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EUDR: Political limbo

Postponement without clarity

Anja Hoffrichter
Editor IDM
International Dairy Magazine
ah@blmedien.de
international-dairy.com

The EU Deforestation Regulation (EUDR) is certainly a prime example of regulations with 'side effects'. Although the regulation does not officially apply to milk and dairy products, it indirectly affects supply chains – primarily through feedstuffs such as soy and through the cattle category, which also includes dairy cows. This means that dairies and milk producers are faced with a complex web of regulations.

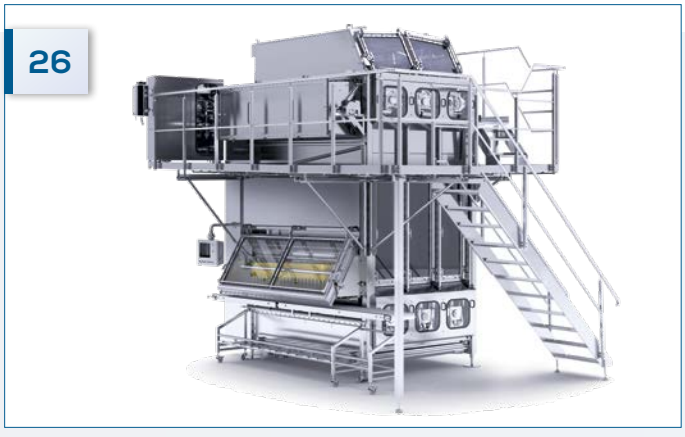
Each individual delivery requires comprehensive documentation and the processing of large amounts of data – but the requirements, procedures and verification mechanisms have not yet been sufficiently specified or standardised across the EU.

This clearly demonstrates the lack of practicality; often, the countries of origin are unable or simply unwilling to fully comply with the strict EU requirements at short notice. For the dairy industry, this means rising costs and additional bureaucratic effort – without any guarantee that the actual goal of making an effective contribution to forest protection will ultimately be achieved.

Added to this is the uncertainty caused by the political stalemate. Originally scheduled to start at the end of 2024, after an initial postponement, medium-sized and large companies were to be affected from 30 December 2025, and small companies from 30 June 2026. With the twelve-month extension that has now been decided, the EU Commission acknowledges that implementation, IT systems and uniform requirements for evidence and data volumes are still lacking.

Planning and legal certainty are of central importance for the industry. The additional time provides short-term relief, but must be used to establish clear and practical requirements and ensure a level playing field in all EU countries. Otherwise, differing interpretations would lead to competitive disadvantages and distortions in the market

thinks
Anja Hoffrichter



Construction of the world's largest integrated dairy plant in Algeria

Production is planned to commence in late 2027

Group photo with representatives of the Algerian government, Baladna and its subsidiary Baladna Algeria, GEA CEO Stefan Klebert and the other contractors (photo: Baladna/GEA)

At a formal event in Algiers, Baladna, a leading Qatari dairy and food producer, the Algerian Government, and GEA took part in a contract signing ceremony, enabling the construction of the world's largest integrated dairy farm and milk powder facility in Algeria. GEA was mandated to provide a comprehensive range of dairy farming and processing solutions. This project is one of the largest single orders for GEA to date. Milk powder production is planned to commence in late 2027, with gradual scale-up of production volumes over subsequent years.

Today, Algeria is the world's third largest importer of milk powder. To strengthen future autonomy and food security in dairy products, the Algerian government – via its National Investment Fund – and Baladna Q.P.S.C. from Qatar entered a strategic partnership via the newly formed company subsidiary Baladna Algeria S.P.A. The partnership's purpose is to finance and manage the construction of a state-of-the-art integrated dairy farming and milk powder production facility in Algeria's Adrar province. The locally produced milk powder is planned to meet about 50 % of Algeria's national milk powder needs, representing a significant step towards self-sufficiency. Additionally, the project will create approximately 5,000 job opportunities.

The facility will be the largest of its kind, located about 90 kilometers from the provincial capital. Construction will commence at the beginning of 2026, with first milk powder production scheduled to start in late 2027. Production volumes will be gradually expanded. When completed and fully supplied, this facility's final capacity will amount to approximately 100,000 tons of milk powder per year.

GEA CEO Stefan Klebert (left) and Ali Al-Ali, Chairman of Baladna Algeria, at the contract signing ceremony for the world's largest integrated dairy facility (photo: Baladna/GEA)

"We are proud that Baladna and the Algerian government are entrusting GEA to play a key part in this lighthouse project," says Stefan Klebert, CEO GEA.

"This engagement with GEA marks a milestone in the acceleration of the project. We are proud to attract the most prominent national and international expertise and renowned companies from all over the world to contribute to the completion of the project, following the highest international standards," Mohamed Moutaz Al-Khayyat, Chairman of Baladna commented.

Complete milk powder value chain

Leveraging its portfolio of complementary engineering technologies, GEA will cover the entire value chain of milk powder production when constructing the facility – from dairy farming to processing and packaging of the final product. The GEA divisions Liquid & Powder Technologies (LPT) and Farm Technologies (FT) are contractual partners with Baladna Algeria. For both of those, the project represents one of their single-largest orders ever received. Other GEA divisions will contribute technologies and products within that scope.

GEA will provide a broad range of solutions from a single source to run the facility's large milking parlors as well as its milk powder and anhydrous milk fat installations. These include system solutions, such as separators, membrane filtration, heat treatment, as well as evaporation and spray drying plants. Automated packaging and service components are part of the scope, too. GEA has a global track record in large-scale plant and process engineering, including dairy projects in India, China, Qatar or Ireland.

NEWS

TETRA PAK
New Food Technology Development Centre

Tetra Pak's New Food Technology Development Centre has opened in Karlshamn, Sweden, ready to help producers of biomass and precision fermentation-derived food products develop their technical processes, define efficient equipment needs and minimise investment risk. With tailored support from experts, producers can take their New Food from prototype to commercial-scale production.

Forming part of the product development ecosystem offered by Tetra Pak, the New Food pilot plant helps customers of all sizes, from start-ups and scale-ups developing their hero products to established food and beverage companies exploring new food categories.

As investment in the New Food sector becomes harder to secure, commercial viability is more crucial than ever. Drawing on extensive expertise in equipment solutions and product formulation, adapted to the specific needs of new food producers, the new Technology Development Centre helps to overcome the challenges associated with scaling up and accelerate the path to profitability.

Food producers working with the centre's experts can benefit from two programmes designed to act as a testing framework or select individual tests for a customised experience. The process evaluation programme is aimed at companies ready to move from lab-scale production to demo scale or seeking more efficient methods for large-scale production. The productivity validation programme supports companies with established production processes looking for validation and improvement of their process performance.

Tetra Pak News Food Technology Development Centre has opened in Karlshamn, Sweden (photo: Tetra Pak)

NEWS

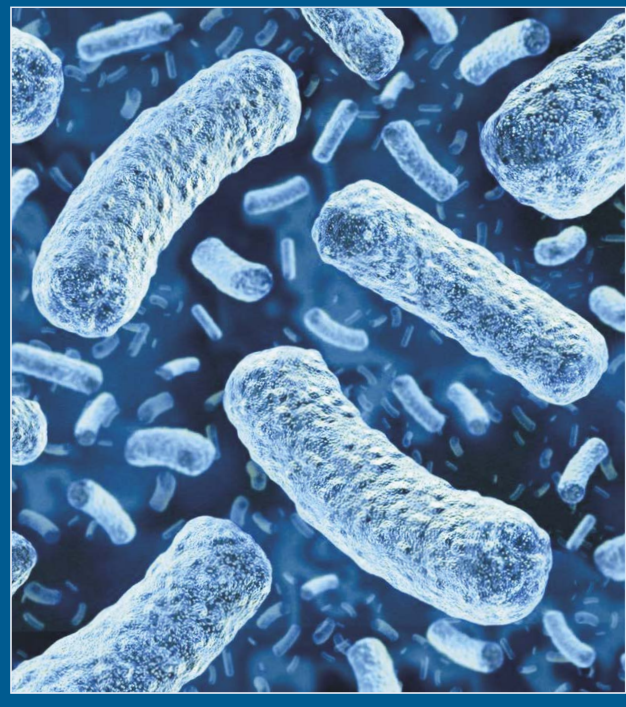
LYRAS
Danish technology reduces Listeria risk

With the Danish raslysation technology, food producers gain an effective method for suppressing the increasing number of outbreaks of the life-threatening Listeria in food. Raslysation eliminates bacteria in food production while preserving taste and quality. The technology can be used to protect products such as fish, meat, cheese, and brine, which is an important part of cheese production.

The method is so effective and gentle that it is used to ensure the safety of raw milk cheese, eliminating unwanted microorganisms in the raw milk while preserving both quality and taste.

"Listeria is an extremely resilient microbe. Even in the salty brine used in cheese production, it can survive and act as a reservoir for contamination and a source of bacterial spread. Our tests show that raslysation effectively kills it. This makes the technology a powerful tool for producers wanting to protect their consumers," says Mark Kalhøj Andersen, CEO of Lyras.

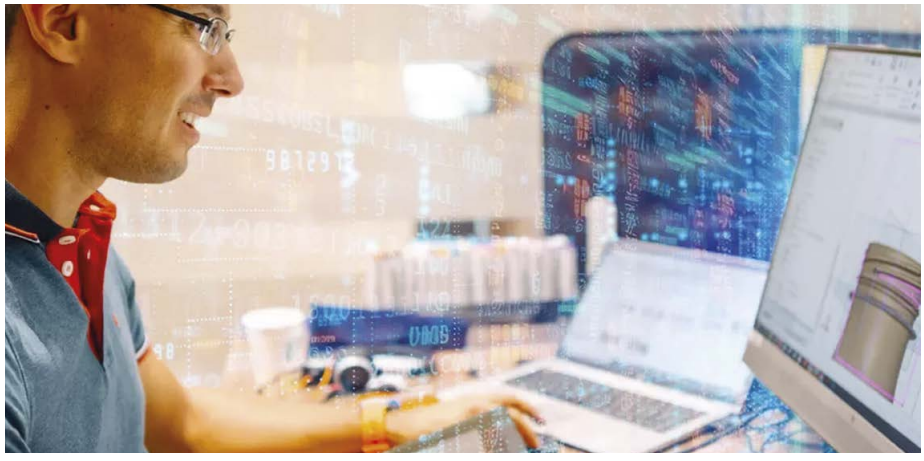
The raslysation technology also supports compliance with the new EU food safety regulations, triggered by the increasing presence of bacteria like Listeria.



