needed that not only improve efficiency but also contribute to sustainable, future-oriented production.

Artificial Intelligence (AI) is a key technology that can support this transformation. CompanyMind, based in Oldenburg (Lower Saxony), was founded by university professors Dr. Hergen Pargmann and Dr. Harald Schallner with the goal of integrating this technology into the food industry. Since its inception in 2019, CompanyMind has demonstrated through successful applications like BoxInspector and ArtificialVet the added value AI technologies can bring to the table.

Efficiency gains through AI: Saving energy and reducing emissions

One example of AI use in the dairy industry is the intelligent control of refrigeration systems. In dairies, where cooling raw milk and dairy products is essential, AI-driven systems can significantly improve energy usage. By making precise adjustments to cooling

curves and automating processes, operating costs are reduced, and the environmental impact is notably improved. CompanyMind's potential analysis for a client in the frozen foods sector showed that up to 75% of variable electricity costs can be saved. Additionally, using AI can cut CO₂ emissions by up to 50%, offering both economic and ecological benefits.

Automated quality control: Efficiency and safety through AI

A notable use case for AI systems with significant added value is the automated inspection of E1 and E2 Euroboxes. The AI-based BoxInspector automatically detects whether Euroboxes used after cleaning are contaminated or damaged, ejecting them from the process as needed. This not only reduces the workload for employees but also significantly enhances quality control. For an industry that relies on strict hygiene standards, this technology represents a marked efficiency improvement.

Automated packaging and fill level control

AI-powered image processing systems also play a key role in quality control for packaging. These systems can analyze large volumes of images in real-time, detecting even the smallest defects. Damaged packaging or improperly sealed items are automatically

identified, allowing immediate corrective action. This not only improves product safety but also ensures compliance with strict industry standards. Moreover, AI-driven image processing systems can be used for volume and fill level control, ensuring that bottles, cups, and other containers are correctly filled. This is crucial for both product quality and regulatory compliance, while also minimizing waste and ensuring efficient resource use.

Real-time monitoring and early anomaly detection

Another major advancement enabled by AI is the real-time monitoring of milk quality. Modern sensors, controlled by AI algorithms, can analyze milk immediately upon arrival without disrupting the production process. Special attention can be given to changes in pH levels, which often signal early signs of quality issues. Early detection of anomalies enables dairies to respond quickly and prevent potential quality losses. At the same time, manual effort is reduced, and the risk of human error is minimized.

Traceability and compliance: AI optimizes production processes

In addition to optimized quality control, AI also enables full traceability from raw materials to the end product. AI algorithms can continuously and quickly analyze production data and quality parameters to ensure all relevant standards and regulations are met. In case of deviations, immediate alerts are issued so corrective measures can be taken—automatically, if necessary. This proactive monitoring reduces human error and ensures better compliance with quality standards. At the same time, automation minimizes risks and contributes to more sustainable production.

Smart dairy: Animal welfare and production optimization

Another AI application area is animal welfare. In modern, advanced cow barns, sensors and cameras are already widespread, continuously collecting data on the behavior and health of the animals. AI systems analyze this data in real-time, providing farmers with valuable insights. Particularly advantageous is the ability to monitor each cow individually. The technology can detect when an animal needs more exercise or shows signs of stress, enabling farmers to take targeted actions, such as adjusting grazing access or introducing longer rest periods.

Transforming production planning: AI as a game changer

CompanyMind has also developed AI systems for various planning processes within the food industry, including the dairy sector. The industry faces the challenge of meeting strict quality requirements while dealing with volatile demand fluctuations. AI-driven production planning enables flexible adjustments to changing market conditions and raw material availability. This flexibility makes AI a true game changer for the industry!



Process optimization in milk production using AI solutions (photo: Open.AI)



The AI system BoxInspector in action (photo: CompanyMind)

AI as a solution to labor shortages

Implementing AI in the dairy industry is also structurally a response to the growing labor shortage that is increasingly challenging the sector. With the loss of skilled workers and reliance on experienced personnel, pressure on businesses is rising. AI offers a solution by storing knowledge, automating processes, and thus improving efficiency. As a result, dairies can reduce their dependence on skilled labor while increasing operational flexibility.

Challenges in implementing AI

Despite the numerous advantages, there are also challenges in adopting AI. One of the biggest hurdles can be gaining acceptance from employees. Many perceive automation as a threat to their jobs, which can lead to resistance. CompanyMind's experience shows that involving the workforce early in the process is crucial to the success of any AI project. When employees understand the benefits of AI and are involved in its implementation, the technology can be integrated more quickly and successfully.

AI potential Workshop: The starting point for "running Artificial Intelligence"

The journey toward a productive AI system with CompanyMind begins with identifying relevant use cases and analyzing existing processes. These are explored together with stakeholders in an AI Potential Workshop, where specific challenges and goals are defined to strategically plan AI implementation. This is followed by a feasibility study, during which data is analyzed and a prototype is developed to validate the AI solution's effectiveness. After successful testing, the system is integrated into the production environment, continuously optimized, and scaled to achieve sustainable efficiency and quality improvements.

Looking to the future: AI as a key technology for the dairy industry

The dairy industry will significantly benefit from advances in Artificial Intelligence in the coming years. The technology offers enormous potential to increase efficiency, reduce costs, and promote sustainability. CompanyMind views AI as a key technology to address the industry's challenges and develop innovative solutions for the future. Successful AI projects already demonstrate how AI can be effectively used to enhance operational efficiency, secure product quality, and simultaneously improve sustainability. AI could be the key to a future-proof dairy industry!

KRONES

Climate protection organisation SBTi confirms Krones' net zero target

NEWS

The Krones Group's Net Zero strategy corresponds to the current state of science and is in line with the 1.5-degree Celsius target of the Paris Climate Agreement. This is the final judgement of the Science Based Targets initiative (SBTi).

As the globally recognised climate protection organisation states in its letter of approval, the assessment was preceded by a careful validation process. Both the medium and long-term emission reduction targets were analysed. Krones' entire Executive Board announced the latter in April of this year: Accordingly, the Group plans to have reduced its greenhouse gas emissions along the entire value chain to net zero by 2040. According to the

SBTi criteria, this means in concrete figures: Krones will reduce its emissions along the entire value chain by at least 90 per cent and neutralise the remaining ten per cent. The calculation is based on the year 2019.

Krones is well on track with the implementation of its climate strategy: the Group has made the greatest progress to date with its own emissions in Scopes 1 and 2, which have already been reduced by 51 per cent compared to the base year.

The measures in the downstream value chain are also on target. From 2022 to 2023 alone, emissions from the use phase of Krones products fell by ten per cent – even though sales increased

by more than twelve per cent in the same period. This is due in particular to the increasing demand for enviro products: 'When we launched our TÜV SÜD-certified enviro programme in 2008, we were a little ahead of our time,' explains Martina Birk, Head of Sustainability. 'In the meantime, the demand for production technologies that realise high performance with reduced resource consumption has increased significantly. Saving energy and water – and therefore also operating costs – is now one of our customers' top priorities.'

For Krones, supporting this trend was one of the reasons for submitting its own climate targets to SBTi.

BrauBeviale 2024

26 - 28 November, Nuremberg

Brau Beviale

BrauBeviale is once again putting together a complete package for the new edition from 26 to 28 November 2024 in Nuremberg. This year's focus will be on climate-resistant raw materials, new production technologies in line with beverage trends, efficient and resource-saving technology and suitable packaging and logistics options. In addition to the exhibitor portfolio with brewery and beverage technology, the lecture programme will once again provide plenty of inspiration. You can find a brief overview of the innovations to be seen at the trade fair here.

KHS: Holistic line concept

Pioneering filling technology combined with extensive inspection technology, the new Plasmax generation and a broad spectrum of service products are the focus of this year's trade show for the KHS Group. These include, for instance, modular service packages that make sure that beverage fillers' production lines run efficiently and without disruption. Virtual line design at KHS makes use of up-to-the-minute 3D software that gives customers a holistic impression of their potential line as early as during

the offer phase. Thanks to the new mobile laser scanning and virtual reality presentation features, advance planning is now even quicker and more detailed.

KHS will also be enabling visitors to explore its selection of digital services using ConnectApp Guide and its MES systems InnoLine Basic Line Monitoring (BLM) and InnoLine Flex Control (IFC). ConnectApp Guide addresses the challenges of line maintenance. It facilitates digital, paperless maintenance management by flexibly planning servicing tasks across all sections of a company using a web platform that can be accessed by a mobile app. InnoLine BLM and IFC are modular software packages specially conceived for the beverage industry that ensure transparency and greater efficiency throughout the entire filling process. Both can be integrated into the operating company's infrastructure.



Virtual line design at KHS makes use of up-to-the-minute 3D software (photo: Frank Reinhold)

ProMinent: Low-chlorate disinfection with electrolysis

ProMinent will showcase its practical solutions for the beverage industry. Highlights include the new metering system DULCODOS compact F&B for direct food contact and the peristaltic metering pump DULCOFLEX DFYa as well as the electrolysis system DULCOLYSE for low-chlorate and low-chloride disinfection.

The new metering system DULCODOS compact F&B is a ready-to-connect, modular metering system for direct food applications, such as adding aromas and preparing brewing water for beer.

The system reliably and precisely handles metering tasks with volumes ranging from a few millilitres to several hundred litres per hour. All surfaces in contact with media are material compliant in accordance with Regulation (EC) No 1935/2004. The system therefore enables metering of liquid food additives and is also suitable for dosing media with a high viscosity thanks to the optional configuration of different pumps.

The peristaltic metering pump DULCOFLEX DFYa precisely meters viscous media and media containing solids at feed rates of up to 410 l/h.

