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PROCESSING | INGREDIENTS | PACKAGING | IT | LOGISTICS

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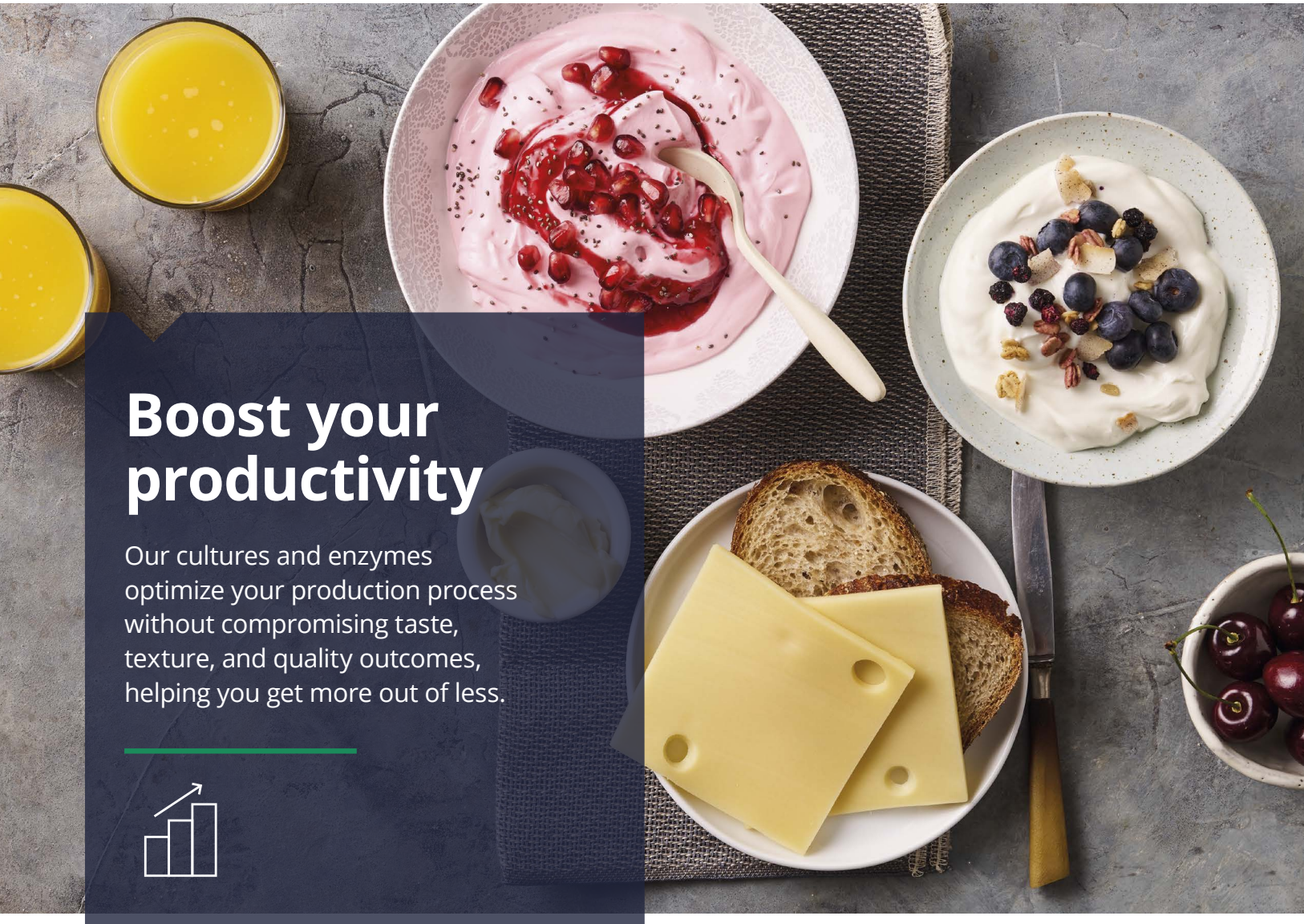

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Squaring the circle?

Simplistic addressing of problems will not work

Roland Sossna
Editor IDM
International Dairy Magazine
sossna@blmedien.de
international-dairy.com

One of the principles of a market-driven economy is surely that parties involved in business are free to sign contracts that both sides agree on. Of course, this presupposes that partners are on eye level. Once there is an imbalance in „power" one of the parties may be tempted to make use of its superiority, even if this superiority can be regarded as small. Reason is the race for profitability in today's most competitive economy that makes generating revenues quite hard for whole industries.

The British government has set out to establish stability and accountability across the whole milk chain. Having seen the turbulences in the market for two decades that have forced many a dairy farmer out of business, Downing Street sees farmgate milk price contract regulation as the saviour. The idea is quite simplistic: if dairies disclose their milk price mechanisms in the supply contracts, farmers' welfare will increase. Interestingly, a similar philosophy was the basis for the good old milk quota system. As we know today, the quota solved no problems but rather created new (costly) obstacles for farmers.

The not really new British plans will have a similar negative result for sure. It is not the milk supply contracts that generate trouble – farmers may leave a supply partnership at any time – it is the imbalance integrated in each market that sees fluctuations of supply and demand. By the way, some of these imbalances are direct results of political intervention. All in all, simply defining supply contracts will not change the situation on dairy farms at all. If such measures really are to deliver positive effects, one needs closed borders and product supply exactly as high as demand. In other words: squaring the cirlce has never worked, believes Roland Sossna.

Call for applications!

Dairy Technology Award

Deadline for applications 30 October 2023

Supported by the dairy trade publications IDM International Dairy Magazine and molkerei-industrie and the Society of German Dairy Engineers (Ahlemer Ingenieure), the Dairy Technology Award aims at highlighting successful innovations in dairy and food technology. The prize has been awarded since 2009 to companies in the dairy and supplying industry and relevant service providers.

The Dairy Technology Award focuses on processes, equipment, complete production units and problem solutions that are of benefit to the overall dairy industry.

Jury

Applications will be judged and awardees will be selected by a jury consisting of these renowned experts:

- Prof. Dr.-Ing. Jörg Hinrichs, Dep. Soft Matter Science and Dairy Technology, University of Hohenheim
- Dipl.-Ing. Klaus Schleiminger, KSI Engineering, Krefeld
- Prof. Dr.-Ing. Saskia Schwermann, University of Applied Sciences and Arts Hannover, Faculty of Mechanical and Bioprocess Engineering
- Prof. Dr.-Ing. Matthias Weiß, University of Applied Sciences and Arts Hannover, Faculty of Mechanical and Bioprocess Engineering

Awards will be made in these field

- Process & Automation Technology
- Packaging & Filling Technology
- Environemnt & Sustainability Improvement (saving of energy and resources)
- Process Management & IT
- Logistcs
- Food Safety

How to apply

Only in digital form, a condensed application is requested first. It should include:

a) Reason for application

b) Description if company/innovator with a short portray of the applicant and ist professional background.

c) Title of the application and area of development

d) Description of the innovative project/the innovation on max. 3 pages A4 incl. illustration (photos, graphs, tables, sketches) centering on the special innovative development and, if applicable, quoting sources. (After checking, the jury might ask for further documentation or an on-site inspection)

Send applications to: Roland Sossna, Editor molkerei-industrie/IDM International Dairy Magazine, Email: sossna@blmedien.de. Questions will be answered by email or phone: +49 2590 94 37 20, +49 170 418 59 54 .

Awarding

The prize winning developments will be presented at the trade show Anuga FoodTec in March 2024.

Awardees will receive a certificate, the winning developments will be presented to an international readership in the magazines IDM International Dairy Magazine and molkerei-industrie as well as on Twitter and the websites international-dairy.com and moproweb.de.

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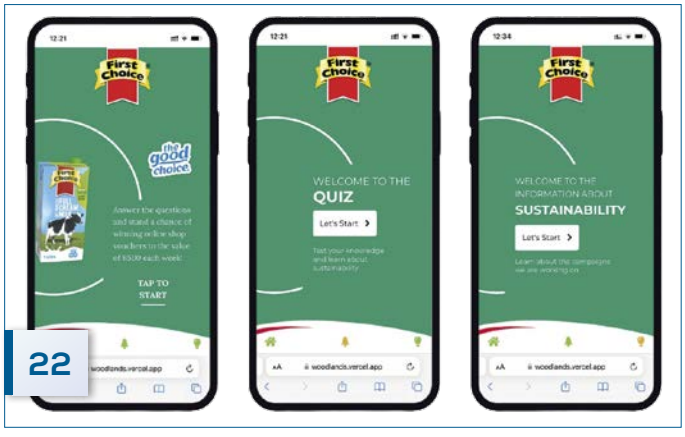

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Yili Group and Sidel

Versatile Aseptic Lab filler

Yili Group, Asia's largest dairy company, received support and expertise from Sidel to install a versatile Aseptic Lab filler, which has been designed primarily for research and development and is situated in Yili's specially constructed facility. It will enable the regional market leader to launch new products and adapt existing bottles, further enhancing its reputation for innovation.

Sidel's versatile Aseptic Lab filler has been designed with the customer's specific needs in mind and will allow Yili to lead the market in innovation and versatility while providing a platform to rapidly develop and launch products more efficiently. Compact in scale, the versatile Aseptic Lab filler was conceived to enable Yili to research and test product designs, enabling test runs consisting of a small number of bottles with different shapes and sizes. Entirely flexible, the line also allows Yili's developers to customise any element of the test projects, ranging from the overall product to the specific neck, bottle format or capping. In addition to the several types of aseptic filling processes for both still and carbonated drinks, this lab line can handle other types of filling processes, such as hot filling. Additional benefits include huge flexibility, simplicity of operation, comprehensive maintenance and troubleshooting.

The delivery of Sidel's versatile Aseptic Lab filler, along with a new EvoBLOW eHR with six cavities, benefited from a combination of expertise, both in China and across the world. The impact of the COVID-19 pandemic created many challenges during the assembly of the line. However, Sidel and Yili cooperated very closely to ensure the successful completion of the project. The installation and technical assistance were delivered fully through professional guidance, conducted remotely via virtual calls by Sidel, and executed on the ground by experienced engineers based in Greater China.

Sidel and Yili have forged a strategic partnership which commenced in 2017. Sidel's values of customer excellence, collaboration, innovation, and sustainability align with similar values typical of Yili Group too, who assessed equipment capacity, technical support, ability to innovate, product quality, sustainable development and service across the board in their search for a strategic partner.

Yili has installed a versatile Aseptic Lab filler by Sidel (photo: Sidel)

Innovation and sustainability are of mutual importance to both Sidel and Yili (photo: Sidel)

Innovation and sustainability are of mutual importance to both Sidel and Yili. The ongoing strategic partnership will enable Sidel to support Yili in leading in this area, with the newly-installed versatile Aseptic Lab filler providing the means to develop designs and products which maintain an existing level of sustainability. It will also be able to experiment and attempt breakthroughs in energy conservation, in addition to consumption and emission reduction, which can be shared to enable Sidel to further strengthen its service to customers.