The life-threatening Listeria bacteria, which raslysation can effectively inactivate (source: Lyras)

Nestlé and IBM leverage AI and deep tech

Development of new packaging innovations



Nestlé R&D is partnering with IBM Research to develop new tools that leverage the power of Artificial Intelligence and deep tech. This research collaboration has led to the development of a generative AI tool that can identify novel high-barrier packaging materials.

Packaging helps to protect food and beverages while also preventing food waste. Nestlé is continuously reducing the use of virgin plastic, pioneering the use alternative materials and novel technologies, and moving to recyclable mono-material and paper-based solutions. Identifying new packaging materials that meet each product's functional needs while ensuring food safety and quality is often meticulous. In some cases, this requires years of research.

Nestlé and IBM scientists leveraged AI-based processing techniques[1] to construct a knowledge base of known materials from public and proprietary documents. Subsequently, the team fine-tuned a fit-for-purpose chemical language model on this curated corpus, enabling it to learn the representation of the molecular structures. Using that knowledge, the teams leveraged the recently developed regression transformer[2] by IBM Research to learn the correlation between key structural molecular features and the resulting physical-chemical properties. The resulting model can now propose entirely new high-barrier packaging materials that shield sensitive products from moisture, temperature swings and oxygen.

Nestlé will utilize this novel technology to identify future packaging materials, while considering cost, recyclability, and functionality.

Nestlé continues to leverage AI, machine learning, data science and automation to support innovation and help manage complexities. For example, Nestlé has developed a recipe optimization tool that uses advanced algorithms to help product developers better manage tradeoffs between ingredients, nutrition, cost and sustainability, while still meeting consumer expectations. The company also uses digital twins of equipment and production lines to optimize manufacturing processes and has developed digital tools to deliver personalized nutrition solutions for people and pets.

Nestlé recently announced the creation of a new R&D center for deep tech, a first-of-its-kind in the food and nutrition industry. The new center will screen, test and develop new generations of sensors, robots, coding systems, high-performing AI and virtual/mixed reality solutions to increase efficiency in research, innovation and operations.

1 Source: Docling: An Efficient Open-Source Toolkit for AI-driven Document Conversion
2 Source: Regression Transformer on Nature Machine Intelligence

Cheese sausages in alginate casing

ConProLink technology

ConProLink system KVLSH 162 for the production of linked cheese sausages in alginate casing (photo: Handtmann)

Cheese and its alternatives are all the rage. For the production of hot and cold vegan base masses, Handtmann offers both process automation systems and universal process units that can be used for simultaneous heating, mixing, grinding, and emulsifying, as well as advanced mixing technology. Products such as vegan cheese alternatives or spreads are processed in a compact, closed complete system. In the process vessel, chunked raw materials are pre-ground and blended with dry ingredients and liquids. The mixture can be heated by direct steam injection or, optionally, indirectly heated or cooled using a double jacket. An additional vacuum system enables the deaeration of the product mixture as well as the suction of liquids or dry ingredients.

Variety of cheese sausages in alginate casing

With the ConPro systems, it is possible to continuously produce cheese products in sausage form with a vegan, edible alginate casing. This technology allows products with a wide range of viscosities to be coated in alginate. Examples include creamy preparations made from processed, spreadable, or fresh cheese, as well as quark, yogurt, dessert creams, and even thin, liquid alternative dairy products. A wide variety of product options are possible – whether bite-sized yogurt snack portions, dried sticks, or savory cheese grill sausages. Various system solutions can also be used as co-extrusion systems, enabling the efficient production of multi-component products, such as filled or multi-layered items, in a single process step.

Alginate is a long-chain carbohydrate extracted from brown algae. Alginate gels can be formed over a wide range of temperatures and pH levels, are water-insoluble, heat-stable, and therefore suitable for boiling, smoking, and drying. This makes alginate

an excellent choice for edible casings. Handtmann has developed the necessary technical requirements for this with ConPro system technology, which enables the continuous production of product ropes coated with alginate gel. Essentially, the system consists of two vacuum fillers connected by a co-extrusion head. One of the vacuum fillers, the master machine, pumps the filling mass that forms the product strand, while the slave machine delivers the alginate paste to create the casing. The product strand can be cut or linked into individual sausages. The cheese sausages produced can be packaged as fresh products or further processed through steps such as maturation, drying, or smoking.

ConProLink system for linked cheese sausages

The Handtmann portfolio includes several ConPro systems in various configurations. The ConProLink system, for example, can be used to produce linked cheese sausages. During the alginate setting process, the co-extruded sausage strand is linked into individual portions. The resulting sausage chain can then be cut at defined linking points. The linking points between the cheese sausages are also set, ensuring product integrity. This process enables a wide range of product variations, from individual sausages for horizontal downstream processing to endless sausage chains for hanging applications. The products feature well-shaped, sealed ends, which allows even relatively thin, liquid product masses to be processed. Products with diameters from 10 to 28 mm and lengths starting from 80 mm are possible. Thanks to the continuous production process, output rates of up to 300 portions per minute can be achieved. The system is modular in design and can be expanded or integrated into automation processes to meet specific requirements.

Cheese sausages in alginate casing (photo: Handtmann)

The production of mozzarella sausages is another example of product diversity (photo: Handtmann)

Natural food colors for dairy products

photo: littlehandstocks_stock.adobe.com

According to MarketsandMarkets The food colors market is projected to grow at a CAGR of 5.4 % to reach USD 6,502.6 million by 2028. Food colors are available in powder, gel, and liquid forms. The use of food color forms depends on the type of end-use applications it has. The dry form is widely used in beverages such as fruit-based drinks or dairy beverages. The liquid and gel forms are used for bakery and confectionery products. Key food colorant-producing players offer all forms of food colors, i.e., powder, liquid, and gel forms. The selection of the food color form entirely depends on the final product processed. Food colors are vital ingredients of processed foods & beverages. Food processors reinforce the original product's quality by enhancing its visual appeal using food coloring. Improving product appeal is a major factor that has led to the addition of colors to food products. Food colors balance the loss of colors because of heat, light, air, moisture, and other atmospheric conditions. Food colors play a significant role in enhancing the visual appeal of off-color or colorless products. They also help retain the original properties of vitamins, flavors, and nutrients in food products that can be altered due to sunlight.

Food color is a substance used in various food products to enhance quality and attract customers. It is available in liquid, powder, and gel forms. The market is typically segmented into three types: natural, synthetic, and nature identical. Food colors are most significantly used in food and beverage applications. The use of food colors has a significant impact as they play an important role in the visual appeal of the food. In India, the government has supported the use of colors in foods. The Food Safety and Standards Authority of India (FSSAI) has approved a few food colors that are safe for human consumption. Carotenoids, chlorophyll, caramel, riboflavin,

saffron, annatto, and curcumin are the food colors approved by FSSAI to be used in any food product. Red, blue, yellow, and green are synthetic colors approved by FSSAI to be used in food products. Moreover, food colors also need to be certified with FDA standards before using them in foods.

As consumers shift from synthetic to plant-based colors, the demand for food colors is growing. The technological enhancement to process natural colors is also evolving rapidly to improve the performance of natural colors in a variety of processing environments. The increasing popularity of plant-based products serves as a great opportunity for natural food colors. Furthermore, driving demands brown and red colors in meat substitutes, white and orange colors for fish alternatives, and yellow colors in dairy-free products. Around 95 % of newly launched colored meat alternatives are sourced from plant-based coloring foods.

Dairy products include milk-based products, such as butter, cheese, and yogurt. This market is a potential growth sector for natural food colors. Colors enhance the appearance of dairy products, such as cheese, yogurt, and ice cream. Natural food colors are majorly used in sugar-free applications, such as ice creams fortified with health ingredients or vitamins. Dairy products colored with lycopene also provide a good source of antioxidants. The production of pure organic cheese is now possible due to natural and certified organic colors.

Certified colors play an important role in the production of dairy & frozen foods. However, matching the exact hue and stabilities of certified colors with exempt colors is where the challenge lies. It is easier in the hue ranges of yellow to orange and pink to red. green and blue hues are a challenge over the wide pH range of dairy products. Blue hues are usually formulated with anthocyanins that are blue at pH 7. Green is achieved through the mixing of blue and yellow, typically from turmeric. These blue and green hues have limited use since the blue hues degrade at a neutral pH, which is typical of milk and a few ice creams. Blue and green are also challenging in low-pH dairy products, such as yogurts and smoothies, as anthocyanins revert to a red hue in low-pH foods. Dairy products are refrigerated or frozen and protected from light, due to which the light stability of pigments is not an issue. In terms of heat, exempt colors can withstand high- temperature short-time (HTST) pasteurization. However, most colors cannot withstand high temperatures in ultra-high temperature (UHT) processing, The cost-of-use of certified colors becomes a key factor in low-margin and high-volume dairy products. Strawberry ice creams colored with beet juice would be a vibrant red color. However, as beet juice is not natural for strawberry ice cream, it is considered an artificial color. If a food product is colored with an ingredient common to other food products, such as elderberry yogurt being colored with elderberry color, then the product can be labeled as "naturally colored." Food colors are contained in many foods, including snack foods, margarine, cheese, jams and jellies, and desserts, drinks, etc. Key factors, such as the growing demand for natural food colors, have significantly driven market growth due to the increase in consumer awareness for clean-label products and the additional health benefits of certain natural food colors. Food colors are broadly segmented into three types, namely, natural food colors, synthetic food colors, and nature-identical food colors.