Excessive concentrations of chlorate in beverages and foodstuffs are harmful to human health and strictly regulated. They can be avoided with the electrolysis system DULCOLYSE. The disinfectant produced on site not only ensures the lowest possible chlorate and chlorite levels, but is also a cost effective alternative to conventional chemicals.

Even the chloride by-product occurs in a much lower concentration than with conventional technologies, thereby preventing corrosion. The process ensures environmentally friendly, highly effective disinfection and long-term freedom from germs without the need to transport, store or handle highly concentrated chemicals.



The new metering system DULCODOS compact F&B is a ready-to-connect, modular metering system (photo: ProMinent)



BERICAP: Closure solutions

BERICAP will be showcasing closure solutions that meet present and future requirements. Visitors can discover how manufacturers can easily switch over to the tethered caps that are already mandatory for many beverages to overcome new challenges. They can also learn about the different types of sport caps and the sustainable options that are already possible today.

The Clip Aside tethering system on the closure's drop band was developed early on by BERICAP to simplify the process of switching filling lines over to the new tethered closures. The closures with an up to 180-degree opening angle are available for neck finishes ranging from 26 to 38 mm in beverage categories such as carbonated soft drinks (CSDs), water, juice and tea drinks, and dairy products.

BERICAP will be showcasing closure solutions that meet present and future requirements (photo: BERICAP)

Bluhm Weber: Labelling systems

The Bluhm Weber Group presents future-proof labelling systems with labels, ink and laser especially for the beverage industry. The direct printers are a highlight. The Linx 8940 Spectrum continuous inkjet printer prints on bottles, cans and packaging at speeds of up to 10 metres per second. The new Markoprint X1JET LX Ultra inkjet printing system is particularly versatile. It enables print heights of up to 25.4 mm through the use of 1 inch cartridges.

The labelling portfolio offers solutions for different bottle and packaging formats. Automatic label printing dispensers, which have a modular design and can be easily integrated into existing processes, are suitable for precise labelling with content and shipping information. The Legi-Air 4050 E is easy to operate via a multilingual 7' LCD touch display and provides information on fault diagnosis, productivity and maintenance status at all times. It is optionally available with an OPC UA-capable N-Controller. This Industry 4.0 interface enables extended connectivity with other devices and ensures better control of all production processes.

At the trade fair, the company will be using a Geset 700 labelling machine with integrated coding and inspection systems to demonstrate how fully automatic product labelling works in practice. The labelling machines are equipped with a conveyor belt and special modules for product handling and can be seamlessly integrated into existing production lines. They label any type of packaging



The Legi-Air 4050 E is easy to operate via a multilingual 7' LCD touch display (photo: Bluhm Systeme)

efficiently and precisely by automatically aligning, rotating, wrapping or otherwise handling the product according to individual specifications. The systems can be adapted to different product sizes in just a few simple steps. They can also be combined with various print modules, laser labellers, inkjet or thermal transfer printers.

Ruland: Customised plant engineering and design

Whether direct juice (NFC), drinks containing juice, premixes, syrup production or mixed drinks, Ruland integrates customised plant technology into the individual production process with tank farms, mixing and stirring containers, powder feed and dosing systems, heating and filtration systems and other process technology.

New product ideas often require creative engineering approaches that enable reliable processing of the raw materials. In Nuremberg, the plant manufacturer will be exhibiting a mobile dissolving system for the introduction of powdered raw materials into the process. This small system unit is used particularly frequently, but not exclusively, in syrup rooms. Depending on requirements, this system can be used to prepare pre-dissolutions of poorly soluble powders. On the other hand, powders can be dosed directly into the product in-line via an injector. Thanks to the Venturi effect, this can be done effectively and quickly in both hot and cold processes.

This process can be part of a complete automation concept in which all production process steps are fully monitored, con-



Mixing plants and syrup rooms lay the foundations for the quality of the end product (photo: Ruland)

trolled and logged. The company offers various solutions here, from simple PLC programming to a complete process management system (RPMS). The Ruland Process Management System is suitable for all production lines and processes that are used to produce a wide range of different recipes and for the management of tank farms, containers and raw materials. The RPMS also offers solutions for documentation, reporting and batch and material tracking.

*One of the many exhibits
at the BrauBeviale:
a Modulfill VFS-C can filler
with a matching Krones
Modulseam seamer
(photo: Krones)*



Krones: New developments

Krones and its subsidiaries Steinecker, Evoguard and Ampco Pumps will be in Nuremberg, with 1,500 square metres of exhibit space. Together, the companies will showcase both established solutions and brand-new developments for beer, soft drinks, alternative food and other products.

Krones offers suitable equipment for the filling and packaging process steps – and demonstrates this with many practical examples, including a Modulfill VFS-C can filler with a matching Krones Modulseam seamer, and an inspection module that provides reliable 360-degree closure inspection as well as an Ergomodul labeller with stations for wrap-around and pressure-sensitive labels.

The group's Lifecycle Service offers countless options for overhauling existing machines and lines with an eye to sustainability. And of course, the Krones team advises companies in general on all aspects of sustainability – at all levels.

Not only breweries but also all other food and beverage companies will find that Krones can deliver customised solutions for their production. As examples, at BrauBeviale Steinecker will be showing its bioreactor for producing alternative food while Evoguard and Ampco Pumps will invite users to look at the range of valves and pumps they manufacture for all beverage categories.

Advertising

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**BrauBeviale 2024, Nuremberg, 26-28 November
Hall 7A-510**

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KRONES

Artificial sweeteners and other sugar substitutes

Market overview



Author:
Abhishek Dhar, Team Lead-Food, Beverage, and Agri Business Practices, MarketsandMarkets

Sweeteners play a pivotal role in modern dietary trends. These substances are carefully crafted to impart sweetness while minimizing caloric impact. The recent surge in the sweeteners market is due to an increasing preference for healthier alternatives to traditional sugar. There are both natural and artificial options available, such as stevia, monk fruit, maple syrup, erythritol, aspartame, saccharin, ace-K, and sucralose. As people become more health-conscious and the diabetic population grows, the sweetener landscape must evolve to meet varying dietary needs. This executive summary provides an overview of the sweeteners market, examining key segments, applications, and regional dynamics that influence the industry. It addresses the need for innovative solutions in the constantly evolving world of food production. The global sweeteners market is expected to reach a value of USD 125.1 billion by 2028. Asia Pacific is predicted to dominate the global market in 2023, with a value of USD 39.9 billion, while North

America is projected to grow at the highest CAGR of 3.8% during the forecast period. The rising health consciousness in the North American region, coupled with an increasing prevalence of conditions like diabetes and obesity, drives the demand for low-calorie alternatives. Evolving consumer preferences, stringent regulations promoting healthier lifestyles, and a robust food and beverage industry contribute to the market's growth. Additionally, continuous product innovations, including natural sweeteners and sugar substitutes, align with the region's emphasis on wellness. These factors make North America a dynamic and rapidly expanding market for sweeteners.

By 2023, sucrose is expected to be the highest-valued sweetener in the market, estimated at USD 83,044.0 million. Sucrose's popularity is mainly due to its natural origin and familiarity among consumers, making it a common ingredient in various food and beverage applications. It is highly

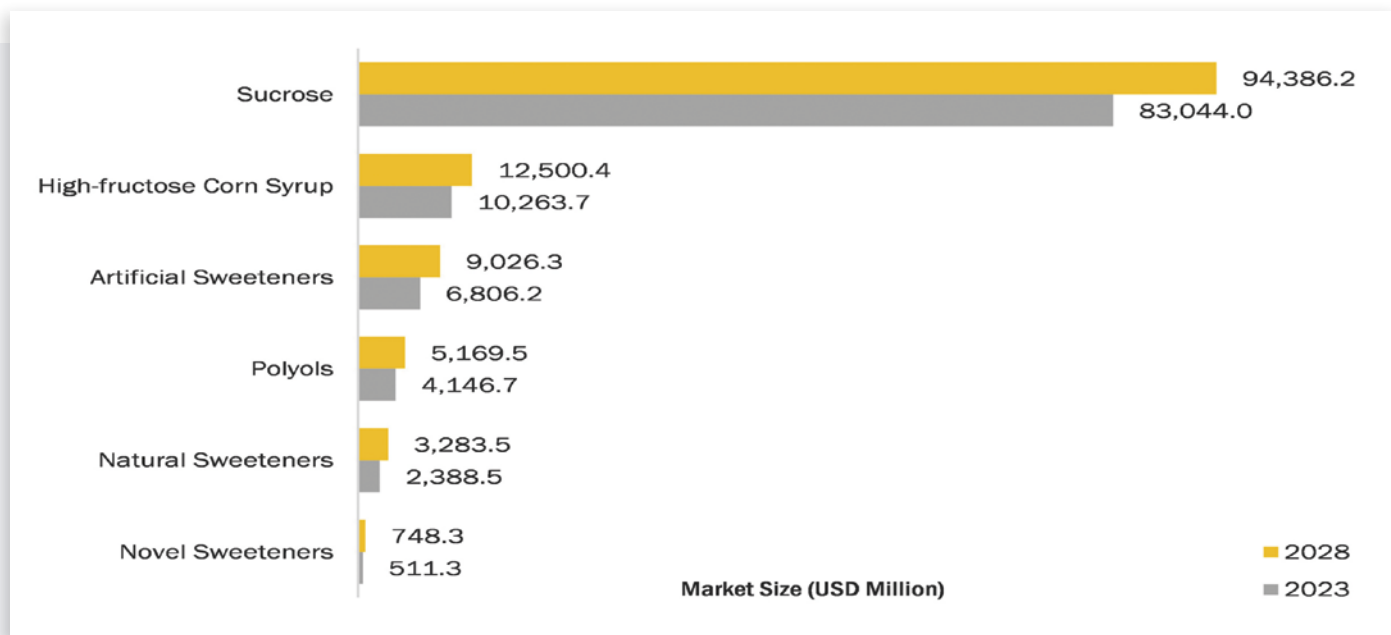
sought after due to its versatility, pleasant taste, and its ability to blend well with other products. Sucrose's dominance in the sweeteners market highlights its enduring significance, as it continues to hold a substantial share of the overall market value. High-intensity sweeteners are expected to lead the sweeteners market in terms of value due to their unparalleled sweetness potency, which enables minimal usage while maintaining intense sweetness. As consumers increasingly prioritize healthier options with reduced caloric content, high-intensity sweeteners such as aspartame, sucralose, saccharin, cyclamate, and stevia are fulfilling this demand. Their widespread incorporation into various food and beverage products, along with advancements in formulation techniques, positions high-intensity sweeteners as a key driver in offering both sweetness and health-conscious solutions in the market. According to estimates, the direct (B2B) sales channel is expected to dominate the sweeteners market and reach a value of USD 77,332.1