(photo: Amcor)

FMI' Analyst view

How Biodegradable Food Packaging is reshaping the industry

The global biodegradable food packaging market is anticipated to accumulate a market value of US$ 216.35 billion in 2023 and is expected to garner a valuation of US$ 355 billion by exhibiting a CAGR of 5.08% in the forecast period 2023 to 2033. The biodegradable food packaging market reflected a 4% CAGR in the historical period 2018 to 2022.

The market for biodegradable packaging in the beverage sector is anticipated to witness growth with the never-ending need for bottled water and non-alcoholic beverages. Consumer's proclivity toward demanding high-quality drinking water, the fear of illness as a result of drinking polluted tap water, and the ease of transport and convenience are factors further contributing toward the demand for eco-friendly bottled water.

Technological innovation

Future Market Insights says, the food sector has grown rapidly as a result of technological innovations and increased integration. As a result, the industry's global expansion has been bolstered. This will positively benefit the market growth. Developed economies like North America and Europe are expected to grow with significant pace. Increasing consumer awareness is shaping the product demand in these regions. Also, consumers in the eco-friendly packaging market are looking for products with extra features like cost-effectiveness, and are convenient.

- Increasing consumer demand for convenience, development of innovative packaging materials, awareness toward environment, and the adoption of new regulatory requirements are expected to drive market growth in the forecast period.

- Consumers are also opting for biodegradable spoons (wooden spoons)

and straws (paper straws) which come with food packaging. Single-use plastic straws, closures, lids, caps, cups, and food trays are being replaced by paper or biodegradable substitutes in the food service sector.

» Due to this, the demand for green food packaging market will continue to grow because of increasing customer preferences for convenience and packaged meals.

Along with this, technological advancements in the food packaging industry are proving new growth opportunities. Major market players are channelizing their efforts on developing innovative technologies to shift towards environmentally friendly food packaging solutions to reduce impact on environment and keep plastic out of landfills and the ocean.

For instance, in October 2022, HuhtamäkiOy, a Finland-based consumer packaging company, introduced an innovative, recyclable ice cream packaging solution which was based on paper-based technology. These kind of developments by other manufacturers will further augment the market growth. This packaging solution is made up of 95% renewable biobased material thanks to a water-based barrier coating and paperboard which has received SFI certification. This innovation helps to cut packaging costs, waste, and environmental pollution, thereby boosting the product demand.

» Region-wise, the market in Europe accounted for maximum revenue share in 2020. It is expected to retain its dominance by garnering around 38% market share by end of the forecast period.

» Due to stringent government regulations in European Union against the use of single-use plastics which are hazardous to the environment, the market is expected to grow.

» The European Directive developed the framework of a circular economy and established sustainability goals and guidelines. By adopting recyclable, recycled, and biodegradable materials, European businesses have begun to follow the circular economy agenda. This practice will contribute to region's market growth over the forecast period.

» Similarly, the market in Asia Pacific is expected to grow with fastest CAGR of 5% during the assessment period. It is also expected that increasing urbanization, busy lifestyles, growing ready-to-eat meal consumption, and rising disposable income, will propel the product demand in this region throughout the forecast period.

Biodegradable food packaging market - regional outlook

The biodegradable food packaging market has been analysed based on sales growth and value across different regions that include Asia Pacific, Latin, and North America, Oceania, Europe, and the Middle East and Africa. North America and Europe will dominate the biodegradable food packaging market due to the presence of an environmentally aware and high-spending population in the areas.

However, due to the presence of matured markets, the growth of biodegradable food packaging in these areas is normal.

Europe and the Asia Pacific hold high potential for growth in the biodegradable food packaging market. However, the Middle East and African markets are expected to observe low growth compared to other regions.

How competitive is the market?

Recent developments and breakthroughs in technology, mergers, acquisitions, tie-ups, and partnerships within the companies involved in manufacturing biodegradable food & beverages packaging solutions are expected to create lucrative opportunities for market growth during the forecast period.

- In May 2022, Amcor Rigid Packaging (ARP) informed about the creation and launch of PowerPost. This technology produces nearly one-third lighter bottles with 30% less energy and 30% less carbon than most 20 oz. bottles by actively dislodging the vacuum in the container after filling.

- In January 2022, Amcor PLC launched AmFiber, a new platform for paper-based packaging products. AmFiber's innovations aim to redefine the functionality of conventional paper packaging, offering an extensive range of functional benefits to cater to the changing needs of consumers. This new platform's product is an innovative solution tailored to provide snacks and confectionery products to European customers with recyclable packaging that provides a high barrier to oxygen and moisture.

Food packaging has always been a challenging task since decades and petroleum-based products have been the first choice of manufacturers since they're very flexible and leak-proof. However, all these petroleum-based products are harmful to the environment and take years to degrade.

They not only increase the wastage but also release greenhouse gases when burned or chemically processed. Hence, manufacturers are slowly shifting towards a more eco-friendly and biodegradable packaging material for food packaging.

Biodegradable packaging has the capability to degrade completely with the help of microorganisms present in the environment. Biodegradable food packaging materials usually consist of paper, metal, glass, wood, bagasse, and eco-friendly plastic among a few others.

Biodegradable food packaging helps in the reduction of carbon footprint and is easy dispose of. It is easier to recycle and requires less energy to manufacture. Due to these benefits, customers are also slowly shifting towards biodegradable food packaging.

These insights are based on a report Biodegradable Food Packaging Market by Future Market Insights: https://www.futuremarketinsights.com/reports/biodegradable-food-packaging-market.

Emmi Nutritional Products operates one of the world's most sustainable drying plants in Etten-Leur, the Netherlands (photo: ENS)

ENS as an industry pioneer

Sustainably produced goat milk powder

With the construction of a second drying tower in Etten-Leur, Netherlands, Emmi Nutritional Products (ENS), formerly known as Goat Milk Powder or Bettinehoeve, has not only increased capacity significantly, but also installed one of the most sustainable drying systems in the world. IDM asked ENS about the background.

Both Bettinehoeve and ENS are 100% specialized in processing goat's milk. Cheese was the first, followed in 2014 by powder. Increasing international sales meant that capacities, especially in drying, were becoming increasingly scarce, so that the first thoughts about expanding the plant in Etten-Leur were made as early as 2018. In mid-2019, things got serious. A project team, which initially consisted of three people and later expanded to eight people, made plans and talked to potential technology suppliers. By pure coincidence, recalls Ward Watzeels, Director Sustainability, Procurement and Quality at ENS, the team came into contact with SiccaDania, a full-service provider for process and drying technology, which was awarded the overall contract because of its pragmatic approach and the offered cost-performance ratio. SiccaDania supplied the entire process part, from milk reception and processing to the dryer. Including construction facilities, more than €40 million were invested in the new drying facility, which supplies products up to Dry Blend quality. A completely new building was built for the new production capacities, which is separated from the old facility by a public road and connected to it by a pipe bridge. Commissioning took place on 22 November 2022.

A global leader

The performance data of the new tower seems rather modest at first glance: 40 employees produce 1,100 kg of powder per hour in five shifts, which adds up to 7,500 t per year. But it is exclusively goat's

(photo: IDM)

"We use 70% less gas per kilogram of powder in the new dryer"

Ward Watzeels and Connie van der Meij

milk, so that has to be put into perspective. The ENS dryer is probably the largest production unit in the world for this special powder. And the plant is also likely to be a global leader in terms of sustainability. This is due to the innovative energy concept.

No more steam in use

"We no longer use steam at all," explains Plant Manager Connie van der Meij. "The drying air is heated by gas, and we use 100% green electricity. A sophisticated concept allows us to use waste heat from waste water and from compressed air production, and that from both parts of the factory. Overall, we use 70% less gas per kilogram of powder in the new dryer compared to dryer 1. Combining electricity and gas, we use 55% less energy in tower 2."

This is made possible by the use of a heat pump, with which ENS has achieved pioneering work in milk processing. The decision for the new concept was made during the project period, when the Dutch government tightened the requirements for NOx emissions. The heat pump was sourced from Sabroe, an entity of Johnson Controls, which for its part invested a lot of effort in adapting its solution to the local conditions in the project. The unit has an output of 400 kW and works with a COP of 4.5.

Growth plans

ENS collects the majority of its goat milk from directly contracted producers. The raw material base is expanded by 3 million kg every year. The aim is always to keep the proportion of own milk at at least 75%. "We want to continue to grow based on the new drying tower," explains Ward Watzeels. "Currently, 60% of our raw material goes into cheese, the rest is dried. In the longer term, 60% of our goat milk should be dried. The world market is receptive to this, and we already sell 80% of our powder to customers outside Europe, with a focus on the Asian markets."

A small, but important step forward in the energy supply is still pending for the new drying plant. Up to 700 PV modules are to be installed shortly, which will cover the electricity requirement by around 8%.

Good air for good milk

A project for Molkerei Berchtesgadener Land

airinotec as a solution provider of industrial air conditioning and process air systems was commissioned with the installation of an individual ventilation concept for the new production of the Berchtesgadener Land dairy (photo: airinotec)

Way up in the mountains, the air is the best and the cows are the happiest. You can taste it too in the many dairy products from Milchwerke Berchtesgadener Land. The production environment is of crucial importance so that our customers can enjoy excellent quality milk, yoghurt, quark, butter, whipped cream, crème fraîche and soured milk.

New production hall for the dairy

Milchwerke Berchtesgadener Land is a company that is organised as a cooperative. Values such as sustainability, fairness and responsibility towards animals, nature and consumers are regarded as firm commitments. The cooperative's 1,800 farmers, together with the 500 employees, stand for these values.

Milchwerke Berchtesgadener Land is a creamery that invested in the future of production with almost 35 million euros for a new production facility and in sustainable reusable packaging. One of the main challenges was to expand the existing bottling area since it had reached its capacity in 2019. The decision to continue to offer milk and cream in glass bottles led to one of the most modern and resource-conserving returnable filling lines in the world being installed.

Challenging starting point

airinotec, as a solutions provider of industrial air-conditioning and process ventilation systems in the food industry, was commissioned with the installation of a customised ventilation concept for the new production area of Molkerei Berchtesgadener Land. airinotec was the logical choice because it had already provided climate control technology for production areas 2 and 3, for the high bay warehouse and for many other systems.

The current project includes the newly constructed production area 4 that seamlessly joins up with production area 1. It was necessary to install ventilation systems with duct systems, air inlets and outlets and automated technology, as well as the complete assembly and start-up for various areas such as bottling, the fermented milk section, the carton warehouse and palletising area, the adjoining visitor platform, meeting rooms and training rooms. This also includes the laboratory, the weighing room and culture preparation. Palletising and the carton warehouse also needed smoke extraction systems.

High demands

Quite a few specifications had to be considered to implement the project. Hygiene standards are especially high in businesses that are highly sensitive to bacteria, such as cheese factories, creameries and bottling businesses in the beverage industry. Germ-carrying air can very quickly contaminate food at businesses like these. Optimal indoor air quality must be guaranteed, especially for critical production processes. That is why ventilation systems play a fundamental role in guaranteeing controlled distribution of incoming air, ensuring targeted air exchange and creating optimal climate parameters as well as a clean, low-germ environment for production. It is also important to measure heat and humidity loads in a targeted way to minimise unwanted airflow effects.