Natural pigments are increasingly emphasized as they have achieved commercial significance, and consumers have perceived them as safe additives. Besides aesthetics, natural pigments have potential physiological effects due to their potent antioxidative properties. Advancements in technological innovations, such as nano-encapsulation, supercritical carbon dioxide, supercritical fluid, gas-based extraction, and spinning cone columns, to increase the efficiency of extraction have also been encouraging the growth of the food color industry.

Food colors market ecosystem (source: Secondary Research MarketsandMarkets Analysis)

The growth in the processed and packaged food markets directly impacts the growth of the food colors market. Due to the growth in the processed food & beverage market, the demand for food colors is also projected to grow at a rapid pace. The processing of food products involves various practices, including thermal and non-thermal processes. These processes alter the characteristics of the original color of food products due to various process parameters, such as temperature, moisture, and pH. Due to these factors, the demand for food colors in processed food products is increasing to impart natural aesthetics.

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Technological advancements, an increase in R&D activities, and consumer interest in organic products are the key factors projected to drive the growth of the food colors market. The growth opportunities for manufacturers in the market include the development of new raw material sources, increase in ventures in Asia Pacific and South America, safety reassessment for synthetic food colors, encapsulation of natural colors, and launching advanced products, such as innovative color shades, multifunctional colors, and colors for sensory impact.

The demand for food colors is increasing in the emerging countries of Asia and South America due to the growth of the processed food market. Localizing operations can help reduce costs and improve access to the local distribution networks, optimizing profit margins. Resources and labor are readily available at a cheaper rate in these regions. The local governments in China and India are providing incentives for multinationals to set up Greenfield ventures. The Indian government has declared major tax breaks to attract multinational investors. China provides special tax incentives over the usual tax holidays to encourage foreign investors.

LALLEMAND SPECIALTY CULTURES
New Application R&D Laboratory in Rennes

NEWS

On September 15th, Lallemand inaugurated its new Application R&D laboratory in Rennes (Ille-et-Vilaine), marking a strategic milestone in the growth of our business unit. This relocation from La Ferté-sous-Jouarre (Seine-et-Marne) to a newly designed 400 m² facility reflects the companies commitment to fostering innovation, collaboration, and closer ties with partners."This laboratory is intended as a meeting point between science and application, between our internal teams and external partners, and between development and the concrete needs of the market," said Lauriane Fillous, President of Lallemand Specialty Cultures business unit. Founded in 2012, the business unit specializes in food cultures for the dairy, meat, and plant-based sectors. This new R&D site was designed to promote agility, cross-functional collaboration, and innovation. It enables Lallemand to develop microorganism-based solutions that address tomorrow's challenges: sensory differentiation, technological performance, food safety, and sustainability". This relocation project is fully aligned with our ambition to advance R&D in an environment that encourages exchange and collaboration," added Pablo Alvarez Martin, R&D Director. The site features 200 m² of laboratories dedicated to the formulation and testing of microorganism-based solutions, as well as the evaluation of their effects on finished product models under conditions similar to industrial production.

Lallemand inaugurated its new Application R&D laboratory in Rennes (photo: Lallemand)

GAULIN HOMOGENIZERS
25 years of innovation

NEWS

SPX FLOW commemorates 125 years of Gaulin homogenizing technology – part of the APV brand for over 50 years. The first of its kind in the industry, Gaulin homogenizers revolutionized dairy processing by improving product quality and extending shelf life. Today, that legacy of innovation continues to evolve, with homogenizers playing a critical role in shaping the future of dairy, pharmaceutical, cosmetic and chemical processing – supporting smoother mouthfeels, high-gloss finishes and finer emulsions.

SPX FLOW commemorates 125 years of Gaulin homogenizing technology (photo: SPX FLOW)

"For 125 years, Gaulin homogenizers have helped shape how the world processes milk, general beverages and more," said Con O'Driscoll, SPX FLOW Global Product Manager for Dispersion Products. "That legacy inspires us every day as we continue evolving our technology to meet new challenges – supporting our customers with reliable performance and the confidence to move forward."

125 Years in Review:

- 1899: Auguste Gaulin patented the homogenizer; U.S. approval followed in 1904
- His high-pressure system revolutionized the safety, taste and shelf life of liquid foods
- Debuted at the 1900 Paris World Fair as a breakthrough in food processing
- Proved effective when homogenized milk stayed fresh after a months-long ocean voyage aboard the R.M.S. Oropesa
- Acquired by APV in 1972 and later joined by Rannie to form a leading global homogenizer brand

Even after more than 70 years, Gaulin homogenisers are still being used by customers. For SPX FLOW, this is proof of the long-term value of choosing the right homogeniser.

drinktec
Grow with the Flow

Drinktec 2025

This year, drinktec once again confirmed its position as the world's leading trade fair for the beverage and liquid food industry, attracting more than 58,000 trade visitors from over 164 countries. Over five intensive days, more than 1,100 exhibitors from 68 countries presented the latest technologies, trends and solutions. This year's focus was on the key topics of circularity & resource management, data2value, and lifestyle & health. Numerous keynote speeches and live demonstrations offered valuable insights into the future of the industry.

Feedback from exhibitors and visitors was consistently positive: many praised the high quality of the discussions, the international reach and the excellent networking opportunities. IDM was there and reports on interesting trade fair innovations below.

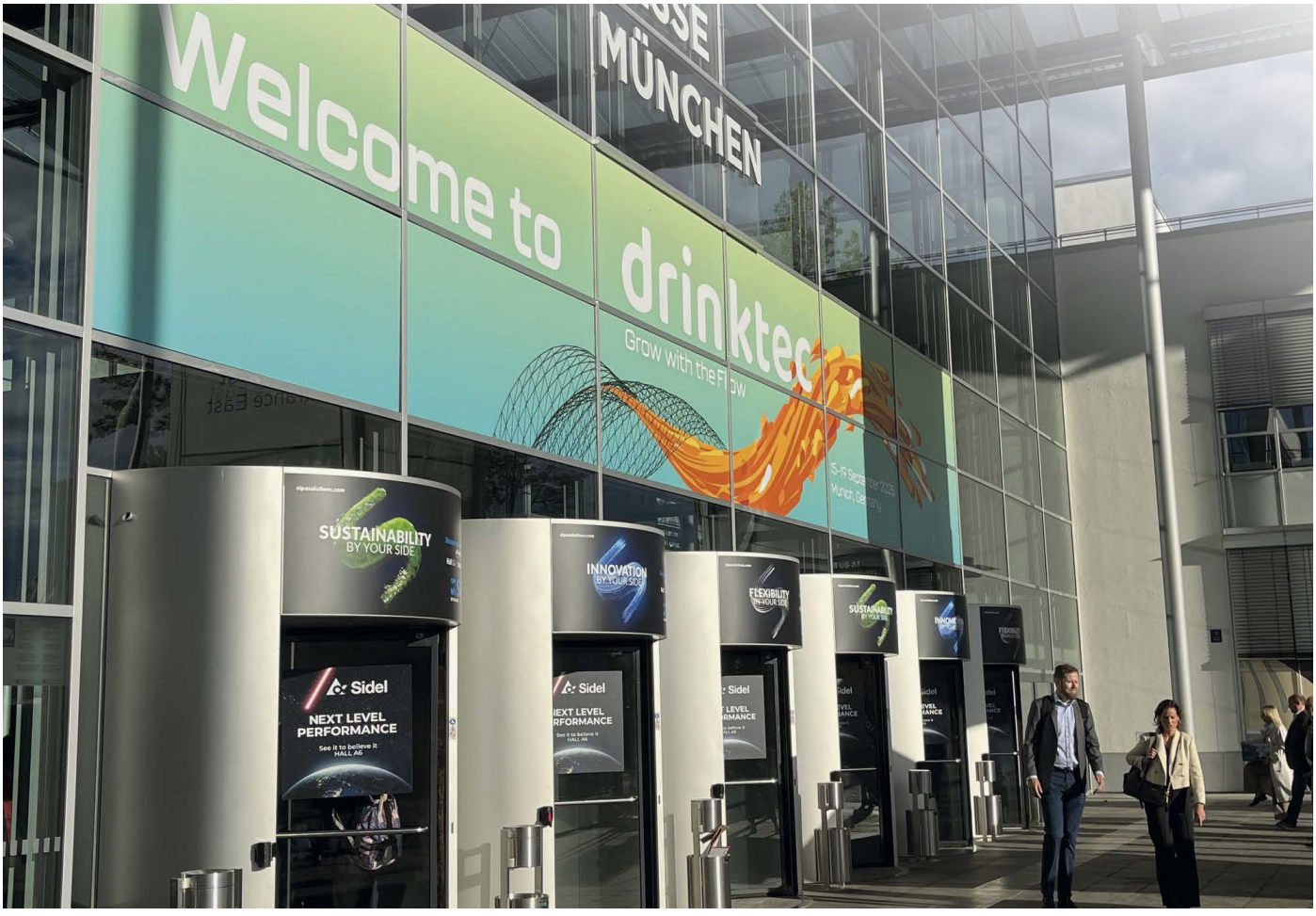


photo: IDM

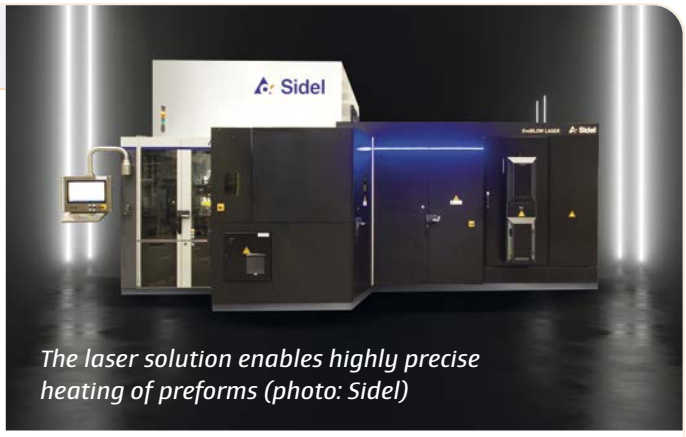
Sidel: EvoBLOW Laser

At drinktec 2025, Sidel presented its new EvoBLOW Laser blowing technology. For the first time, a laser-based heating system for PET preforms was shown on an industrial scale, marking the company's move away from the long-established halogen technology.