Million by 2023. This is due to the efficient procurement processes, improved customer relationships, and streamlined supply chain management that it offers. This sales channel gives businesses direct access to bulk sweetener purchases, which helps to reduce costs and provides customization

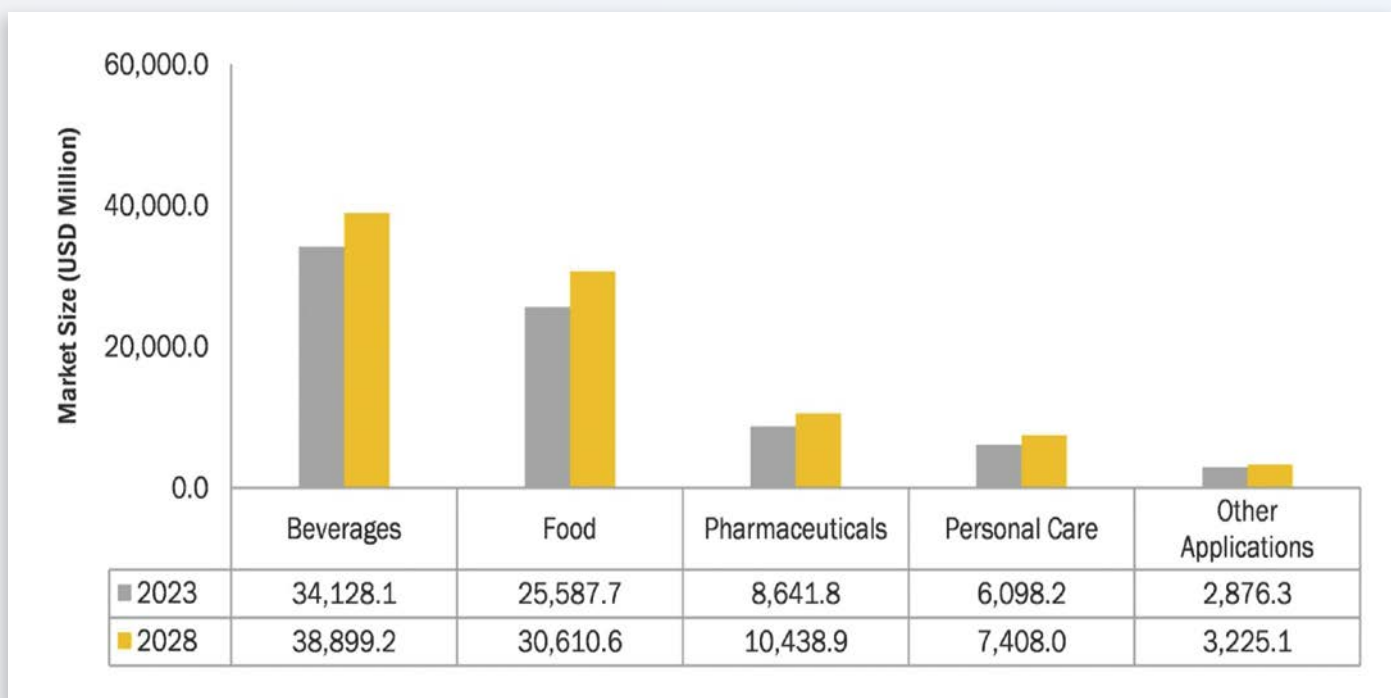
options. The direct approach also helps to foster closer collaborations between suppliers and buyers, allowing for tailored solutions and timely deliveries. Therefore, the direct (B2B) sales channel is the preferred choice for optimizing efficiency and responsiveness in the sweeteners market.

Sweeteners market

The sweeteners market is expected to be worth USD 38,899.2 million, with beverages being the dominant application segment. The reason for this is the increasing demand for low-calorie and sugar-free



Sweeteners market, by product, 2023 vs. 2028 (USD Million)



Sweeteners market, by application, 2023 vs 2028 (USD Million)

options in the beverage industry. As more people become health-conscious and seek healthier alternatives, sweeteners play a vital role in formulating a diverse range of beverages, such as sodas, juices, and energy drinks. This significant market valuation highlights the importance of sweeteners in meeting the changing needs of consumers within the dynamic and expanding beverages sector. Asia Pacific holds a significant share of 37.3% in the sweeteners market in 2022. This can be attributed to various factors such as the region's large and diverse population, changing dietary preferences and an increasing awareness of health issues. The demand for sweeteners has been driven by these factors. In addition, the expansion of the food and beverage industry, economic growth, and the

introduction of various sweetener options also contribute to Asia Pacific's substantial market presence. This trend highlights the region's crucial role in shaping the dynamics of the global sweeteners market. North America is expected to experience the highest Compound Annual Growth Rate (CAGR) of 3.8% in the sweeteners market. This is due to several factors, including the region's increasing focus on health and wellness, which has led to a rise in demand for low-calorie sweeteners because of a growing diabetic population. The evolving consumer preferences for healthier alternatives, stringent regulations promoting sugar reduction, and continuous product innovations are also contributing to this growth. In addition, the robust food and beverage industry in North America is

further propelling the adoption of sweeteners, positioning the region for substantial market expansion with the highest CAGR.

Dairy products

Dairy products witness a high demand as they are consumed daily by individuals. They are increasingly influenced by the advantages of using sugar substitutes of sucrose or sugary ingredients. However, the dairy segment also witnesses several issues in terms of legislation and regulations for their use. To reduce obesity during childhood and increase milk sales, the International Dairy Association (IDEA) and the National Milk Producers Federation (NMPF) have petitioned the FDA to change



Region	2023	2024	2025	2026	2027
North America	784.1	822.1	864.9	908.4	956.9
Europe	362.5	378.1	395.8	413.6	433.4
Asia Pacific	458.3	486.2	517.6	550.0	586.1
South America	190.3	200.3	211.5	223.0	235.7
RoW	129.2	134.9	141.3	147.8	155.0
Total	1,924.4	2,021.6	2,131.0	2,242.6	2,367.1

photos: Victor Moussa_Melica_stock.adobe.com

the definition of 'milk' and 17 other dairy products, including sour cream and yogurt. The change would allow the dairy industry to add various sugar substitutes to products without including prominent consumer labels. In dairy applications, erythritol is frequently paired with stevia to improve the quality of sweetness, delivering a more robust, sugar-like flavour and fulfilling other functional properties of some sugars. Thus, with the positive market growth of sugar substitutes in the dairy application industry, the natural sugar substitutes market is projected to grow during the period forecasted substantially.

Sugar content is a concern for consumers who carefully read labels. According to the ADM Outside Voice study 2022, 54% of customers check the nutrition data, and 47% check the "added sugar per serving" while assessing a dairy product. The desire of customers to reduce their sugar intake is also widely known to dairy producers. Cargill has thus been inundated with inquiries from clients seeking assistance in formulating goods like yoghurt and dairy drinks that contain fewer than 10 g of sugar per serving. Dairy formulators have been using sugar substitutes, either alone or in combination with sugar, in their efforts to reduce the amount of sugar in their products.

Nonetheless, there is a movement away from artificial products in consumer preferences. Consumers demand sweeteners that are natural, non-GMO, and have a sustainable profile. The non-GMO Project Verified Be stevia Reb M stevia sweetener from Sweegen works well with products aimed toward these customers. Recently, EverSweet + ClearFlo was added by Cargill to their line of natural stevia products. This development is a step forward for stevia technology, offering superior flavour modification properties, quicker dispersion, better solubility, and increased stability in formulations.

Dairy products are in high demand as they are consumed daily by individuals. They are increasingly influenced by the advantages of using sweeteners of sucrose or sugary ingredients. However, the dairy segment also witnesses several issues in terms

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Advertising



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Author:
Vicky Davies, Global Marketing Director, Performance,
Active & Medical Nutrition, FrieslandCampina Ingredients



Consumer health-consciousness is rising alongside a general view that our diets are key to living and feeling well. But what does this mean for the food and beverage industry? Busy consumers are ditching traditional snacks in favour of high-protein alternatives to support a healthier lifestyle. And with 42% of consumers now considering themselves flexitarian, demand is growing for plant-based protein applications, alongside traditional dairy offerings.

Fixing plant-based formulation

Diets rich in plants are often associated with lower saturated fats, cholesterol and higher fibre content, which can be beneficial for overall health. There's also a greater variety of plant-based ingredients available than ever before, which means the possibilities for creating plant-forward products are limitless.

However, despite this variety of ingredients, perceived health benefits and

significant demand for plant-based proteins – taste is king. Manufacturers know this, which is why the industry is committed to tackling the formulation challenges in creating appealing plant-based offerings. For instance, pea protein often leaves beany or earthy off-notes in end products, and when flexitarian consumers have both animal and plant-based options to choose from, they're going to pick the one that tastes the best.