Central ventilation units in hygienic design with efficient heat recovery are part of the solution (photo: airinotec)

Berchtesgandener Land's fermented milk products department - hygiene-oriented air routing according to the layer ventilation principle with airinotec HygiencFlow displacement air outlet in stainless steel (photo: airinotec)

An important characteristic of the new ventilation concept was implementing a layered ventilation system in the bottling area and the fermented milk section. The airinotec HygienicFlow air volume displacement outlet was also used. Air quality close to the quality of fresh air can be achieved by supplying cool, clean, low-speed air close to the floor. In comparison to mixed ventilation, layered ventilation uses less energy because it allows for a smaller air volume. Energy management is regulated by airinotec EnergyOpt technology that enables automatic volume stream adjustment as needed in the production areas.

Another important component of the ventilation concept was efficient heat recovery by a highly effective combined cycle system. Absolute separation of the air inlet and outlet flows makes it possible to safely avoid unwanted material transfer such as germs, moisture or odours.

A clean-room concept with hygienic ventilation technology was used for the jar-filling area. The jar line was separated into a grey area with lower hygienic quality requirements and a white area with high hygiene requirements. A defined pressure difference is maintained between the two areas and the environment, to ensure that no contaminated air from outside or from the grey area can flow into the white area. Special attention was also given to the duct work in the bottling area and the fermented milk section. In these areas, duct work with stainless steel material no. 1.4301 was used to guarantee simple, effective cleaning.

The challenge of bringing and installing all system parts during ongoing operations was successfully met. The ventilation equipment had to be moved by a truck-mounted crane to the mechanical floor 17 meters in the air without affecting ongoing production processes.

Optimum implementation

The job was completed on time in spite of the many limiting Covid measures, which affected access to the plant grounds and the supply of required parts. Even the last-minute change of ventilation technology and of the duct work in the filling area from Tetra Pak to glass bottles was able to be successfully planned and implemented.

After over one year of operation, the systems in production area 4 are meeting all of the requirements that were made and are contributing to the fact that Molkerei Berchtesgadener Land can efficiently produce high-quality dairy products under optimal conditions. "After many years of collaboration with Milchwerke Berchtesgadener Land, everyone works well together. That is why we could handle the challenging tasks quickly", says airinotec's sales & project manager Dieter Müller with satisfaction.

Conclusion

Since Milchwerke Berchtesgadener Land was a satisfied customer, the successfully completed project was followed up with a new project. The new project concerns the ventilation equipment for the connecting building where process and packaging machinery is being installed. It should meet the new EU requirements. From 2024 must also have (cardboard bottles or carton bottles) an attached cap by law. This subsequent project is already in the installation stage.

The collaboration between Milchwerke Berchtesgadener Land and airinotec shows that efficient ventilation equipment is very important for the quality and sustainability of production processes. By implementing the ventilation concept, the dairy's requirements could be met. The Upper Bavarian cooperative dairy can continue to produce high-quality dairy products while remaining true to its values.

Probiotics

Consumers want it all

"Getting the message right is key to probiotics communication."

Jessica Bentley,
Global Commercial Development Manager, Chr. Hansen

Probiotics is a hot topic, almost everywhere. In a joint webinar with Chr. Hansen, Mike Hughes, Head of Research & Insight, FMCG Gurus, quoted from a survey that Covid has made consumers follow healthier lifestyles, overall. Between 2019 and 2022 the proportion of people who take an proactive approch to health and wellbeing has grown by 7% to about 60% in Europe and the Middle East. 90% of consumers prefer functional food and drinks over supplements as they are tastier, more affordable and easier to implement in daily nutrition. Consumers also think that dairy is healthy and appreciate a muktifiúnctional approach when it comes to probiotics. Health, convenience and affordability as well as credibility have all to get into one package. However, the survey also found that consumers urgently need more information on probiotics.

How to communicate probiotics

Jessica Bentley, Global Commercial Development Manager, Chr. Hansen, described what her company recommends for marketing communication. To better inform consumers, Chr. Hansen has developed strain logos that manufacturers of probiotic products may print on packages. There are four such logos for each of the Chr. Hansen's probiotic strains which are available for the application in food products: the LGG, the LA-5, the BB-12 and the L. CASEI 431 strains. Chr. Hansen's customers will be supplied with detailed information on these strains and their benefits for wellbeing and health on the website of The Probiotics Institute. In addition, The Probiotics Institute by Chr. Hansen also is active sponsor of information channels addressing dieticians, nutricionists etc. In her presentation, Bentley showed several examples of dairy products containing probiotics and successfully connecting with consumers in thir markets such as Jana yoghurt in Poland, Bio & Me from in UK and Vaalia in Australia.

YOUR HEALTH - OUR SCIENCE
LA-5™
By Chr. Hansen

YOUR HEALTH - OUR SCIENCE
LGG™
By Chr. Hansen

YOUR HEALTH - OUR SCIENCE
BB-12™
By Chr. Hansen

YOUR HEALTH - OUR SCIENCE
L. CASEI 431™
By Chr. Hansen

Chr. Hansen has made a special logo set available to manufacturers of probiotic foods

The market for A2 milk

CAGR of 9.5% anticipated

According to Adroit Market Research, the market for A2 milk was estimated to be worth USD 2.1 Billion in 2022, and by 2030, it is anticipated to grow to USD 4.9 Billion, with a CAGR of 9.5%.

Consumers are becoming more knowledgeable about A2 milk and its possible advantages. People are looking for alternatives to traditional milk as they grow more health and nutritional concerns. A sizable customer base has been drawn in because of the belief that A2 milk may be simpler to digest and less likely to induce gastrointestinal discomfort. Due to a number of variables, including dietary choices, lactose intolerance, and allergies to milk proteins, the demand for dairy substitutes has increased. For those who enjoy milk but find it difficult to consume regular cow's milk owing to the presence of A1 beta-casein, A2 milk offers an alternative. As a result, the demand for A2 milk as a dairy substitute has increased.

Consumer preferences have been impacted by the health and wellness movement, which places an emphasis on natural, minimally processed, and functional meals. In keeping with these trends, A2 milk is frequently viewed as a more natural and healthful alternative to normal milk. Health-conscious customers have been drawn to A2 milk since it is said to have digestive advantages and is more similar to the milk that was traditionally drunk. The availability of A2 milk is expanding through a variety of distribution channels, including supermarkets, specialty shops, and Internet

marketplaces. A2 milk is now more widely accessible and available, making it simpler for customers to find and buy these goods. With firms introducing A2 milk products in many nations, the A2 milk market is growing geographically.

The market for A2 milk is expanding as a result of successful marketing initiatives and product innovation. Through concerted promotional and educational initiatives, businesses have emphasized highlighting the distinctive characteristics and potential advantages of A2 milk. New product developments have also contributed to market diversification and consumer appeal. Examples include flavoured A2 milk variations and dairy products made with A2 milk.

Although the market for A2 milk has grown significantly in some areas, there is still space for growth on a worldwide level. Since many nations haven't fully embraced A2 milk, businesses have the opportunity to launch and establish A2 milk products in new markets. Future expansion may be fuelled by extending distribution networks and increasing consumer awareness in underserved areas. The market for A2 milk may expand due to ongoing product innovation. Businesses might look for chances to create new A2 milk-based goods, including newborn formula, flavoured milk, yogurt, and ice cream. Innovations that address certain dietary requirements, such as lactose-free A2 milk or A2 milk with beneficial components added, can also draw in a larger audience.

Early users of A2 milk, Australia and New Zealand continue to be important markets for A2 milk products. These nations are where the idea for A2 milk first emerged, and several dairy businesses have made significant inroads there. Consumers generally accept A2 milk, and the market has had consistent growth. Local dairy brands and cooperatives have been instrumental in pushing A2 milk uptake in this area. More information is available at www.adroitmarketresearch.com

(photo: A2 Milchhof Familie Wallner)

Consumers in Russia massively cut their budgets on food

Country outlook

A creeping crisis in the Russian dairy industry

Russia has weathered the first blow of Western sanctions surprisingly well, but now, 15 months since the beginning of the Ukrainian conflict, the outlook for the country's dairy industry looks increasingly vague.

At first glance, the Russian dairy industry has not felt the negative impact of the Western sanctions. In 2022, Russian raw milk production jumped by 800,000 tons totalling 32.5m tons. Sergey Mitin, chairman of the Agricultural Committee at the Federal Council, the upper chamber of the Russian Parliament, said that the raw milk production segment was not just stable but was even growing. He disclosed that in 2023, Russian manufacturers unveiled plans to further pump 27bn ($450m) into building or expanding 87 industrial milk farms.

In 2022, production growth was reported in the key segments of the dairy industry. For instance, the Russian Union of Dairy manufacturers Soyuzmoloko recorded an 11% hike in butter and an 8% surge in cheese products output last year.

Still, it would be wrong to say that the general economic turbulence in Russia last year was left unnoticed by the dairy industry. Lyudmila Manitskaya, chairman of the Russian Dairy Union, in particular, disclosed that Russian customers massively switched to cheaper products, which is taking a toll on sales. This factor hindered the demand for some commodities, like yoghurt and ice cream.

Russian dairy companies struggle against oversupply

Looming oversupply

One of the factors encouraging Russian dairy companies to ramp up output is growing state aid. As estimated by a think tank under local news outlet Milk News in 2022, the Russian government paid record 51bnn roubles ($800m) to dairy companies under several support programs. This is substantially higher compared to 37.3bn roubles ($500m) allotted to the dairy businesses in 2022 when the industry struggled against the consequences of the Covid-19 pandemic. A substantial part of the aid is paid in the form of a production subsidy per kg of manufactured products.

The production growth, however, is accompanied by a drop in consumption. Artem Belov, chairman of Soyuzmoloko, estimated that it dropped last year by 200,000 to 250,000 tons. In this background, the carryover stocks reached record-breaking 1.4m tons and kept growing. The oversupply problem seems even more alarming in the raw milk segment. Soyuzmoloko calculated that Russia manufactured 2m tons of milk last year, more than it could consume.

"Today, the warehouses of manufacturers have the highest volumes of stocks, primarily of milk-intensive product categories – dry dairy products, cheeses, butter. Stocks of skimmed milk powder in the warehouses of [dairy] manufacturers in March this year were 241% higher than the same month last year, dry whey - by 149%, cheese products and cheeses – by 65% and 32%, respectively," Soyuzmoloko said.

"In 2022, the market situation was stabilized largely thanks to an 8% drop in imports. In particular, supplies from Argentina and Uruguay have come to a halt, and supplies from New Zealand have dropped to a minimum," Belov said.

In the first months of 2023, Russia saw further growth in dairy production while consumption will remain stable at best, Belov stated.

Slumping consumption

Over the past few months, Russian veterinary watchdog Rosselhoznadzor banned dairy imports from Kyrgyzstan and Armenia, citing safety concerns. Kyrgyz dairy companies interviewed by the Russian publication Dairy News claimed that the Russian authorities use the veterinary claims as an excuse to take steps aimed at easing oversupply on the domestic market.

Dairy Union's Manitskaya warned that the downward rally in the Russian dairy market might be far from over. She forecasted that in a pessimistic scenario, the consumption could plummet further by a stunning 20% to 30%.