With this technology, Sidel addresses the growing pressure in the beverage industry to cut costs, increase sustainability, and maintain high product quality. The laser solution enables highly precise heating of preforms. Compared to conventional systems with eight heating zones, EvoBLOW Laser offers up to 36 individually controlled lines. This finer adjustment allows for a more consistent material distribution and opens new possibilities in lightweighting PET and rPET containers. Even demanding bottle geometries, such as areas directly below the neck, become easier to realise.

Another key advantage is process stability: while halogen systems are sensitive to environmental conditions, the laser solution is unaffected. It requires neither long warm-up times nor standby modes. As a result, production can resume immediately after stops, reducing downtime and easing daily operations for line operators.

In terms of recycled material, EvoBLOW Laser also shows improvements. Variations in rPET quality can be compensated more quickly, which helps to reduce scrap rates. In addition, higher preform heating levels are possible, supporting an optimal stretching process.



The laser solution enables highly precise heating of preforms (photo: Sidel)

The new technology also offers practical benefits in safety and maintenance. Since the laser ovens operate cold, the risk of burns is eliminated and access to components is faster. With no fans or filters required, maintenance demands are lower, while the long lifetime of the diodes further adds to reliability.

Before the official market launch, Sidel tested the system together with Refresco, the world's largest independent beverage bottler. According to both companies, the field trials were successful. Refresco expects laser oven technology to become a new standard in PET production.

ProMinent: Dosing and water treatment systems

ProMinent showcased its latest solutions for dosing and water treatment in beverage production. For the first time, the company introduced the DULCODOS Compact F&B dosing system, designed for direct food contact, such as the metering of flavourings or the treatment of product water in soft drink production. Also on display was the DULCODOS SAFE-IBC F&B station, which enables safe handling and continuous dosing of additives. With its hygienic, dead-space-free design, it is CIP-compatible and built to meet EU food contact regulations.

The company also exhibited its proven gamma and sigma dosing pump families, which are designed for precise metering in hygienic applications.

Among the highlights was the DULCOLYSE electrolysis system, which produces disinfectant with low chlorate and chloride levels, supporting compliance with strict safety standards. The newly developed beta/X dosing pump is aimed at water treatment tasks, for example metering lubricants in conveyor systems. Another innovation was the DULCOZERO FCL monitoring system, which provides rapid alerts in case of chlorine breakthrough, protecting reverse osmosis membranes used in potable water treatment.

ProMinent also presented the DULCODES LP TL UV system for liquid sugar disinfection. Unlike conventional pasteurisation, it eliminates heat-resistant germs in sugar syrup efficiently and without thermal stress.

For the first time, ProMinent introduced the DULCODOS Compact F&B dosing system (photo: ProMinent)

In addition, the company highlighted its measurement, control and sensor technology, as well as digital tools that support water quality assurance in beverage production.

Kaeser: Energy-efficient compressed air solutions

Rising energy costs continue to challenge the beverage and liquid food industry. Kaeser presented a range of systems aimed at improving the efficiency and reliability of compressed air supply.

The CBS series blowers use Kaeser's Sigma Profile and are designed for compact installation. The SFC version includes a frequency converter and a synchronous reluctance motor. Maintenance access from the front and the option for side-by-side installation simplify operation. Typical applications include aeration, mixing and conveying in beverage plants.

With the i.Comp 8/9, Kaeser introduced an oil-free reciprocating compressor that adapts air delivery to demand via a speed-controlled motor. The i.Comp Tower T integrates compressor, air receiver, refrigeration dryer and controller in a single unit, making it suitable for filling, cleaning and process control.

The CSG series rotary screw compressors combine synchronous reluctance motors with Kaeser's airend profile to improve energy efficiency. The water-cooled models also incorporate heat recovery and drying, making them suitable for processes where both compressed air and hot water are required.

The i.Comp Tower T integrates compressor, air receiver, refrigeration dryer and controller in a single unit (photo: Kaeser)

The DN C booster system was shown for use in PET bottle manufacturing. Its compact design allows efficient cooling and easy access for service. With the Sigma Control 2 system, it can be integrated into networked compressed air management.

Kaeser also exhibited systems for compressed air treatment. Secotec refrigeration dryers and i.DC desiccant dryers provide clean, dry air, while the Aquamat i.CF oil-water separator supports monitored and controlled condensate treatment.

KHS: Production line coaching service

KHS presented a new production line coaching service. The programme is designed to give operators and supervisors a deeper understanding of entire filling lines, beyond individual machines.

KHS presented a new production line coaching service (source: Frank Reinhold)

By focusing on material flows, maintenance routines and interactions between processes, the coaching aims to reduce downtime and improve overall efficiency.

While KHS has long offered operator training, the new service takes a broader view. It addresses the complexity of modern filling lines, where many interdependent steps can influence performance. The coaching is intended to help production staff identify disruptions more quickly and respond more effectively. The courses also reflect the increasing role of digital monitoring. Data analysis systems constantly capture information about line conditions, but this data must be interpreted correctly. According to KHS, trained staff can use these insights to predict potential stoppages and prevent avoidable downtime. Typical coaching scenarios include analysing causes of line stoppages and understanding dependencies between equipment, such as conveyors and palletisers. A better grasp of these interactions enables operators to react faster and more confidently in real production situations.

Ecolab: CIP IQ Technology

Ecolab announced Ecolab CIP IQ, an AI enhanced digital technology that changes how food and beverage manufacturers run Clean in Place (CIP) by pairing new sensor data with advanced analytics to optimize wash execution and free up l capacity for innovation. With real-time visibility, exception alerting and AI driven insights, CIP IQ helps plants improve efficiency, quality and sustainability – while reclaiming time teams can reinvest in strategic initiatives.

By harnessing richer data from the wash itself and turning it into decision ready guidance, Ecolab helps customers reduce the routine time spent running CIP.

Purpose-built for food and beverage, CIP IQ provides a unified, real-time view of CIP performance with wash conformance scoring, consumption reporting and critical exception alerts.

Ecolab's Precise Wash capability is a module of CIP IQ, which uses real time soil load data from advanced sensors to help determine when active cleaning is complete, so teams can confidently move to the next step.

While Precise Wash is only one part of the broader CIP IQ technology, trials in dairy facilities have shown it can reduce alkaline wash time by 10–20 % and unlock additional annual production output. These insights integrate with CIP IQ's reporting and alerting to support compliance, continuous improvement and sustainability objectives across the plant. CIP IQ and its Precise Wash module are part of Ecolab's comprehensive approach to helping customers advance food safety and quality, optimize water usage, maximize productivity and lower costs of operations with state-of-the-art solutions for cleaning, sanitizing and pest control.

Ecolab announced Ecolab CIP IQ, an AI enhanced digital technology (photo: Ecolab)

Collo: World Beverage Innovation Award 2025

Collo (ColloidTek Oy) from Finland received the 2025 World Beverage Innovation Award in the "Processing/Production Innovation" category. The company was recognized for its radio-frequency sensor technology that analyzes liquids in real time.

The system detects process losses that remain unnoticed with conventional sensors, for example during cleaning cycles or production changeovers. This helps manufacturers increase efficiency and sustainability. At Valio's Joensuu dairy, the technology has already delivered significant cost savings.

The World Beverage Innovation Awards, organized annually by FoodBev Media, honor technological and sustainable advances in the global beverage industry.

Krones: Wide range of technologies

Krones presented a wide range of technologies in Munich (photo: IDM)

Krones presented a wide range of technologies in Munich. The company showcased data-driven and resource-efficient plant engineering, filling and packaging systems, intralogistics concepts and digital services. A highlight of the stand was the presentation of Ingeniq, a fully automated line for filling still water into PET bottles. Designed as a response to customer demand for low operating costs and high efficiency, the concept uses modular components, robotics and AI to simplify line layouts. According to Krones, it also marks a shift towards shared responsibility with customers over the lifetime of the line.

For PET applications, Krones introduced new approaches to filling and lightweighting. The company presented a higher-temperature filling method for CSDs that supports process simplification and energy savings. In aseptic technology, the NitroAdd Asept nitrogen injector strengthens lightweight PET bottles, while the compact Contipure AseptBloc combines sterilisation, stretch blow-moulding and filling in a space-saving unit of around 100 m².

In process engineering, Krones expanded its portfolio with the UniPure S decanter for solid-liquid separation in food and recycling, and the HLI 132 homogeniser from subsidiary HST, designed for large-scale, energy-efficient liquid processing.

Krones also demonstrated its expertise in plastics, presenting a full closed-loop system. Following the acquisition of Netstal, the company now offers injection-moulding machines for preform production alongside its existing filling, packaging and recycling technologies. The new PET-Line 4000 achieves outputs of up to 108,000 preforms per hour with ultra-light designs

GEA: New generation of filling technology

GEA introduced a new modular filler designed for high-performance beverage production. The system is engineered for flexibility, service-friendliness and hygiene, reflecting the growing demand for efficient and adaptable filling solutions. The filler is compatible with GEA's aseptic platforms (ABF, EcoSpin, Whitebloc, Unibloc Flex) and can process still and carbonated beverages, low- and high-acid products, dairy-based drinks and other sensitive formulations. With capacities of up to 60,000 bottles per hour, it handles PET, aluminum and glass containers as well as multiple closure types. A new gripper mechanism prevents bottle rotation during capping and allows automatic changeovers between different bottle formats with the same neck finish, without manual intervention.

GEA's new filling module in Kinetic Edge Design (photo: GEA)

The machine incorporates the new Kinetic Edge Design, which improves accessibility and reduces the number of panels. Service areas are easier to reach, quick-lock doors shorten access times, and overall maintainability is enhanced. These features are intended to reduce downtime and simplify routine work for technicians.

The aseptic isolator has been redesigned to meet EHEDG standards. Product-contact surfaces feature steeper slopes and smoother finishes to reduce residue buildup and improve cleaning. A sloped ceiling prevents droplet formation above the bottle path, further supporting hygiene and safety in production.