In the active nutrition market specifically, consumers want the same protein content and quality they would get from traditional animal-based sources, like dairy, which remains the gold standard. For many, this means highly bioavailable protein with a balanced profile of essential amino acids to support muscle recovery, energy and overall performance. Although this can be challenging to achieve in plant-based protein, recent ingredient innovation is helping to pave the way for new product development.

Plantaris: a next generation plant-based protein

To overcome common plant protein formulation challenges, it's important to choose the right ingredient – one that provides a comparable protein content as animal protein, without compromising on taste or texture. FrieslandCampina Ingredients' Plantaris range infers a neutral taste, allowing it to be formulated with a variety of flavours, avoiding the common off-notes associated with plant proteins and creating an appealing experience for consumers.

Both our Plantaris pea and faba protein isolates are extracted using a gentle, chemical-free manufacturing process which ensures dispersibility, solubility, stability and low dusting – for easier formulation. As these ingredients are a good source of essential amino acids and have a very high protein content, they can help optimally stimulate muscle protein synthesis in products that contain more than 25 g of protein per serving – ideal for sports nutrition applications.

The formulation flexibility of Plantaris unlocks multiple consumer-friendly applications such as tasty bars and shakes. To demonstrate this, we developed an innovative ready-to-drink (RTD) beverage that boasts 8.3% plant-protein per serving, as well as a high-protein, spoonable pudding that works well as a post-workout snack and an indulgent treat.

Realising the full potential of plants

At FrieslandCampina Ingredients, we know protein, and we have applied our 150 years' experience in dairy proteins to our range of plant proteins. Our Plantaris™ range has been specially developed to

overcome common formulation challenges and open up the opportunity to create delicious plant-based creations that keep consumers coming back for more.

For more information on Plantaris™, visit www.frieslandcampinaingredients.com/plantaris

- 1 FMCG Gurus, 2022.
- 2 Oliver C Witard Sophie L Wardle, Lindsay S Macnaughton, Protein Considerations for Optimising Skeletal Muscle Mass in Healthy Young and Older Adults, Nutrients 2016 Mar 23;8(4):181.



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SepaFlex® is available in the form of FFS film or as converted flat or side gusseted sacks. We also offer the packaging variants with an integrated ventilation system – PowFlex®.



Fi Europe 2024

19-21 November 2024, Frankfurt



From 19 to 21 November 2024, the world's leading event for food and beverage ingredients, Fi Europe, will take place at the Frankfurt Exhibition Centre. More than 1,500 exhibitors and a programme of expert presentations will showcase innovations, share insights and foster business relationships. Over 25,000 visitors from 135 countries are expected to attend.

Exhibitors from the entire spectrum of F&B ingredients will be represented in the main area of the trade fair, including a Petfood Suppliers Hub for the first time. The Health Ingredients area is dedicated to functional F&B ingredients with proven health benefits. And the expanded Food Manufacturing Technologies & Solutions area is a one-stop shop for anyone looking for practical and innovative ways to optimise their supply chain and future-proof their operations - from research and development to delivery.



With a focus on holistic health, FrieslandCampina Ingredients will showcase a lineup of concepts including high-protein ready-to-drink (RTD) concepts (photo: FrieslandCampina Ingredients)

FrieslandCampina Ingredients: New on-trend concepts

FrieslandCampina Ingredients is set to highlight its application expertise at Fi Europe. With a focus on holistic health, the company will showcase a lineup of concepts including new bars featuring Biotis Fermentis and high-protein ready-to-drink (RTD) concepts crafted to deliver nutritional value and consumer appeal. The early life nutrition team will also be on hand to spotlight its Step Up Nutrition platform – designed to help manufacturers support the development and well-being for children aged three and older.

Planteneers: Cost savings, clean label and indulgence

Planteneers will be focusing on three key benefits: Cost savings, clean label and indulgence.

As an example of cost-saving solutions, these plant-based experts are presenting a functional system for the production of a wide range of cold-cut specialties, including plant-based alternatives to lyoner, fleischwurst, and salami.

Authentic flavor experiences with the shortest possible ingredients lists remain a growth category, and more and more consumers are looking for clean label plant-based foods. To address this demand, Planteneers is presenting wheat-protein-based systems that offer high protein content and exceptional functionality. The cheddar-style snacks the company is presenting exemplify its clean label systems for alternatives to cheese and dairy products. These feature a high seven percent protein content and in addition are enriched with micronutrients.

Aligned with the worldwide megatrend of indulgence, for its third focus area Planteneers is showcasing meat, fish, dairy, and deli specialties. For a sweet treat, the functional system for fermented cream desserts serves as a plant-based alternative to Petit-Suisse dessert, cream yogurt, or quark dessert. The system contains 3.5 percent protein and has a creamy mouthfeel. It can be mixed with various fruit preparations.

Indulgence, health, and convenience are addressed by a new concept for plant-based meal replacement drinks, which Planteneers developed together with sister company SternVitamin. Planteneers' functional system creates the basis, with a high six percent protein content and 1.9 percent fiber content plus the necessary stabilizing ingredients for a pleasing mouthfeel and taste. SternVitamin developed the micronutrient mix to fit, containing all the vitamins and minerals needed for the desired nutritional profile.



The cheddar-style snacks Planteneers is presenting exemplify its clean label systems for alternatives to cheese and dairy products (photo: Planteneers)

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GNT: Coloring solutions

GNT will demonstrate the potential of its plant-based EXBERRY colors with a build-your-own rainbow snack experience. The colors are made from non-GMO fruit, vegetables, and plants using sustainable production methods. They can deliver a complete spectrum of shades in almost any food and beverage application while allowing manufacturers to maintain natural ingredient lists.

Visitors will be able to select from six seasonings to create their own eye-catching EXBERRY potato chips. Each seasoning will feature an on-trend flavor as well as different colors from across the rainbow to provide a range of sensory experiences.

In addition, GNT will showcase the latest coloring solutions in the EXBERRY portfolio through a range of food and beverage products.



Visitors will be able to select from six seasonings to create their own eye-catching EXBERRY potato chips (photo: GNT)



photo: shutterstock

dsm-firmenich: Next-generation solutions

dsm-firmenich will show a selection of next-generation solutions in the beverage, baking, confectionery, cheese, plant-based, fresh dairy and savory categories,

Visitors will be able to experience the team's expertise in action through a range of healthy prototypes including a lactose-free Nutrimilk concept in strawberry and banana flavors – with no added sugars – and a recovery drink made with PeptoPro.

Claire Price, Innovation Manager Dairy, dsm-firmenich, will showcase how fermented milk manufacturers can use this technology to design cultures for dairy applications, sharing a case study based on a real-life scenario on November 19 at 11 AM.

To meet the growing demand for plant-based options, dsm-firmenich will showcase its sustainable plant protein, Vertis CanolaPRO, in a range of innovative applications, including a tortilla and breakfast cereals. Visitors can also enjoy a smooth vanilla yogurt that lasts longer on the shelf while maintaining its taste and texture.

HTBA: Modulation solutions

HealthTech BioActives (HTBA) will showcase how its flavonoid-powered ingredients can be used to deliver sensory excellence, through a collection of healthy and indulgent food and drink prototypes available to sample on-stand. Ranging from functional gummies to a protein-enhanced vanilla beverage, these prototypes will give visitors a tangible example of HTBA's taste modulation solutions and expertise in the context of the food and beverage industry trends.

Brands looking to address the rising demand for functional beverages and energy enhancement can try HTBA's pea protein vanilla-flavored beverage prototype, which demonstrates how the right combination of taste modulation solutions can mask bitterness and off-notes for a better drinking experience. For those seeking to craft refreshing sports hydration beverages, HTBA will showcase its recently enhanced sweetener formulation Citrosa+, which helps to round-off raw sweetness while keeping labels clean.



HealthTech BioActives (HTBA) will showcase how its flavonoid-powered ingredients can be used (photo: HTBA)



Hydrosol: Stabilizing systems

Hydrosol is showcasing highlights for meat, dairy and deli products, and especially its new Best Ager concepts. The company is showing a new Yogonaise for supporting digestion and gut health, with added calcium, a reduced fat content of 18 percent, and high fiber content. The 20 percent thermized yogurt included in this mayo sauce gives it a fresh, light flavor.

Healthy bones and muscles are at the core of another Best Ager concept, a protein-rich pudding with ten percent protein and just one percent fat, enriched with calcium, Vitamin D3, and

Hydrosol presents a protein-rich pudding with ten per cent protein and only one per cent fat, enriched with calcium, vitamin D3 and vitamin K2 (Photo: Giorgio Scarlini)

Vitamin K2. It is also free of added sugar, and can be produced in various flavors. At FiE the company is presenting it as a caramel version in a tartelette.

As an topping for this caramel pudding, Hydrosol is presenting a newly developed mixed fat cream. This combination of dairy components and vegetable fat has a 32 percent fat content. With the help of a new functional system from the Stabimuls ICR series, Hydrosol has succeeded in combining dairy and vegetable fat with high stability. Thus, the flavor, texture, and functional properties are identical to conventional cream.

Also new are high protein meal replacement dairy drinks. They are based on a new stabilizing system that ensures a stable emulsion even with high protein content, and provides a creamy mouthfeel. It is also a good source of fiber. A balanced vitamin content is provided by a special micronutrient premix developed for the basic recipe by Hydrosol's sister company SternVitamin. From this recommended recipe, many different product ideas in many flavors can be created.

Prinova: Food and nutrition trends

Over the past year, Prinova's bespoke market research has identified the major consumer trends shaping the future of food and nutrition. At FiEurope, the premix expert will showcase a range of concepts that demonstrate how manufacturers can tap into them with innovative new products.



They have been created to provide an example of a possible "good for you" range. In Prinova's most recent research, gut health emerged as the concern most likely to affect consumers' purchase decisions. A lemon ginger tea for immune support and digestive health is designed as the addition to their daily routines. It includes two prebiotics, Aquamin and inulin, as well as L-Glutamine – a primary fuel source for immune cells in the gut. They are combined with an expertly formulated blend of vitamins and minerals to help support the digestive tract, immunity and energy levels.