Some sources stated that this has already happened. Russian newspaper MK, for one, reported that over the past three years, the country saw milk consumption in the country falling from 240 litres per capita to 164 litres per capita.

When it comes to food consumption in Russia, state money is also an essential part of the equation. In 2022, the demand on the domestic meat and dairy markets was largely supported by 500 billion in state aid ($8.25bn) paid by the government to low-income families with children and an additional 500bn ($8.25bn) allocated to secure a rise in the public sector salaries, Yuri Kovalev, chairman of the Russian Union of pork producers told local press in 2022. In Russia, a significant part of such funds is spent on food, he added.

It is yet to be seen whether the Russian treasury will keep up the pace and keep its expedites as high as last year. Russia's budget deficit by April exceeded the government's target for the whole of 2023, the Russian Finance Ministry estimated. In January, Bloomberg reported that Russia recorded its largest budget deficit for the first month of the year since at least 1998, with tax revenues from oil and gas plunging 46% compared with a year ago.

The unprecedented emigration wave Russia experienced last year is also likely to hamper consumption in 2023. The concrete figures of how many Russians left the country remain unknown, but the Central Bank estimated in December that the number of workers below 35 years in the country last year plummeted by 1.33 million. This is associated with numerous factors, including demographic issues, but emigration has undoubtedly played its role.

Resorting to public procurement

Russian market players believe that the authorities should take steps to spur the demand in the domestic market and facilitate export sales to save the industry from diving into a full-fledged crisis.

Analysts call for state procurement: The downward rally in the Russian dairy market might be far from over

Since the beginning of 2023, farmgate milk prices in Russia dropped from 28 roubles ($0.35) to 22 roubles ($0.27) per litter, the Russian newspaper MK reported. Russian dairy business has largely adopted to Western sanctions, but they keep weighing on production costs. Over the past year, they surged by 20% to 30%, ranging between 22 and 23 roubles ($0.27 - $0.28) per litter at most farms. This means that the situation is close to critical.

"In the current situation, cheese and butter could be included in the public procurement program. That would allow, for example, to feed the Russian army. And the current situation in the dairy market will lead to the fact that the peasants will begin to downsize their herds in six months. And, consequently, [to lower] milk production," said Marina Petrova, deputy chairman of the Moscow Chamber of Commerce and Industry.

"Milk consumption in Russia per person is less than the recommended medical norms. Therefore it is impossible to talk about overproduction," stated Igor Abakumov, Russian agricultural analyst and a host of the YouTube channel Rural Hour, who also expressed confidence that the current price situation in the market could drive independent and backyard farmers out of business. They are believed to produce some of the best milk available in Russia.

To deal with the oversupply, Abakumov suggested introducing food stamps, adding that this could effectively bolster the demand.

However, any form of public procurement program would require additional money from the state budget. Some analysts also say that the authorities might be reluctant to introduce food stamps because of a public backlash. In Russian society, food stamps were strongly tied to the hunger days of the Soviet Union, and turning to this solution could send the wrong signals to Russian businesses and consumers.

Export is in the spotlight

To mitigate the oversupply problem, Russian dairy companies and authorities are increasingly setting their sights on export. For instance, the Russian Agricultural Ministry stepped forward with a proposal to compensate 100% of the logistics costs associated with selling dairy products to non-Russian customers.

Dmitry Rylko, general director of the Russian Agricultural Market Studies IKAR, admitted that the dairy industry has not yet found competitive export markets. He also added that Belarus, a big dairy exporter, is pretty much in the same shoes. Due to Western sanctions, it saw a slump in export sales and re-directed additional quantities to the Russian market, further worsening oversupply.

The Agricultural Ministry embarked on a plan to boost milk powder and whey export to China, Saudi Arabia, the United Arab Emirates, Algeria and Thailand. The goal is to sell 15,000–20,000 tonnes of these products in 2023.

Ministry publicly confirmed that it was working on opening markets for Russian products, listing the countries of Asia, Africa, and the Persian Gulf as priority targets.

However, the Russian newspaper Vedomosti reported, citing its sources, that the Russian agricultural attaché so far has been experiencing difficulties finding buyers. For example, anonymous sources told the publication that Chinese companies did not show interest in purchasing Russian products, among other reasons, because Russian suppliers can't offer big enough product batches.

Saudi Arabia expressed some interest in Russian goods, but no concrete agreement has been reached yet. Besides, Russian dairy companies will need to compete with dairy businesses from Australia, New Zealand and the European Union, which is challenging. Vedomosti also reported that market participants were not entirely sure that Russian products would be suitable in terms of quality.

Many countries have high-quality requirements for raw milk powder, and production facilities must be certified, the source said, admitting that Russian companies have not invested in this for a long time. On top of that, Russian exports are hampered by sanctions.

All in all, it looks like the Russian dairy industry should be braced for a challenging time. Sanctions are showing their teeth, and economic problems are piling up. The industry still has a margin of safety and room for manoeuvre, but are they sufficient enough? Time will tell.

Russia sees dairy production slumping

New combined checkweigher
Essentus Performance L

Minebea Intec has expanded its portfolio of checkweighers with the new Essentus Performance L combination. The system com-bines the checkweigher Essentus Performance L with the metal detector Vistus in one base frame and with two operator termi-nals (HMI) – one for weighing and the other for metal detection. The combined system allows customers to check the weight of their products, perform integrity checking, control upstream fill-ing systems and check for foreign objects. Minebea Intec devel-oped this new product in direct response to customer demand. The checkweigher Essentus Performance L combination is a highly compact and verifiable solution, which also features an optional stainless steel weighing table for the most stringent hygiene re-quirements.

NEWS

The new combined checkweigher Essentus Performance L al-lows customers to check the weight of their products, perform integrity checking, control upstream filling systems and check for foreign objects (photo: Minebea Intec)

Woodlands Dairy

South Africa's first ever connected experience about recycling

Author:
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appetitecreative.com

By enabling easy access to connected packaging for brands, Appetite Creative has been able to help a variety of businesses, now including Woodlands Dairy (photo: Appetite Creative)

Woodlands Dairy, one of the largest manufacturers of UHT milk in South Africa, in partnership with world leading food processing and packaging company Tetra Pak and creative technology studio Appetite Creative, recently created a fun and interactive connected packaging for its FIRST CHOICE brand.

The FIRST CHOICE range includes various cheeses, butter, cream, amasi, custard, flavoured milk, extended shelf life (ESL) fresh milk, UHT milk, milk powder, dairy desserts, dessert toppings, yoghurt, olive oil, balsamic vinegar, honey, dips and ice cream.

Earlier this year, Woodlands Dairy was looking to help educate consumers about the benefits of recycling packaging and raise awareness of sustainability through its first ever FIRST CHOICE branded experience. The smart packaging utilised a web app based connected experience accessed via QR codes to give consumers access to an interactive sustainability quiz and key sustainability information sheets. Users participate to collect points and get ranked on the quiz leaderboard and the chance to be chosen to win 500R with shopping vouchers.

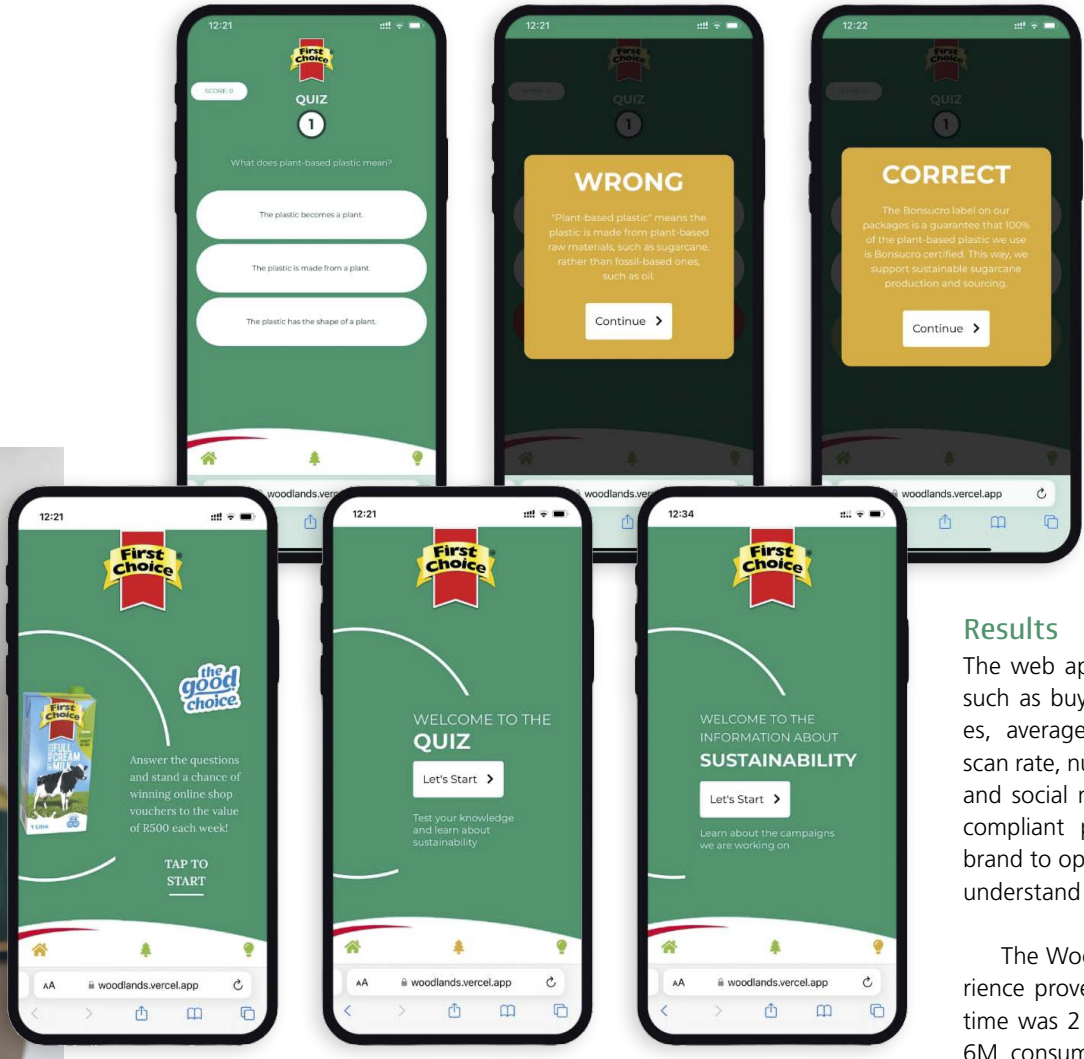
Woodlands Dairy pride themselves on their innovative thinking, the speedy development of new products and excellent customer service. This connected experience was their first foray into smart packaging, and they wanted consumers to find it both an informative and helpful way to be kinder to our planet, and have fun too.

By creating a unique connection with consumers and benefitting from smart data and real-time marketing optimisation, this step for Woodland Dairy is the first towards a completely connected digital packaging and marketing experience.