The filler is equipped with a 24-inch HMI featuring AI-assisted alarm diagnostics. Drawing on data from global installations, the system suggests likely causes of faults and recommended actions. In addition, a Digital Board mounted above the filler displays real-time alerts and operating data, visible from a distance of up to 20 meters. These tools aim to improve operator awareness and shorten response times.

LEIBINGER: Coding solutions

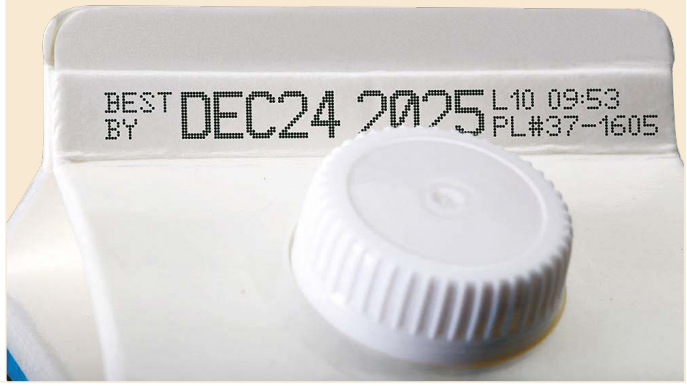
The GS1 Sunrise initiative will make 2D codes an industry standard by 2027. These codes carry far more information than conventional EAN/UPC barcodes and will be used in parallel at retail points of sale worldwide. At drinktec 2025, LEIBINGER showed how this transition can already be implemented on different packaging materials under real production conditions.

The company presented its coding systems for glass, aluminium, plastics, cardboard and stainless steel. Even under challenging conditions – such as high humidity, frequent material changes and fast production lines – the printers achieve stable and accurate results.

Integration into existing ERP, MES and EMS systems is supported via an API interface, while a plug-in enables connection with SAP. Central remote monitoring simplifies operation, increases transparency and helps improve efficiency.

A focus of the exhibit was the IQJET printer, which operates for up to five years without maintenance. Cartridges can be replaced during operation without downtime. The system consumes about 50 % less solvent than conventional continuous inkjet printers, requires less energy and is ready for use at any time.

LEIBINGER – CIJ printers and ink solutions for beverage packaging (photo: LEIBINGER)



Small format, big impact

NordseeMilch expands range with Pure-Pak Mini

The dairy cooperative NordseeMilch produces dairy products under its own "NordseeMilch" brand as well as many private label products for German food retail. The company from North Friesland processes more than 300 m kg of milk annually and is the largest fresh milk bottler in northern Germany.

The UNESCO World Heritage site "Schleswig-Holstein Wadden Sea National Park", with its scenic and flawless beauty, is located nearby. These surroundings greatly influence the mindset and actions at NordseeMilch eG, with quality, reliability, innovation, commitment to environmental protection and animal welfare, in particular, at the heart of its brand identity.

With the continual goal of making its packaging concepts more sustainable, NordseeMilch is now using a new packaging format: From September 2025, 500 g gourmet whipping cream, 200 g whipping cream and 500 ml chocolate milk will be available in the handy Pure-Pak® Mini from Elopak. The 200 g whipping cream is not only a new product in the NordseeMilch range but also the first cream in Germany to be sold in this environmentally friendly packaging. The Pure-Pak Mini is easy to handle and makes a bold statement in terms of resource conservation. While gourmet whipping cream and chocolate milk come in the 500 ml format with resealable Pure-TwistFlip™ closures, NordseeMilch uses a completely closure-free version with Easy Opening for the 200 g whipping cream. This solution reduces plastic content by up to 80 % compared to conventional plastic cup packaging.

For larger packaging, NordseeMilch relies on Elopak's resealable Pure-TwistFlip closures (photos: Elopak)

Elopak machine processes four packaging sizes

To fill this innovation in the fresh segment, a new Elopak machine – the Shikoku S-PM-F70UC – was installed at the facility. Capable of processing up to 7,000 gable top cartons per hour, it can fill 200, 250, 330 and 500 ml sizes. Switching between sizes is quick and easy, allowing NordseeMilch to not only fill its own products but also private label goods. It can handle different board qualities and closure options (Pure-TwistFlip or Easy Opening) depending on customer needs and product requirements.

Seal of approval from consumers

A study of 200 buyers of fresh cream conducted by market research institute Kantar in 2024 endorsed NordseeMilch's strategic decision: Compared to conventional plastic cups, the Pure-Pak Mini packaging showed significantly higher purchase intent. The carton packaging with Easy Opening was rated 20 % better due to its environmental benefits, while the version with closure received 80 % more approval. Respondents particularly appreciated the clean handling and easy opening, as well as the uniqueness of the gable top format. These features also contribute to differentiation at point of sale and strengthen the perception of sustainable brands.

The filling line can process up to 7,000 Elopak gable-top cartons in sizes of 200, 250, 330 and 500 ml per hour

Thanks to the closure-free Easy Opening solution, the use of plastic is reduced by 80 per cent compared to conventional cups.

Clear ecological advantages

A comparison of various 200 ml packaging options by Fraunhofer IBP clearly shows the ecological advantages of the Pure-Pak Mini: The carton packaging with the Pure-TwistFlip closure contains 73 % more renewable raw materials and requires 71 % less plastic than a classic plastic cup with an aluminum foil seal. Furthermore, the CO_2 footprint is 53 % lower.

The difference is even more pronounced between the Pure-Pak Mini without a plastic closure and the three-component plastic cup with cardboard sleeve and aluminum lid which is especially popular in the organic segment: The Pure-Pak Mini with Easy Opening is made from 85 % renewable resources, contains no aluminum and has 80 % less plastic, resulting in significantly lower CO_2 emissions.

Logistical and economic benefits

In addition to its ecological advantages, the new packaging also offers logistical and economic benefits. Due to its square shape, the Pure-Pak Mini allows for more efficient pallet loading. About 18 % more units fit on a pallet compared to round cups. For retail, this means optimised shelf usage and a striking brand presentation: the gable format allows for a continuous front display, enhances visibility on the refrigerated shelf and makes in-store handling easier.

Additionally, the mini carton is stable, stackable and less prone to leaks, which also positively impacts processes throughout the supply chain. To support the transition to the closure-free Easy Opening solution, NordseeMilch prints a QR code on the gable of the carton along with an explanatory sketch. The code links to a tutorial video on the company website and connects the packaging with the brand's digital world.

Close and trusted partnership

The collaboration between Elopak and NordseeMilch is not new, as Stephen Naumann, Vice President of Elopak, explains: "We have had a close and trusting relationship with NordseeMilch for over 20 years. They were the first dairy in northern Germany to offer fresh milk in our Pure-Pak gable packaging with a screw cap. Together, we launched the first tethered caps on the market, and now we are presenting another market innovation in the fresh segment."

NordseeMilch will be selling the new 200 g format in food retailers from the third quarter of 2025. This will make the new packaging a lighthouse project for a sustainable "Plastic to Carton" strategy in retail.

Emmi introduces new rapid test system for inhibitors

Rapid implementation – easy handling

Checking for antibiotic residues in raw milk is a key part of quality assurance in the dairy industry. Emmi Switzerland recently introduced the MilkSafe™ FAST rapid test system from Novonesis for this purpose. The system is used in all of the company's large plants and is to be gradually implemented in the smaller cheese dairies as well.

Introduction in several stages

Emmi processes 2 billion liters of milk a year worldwide and operates 16 milk processing plants in Switzerland. The transition to MilkSafe FAST took place in three stages: starting in Emmen, followed by other sites, with one plant initially using the previous test system to use up existing materials. The full transition was completed at the beginning of June 2025. The entire process took around two months – but only because one plant was converted at a time.

Particular attention was paid to training the tanker drivers. "Changes are not always welcomed, so I personally supported the drivers intensively during the transition and we carried out the initial tests together. This helped for changes to be accepted," says Roger Flury, Head of Laboratories Emmi Switzerland.

How the test system works

MilkSafe FAST is used to detect residues of common antibiotic groups such as beta-lactams. Other groups of active substances such as tetracyclines, sulphonamides, chloramphenicol and streptomycin can also be tested. Sampling is carried out by the drivers of the tankers.

One collection bottle from each milk collection truck is sampled, as before. The drivers first log into the system with their data, then pipette a milk sample to the marked area on the test strip. The test is incubated for three minutes at 50 °C – which is faster than before (it was previously six minutes).

The results are clearly visible: if a test line is missing, the sample is positive. Alternatively, the tests can be evaluated using a reader that records the results digitally. "The big advantage for us is not the speed, but the simplicity and transparency," explains Flury. Thanks to the desktop reader, all measurements are recorded and the details of the individual inhibitor groups can now be accessed at any time.

Roger Flury, Head of Laboratories Emmi Switzerland, and Thomas Schilling, Senior Account Manager, Dairy & Tests Novonesis (photos: Emmi)

In the near future, the devices will also be connected to a cloud so that the data can be viewed in real time – a further step towards greater efficiency and traceability. For security reasons, this will be implemented via LAN connections.

Rapid response in the event of an incident

According to Flury, the rate of positive samples is less than one per thousand. If a sample does turn out to be positive – or an application error is suspected – a second sample is analyzed to confirm the results. "The new system enables us to respond much faster in the event of an incident and inform the affected farmer promptly," says Flury. It is also easier to minimize damage: in the event of contamination, the individual chambers of the tanker are checked in order to precisely localize the source.

The team was also able to overcome small challenges, such as the sampling of sheep's milk (ewe) with its higher fat content. An existing measurement program with a slightly longer incubation period was used here.

Outlook

MilkSafe FAST is now successfully established at all major Emmi plants in Switzerland. Depending on personnel capacities, smaller cheese dairies are also set to follow in the future. Flury is convinced: "With MilkSafe, we believe we are well prepared for the future." Other companies in the industry are likely to follow Emmi's example soon.

Dairy-based beverages market

Steady growth in the coming years

According to Research Intelo, the global dairy-based beverages market size reached USD 108.3 billion in 2024, driven by sustained consumer demand for nutritious and functional drinks. The market is experiencing a compound annual growth rate (CAGR) of 5.1 % from 2025 to 2033. By 2033, the dairy-based beverages market is projected to reach USD 167.5 billion, reflecting robust expansion due to evolving dietary preferences, innovation in product offerings, and increasing health awareness across both developed and emerging economies.