Prinova identified demand for cognitive wellbeing as one of nine mega-trends for 2024. Flavoured with cherry and grapefruit, this drink offers consumers clean and sustained alertness without the jitters. It contains a blend of well researched ingredients associated with improved concentration and cognitive function, including vitamins, minerals and natural caffeine from green coffee beans.

Prinova will showcase a range of concepts (photo: iStock)

Mila – Bergmilch Südtirol expands warehouse capacity and material flow

Increased performance and operational reliability

Founded in 1962, Vereinigte Sennereien Vinschgau has grown to become the largest dairy cooperative in South Tyrol. In 2013, the merger of the two cooperatives Mila and Senni created “Bergmilch Südtirol” with 470 employees and 2,200 mountain farmers who are both suppliers and owners.

Today, the plants in Bolzano and Brunico produce around 140 products for Trentino-South Tyrol, Italy and the rest of the world. At the Bolzano plant, these products have been stored in an automated warehouse from Westfalia Technologies GmbH & Co. KG since 1992. The modernization, which has been planned since 2022 and has been implemented from December 2023, is the largest in Westfalia’s history. The current modernization and expansion, planned until 2025, could be followed by further measures. Mila - Bergmilch Südtirol will expand its production at the Bolzano site in 2020, followed by two building complexes for order picking and shipping in 2023 and 2024.

Westfalia connected its compact Satellite automated storage systems to process more than 200,000 tons of milk annually. The modernization and expansion has increased performance and operational reliability. And all this “in a confined space, including integration into the existing plant. The project was implemented in several construction phases during ongoing operations,” explains René Findling, Sales Director Modernization at Westfalia. The storage system runs around the clock, five and a half days a week, relieving staff and compensating for a potential shortage of skilled workers.

Earthquake-resistant racking system for higher maximum loads

In the fresh produce warehouse, the required maximum load has now been increased from 800 kg to 1,000 kg per load unit. To increase the load capacity, the Westfalia team reinforced the racking system with new supports and made the system earthquake-resistant with front yokes. The previous inclined pick lanes on the lower level were converted to multi-deep storage lanes for approximately 240 additional storage locations.

The team installed Satellite rails and reflectors to fine-position the shelves. This increases the storage capacity of the fresh produce warehouse to approximately 4,140 locations. The load units in the system weigh between 35 and approximately 1,000 kg and are 1.6 meters high. The triple support of all rail profiles reduces pallet wear.

Replacement with more economical single-mast SRMs

Until now, three 16-meter-high two-mast SRMs with Chain Satellite load handling devices were in use: two in the 2°C cold store with approximately 3,900 storage locations for euro, plastic and disposable pallets, and one in the adjacent normal temperature warehouse for UHT milk with 1,056 pallet locations. The fresh food warehouse, which is the focus of the current modernization

Mila – Bergmilch Südtirol is expanding its storage capacity and material flow at its Bolzano site with Westfalia (photo: Mila – Bergmilch Südtirol/Oskar Dariz)



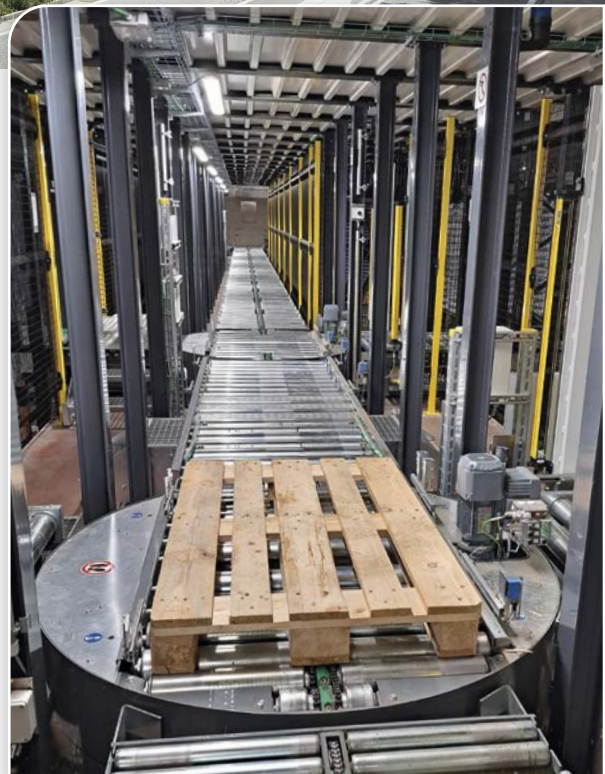
and expansion, is about 44 meters long, about 23 meters wide and, at a height of about 17 meters, houses 8 levels with storage channels up to four times deep.

Findling: "A simple modernization of the two 30-year-old SRMs in the cold store was not economically viable and did not meet the new requirements. So, we replaced them with two modern single-mast SRMs. These are lighter, perfect for low floor loads in existing buildings, and more economical, thanks in part to the latest drives and controls. They reached their destination without the need for heavy haulage.

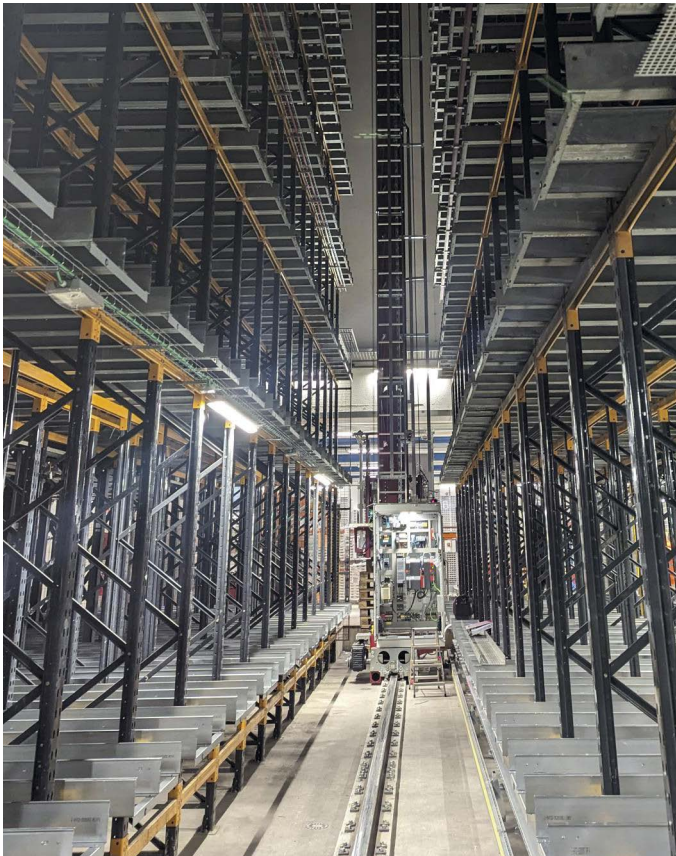
A compact chassis with reduced crossing paths and a lower approach dimension of 1,000 mm, as well as a laterally offset upper guide rail for optimal upper approach dimension and overtravel, maximize storage space. The lower approach dimension is due to the existing warehouse: however, a minimum approach dimension of 450 mm is possible with the single-mast SRMs.

The SRM is modular. Fast, split Chain Satellites are used for Mila. They gently store 65 pallets per hour in double cycles and 62 pallets per hour in single cycles. Goods and pallets are not damaged and the system is highly available.

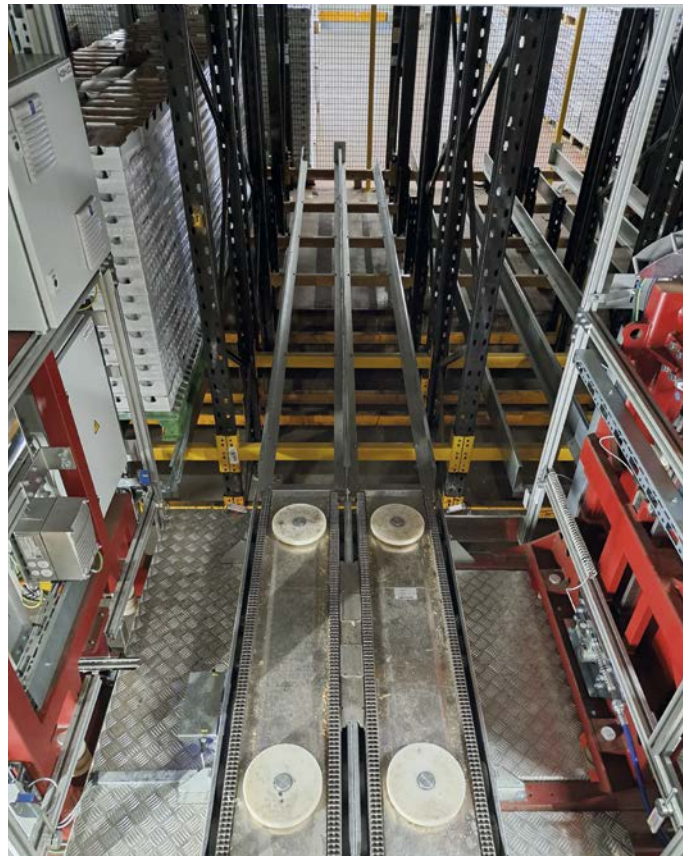
The new infeed and outfeed points are located in the center of the storage aisles for optimal line efficiency of the AS/RS. SRMs store, transfer, and retrieve in a single trip. The conveyor system can now transfer goods between the SRMs.