Connected packaging for good

Woodlands Dairy is leading the charge in South Africa, and this campaign not only puts sustainability front and centre, but it makes it easy and fun for consumers to recycle.

By enabling easy access to connected packaging for brands, Appetite Creative has been able to help a variety of businesses, now including Woodlands Dairy, to take advantage of the enormous value that this technology can deliver.



Woodlands Dairy's campaign puts sustainability front and centre (photo: Appetite Creative)

By creating a unique connection with consumers and benefitting from smart data and real-time marketing optimisation, Woodland Dairy will enjoy a completely connected digital packaging and marketing experience (photo: Appetite Creative)

In fact, we're seeing more and more brands investing in connected experiences to help consumers become eco-minded and sustainable. According to research from our second annual connected packaging survey released earlier this year, connected packaging has experienced a rise in popularity in the last 12 months, with over four-fifths (81%) of those surveyed stating they have used connected packaging, compared to just over half (54%) in 2022.

Packaging manufacturers are all taking sustainability seriously. We're helping many of them to educate and inform consumers in an engaging way via connected packaging to ensure the end user understands how and why to use and recycle the packaging.

We've been enabling marketers to deliver important information in a way that is easy to digest and action, empowering them to make the right choices for themselves and the planet. It's all well and good tethering caps for example, but if consumers don't know why and separate the lids anyway, then it's a wasted exercise.

A brand's wider contribution to or impact on society is a growing consideration for consumers, with sustainability one of the key topics under scrutiny. We're seeing a growing demand for sustainable technology solutions. Brands are increasingly looking to combine environmentally friendly business practices with consumer education and engagement.

Results

The web app tracks real-time interaction, such as buying habits, product preferences, average engagement time, location, scan rate, number of visitors, return visitors and social media shares, including GDPR-compliant personal data to enable the brand to optimise its marketing and better understand consumers.

The Woodlands Dairy connected experience proved popular. The average dwell time was 2 mins and 14 seconds. Almost 6M consumers were reached generating over 20M impressions, and the educational sustainability quiz has been played by 53k users.

Sustainability and connected packaging trends play a vital role in addressing the challenges faced by consumers and businesses. Through eco-friendly materials, minimalist design, circular economy principles, and connected packaging solutions, the packaging industry is evolving to meet the demands of a more sustainable future. By empowering consumers, driving operational efficiency, and fostering long-term resilience, these trends provide tangible solutions to mitigate the cost-of-living crisis while promoting a greener and more sustainable society.

Due to sustainability demands combined with the rise of connected packaging experiences, brands are increasing their investment in this supercharged media channel like never before, and the results are impressive.

Sidel

One-stop shop for rPET

Sidel is demonstrating its expertise in recycled PET (rPET) by launching its 'RePETable offer.' This portfolio of services is designed to help the packaging industry make an efficient transition to rPET bottle production while offering support to improve the circularity of primary packaging.

Sidel aims to facilitate a smooth and efficient market switch to recycled PET by establishing a 'no fear' one-stop shop for rPET- the RePETableTM offer. These service solutions will enable customers to adopt up to 100% rPET without impacting bottle production. Sidel can also offer support to the industry to develop innovative and more sustainable primary packaging materials that are designed for recycling.

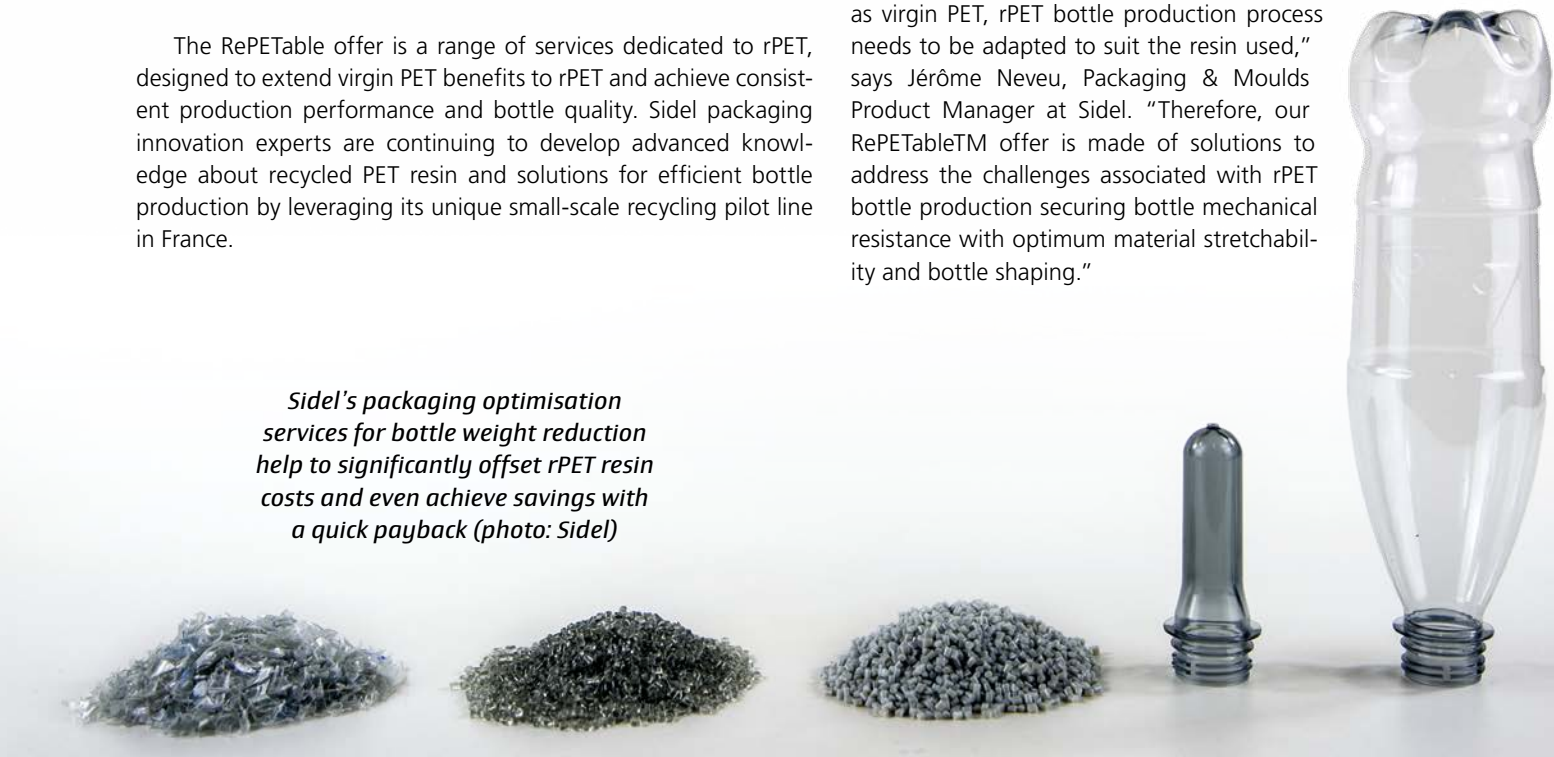
The RePETable offer is a range of services dedicated to rPET, designed to extend virgin PET benefits to rPET and achieve consistent production performance and bottle quality. Sidel packaging innovation experts are continuing to develop advanced knowledge about recycled PET resin and solutions for efficient bottle production by leveraging its unique small-scale recycling pilot line in France.

The RePETable offer has been designed for customers to pick and choose services that best suit their specific needs. Sidel's RePETableTM offer is additional to its packaging optimisation services for lighter bottle weight, helping customers make a cost-efficient transition to recycled PET.

Consistent production performance and bottle quality

With more than 40 years of blowing and PET packaging expertise, Sidel has developed a deep understanding of recycled PET resin characteristics, its variability and its impact on bottle production.

"To reach the same level of performance as virgin PET, rPET bottle production process needs to be adapted to suit the resin used," says Jérôme Neveu, Packaging & Moulds Product Manager at Sidel. "Therefore, our RePETableTM offer is made of solutions to address the challenges associated with rPET bottle production securing bottle mechanical resistance with optimum material stretchability and bottle shaping."



Sidel's packaging optimisation services for bottle weight reduction help to significantly offset rPET resin costs and even achieve savings with a quick payback (photo: Sidel)

RePETable offer has been designed for customers to pick and choose services that best suit their specific needs (photo: Sidel)

Sidel offers rPET-ready features with packaging services and mould solutions, equipment upgrades and process support which achieve consistent, high production performance and bottle quality, even with up to 100% rPET. The blowing process is optimised to manage challenges associated with rPET grades and out-of-spec rPET is identified and rejected before processing.

"We are continuing to innovate and find more breakthrough solutions for rPET bottle production," continues Jérôme Neveu.

A holistic approach

Sidel's investment in its small-scale recycling pilot line is supporting primary packaging suppliers in innovating with new materials for closure, sleeve, glue, label, additives, colouring and any other primary packaging material.

The services delivered through this pilot line ensure primary packaging recycling process efficiency, resin quality, and rPET bottle performance. Sidel is using this line to recreate every step of the recycling process from washing, drying and pellet extrusion to crystallisation and Solid State Polymerisation, including dedicated process and laboratory controls at every step. Sidel packaging and equipment experts study all aspects of the process from post-consumer PET bales to flakes, including pellets ready to be injected into preform up to rPET bottle blow moulding and industrialisation.

This comprehensive approach, unparalleled in the packaging industry, positions Sidel with a unique hub of expertise for closed-loop PET packaging. It increases the market understanding of PET recycling and helps to verify that primary packaging material innovations comply with bottle-to-bottle recycling.

Cost-efficient transition

As the demand for rPET continues to rise, driven by regulations across the world and brands' commitment to packaging circularity, the cost of rPET is fluctuating and remaining higher than that of virgin PET. Sidel's packaging optimisation services for bottle weight reduction help to significantly offset rPET resin costs and even achieve savings with a quick payback.

A virtuous closed-loop

With the RePETable offer, Sidel is committed to using its comprehensive expertise to create a virtuous closed-loop process for food-grade rPET bottles.

"While PET is already fully compliant with the circular economy compared to other plastic packaging materials, combining lightweight and recycled PET is the fastest way to reach carbon neutrality," says Naima Boutroy, Packaging Expert Global at Sidel. "Lifecycle analysis shows that PET already has the best carbon footprint of all the packaging materials currently available. Creating a robust recycling loop to achieve full circularity at scale will make PET an even more sustainable choice."

The optimum air conditioning solution

Özgazi relies on sustainable systems from Air Quality Process

Dutch maker of ethnic dairy foods, Özgazi Dairy Foods, opted for an air conditioning solution by Air Quality Process (AQP) back in 2015 when the company installed a Coagulator for continuous cheese making supplied by ALPMA. The cooperation of AQP and Özgazi proved to be the optimal solution for open systems (see photo), summarises Plant Manager Vural Aktürk after eight years of using the air conditioning system.

„Process rooms with high humidity, especially with white cheese types, like feta, mozzarella, blue cheese, need special respect when it comes to air conditioning", says Mr Aktürk. „You need a solution to separate fresh air and recycled air. And you need a system with the simplest design guaranteeing trouble-free operation. That is why Özgazi chose AQP as supplier of air conditioning for the whole plant".