Health-conscious consumers are seeking beverages that provide both taste and functionality. Dairy-based drinks enriched with probiotics, vitamins, and minerals are positioned as healthier alternatives to carbonated soft drinks. This trend is encouraging manufacturers to innovate and launch fortified dairy beverages.

Flavoured milk, lassi, buttermilk, and yogurt-based beverages are experiencing rising demand, especially among younger demographics. Functional dairy beverages with added protein, probiotics, or energy-boosting ingredients are carving out a strong niche in fitness and wellness markets.

Rapid urbanisation has increased the consumption of ready-to-drink (RTD) dairy beverages. Busy lifestyles, particularly in urban centres, are driving the preference for convenient, packaged dairy drinks that can be consumed on-the-go.

The prevalence of lactose intolerance poses a challenge to the dairy beverage industry. Plant-based alternatives such as almond milk, soy milk, and oat milk are becoming competitors, attracting health-conscious and vegan consumers.

Volatility in milk prices and supply chain disruptions affect the production costs of dairy-based beverages. In addition, maintaining cold storage and transportation adds to logistical challenges.

Manufacturers are focusing on incorporating functional ingredients such as collagen, omega-3 fatty acids, and plant-based fortifications into dairy beverages to meet evolving consumer demands.

Premium dairy-based drinks such as organic flavoured milk, artisanal yogurt beverages, and lactose-free fortified drinks are gaining traction among affluent consumers.

With increasing environmental concerns, companies are investing in eco-friendly packaging to attract environmentally conscious buyers and align with global sustainability goals.

The dairy-based beverages market is poised for steady growth in the coming years. While challenges from plant-based alternatives remain, innovation, diversification, and consumer preference for nutritious beverages will sustain demand. Companies that adapt to changing health trends and focus on sustainability will likely capture greater market share.

photo: The 2R Artificiality_stock.adobe.com

DSM-FIRMENICH

Next generation of Dairy Safe all-in-one cultures

NEWS

dsm-firmenich launches four new Dairy Safe™ culture rotations. These all-in-one, label-friendly solutions deliver assured bioprotection through improved phage robustness as well as greater temperature resistance, controlled eye formation, consistent acidification, and enhanced flavor development for premium semi-hard, hard, and continental-style cheese varieties.

Cheesemakers are under increasing pressure to deliver more cheese without the use of preservatives that need to be listed on ingredient labels. dsm-firmenich's new Dairy Safe cultures are designed to enable additive-free formulation, good tastes, and spoilage protection.

The newly launched strains are even more temperature robust than the previous generation, meaning they accommodate the production of a greater variety of cheese types. Alongside assured bioprotection, the new cultures deliver more consistent acidification, reliable gas production for uniform and attractive eye formation, faster flavor development, and enhanced overall flavor intensity.

TETRA PAK/SWAN NECK BIO

New collaboration

NEWS

Tetra Pak has announced a new collaboration with Swan Neck Bio, a Denmark-based biotechnology company, to simplify and expand scaling opportunities for companies developing biomass or precision fermentation-derived food products. The collaboration enhances Tetra Pak's offering by giving producers the option of seed as an ingredient, creating a turnkey solution for commercial fermentation processes within the New Food space and beyond.

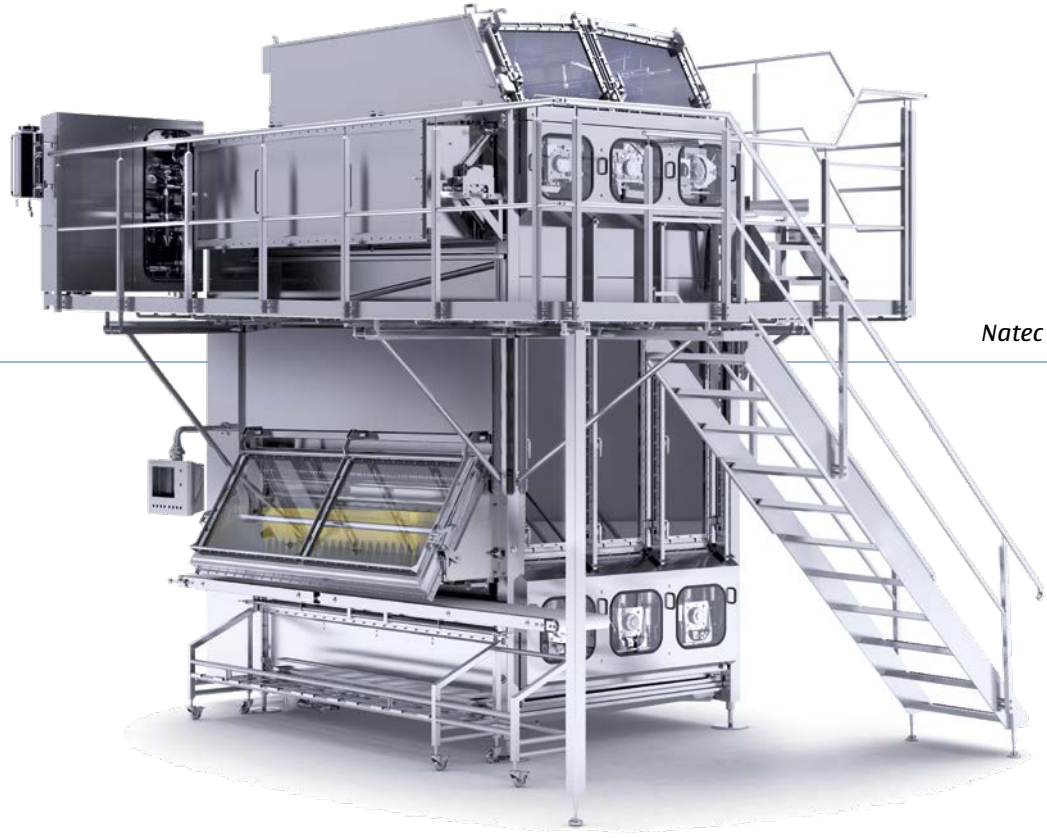
With this collaboration, producers developing food through fermentation have access to Swan Neck Bio's DIRINOC technology, a storable, concentrated, viable and quality-certified starter culture for direct inoculation that supports growth of a producer's organism without the need to propagate their own cultures.

Using DIRINOC can reduce contamination risk and provides predictability in output. With many food producers failing to produce at scale due to contamination or variable yield that differs from expectations, DIRINOC offers a low-risk solution that is expected to reduce waste, lowers total cost of ownership for equipment solutions, and increases profitability. DIRINOC is also incorporated into Tetra Pak's process development ecosystem, so producers can outsource the seed train if they prefer to avoid a multi-stage bioreactor process. This makes it possible for New Food producers to begin trials without the resource intensity of propagating cultures on site.

DIRINOC is also incorporated into Tetra Pak's process development ecosystem (photo: Swan Neck)

Industrial Production of Pasta Filata

From Imported Product to Staple food



Natec Filler (photo: Hochland Natec)

Since the turn of the millennium at the latest, the German cheese landscape has undergone a noticeable change, with an inconspicuous but versatile type of cheese quietly and steadily finding its way into consumers' hearts and shopping trolleys: pasta filata. What was once considered a typical Italian speciality is now an integral part of German eating habits. Leading the way is mozzarella, which is no longer found only on pizza, but also enriches salads, sandwiches and snacks. The increasing popularity of Mediterranean cuisine, growing health awareness and the industrial adaptation of production processes have led to pasta filata cheese now being as commonplace in German supermarkets as Gouda or Emmental. A significant proportion of production does not go directly to consumers, but is used as an ingredient in a wide range of everyday products. This is a development that we are seeing not only in Germany but in many countries around the world, making the question of efficient and competitively priced production all the more urgent.

NATEC – a subsidiary of cheese manufacturer Hochland – has been tackling this task for years and is considered one of the specialists when it comes to the industrial production of pasta filata cheese. The technology used here can not only be applied to the original product, but also meets the requirements for the production of plant-based alternatives. Georg Herbertz spoke to Fabian Meuschke, responsible for sales at Hochland Natec GmbH, about this technology on behalf of IDM.

Fabian Meuschke, responsible for sales at Hochland Natec GmbH (photo: Hochland Natec)

IDM: Despite growing competition from vegan alternatives, international forecasts indicate that the cheese market will continue to grow in the coming years. Can Natec confirm this trend, and how are you preparing for future demand for cheese and the necessary production technologies?

Meuschke: Based on the production volumes for vegan cheese alternatives as well as conventional cheese products, this trend can definitely be confirmed. Especially in times of inflation, people are less likely to opt for trendy alternatives, which are often more expensive. Our systems can be used flexibly for both products, so we definitely see this development as positive for us.

IDM: In Germany – and especially internationally – the pasta filata cheese group occupies a very prominent position. Different types and varieties are becoming increasingly popular with domestic consumers. What is Natec doing to meet this demand?

Meuschke: Especially in Europe, where we were unable to operate in the past due to business restrictions, we are now actively addressing this issue and establishing our technology on the domestic market. Generally speaking, we are seeing an increase in demand for pasta filata in Germany, but it is still very low compared to other countries.

IDM: Various production technologies are known for the manufacture of pasta filata cheese. Are these technologies all the same, or are there cases where certain advantages can be identified?