The infeed and outfeed lines are connected to the central roller conveyor via a turntable (photo: Westfalia Technologies)



One of the two new modern, 16-meter-high single-mast SRMs in one of the two aisles of the chilled warehouse with approx. 4,140 pallet rack positions (photo: Westfalia Technologies)



The divided Chain Satellite and triple support in the storage channels protect goods and pallets and ensure high system availability (photo: Westfalia Technologies)

Conveyor technology links SRMs and Picking

“Before the upgrade, workers manually connected picking, packing, and the warehouse. Now some of them are missing. In addition, occupational safety is difficult to implement in the warehouse with all its nooks and crannies,” explains Elina Stansky, Project and Commissioning Manager at Westfalia.

A 45.6-meter-long roller conveyor was installed on the first level between the two storage aisles of the fresh produce warehouse through the central block. It transports load units from the production area, which is connected by manual loading, to the warehouse and the new shipping halls. Two new 20-meter lateral retrieval lines between the cold store and the new picking halls have also been put into operation. Additional retrieval lines to the shipping zone are planned.

Stansky: “Due to limited space, Mila’s production facility has historically grown upwards. We therefore need to connect different levels, so working with additional vertical transfer units is a logical step. At least one new vertical transfer unit will extend order picking to an intermediate level. In addition, the outdated vertical conveyor to the UHT milk warehouse will be replaced with

a new one. Other conveyor technology will be added: the connection to the UHT milk warehouse, a new infeed conveyor and accumulation conveyors for more line efficiency in the busy shipping area.

The SRM and material flow control in the UHT milk warehouse were already modernized in 2015. There are also plans to expand the current 20-meter long, 16-meter wide and 10-meter high automated UHT milk warehouse and further automate the production link with additional conveyor technology.

The newly updated contour and weight detection system at all incoming goods interfaces to the high-bay warehouses ensures smooth and safe operation of the system, which is controlled by a Siemens PLC.

New IT Landscape with Warehouse Execution System

“Mila - Bergmilch Südtirol has been a Westfalia customer for many years and has been using all four generations of our software since 1994, starting with a simple warehouse management system,” explains Christian Goltermann, Sales Director Software & IT. “Today,

Savanna.NET has grown into a Warehouse Execution System that combines warehouse management and material flow control. After upgrading Savanna to version 2.15, we implemented functional enhancements in parallel with the construction phases.

These include storage location management, inventory and storage, material flow control, interfacing with the SAP ERP system, and inventory posting via mobile data terminals (MDTs) on the responsive Savanna CrossClient user interface. "We expanded the functionality to include manual storage bins in the new picking area, automated replenishment from the high-bay warehouse, and storage location management for the two picking zones using mobile terminals. The storage and picking logic reduces stock transfers and optimizes storage capacity.

The IT team converted the scanner communication from a serial connection to a TCP/IP network connection and implemented the interfaces to the new SRMs and the extended conveyor system on the software side. A Microsoft SQL server was installed as the central database. The hardware was provided by Mila - Bergmilch Südtirol.

Modern drives, controls and safety technology

Drive, control and safety technology were replaced and converted in a very short time: modern inverters of the SEW Movi C brand, the latest control technology from Siemens in the TIA portal (Totally Integrated Automation Portal), including Safety Integrated laser distance measurement and a camera system for precise positioning of the compartments, as well as the latest operator panels for improved manual plant status, even outside the safety area.

"Thanks to the new drive technology, the permissible speeds and end positions can be monitored safely and maintenance-free via a safety PLC," explains Martin Hessler, head of automation technology at Westfalia. "The data is transmitted to the SRM via Ethernet and Profinet using optical data couplers. Remote diagnostics and remote maintenance are now possible. Preparations are already underway to integrate production as well. The integration of new camera systems on the SRMs also enables remote diagnosis in the event of a fault, without having to go to the relevant rack aisle.

Flexible logistics planning with partial sections

Production continued uninterrupted as individual storage blocks were taken out of service and one SRM was replaced while the second SRM took over. During the first construction phase, further phases were planned and material flows were adapted, according to Findling: "We initially left the production connection out of the specifications to give our customer more time to think about it. Thanks to our broad portfolio and the customizable solution, we were able to perfectly adapt our intralogistics to this historically grown warehouse, and thanks to modern components, we also simplified the procurement of spare parts".

"The aim was to reflect the expansion of production in the intralogistics as well," says Thomas Bernhart, Technical Director at Mila - Bergmilch Südtirol. "Together with our long-standing partner Westfalia Technologies, we brought the software and systems of the automated warehouse up to the latest state of the art."

"The warehouse has more capacity and a higher maximum load. Load units no longer have to be transported by forklift through the loading zone," says Bernhart, explaining the benefits of the modernization and expansion. "The new conveyor system automatically transports goods between production, the warehouse, our new picking halls and the shipping zone. Thanks to Savanna, we pick in the new picking zones with handheld devices and give decentralized instructions to the system. With the latest components, we have spare parts security for the next 15 years."

"Future-proof, highly available, economically expandable"

"The first important modernization and expansion step has been taken, and more will follow: In the future, we want to connect production fully automatically, make optimum use of the entire height of the site with a few vertical conveyors, and also expand and modernize the storage and conveyor technology in the UHT milk warehouse," says Bernhart.

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Dairy Trends in Europe: Consumption patterns, authenticity & functional ingredients



Author: Kate Kehoe,
Marketing Manager at FMCG Gurus

This article is based on FMCG Gurus: Dairy Trends in Europe – Regional Report 2024.
For more information, please contact us at info@fmcggurus.com.

Seeking fresh milk on a weekly basis

Research conducted by FMCG Gurus reveals that a significant 73% of consumers in Europe are likely to choose fresh milk at least once a week. This preference can be attributed to milk's versatility as an ingredient in hot drinks, cereal, cooking, and as a beverage – despite its lower per capita consumption compared to other non-alcoholic drinks.

Dairy consumption patterns

FMCG Gurus' consumer insights indicate that consumers regularly incorporate a broad range of dairy products into their diets, from indulgent items to those perceived as healthier options. Additionally,



Hard cheese has seen the largest increase in consumption, with 44% of respondents in Europe reporting higher intake. Conversely, the most common product European consumers are reducing is ice cream (28%), reflecting a tendency to cut back on indulgent items perceived as less essential during times of economic uncertainty.

Importance of realness and authenticity in dairy freshness

Freshness is a critical factor for consumers when selecting dairy products, often viewed as a key indicator of nutritional quality. When asked about the attributes that shape their perceptions of freshness, 71% of European consumers highlighted the significance of natural labels and the absence of additives – two interrelated factors.

Notably, there has been an increase in the number of consumers prioritizing these attributes, potentially due to rising prices and a greater emphasis on product value. This underscores two essential points:

consumers desire authenticity and natural ingredients, and they demand transparency regarding the formulation and origins of the products they buy.

The role of health-boosting claims in purchasing decisions

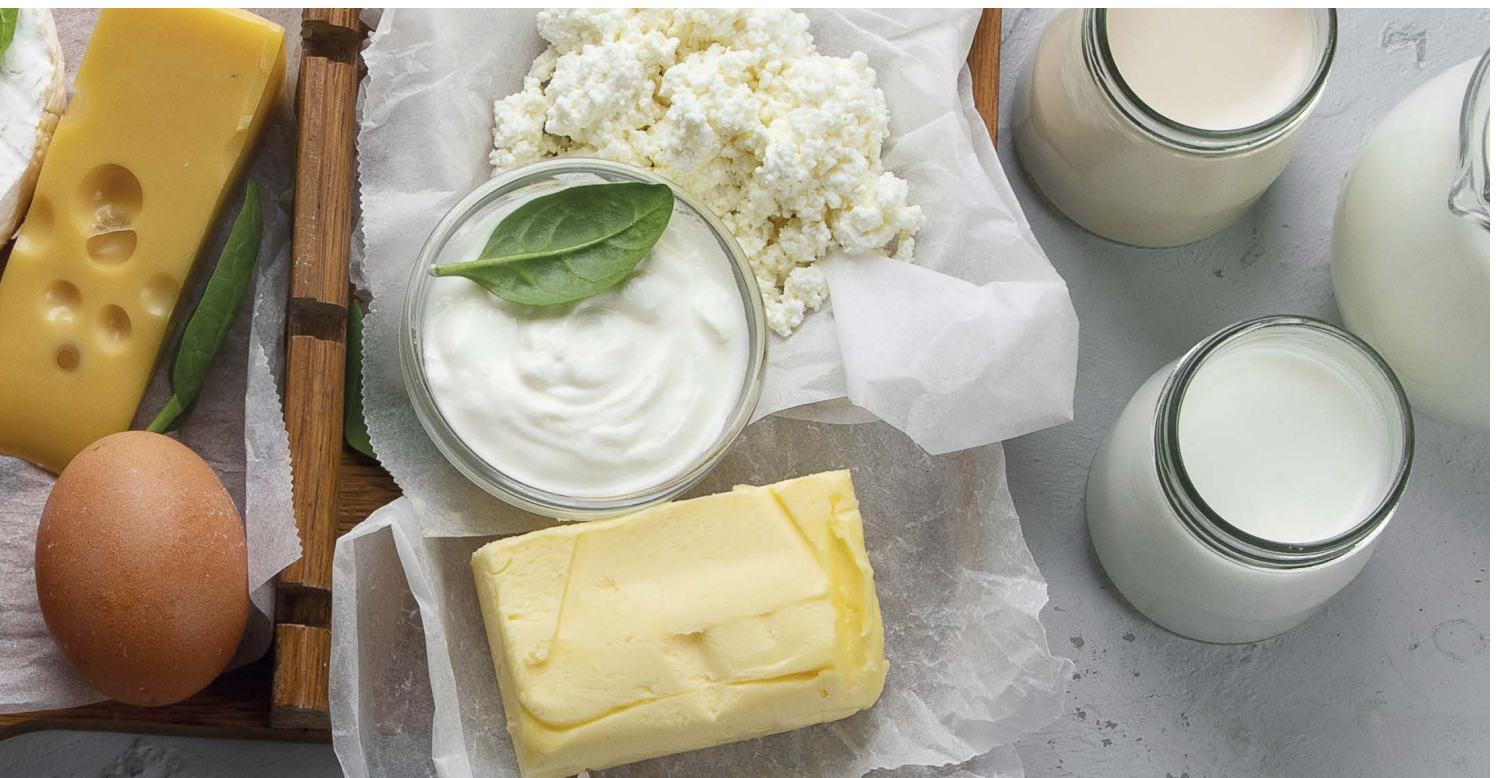
In their dairy purchase decisions, European consumers prioritize taste over price, with FMCG Gurus' market research indicating that 77% cite taste as a crucial attribute compared to 58% who focus on affordability. This demonstrates that shoppers are motivated more by perceived value and quality rather than just seeking the lowest price, suggesting that innovation in the market should focus on maintaining high standards.