Conventional air conditioning systems often feature a recycling AHU (Air Handling Unit). They recycle humidity into the filters and the rigid recovery pipes, which are difficult to clean. This results in an overall higher risk of contamination. The AQP solution prevents that humidity being sucked back into the filter system, hence, the risk of contamination is minimised.

Mr Aktürk adds: „We have not enough personnel to permanently evaluate the air quality, so we need very good systems with low maintenance requirements. We also have insufficient manpower to consistently evaluate the air quality. But since we have been using the AQP concept, we have never had contamination problems or pH drops in vat milk or cheese, purely because we run our process in a highly hygienic environment".

Tailor-made installation

AQP's system for Özgazi was tailor-made as with all their solutions. Nicolas Soulier, Area Sales Manager AQP, points out that this is a prerequisite to guarantee the effectiveness of any air conditioning system as each and every food production site is different from another. Tailor-made projects offer the highest level of health safety for air treatment in cheese dairies, whereby all versions of AQP's

AQP's tailor made installation for Özgazi (photo: AQP)

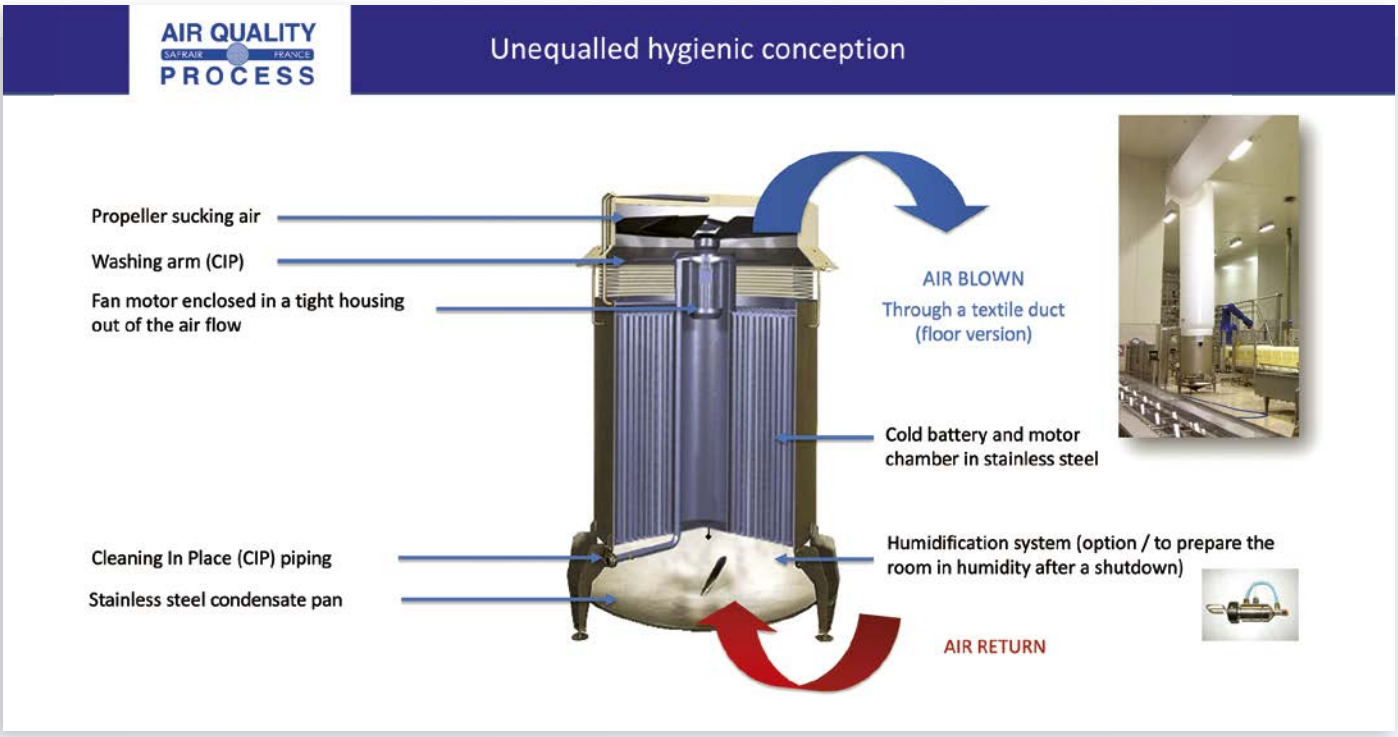
Serif Aktürk (CEO Özgazi), Gisbert Strohn (former CEO ALPMA) and Wietze Jongsma (owner Jongsma Engineering Solutions, agent of ALPMA and AQP in the Netherlands) at Özgazi's continuous cheese production line with Coagulator (supplied by ALPMA) equipped with air conditioning units supplied by AQP (photo: ALPMA)

air conditioners are USDA accepted (fully CIP- and controllable). AQP offers both solutions, floor or ceiling version, depending on the configuration of the rooms. Given its vast expertise in air flow management, AQP can supply hygienic air treatment to cheese plants for all types of cheese, all types of rooms, be it greenfield or brownfield projects. It greatly helps that engineering, manufacturing and commissioning are carried out by our own teams to ensure a high quality installation. Meanwhile, AQP has equipped 350 cheese dairies worldwide and is therefore a renowned supplier of air conditioning systems in the dairy industry.

„AQP's CIP-able units are of great quality, very user-friendly, and need minimal maintenance", says Mr Aktürk. The solution is simple and based on a highly hygienic design with an all-fresh air AHU and stainless steel air-conditioners that are easy to clean and control. AQP systems recycle the air containing humidity and particles and are the only one in the world that have USDA acceptance as there are no fins or elements to retain particles inside the exchanger. This eliminates the risk of the air conditioning equipment becoming a vector of contamination. The air conditioners are sized in a way to become efficient driers during the cleaning stage so that cheese dairies can go back in production very quickly, with a sane atmosphere. Air diffusion and building insulation also limit drastically the risk of condensation on the ceiling for instance.

Air conditioning in a Coagulator room

In a very sensitive operation like making cheese in a Coagulator, one needs to protect the room by overpressure from the surrounding rooms. To be on the safe side, an in-depth study must be carried on factory scale. This to ensure a permanent overpressure from high to low sensitive areas, taking into account production time, cleaning time and shutdown. The risks of contamination must be identified by analysing the sources and vectors of contamination.



Principle of the USDA accepted AQP air conditioning system, floor version (fig.: AQP)

From experience, contamination comes mainly from staff, building and flows of material. AQP's factory analysis is done to give advice to customers on total air flow management (i.e. recommendations on the flow of people, location and access to the technical areas, type of panels to use/insulation coefficients, and so on).

At Özgazi, a solution was chosen with two ceiling air conditioners in the coagulation room. Two units were necessary in this very narrow but very long room to ensure air hygiene. Mr Aktürk confirms the practicability of this layout: „We had to install a solution in our existing building and AQP's system has been operating extremely reliable from day one. We appreciate the system's simplicity that requires little maintenance as it has only very few components and are easy replaceable. All in all, we have installed a very good system for air conditioning".

Özgazi Dairy Foods

Özgazi Dairy Foods is located in Etten-Leur, the Netherlands. Established in 1992 as maker of feta cheese the company has grown over the years. Today, Özgazi manufactures white-brined cheeses of different types, Ayran, Kashkaval and yogurt from cow, sheep, buffalo and goat's milk. Daily milk intake is approximately 500,000 L which are processed by a staff of 160 working in three/four shifts in a 24/7/365 operation on 35,000 sqm floor space. With sales both nationwide in the Netherlands and also in the EU as well as in export markets, the projected turnover in 2023 is €130 mln.

YONTEX drinktec and BrauBeviale join forces

NEWS

The two most important international trade fairs for the beverage and liquid food industry will join forces to strengthen their positions in the world market. drinktec from Munich, the world's leading trade fair for the beverage and liquid food industry, and Nuremberg's BrauBeviale, the leading capital goods trade fair for the beverage industry in Europe, have joined forces to form the joint venture "YONTEX" as of 1 July 2023.

From left to right: CEO NürnbergMesse Peter Ottmann, CEO Messe München Dr. Reinhard Pfeiffer, CEO YONTEX Rolf Keller, Executive Vice President YONTEX Petra Westphal, CEO Messe München Stefan Rummel (photo: Messe München)

photo: FELTEN)

PILOT:MES at Lactoprot

Increased level of digitalisation in production

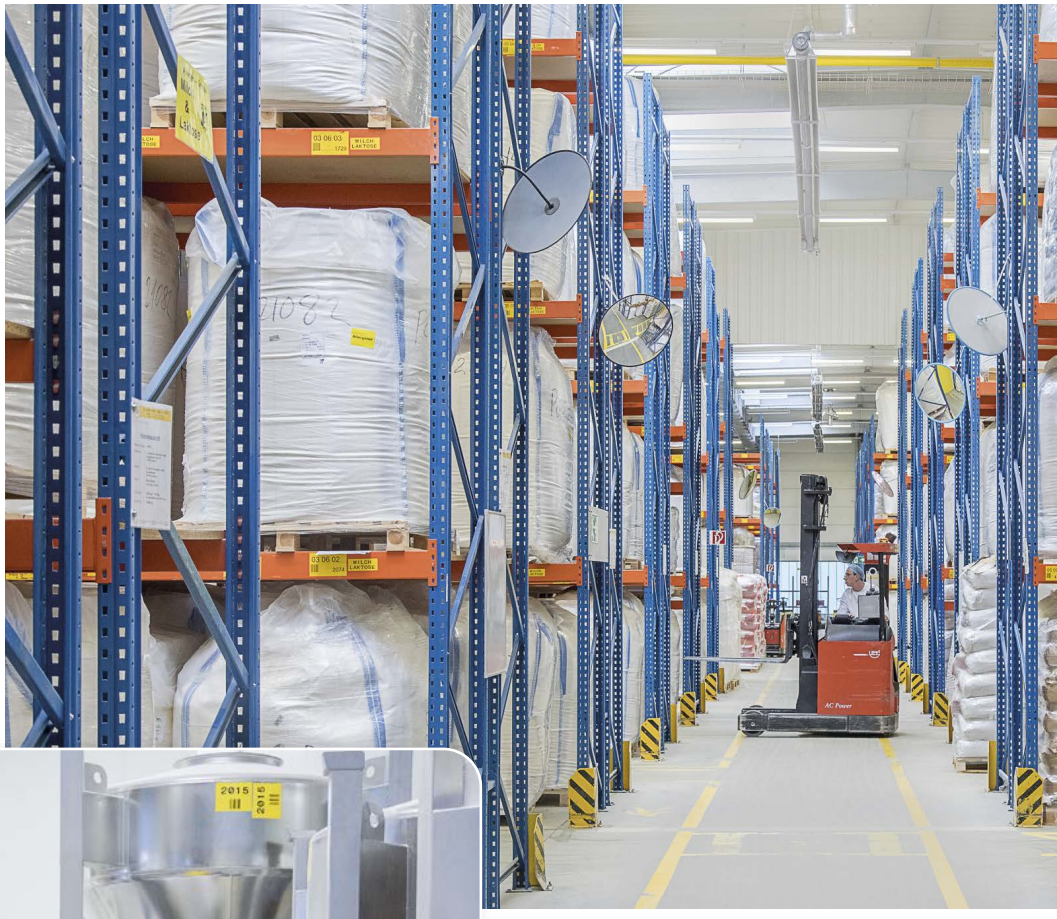
Whether it's breakfast with the family, dinner with friends or a quick snack in between: Chances are good that one of the foods or beverages served contains refined milk or dairy ingredients from Lactoprot. The multitude of possible applications is also accompanied by an abundance of different customers and requirements – and thus high demands on transparent and efficient production. PILOT, the Manufacturing Execution System (MES) of the FELTEN Group, supports Lactoprot in its digitalisation strategy.