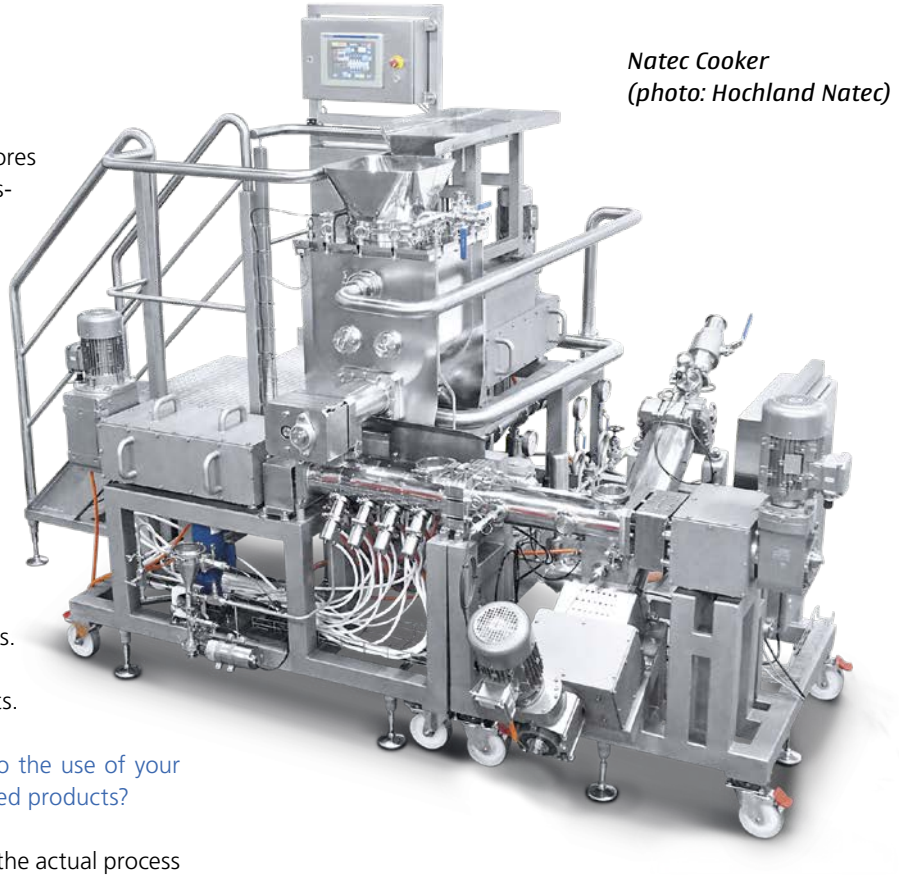
Meuschke: Dry cooking stretching has proven itself for us because it is significantly more resource-efficient compared to wet processes, which consume a lot of water and sometimes wash out important proteins or salt. In addition, this method ensures a continuous and consistent flow throughout the entire production process, which supports the efficiency of the entire process. It should also be mentioned that our process primarily addresses the production of grated cheese, cubed cheese and cheese sticks. Other common forms, such as classic mozzarella balls, rely on the use of a water bath, something we do not want to change.

IDM: How important is the actual cheese-making process and how does it influence the downstream processing of the cheese mass?

Meuschke: Customers rarely share the exact manufacturing processes in terms of recipes. Basically, we supply the equipment to process conventionally produced cheese mass. This can be blocks, if we are only talking about our cooking equipment, or of course cubes, sticks or grated cheese, which can then be produced using our innovative filling process.

IDM: In cheese production in general, we know of only a few systems that actually operate continuously. Why did you decide to establish a continuous process for pasta filata?

Meuschke: The biggest factors are probably the space and energy required for the temporary storage of blocks that have to be grated later. With our process, we can take the product directly from the curd and process it further in most cases. However, our USP is actually that we can pour the product directly into our systems while it is still hot and continuously shape and cool it there. The decisive factor here is the proportion of functional protein in the product. In most cases, the product can be processed from approximately 12 % and upwards. This takes just a few minutes, and the end result is ready-to-use cubes, sticks or grated cheese. In conventional processes, the product is often first



Natec Cooker
(photo: Hochland Natec)

formed into blocks and then cooled in cold stores before these blocks can be sent for final processing, such as grating. In times of limited space and high energy costs, our concept is therefore very interesting.

IDM: How can you use your system to ensure that consistent, reproducible qualities are produced? Which parameters need to be recorded in order to enable the most automated production process possible?

Meuschke: Dry matter and, in the case of pasta filata, salt content are important in the production process. All of this can be easily standardized in our processes as well as in others. During processing, we rely on precise measurement technology to produce repeatable products.

IDM: Does this also apply without restriction to the use of your technology for the production of slices and grated products?

Meuschke: Yes. There is no major difference in the actual process between the production of slices (currently only processed cheese and no mozzarella) and cubes. Recipes often differ, but the basic conditions are usually the same.

IDM: Can the technology and plant engineering you have developed also be transferred to other products or the use of other raw materials?

Meuschke: Yes – we are constantly trying to use our plant technology for other raw materials as well. For this purpose, we have our own test center here at our site in Heimenkirch, where we can test new products and new variants on all our machines – on a small scale – under hygienically perfect conditions. In principle, this can be done with all raw materials available on the market. This means we have the opportunity to produce cheese or, for example, pet food, but also meat products.

IDM: The use of plant-based raw materials follows the trend towards a more sustainable diet that is less oriented towards animal-based raw materials. What requirements must be met in order to make Natec plant technology usable for vegan products?

Meuschke: This is not a problem for cookers. Flexible conventional and vegan products can be manufactured here. When it comes to filling, however, the recipe composition is very important. The right stabilisers are crucial here to ensure that the behaviour on the machines is the same as when manufacturing products with animal-based raw materials.

IDM: Could you imagine using a non-animal-based casein in the future, for example one produced by precision fermentation?

Meuschke: We could definitely imagine that, because as a mechanical engineering company, we initially work with the recipes we receive from our customers. As far as we are concerned, it makes no difference what the exact components of cheese production are, especially if this casein is in no way inferior to animal casein.

IDM: When you personally consider all these developments – greater sustainability, digitalisation and its twin, but also our preference for Italian cheeses and the demand for maximum convenience – where can we expect further growth in a few years' time?

Meuschke: If we stick with the topic of pasta filata, I see great growth potential, particularly in Germany and in Europe in general. In other countries, the selection – for example, of grated mozzarella – is significantly larger, while the range available here has been rather limited up to now. Many current food trends, which are mainly spread via social media, focus strongly on the special texture and meltability of pasta filata. There is also still great potential in the area of vegan alternatives. The price difference compared to conventional products is still a barrier for many consumers. Nevertheless, the topic will play an increasingly important role, regardless of price. There are already some very convincing alternatives available today, and I am excited to see what innovations the future holds in this area.

Global Dairy Top 20, 2025

RaboResearch's annual Global Dairy Top 20 report highlights the financial performance of leading companies in one of the world's most valuable food sectors. In 2024, the combined turnover of the Global Dairy Top 20 companies increased by 0,6 % in US dollar terms. In 2025, RaboResearch expects another 0,5 % growth in turnover based on the current Top 20 list, but this number could shift significantly due to pending merger & acquisition activity, currency changes, and regional milk price trends. Eight companies switched places with each other in this year's list.

2025		2024	Company	Country of headquarters	*Dairy turnover, 2024**	
					USD billion	EUR billion
1		1	Lactalis	France	31.9+	28.9+
2		2	Nestlé	Switzerland	23.9+	21.6+
3		2	Dairy Farmers of America	United States	23.0	20.8
4		4	Danone	France	20.7+	18.8+
5		5	Yili	China	15.8+	14.3+
6	↑	7	Arla Foods	Denmark	15.0+	13.6+
7	↓	6	Fonterra	New Zealand	14.7+	13.3+
8		8	FrieslandCampina	Netherlands	14.0	12.7
9	↑	10	Saputo	Canada	13.9	12.6
10	↓	9	Mengniu	China	12.3	11.2
11		11	Unilever	United Kingdom	9.0	8.1
12	↑	13	Savencia	France	7.7+	7.0+
13	↓	12	Schreiber Foods	United States	7.5+	6.8+
14		14	Gujarat Cooperative Milk Marketing Federation Ltd	India	7.3	6.6
15		15	Müller	Luxembourg	6.9+	6.2+
16		16	Sodiaal	France	6.6+	6.0+
17		17	Agropur	Canada	6.4	5.8
18	↑	19	Froneri	United Kingdom	6.0	5.4
19	↓	18	DMK	Germany	5.5	5.0
20		20	Grupo Lala	Mexico	5.5	5.1

* Rankings for 2025 are based on RaboResearch estimates of, predominantly, dairy sales using 2024 financials plus M&A transactions completed between January 1, 2025 and June 30, 2025. Pending mergers are not included, even if anticipated but not confirmed to close in 2H 2025.

\+ estimate

Source: RaboResearch 2025

Dairy's future: Where taste, health and sustainability are all a priority

Author: Jess Ryall,
Content and Marketing Executive at FMCG Gurus

This article is based on FMCG Gurus' consumer insights.
For more information, please contact info@fmcggurus.com

Taste and nutrition remain the top priorities

FMCG Gurus shows that when choosing fresh dairy, 76 % of global consumers continue to prioritize taste above all else, with health-boosting claims (58 %) following behind. This highlights how even in a time of financial uncertainty, people are less willing to compromise on flavor or nutrition value, instead they have shifted their focus away from price to a greater emphasis on products which incorporate wellness and satisfy their sensory needs. Consumers want dairy products that deliver both indulgence and wellness, reinforcing the need for innovation which combines quality as well as functionality.

Locality strengthens consumer trust

Consumers also show a strong preference for locally sourced dairy products, reflecting a growing trust in origin-based claims. This is highlighted by eight in ten consumers (81 %) favouring locally made brands made with locally sourced ingredients. For many, these products symbolize freshness, alongside high quality and safety, while also supporting local farmers and communities. This ethnocentric mindset has become a major driver of purchasing decisions, with dairy brands being expected to communicate clearly about their sourcing and ethical practices.

Energy and everyday well-being drive consumption

A key reason dairy is growing in popularity is because of its ability to provide an energy boost throughout the day. Many consumers are concerned about their energy levels, whether this is impacted by poor sleep, stress or nutritional choices. As consumers look to balance their busy schedules and cope with fatigue, dairy is seen as a staple that supports physical activity, mood, and satiety. This makes dairy an appealing option for both snacks and beverages to provide a convenient and trusted source of energy.