Additionally, health-related claims significantly influence consumers' choices, reflecting a belief that dairy can contribute positively to a healthy lifestyle through nutrients like protein and calcium. Many consumers are looking to improve their dietary habits by returning to simpler, trusted products that are regarded as

nutritious, tasty, and affordable, which are messages dairy brands should emphasize to enhance perceived value and drive purchase decisions.

Appeal of functional ingredients in dairy

As previously mentioned, consumers associate dairy with health benefits and are reverting to simpler dietary habits. This trend suggests a strong appeal for functional claims in dairy products, particularly in everyday categories that do not carry a premium price point. When choosing dairy, consumers are particularly interested in products highlighting protein and calcium, which are well-known for their associated physical and cognitive advantages. While it's essential to maintain sensory appeal without overemphasizing health claims, promoting ingredients that offer multiple health benefits will resonate with health-conscious consumers looking for efficacy, convenience, and value – especially if such claims are substantiated by scientific evidence.



Fachpack 2024

Trade fair review



37,000 trade visitors, one in three of them from abroad, visited the stands of the 1,455 exhibitors to find out about the latest trends and innovations and discuss pressing packaging issues with experts. The main theme of 'Transition In Packaging' could be experienced in all halls and in the supporting programme.

Read on the following pages what new products International Dairy Magazine discovered on its tour of the trade fair.



Trioworld: Full integration of Wentus

Andreas Malmberg, CEO Trioworld and Christof Renz, Managing Director of Wentus, officially announced the full integration of Wentus, a leader in flexible packaging solutions at a press conference. With more than 2,000 employees and a current turnover of 1 billion Euros, Trioworld has a broad portfolio, specializing in sustainable flexible films in the application areas of transport packaging, industrial packaging, consumer packaging, with particular focus on the food sector, hygiene and healthcare, agricultural solutions for smarter farming, and waste management. Operating across production and recycling sites in Sweden, Germany, Denmark, the Netherlands, the United Kingdom, France, and Canada, Trioworld is committed to leading the industry into circularity.

Malmberg announced that Trioworld only in the recycling area is making major investments into expanding production capacity, reaffirming its dedication to sustainability underlining the ambitious approach, towards an increasing offer of PCR based



Official renaming of Wentus to Trioworld during the press conference at Fachpack 2024 (photo: Trioworld)

flexible packaging solutions and packaging innovations. Wentus brings with it a innovative portfolio of products, its expertise in mono solutions and superior skin films will complement Trioworld's existing product range.

MBM/dsm-firmenich: Cheese maturation

In Nuremberg, two partners presented a sustainable comprehensive concept for optimizing the maturation process of naturally aged cheese. The core of the solution is the proven VSM vacuum packaging machines from MBM innovations and Pack-Age, an innovative maturation membrane from dsm-firmenich. "The Pack-Age membrane significantly contributes to the sustainable optimization of the cheese production process, specifically helping to prevent 5 to 10 percent of cheese loss during the maturation and processing stages, especially when removing the cheese coating before slicing the cheeses," said Mayer-Mai, responsible for strategic marketing at MBM. The bioprotective performance of this packaging concept has been proven to delay unwanted mould and yeast growth. Moreover, once the cheese has matured with Pack-Age, the membrane can easily be removed and fed into established plastic recycling streams.

The concept is a full-fledged yet significantly more sustainable alternative to the widely used PVA (polyvinyl alcohol) protective cheese coating. This coating is regularly renewed, and in a final step removed before the cheeses go to market.

MBM, a family business, specializes in designing and manufacturing customized vacuum packaging machines with the VSM system. The fully and semi-automatic VSM packaging solutions are suitable for various cheese formats MBM's atmospheric vacuum system ensures gentle handling while maintaining the high quality of the vacuum. This offers advantages for delicate prod-



The new VSM Bulky evacuates, gas flushes and welds vertically in the smallest of spaces (photo: MBM)

ucts like premium cheese, in terms of product quality, vacuum security, handling, and resource efficiency. Evacuation is carried out using special suction nozzles directly within the bag.

The entire evacuation process occurs under normal atmospheric pressure, without a vacuum chamber. Even with large formats, wet bags, or thin, delicate films like Pack-Age, the VSM vacuum station ensures a reliable, crease-free seal.

**Syntegon:
Sustainable technologies**

Syntegon presented solutions that allow food manufacturers to seamlessly transition to sustainable packaging processes. One of these solutions is the SVX Agile vertical packaging machine. Depending on pouch size and film specifications, the machine produces up to 300 pouches per minute. At the trade fair booth, the SVX Agile creates pouches from 100 percent recyclable mono-material.

The key to sustainable packaging solutions lies not least in efficient material testing and consulting services. Syntegon specifically addresses the requirements of its customers and supports them during their transition to environmentally friendly and PPWR-compliant packaging. Experts perform comprehensive analyses and material tests in in-house laboratories to define suitable packaging materials, subsequently testing them on the production machine under real-life conditions.

The cloud-based software solution Synexio, which is available with the Service Agreements, supports manufacturers in optimizing their systems' process parameters. The Uptime package comes with a "sustainability monitoring" feature that provides data on power consumption and waste production – and helps manufacturers to reduce their ecological footprint.

Syntegon presented future-proof packaging solutions, retrofit kits, and services for a seamless transition to sustainable and PPWR-compliant packaging
(photo: Syntegon)



**The new Weber slicer
weSLICE 7500
(photo: Weber)**

**Weber:
Line concept for slicing applications**

At the FACHPACK in Nuremberg, Weber presented a high-performance line solution for processing and packaging sliced products. The new Weber slicer weSLICE 7500 and the integrated automation solution built around the Weber wePICK pick robot make this line a marvel of flexibility and thus the perfect choice for a wide range of application areas and products such as deli meat, raw sausage or cheese.

The new Weber slicer weSLICE 7500 was the slicer presented in this line concept. This new performance slicer offers a variety of slicing, infeeding and portioning systems with a performance of up to 1,850 revolutions per minute. This fact and a slicing shaft measuring 500 mm in width and 220 mm in height make the slicer usable for a wide range of applications for caliber-consistent products, but even cheese. Thanks to a new guide system in the infeed area and product guidance, tool changes when switching products are especially simple, safe and quick. Customers can choose between GripnGo, a lane-independent vario product infeed, or ContiFlow infeeding without reloading break, which was developed specifically for use with Flowpack packaging machines. All systems guarantee that the product is treated gently during the infeeding process while reloading times are short. This slicer configuration can accommodate an integrated Weber scanner (weSCAN) to minimize line length.

SÜDPACK: Sustainable packaging solutions

Film manufacturer SÜDPACK presented the (Multi-)Peel PET floatable solution. Thanks to its low density, the floatable top web can be separated during recycling from PET trays, producing a clean recycled material flow. The Multifol Extreme stands out for a low material input. The high-performance flexible film from SÜDPACK is up to 30% thinner than other, conventional PA/PE structures. Thanks to exceptional sealing performance even when contaminated with oil or fat as well as high puncture resistance, Multifol Extreme films are ideal for securely packaging greasy, protein-rich products and frozen food in MAP and vacuum packagings.



SÜDPACK presented the (Multi-)Peel PET floatable solution (photo: Südpack)

Schäfer & Flottmann: Wrap-Around-/Tray-Packer

Schäfer & Flottmann presented a SFS 414 Wrap-Around/Tray-Packer to set margarine tubs into cases for the retail trade and a downstream cobot palletizer. The flexible SFS 414 machine series cover the entire spectrum of secondary packaging in open trays, display or wrap-around cartons as well as in trays with top flaps. The machine achieves an output of up to 30 packs per minute. Thanks to an intelligent control system, the output of possible products layers per minute and loading unit has been increased even further to 45 layers per minute.

The exhibit focused in particular on further developments in the field of digitalization and cooperation between humans and machines. For example, program-supported format changeover was demonstrated. In addition, machine operators were supported by a cobot.



Wrap-Around-/Tray-Packer SFS 414 by Schäfer & Flottmann (photo: Schäfer & Flottmann)



The compact traysealer T305 is ideal for a wide range of applications (photo: MULTIVAC)

With a format width of up to 420 x 300 mm, cardboard, plastic and aluminium packaging as well as packaging made of foamed materials with different upper webs can be processed. Sustainable packaging materials, such as mono films or MULTIVAC PaperBoard, can also be used on the traysealer. The T 305 ensures continuous packaging output with consistently high packaging quality. During development, particular attention was paid to energy efficiency and durability.

MULTIVAC: Reliable packaging

The versatile T 305 traysealer from MULTIVAC is ideal for the automated packaging of small to medium-sized batches. It is designed for quick product changes in the food area and is suitable for use in supermarkets, commercial kitchens and industry. The compact traysealer is for a wide range of applications.