Lactoprot has been involved in the refinement of milk and whey for over 35 years. In addition to the production of dairy protein concentrates, skimmed and whole milk products and yoghurt stabilisers, the company's main focus is on the manufacture of caseinates, i.e. the protein portion of milk used for further processing. In this area, the company is one of the world's leading producers. From baked goods to meat products, delicatessen items and beverages to ice cream or chocolate: Lactoprot products are processed in all these segments.

The need was recognised

A digital solution was already in use in one part of Lactoprot's production processing: the ERP software used was aligned with the supply chain processes and important processes in procurement, shipping and quality management were already running digitally to the greatest possible extent.

However, internal warehouse processes and complex production processes could not be handled with the ERP software used. These processes were mainly controlled manually, often also paper-based.



Especially for the warehouse staff at Lactoprot, the main advantage of the MES became apparent shortly after the implementation of the further project stages (photo: FELTEN)

Incoming and outgoing goods are controlled with PILOT; during stock transfer and staging, the system uses the PDA function to support employees in completing tasks quickly (photo: FELTEN)

Delays in production and thus in delivery, additional expenditure – both in terms of time and personnel – and susceptibility to errors were the result. In order to remain competitive, the company quickly realised that there were great opportunities for optimisation.

Efficiency & transparency

And this is where PILOT:MES from FELTEN comes into play: the goals were a significantly higher degree of automation and more flexible production control, which would ultimately lead to a noticeable increase in efficiency. To achieve these goals, PILOT was introduced with various modules as a subordinate MES. Incoming and outgoing goods processes are controlled with PILOT, and during stock transfer and staging, the system uses PDA functions to support the employees in completing the transports quickly. PILOT controls and monitors the weighing, mixing and filling processes as well as critical control points (CCP).

"We made the decision for PILOT from FELTEN after an extensive market evaluation and a concept workshop. Our choice fell on FELTEN not least because of its broad industry expertise and simple approaches to production digitisation," recalls Sönke Andresen, project manager at Lactoprot.

In addition to seamless traceability, thanks to PILOT:MES Lactoprot also has an overview of the performance of the plants and processes at all times and can intervene at an early stage if necessary. The digital checklist, a component of the MES used, has several applications in the company: Be it for incoming goods inspections, truck inspections, critical checkpoints or the creation of transport units - the module supports the standard-compliant compliance with all guidelines.

Noticeable success

Already after the first implementation stage, a higher stock accuracy could be achieved through the synchronous booking of the goods receipt. Before the introduction, there were sometimes severe delays caused by manual work steps.

Especially for the warehouse staff, the main advantage of the MES became noticeable shortly after the realisation of the further project stages: "In the past, the rudimentary storage location management in the existing ERP system caused long search times in the warehouse. For example, finding a specific pallet could take from two minutes to two hours. By switching to the MES, this time is ideally reduced to less than one minute," reports Michael Schwanke, Production Manager at Lactoprot.

In the area of small-quantity weighing, the MES offers additional process reliability because product mix-ups are prevented. This relieves the employees and ensures a significantly reduced complaint rate. Further safety mechanisms ensure that no wrong raw materials are thrown into the collective mixing containers. For example, a target/actual comparison quickly shows whether the goods scanned for consumption have actually arrived in the containers. In this way, any errors can be detected and corrected before further processing.

The digitisation of the CCP checks and other inspection plans represents a further simplification – the data is available at any time and can also be retrieved retrospectively for complete traceability. The productivity evaluations, which used to be compiled manually from different data sources, are now based exclusively on the data from the MES. This leads to a noticeable time saving for the plant management. "The nice thing is: everyone in production benefits from the new MES," Sönke Andresen sums up.

Lactoprot

Lactoprot Deutschland GmbH with its headquarters in Kaltenkirchen is one of the leading manufacturers of caseinates. The refinement of milk and whey is one of its core competences – each of the five production sites in Germany has a special focus. With over 300 employees worldwide, the latest technology and innovative product developments, the company serves customers in 87 countries. Lactoprot products are used in many foodstuffs - for example in milk and dairy products, meat, baked goods or beverages. The Manufacturing Execution System of the FELTEN Group was introduced at the plant in Lübeck.

NEWS

SSI SCHAEFER

Performance-optimized piece picking solution

SSI Schaefer is launching a fully automated piece picking system with numerous innovative features – the SSI Piece Picking application. This versatile solution, which includes a dedicated smart software, boasts advanced functions such as pick-and-place, object recognition using artificial intelligence (AI), a patented gripping point determination, and extremely gentle product handling.

AI-based object detection plus state-of-the-art gripper technology ensure that goods are gripped securely and placed gently in target bins or cartons (photo: SSI Schäfer)

AI-based object detection plus state-of-the-art gripper technology ensure that goods are gripped securely and placed gently in target bins or cartons. Instead of finger-shaped grippers, SSI Piece Picking uses smaller, compact suction cups that can reach every corner of a bin/carton, securely gripping even the smallest parts quickly. This function speeds up the overall picking process, and the speed can adapt to the specific product at the same time. Machine learning methods also enable the robots to gain experience with each pick and learn from it, creating a knowledge database available to all other robots.

Solutions for a wide range of applications

Wernsing Feinkost relies on high-speed doors

For almost 40 years, more and more high-speed doors from EFAFLEX have been providing reliable service in the production of Wernsing Feinkost GmbH in Addrup-Essen/Oldenburg.

Each production area is separated from the other by a high-speed door, and more than 200 high-speed doors are installed at various points in the huge Wernsing Feinkost GmbH factory. "They [the high-speed doors] are designed for high loads and can therefore be found in almost all production-relevant areas. They are also perfect for separating automated areas," explains Patrick Wehage. As deputy team leader for technology, he is responsible for the maintenance of all logistical areas in the factory. The EFA-SRT-MS machine safety gates, for example, ensure that employees do not come to harm along the transport routes. EFA-SRT high-speed roll-up doors separate different production areas from each other. In addition to the possibility of integration into smart logistics processes and the load-bearing capacity of the doors, the tightness and pressure stability of the hangings were also important for Wernsing Feinkost as a food manufacturer.

Conveyor technology controls door movements

The new deep-freeze high-bay warehouse is relatively quiet compared to other areas of the plant. Gondolas, packed with goods, glide quietly on ceiling rails through an aisle to various gates. They pause for a moment in front of the machine gates, which open immediately. The pallets are then transported on roller conveyors into the locks in front of the deep-freeze warehouse.

"As in other areas of our plant, the conveyor technology and the automated guided vehicles control the gates here," Wehage emphasises a special feature of the EFAFLEX gate control system and immediately adds: "This deep-freeze high-bay warehouse is inertised. For EFAFLEX, this meant having to run every cable into the warehouse in cable ducts for reasons of fire and explosion protection."

The gates on the logistics lines in the factory open up to three times per minute, i.e. 180 times per hour. "They don't suffer much wear in the process because of their gentle movements. This is simply robust technology that even a layman can handle well," says Patrick Wehage, who describes himself as an enthusiastic mechanical engineer. "Spare parts come quickly when needed. That's especially important for our refrigerated areas." Doors from other manufacturers? "Never change a running system. It works fine and that's it!"

Wernsing Feinkost GmbH

Wernsing Feinkost GmbH is part of the Wernsing Food Family. With nine production sites in Germany, as well as further locations in Belgium, the Netherlands, Poland, Denmark, Sweden and

The doors open up to three times per minute, i.e. 180 times per hour (photo: EFAFLEX)

Wernsing Feinkost has installed over 200 high-speed doors in its plant in Addrup-Essen, Germany (photo: EFAFLEX)

EFA-SRT high-speed roll-up doors separate different production areas from each other (photo: EFAFLEX)

Spain, the company generates an annual turnover of over one billion euros. In total, more than 4,500 employees work in the European family of companies. More than 1,250 employees work at the Addrup-Essen/Oldenburg site alone.

Protection for man and machine

Thanks to their space-saving, self-contained design, EFAFLEX machine safety gates can be excellently integrated into required safety installations. They stand out due to their extraordinary load-bearing capacity and stability. The standard door leaf of the EFA-SRT-MS is fully transparent and comes with warning strips as standard. Coloured, highly tear-resistant and cross-stable curtains are also available without further ado. All curtain variants are free of paint-wetting impairment substances. The interaction of a powerful frequency converter control and a functionally adapted drive enables the very high cycle rate of up to seven cycles per minute in production processes. The doors are designed in such a way that a weight-balancing mechanism is not necessary, which enables a narrow design of the side frames. This significantly reduces maintenance and wear. The optional floor supports allow the guards to be set up free-standing. Floor unevenness is compensated by levelling screws.

Hygiene/Sustainability

Chemical-free cleaning of conveyor belts with dry steam

Author: Olaf von Deines, FRANK Hochdruck- und Dampftechnologie GmbH, Wilnsdorf, Germany

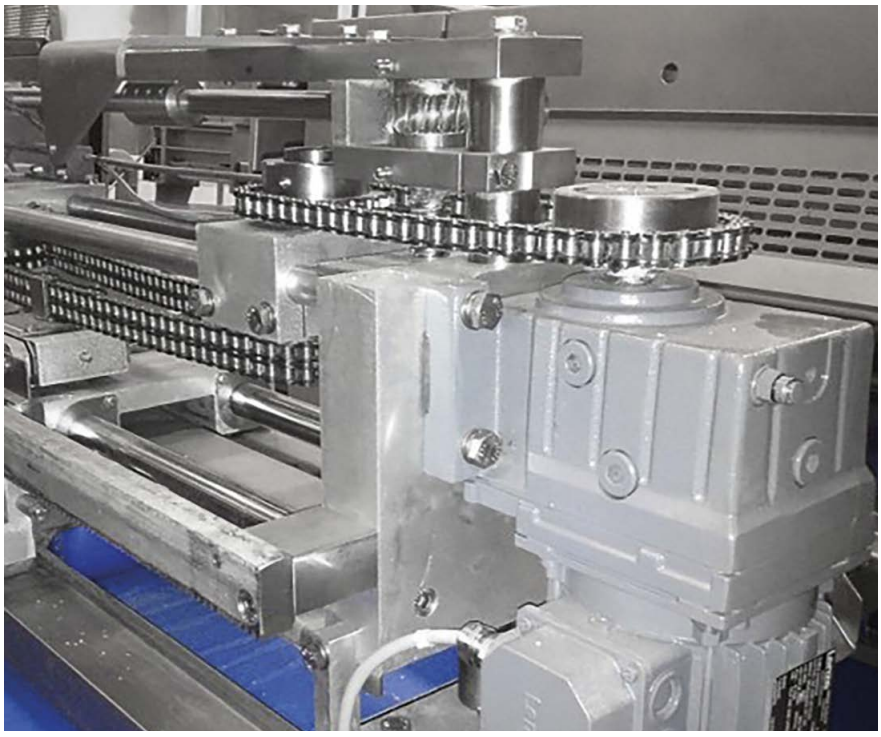
Conventional cleaning of conveyor belts is time-consuming, not very sustainable and poses risks for process safety as well as for the health of employees. First of all, dirty belts have to be stopped, and poorly accessible installations have to be dismantled before the treatment with chemicals and the washing process can take place. In addition, the drying times have to be taken into account.