Clean labels and authentic ingredients matter

For consumers, dairy products that emphasize natural, non-GMO, and low-sugar claims are becoming more appealing to consumers who want to avoid ingredients they view as harmful. While interest in positive nutrition claims such as probiotics and immune support

has declined since the pandemic, consumers remain committed to products they deem as real and authentic. This shift shows a stronger focus on simplicity of ingredients over highly functional claims. Therefore this is something that must be balanced when positioning dairy products as functional.

Sustainability is now non-negotiable

Environmental responsibility is a key expectation for dairy brands, with 78 % of global consumers stating that sustainability pledges are important when making purchasing decisions around dairy. Packaging initiatives such as recyclable and reduced plastic use stand out as the most sought after claims. As concerns about the current climate grow, agriculture's impact on the environment equally increases, meaning consumers expect brands to adopt sustainable approaches to sourcing, production and distribution.

Looking ahead

The dairy sector continues to evolve, with opportunities to provide functional products and consumers purchasing dairy as part of their everyday routines. However, expectations from consumers are high, with brands needing to balance indulgence, wellness, and environmental responsibility. From prioritizing taste and nutrition to seeking out locality and natural claims, consumers are setting clear standards for the future of dairy. Brands must align these values by delivering enjoyable and ethical products.

Illustration: AI-generated by Sora/silvdesign

In trade we trust

Author: Alexander Roth

A few years ago, we spoke of a new era for global trade – one in which the dairy sector stood to gain significantly, enjoying widespread benefits and steady growth. However, the dramatic rise of protectionist measures has reshaped the trade landscape and turned dairy trade into a tool for political disputes, more than we ever thought possible.

The anti-subsidy investigation launched by China in August 2024 into EU cream and cheese exports poses a serious challenge. Extended until February 2026 with site visits ongoing, it risks resulting in countervailing duties that would restrict EU dairy access to one of our most important markets.

While China's investigation into EU dairy products may be driven by broader trade concerns, it is clear that CAP subsidies do not distort the Chinese market for cream and cheese. Although the EU exports substantial volumes of these products to China, our growing trade position in this market proves that price levels are not influenced by EU subsidies, which are decoupled from production and fully compliant with WTO regulations.

This investigation is a test of China's use of trade defence tools, and EDA will continue to work closely with the EU Commission to safeguard our exports.

A new major concern has been the trade turbulence initiated by the second Trump administration. The 0 % 0 % approach proposed by EU Commission President Ursula von der Leyen was rejected but shock tariffs imposed by the U.S. led the European Union and the United States to conclude a Framework Agreement on Reciprocal, Fair, and Balanced Trade.

The agreement offers greater predictability by removing the threat of escalating tariffs and closing the chapter on past surcharges. Stability in transatlantic trade is a sought-after outcome. At the same time, however, the deal introduces substantial new market openings for U.S. products in the EU.

It creates three new tariff-rate quotas (TRQs) for EU market access to U.S. exporters: 10.000 tonnes for dairy products, 10.000 tonnes for cheese, and a broad shared quota of 50.000 tonnes covering certain dairy-related goods such as infant formula and fat-filled powders.

On the U.S. side, the tariff ceiling of 15 % provides certainty compared to the threat of higher duties but some EU dairy products that previously entered under lower rates may now face increased costs. Out-of-quota exports remain subject to high U.S. MFN duties, meaning European exporters' competitiveness in the American market continues to be constrained.

This is a major step forward for U.S. dairy access to the EU market. While the new TRQs are duty-free or low-duty, they must be accompanied by credible safeguards to protect market stability in


photo: AI-generated by ChatGPT/Sora_IDM

Europe. EDA remains committed to constructive dialogue and will travel to Washington D.C. at the end of September to exchange views with U.S. industry, administration, and legislators on advancing a common way forward that ensures balanced opportunities for both sides.

EU dairy now finds itself juggling the eagle and the dragon. Expanded U.S. market access on one hand and the potential threat of Chinese countervailing duties on the other highlight the importance of close monitoring and effective safeguards to protect EU dairy producers. These developments also underline the need to diversify export markets, as reliance on traditional trading partners can no longer be taken for granted.

After two decades of negotiations, the MERCOSUR countries (Argentina, Brazil, Paraguay, and Uruguay) and the European Union have reached an agreement that has now formally been transmitted to the Council and the Parliament. In a fast-changing global trade environment, this deal helps future-proof EU dairy by expanding into a region of 270 million consumers with strong dairy traditions and much-needed structured and predictable market access.

With phased quotas of 30.000 tonnes for cheese, 10.000 tonnes for milk powder, and 5.000 tonnes for infant formula phased in over a ten-year period and administered on a first-come, first-served basis. The agreement significantly boosts export volumes, in some cases nearly tenfold. At the same time, it safeguards iconic European dairy, protects farmers through a €1 billion safety reserve (outside the CAP), and strengthens regulatory cooperation by fostering greater alignment on key issues such as product standards, animal welfare, food safety and sustainability.

The modernised EU–Mexico FTA, signed in early 2025, is another strong step toward diversification and resilience. It delivers substantial new quotas – 50.000 tonnes for skim milk powder, 13.000 tonnes for dairy preparations, and 25.000 tonnes across cheese categories. Tariffs on yoghurt are eliminated entirely, while blue cheeses will benefit from unlimited duty-free access. This agreement responds directly to Mexican consumers' growing appetite for high-quality EU dairy products and reinforces the global recognition of our geographical indications.

For our industry, the South American market offers both scale and growth potential, and these agreements show a shared commitment. At a time when international trade principles are being challenged, they reaffirm the EU's dedication to fair and rules-based trade.

The EU dairy sector stands ready to compete and succeed in global markets and we count on the support of the EU Commission services to "ensure that dairy has a promising future in Europe" to quote EU Commission President Ursula von der Leyen.

Cheese Cutting Machines

holac Maschinenbau GmbH

Am Rotbühl 5
89564 Nattheim, Germany
Phone: +49 7321 964 50
Fax: +49 7321 964 55 0
Email: info@holac.de
Web: www.holac.de

Ingredients

Novonesis

Große Drakenburger Str. 93-97
31582 Nienburg, Germany
Phone: +49 5021 963 0
Fax: +49 5021 963 109
Email: service@chr-hansen.com
Web: www.novonesis.com
Chr. Hansen GmbH,
part of Novonesis Group

Reconditioned Dairy Equipment

Lekkerkerker
Dairy & Food Equipment

Handelsweg 2
3411 NZ Lopik, Netherlands
Phone: +31 348-5580 80
Fax: +31 348-5548 94
Email: info@lekkerkerker.nl
Web: www.lekkerkerker.nl

YOUR CONTACT for Supplier Directory

HEIKE TUROWSKI
Media consultant

+49 (0) 151/22 64 62 59
ht@blmedien.de

NEWS

FrieslandCampina
New application center in Singapore

FrieslandCampina Ingredients has announced the opening of a new application centre in Singapore, representing a 30 % increase of R&D space in the city-state. Supported by the Singapore Economic Development Board (EDB), the facility will serve as a strategic gateway to the evolving Asia-Pacific (APAC) markets, including Japan, Korea, Australia, New Zealand and Southeast Asia. The expanded application centre not only reaffirms Singapore as an important regional headquarters for the company, it also enables the faster delivery of tailored ingredient solutions to help brands meet the region's diverse and growing nutritional needs. Singapore is also home to other FrieslandCampina business groups, including FrieslandCampina Professional and FrieslandCampina Asia, underscoring the company's long-term commitment to the market.

photo: FrieslandCampina

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Company Profiles
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Postal Address:
P.O. Box 13 63, D-53492 Bad Breisig, Germany
Phone: +49 (0) 2633 45 40-0, Fax: +49 (0) 2633 45 40-99
www.international-dairy.com

Managing Director:
Harry Lietzenmayer, Stephan Toth, Björn Hansen

Object Manager:
Burkhard Endemann, Direct line: +49 (0) 2633/45 40-16,
Email: be@blmedien.de

Editor:
Anja Hoffrichter (responsible), Office Dorsten/Germany,
Cell phone: +49 (0) 178/233 00 47, Email: ah@blmedien.de

Correspondents:
Tatyana Antonenko, CIS, t.antonenko@molprom.com.ua; Chris Walkland, UK & Ireland, chriswalkland@ntlworld.com; Bent Oestergaard, Scandinavia, OCon ApS, bent@ocon.one, Claudia Vasquez Alarcon, Spain/Portugal, cva@blmedien.de

Graphics, Layout and Production:
Silvia Schneider, Office Solingen/Germany, Cell phone: +49 (0) 170/297 58 64,
Email: s.schneider@blmedien.de

Advertising Manager:
Heike Turowski, Office Marl/Germany, Direct line: +49 (0) 2365/38 97 46
Fax: +49 (0) 2365/38 97 47, Cell phone +49 (0) 151/22 64 62 59,
Email: ht@blmedien.de

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Subscriptions:
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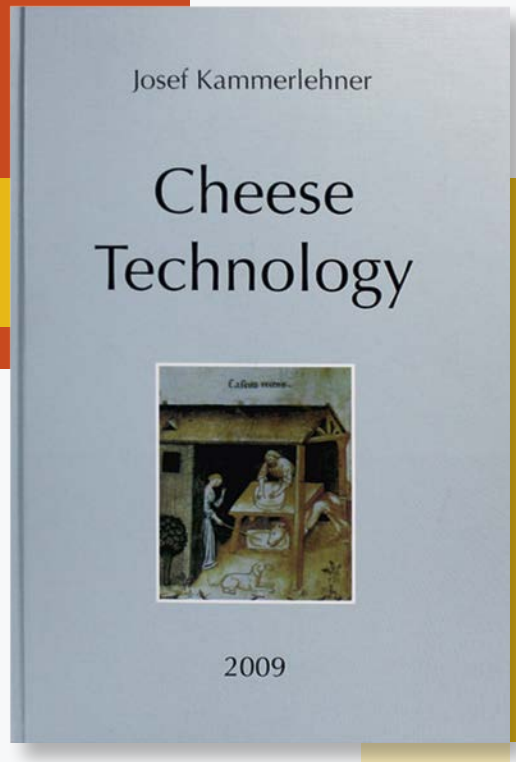

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