Also on show was the L 310 conveyor belt labeller, which offers maximum versatility when labelling trays, thermoformed packs, cartons and other packs. The conveyor belt labeller offers three functions in one: labels can be printed using the desired printing technology and applied at any point on the packaging and checked directly using camera inspection. The inspection scans all packs and ensures that packs with faulty labels are ejected directly.

Efficient use of resources

Reforming of cheese



Reforming of cheese products is a growing market. In order to gain insight into the potential of reforming technology, we spoke with Andreas Ebert, Product Manager Sales Cheese and Dairy Products at VEMAG Maschinenbau GmbH, Verden/Aller, about how reforming can be utilized to optimize the use of raw materials.

IDM: During the process of cheese reforming, cheese cutoffs or even entire cheese blocks are transformed into a variety of new, marketable products. What are the key benefits of this process?

Ebert: Reforming with VEMAG represents an economically viable solution for the profitable reuse and sale of both cheese cutoffs and cheese blocks. In contrast to the production of processed cheese, our process does not involve subjecting the product to heat or the use of any additives. From a declaration perspective, this makes the process an attractive option as no additives are required and no substances are removed or added. Additionally, the process is an energy-efficient alternative to other processes.

IDM: How exactly does reforming work?

Ebert: Our vacuum filling machines feed and cut the cheese using an inline grinder. Afterwards, the cheese is reformed by applying pressure. The feeding system and inline grinder can be adjusted depending on the size of the raw material, as well as the desired shape of the reformed product.

The various attachments allow quick and easy product changes, reducing set-up costs. The product range includes a wide variety of shapes and sizes, from small sticks to special forms such as hearts, Christmas trees or large blocks of up to 10 kg. Multilane applications are also possible.

IDM: What other production steps are the machines used for?

Ebert: We offer a wide range of solutions. For example, we can neatly and accurately fill processed cheese into cups, trays or even directly into thermoformed packaging. We can also produce cream



cheese in a variety of shapes, filled and unfilled. We are always committed to ensuring the highest standards of weight accuracy and product quality.

IDM: Could you please provide some additional information regarding the quality of the cheese products?

Ebert: Our double screws and housings are designed to facilitate gentle feeding, which is essential for maintaining product quality. The double screw and housing can be adapted to suit the product and can also be changed quickly to accommodate different output rates. In addition, by changing these components, it is possible to switch quickly from cream cheese production to hot processed cheese production, for example. This increases our production flexibility. Combined with our modular attachments, this ensures a high degree of weight accuracy and consistent product quality.

IDM: In which countries do you see further potential for growth in the field of reforming?

Ebert: The “reforming” sector is a growing market, linked to the trend towards snack products. Our diverse range of customized solutions positions us well in this area, enabling us to map an extensive range of products. Furthermore, our global reach through subsidiaries and agencies allows us to respond to customer inquiries worldwide and provide customized solutions.

GIVAUDAN TASTE & WELLBEING

Ground on new production facility in Indonesia

NEWS

Givaudan announced the ground-breaking of its new production facility in Cikarang, Indonesia, reinforcing its commitment to the South East Asia region. The new site, which will complement our existing facility in Indonesia, represents an initial investment of CHF 50 million and will span 24,000 square metres within a total reserved land area of 50,000 square metres to accommodate future expansion plans. It will focus on producing a wide range of savoury, sweet, and snack powders, as well as infant nutrition solutions.

Set for substantial growth over time, the site is positioned to significantly expand in size over time, as Givaudan continues to invest in cutting-edge technologies and production processes. This strategic facility will enhance Givaudan’s presence in the region, bringing production closer to its customers and providing innovative solutions to meet the increasing demand while contributing to local economic development.

The new production facility will create around 60 jobs across diverse skill sets and drive a health-focused community programme, highlighting Givaudan’s commitment to fostering local talent and the sustainable growth of Indonesia’s economy.

Aligned with Givaudan’s sustainability goals, the new facility is designed with future-proofing in mind, allowing for the integration of sustainable technologies and features, including the utilisation of solar power, recycled water systems, enhanced natural and LED lighting with sensors, purchase of electricity from certified green energy partners, and rainwater harvesting systems. These efforts will minimise the environmental impact and ensure long-term operational efficiency and resilience.

Construction has started and is expected to be completed within 18 months, with operations scheduled to begin in the first half of 2026.

EDA at the 29th United Nations Climate Change Conference:

Enhancing Animal Health and Climate Resilience through Sustainable Livestock Practices



Author:
Alberto Babolin, Senior Policy Officer – Environment and Sustainability



COP29
Baku
Azerbaijan

On 18 November, the European Dairy Association (EDA) will host an official joint side event at COP29, the 2024 United Nations Climate Change Conference that taking place in Baku, Azerbaijan. The event will focus on “Animal Health, Mitigation, and Adaptation: Innovative Financing for Sustainable Livestock Development.” Teaming up with the International Dairy Federation (IDF), the International Livestock Research Institute (ILRI), the Bharatiya Agro Industries Foundation (BAIF), and the International Development Research Centre (IDRC), this event will bring together experts from around the world to discuss how sustainable livestock practices can support climate goals.

This collaboration highlights the essential role of animal health in both adapting to and mitigating climate change. Healthier animals lead to better productivity, fewer emissions, and more

resilience for farmers facing climate challenges. But the path to achieving better animal health looks different depending on the livestock system. The event will explore diverse approaches, such as improving breeding techniques and adapting feed practices, that can have positive effects on reducing the environmental footprint of livestock operations and increasing the climate resilience of the sector. The session will also discuss the possible pathways for including animal health outcomes in climate finance projects, emphasizing how targeted investments can support sustainable practices.

Sophie Gregory, a first-generation organic dairy farmer from Dorset, England, will be one of the featured speakers. Sophie transitioned into farming to pursue her passion for organic practices and to promote career opportunities in agriculture. She researches



Александр Довянский (AI)_stock.adobe.com

the future of organic dairy farming and is on a mission to raise awareness about the importance of the sector. Her perspective will provide real-world insights into how dairy farming, climate resilience, and sustainable development go hand-in-hand, as well as how small farms play a crucial role in sustainable agriculture.

The event reflects EDA's commitment to furthering sustainability in the EU dairy sector. European dairy operators are working to further reducing the environmental impact of their production across the entire dairy chain and aligning with the European climate and environmental goals. EDA envisions a European dairy sector committed to achieving a climate-neutral European Union by 2050, all while ensuring food and nutritional security. This objective will empower the sector to grow and meet the increasing global demand for healthy, sustainable products, supporting the long-term development of rural communities across Europe.

With COP29 bringing together climate leaders and change-makers from across the globe, the EDA's joint side event will be an unmissable opportunity for anyone interested in sustainable agriculture. Through this dialogue, EDA and its partners will explore new ideas and practical pathways for a sustainable future in agriculture, focusing on how collaborative efforts can lead to a resilient food system, and showcasing the climate efforts of the dairy sector at the highest level in the United Nations.

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Arla Foods announces changes to its Executive Board and EMT

PEOPLE

Arla Foods appoints **Torben Dahl Nyholm**, Chief Financial Officer (CFO) and Executive Vice President (EVP) to its Executive Board. Torben Dahl Nyholm will succeed the Executive Board and Executive Management Team (EMT) member and EVP of Arla Foods' European business, Peter Giørtz-Carlsen, who will take on the role as CEO of Danish DLG Group. The new EVP of the European business and EMT member will be Mark Boot, Senior Vice President (SVP) of Arla Foods' business in the Netherlands, Belgium and France.



Executive Board member and EVP, **Peter Giørtz-Carlsen** will be leaving Arla Foods to become CEO of the Danish cooperative DLG Group. CFO and EVP of Finance, Legal, IT and Strategy, **Torben Dahl Nyholm**, will take on the role in Arla Foods Executive Board. Arla Foods' Executive Board is a two-person Board and effective from 1 December 2024 it consists of Arla Foods CEO, Peder Tuborgh and CFO and EVP, **Torben Dahl Nyholm**.

Mark Boot will replace Peter Giørtz-Carlsen as EVP of the European business and member of the EMT effective from 1 February 2025 at the latest. Boot joined Arla Foods in 2016, and he has a well-rounded track record from Unilever and Royal Friesland Campina. Boot has previously led Arla Foods' business in Southeast Asia, and he is currently holding the position as Senior Vice President (SVP) of the commercial business in the Netherlands, Belgium and France.



EDA Annual conference Rome
Events

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Events

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Plant based dairy alternatives
Special

photo: IDM

Imprint

Publisher:

B&L MedienGesellschaft mbH & Co. KG Hilden, Verlagsniederlassung Bad Breisig, Zehnerstr. 22 b, 53498 Bad Breisig/Germany, Fax: +49 (0) 2633/45 40 99, Internet: www.international-dairy.com

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B&L MedienGesellschaft mbH & Co. KG, Office Munich, Garmischer Straße 7, 80339 Munich/Germany

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Volume Frequency:

IDM International Dairy Magazine is published six times a year (February, April, June, August, September, November).

Annual subscription rate:

€94.00 incl. postage. Subscr. in Germany: €82.00 incl. postage + VAT

Single copy:

€ 16.00 incl. postage. Orders from Germany add VAT

Bank details:

Commerzbank AG, Hilden; IBAN: DE58 3004 0000 0652 2007 00; SWIFT-BIC.: COBADEFXXX

Cover page:

FrieslandCampina

Print:

Ortmaier-Druck GmbH, Birnbachstraße 2, 84160 Frontenhausen, Germany The magazine is printed on chlorine-free paper.

Economically involved in the legal sense of. § 9 Abs. 4 LMG Rh.-Pf.: B&L MedienGesellschaft mbH & Co. KG, Verlagsniederlassung Bad Breisig, Zehnerstraße 22 b, 53498 Bad Breisig.



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