If, on the other hand, dry steam is used, the cleaning process can be accelerated considerably. Immediately after cleaning, the surfaces are dry, chemicals can be completely dispensed with and the volume of waste water is reduced. The systems supplied by FRANK high pressure and steam technology are mobile, guarantee complete process reliability and document the cleaning process via the PLC.

The advantages of dry steam

Dry steam, i.e. steam generated at a process temperature of up to 230 °C, which does not contain any liquid water, reaches even hard-to-reach places, eliminates up to 99.99% of viruses and bacteria, liquefies most biological residues and guarantees a high cleaning performance due to the interaction of steam and pres-

Traditionally, link belts are extremely difficult to clean (photo: FRANK)



FRANK systems are available as CIP (Cleaning in Place), as well as a mobile solution for use on several production lines (photo: FRANK)

During cleaning, dry steam is applied directly to the belt surface and removes biofilms and product residues on impact (photo: FRANK)

sure. In particular, an acceleration of cleaning and a simplification and standardisation of the cleaning process can be achieved. Since no chemicals are used, the acceptance of the process also increases among the staff.

During cleaning, dry steam is applied directly to the belt surface and removes biofilms and product residues on impact. These are drawn into a vacuum chamber, resulting in dry and clean surfaces. The vacuum chamber is separated by squeegees so that the steam hits the belt first and liquefies the residues. After the cleaning process, an allergen-free, disinfected conveyor belt remains. Maintenance cleaning is also possible; dry steam ensures cleaning and disinfection in a single operation. There is also a solution for cleaning particulate contamination. A three-chamber system is used for this purpose, which first extracts loose residues and then hygienically cleans and disinfects the surface with a dry steam and vacuum chamber.

Special case of link belts

Traditionally, link belts are extremely difficult to clean; there is always the risk that residues remain. In addition, a high flushing capacity is required. For these cases, FRANK High Pressure and Steam Technology has developed a so-called Cleanbox, which treats the upper and lower side of the belt at the same time. Steam-driven rotor nozzles provide increased cleaning dynamics, and loosened contaminants are sucked off directly.

Flexibility

FRANK systems are available as CIP (Cleaning in Place), as well as a mobile solution for use on several production lines. This gives the user the advantage of relying on a flexible system that can also be used on newly acquired production lines at a later date.

Both a complete stainless steel version and a model with high-quality powder-coated cladding elements are available.

However, not only standard systems , but also special applications such as cleaning solutions for individual apron conveyors are developed and installed.

For demonstration purposes and for testing the cleaning performance at the customer's site, a hand tool is available with which the result of an automated system can be presented quickly and easily. As a rule, microbiological tests are carried out by the customer during these trials, which provide maximum certainty about the possible applications.

Conclusion

By using dry steam technology in the food industry, a fully automated cleaning process of your conveyor belts is possible without the use of chemicals and with a minimum of water consumption. By shortening the cleaning times, production output can be increased to such an extent that the investment is usually amortised within one year.

Our whey forward!

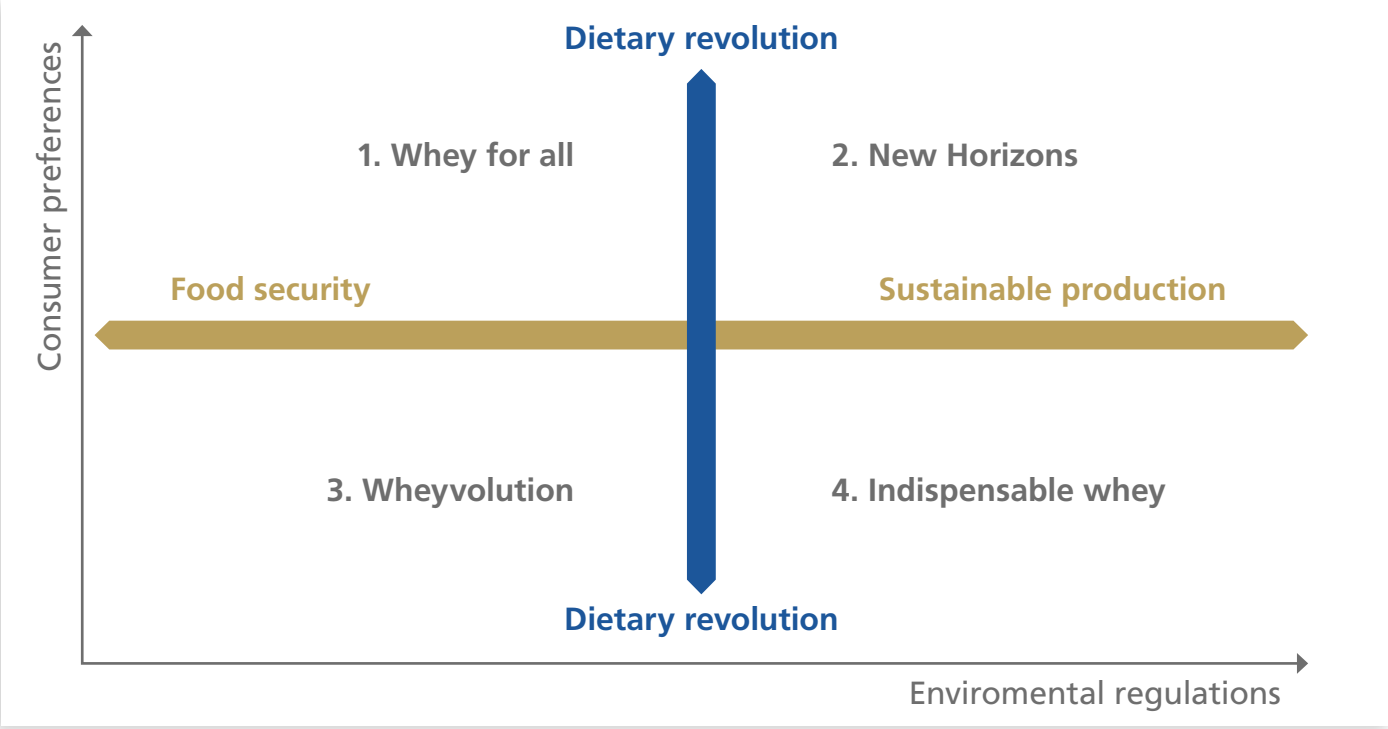
Author: Luis Cubel,
President European Whey Processors Association (EWPA) & Commercial Vice President,
Arla foods ingredients

The European dairy industry is a rather mature market and the growth potential for the category at large will be limited. The prospect of a declining milk pool in Europe could further hamper growth figures. But this doesn't mean that the European dairy industry is resting on its laurels. Societal demands on sustainability as well as on health offer a range of opportunities, especially for innovative companies in the whey segment. Whey is one of the primary proteins along with casein, found in cow milk and is an important side-product of the cheese-making process. Whey derivatives are very valuable due to their higher content in essential amino acids, high solubility, and, therefore, fast absorption and easy digestion by the body. In a nutshell, whey offers an excellent opportunity to optimise the valorisation of the available milk while meeting the demands of current and future consumers.

This healthy business prospect doesn't mean that the sector doesn't face any challenges. We are proud as an industry to share our insights on the 'power of whey', and this is what we have done in our latest EWPA Whey Protein paper. In this document we analyse the future potential of our sector within different scenario settings. We have, to be more precisely, developed four scenarios and assessed the respective 'state of whey' in the medium-term. This paper does not reflect an 'out of the box' thinking – it is the result of a discussion of executives and experts of the whey sector. We are grateful for the high level of engagement of our members – it were the energy, ideas, reflections, and questions of the Task Force members as well as from the wider EWPA membership that allowed to draft this paper and to flesh out different scenarios of the whey future.

The foundation of our analysis was, self-evidently, cheese production, as cheese is the key source of whey solids, and the allocation decisions that will be made within the dairy portfolio will be crucial for future whey solids availability. What certainly helps is that cheese consumption is still the main growth driver of overall dairy consumption in the Western world and beyond. Sustaining an EU cheese production growth rate close to 1% appears to be realistic, as local demand growth alone continues to require a production growth rate of around 1% or even slightly higher. A growth rate close to 1% is also possible because liquid milk and many of the fresh dairy categories seem to require year after year less milk. Due to the likely reality of milk supply decrease in the years to come, a baseline growth rate of cheese production of 0,5% - 1,3% seems reasonable.

Two of the most important developments that are likely to shape the availability and valorisation of whey solids will be environmental regulations in the key whey-producing regions, as well as global consumer trends and their attitude towards animal-based proteins. This is why we decided to work on the basis of two high-impact, high uncertainty axes, resulting in four contrasting scenarios. The scenarios have been identified through several participatory workshops with experts from the whey sector. We discussed the relevant political, economic, social, technological, regulatory, and environmental influences to identify the main drivers and barriers in the global whey market. These drivers and barriers were afterwards ranked in order to find the realistic and most impactful scenarios. For each scenario the impact on the whey balance towards 2030 was evaluated.



There is an increased focus on environmental regulations that will lead to lower dairy production and/or an increased focus on farm level innovations to lower environmental impact of dairy production in the key exporting regions. Meanwhile there is a counteracting trend that food security becomes a political priority in an increasingly geopolitical unstable world. The outcome of this political debate is a key influencer for the global whey industry for the remainder of this decade.

The extent to which the overall picture will be influenced by a shift in consumers' dietary choices remains to be seen. At global level, we don't see a significant shift to plant-based protein since these substituting products simply are not a viable replacement for animal-based proteins. Nevertheless, the penetration of the impact of a dietary evolution on a global scale and throughout all layers of society is a question. It seems safe to say that the current growth rate will not be sustained. Also, slow consumer acceptance of highly technological alternatives could lead to a very soft dietary evolution instead of a revolution.

In the short term one might think that the whey market is under pressure due to slowing demand and disappointing price levels. But such a snapshot might give a distorted picture due to, for example, temporary destocking. The midterm market fundamentals are nonetheless more than solid. Our key take aways for the midterm, from the analysis carried out, are the fact that whey demand for nutritional and specialized applications will further continue to grow while supply of high-quality whey is limited, and growth is unlikely to keep up with demand. The analysed drivers, as well as ongoing whey innovation will lead to an increased value of whey compared to the past – this new whey value is the reality already today. In this more and more volatile world, large producers' partnerships providing certainty to both parties in uncertain times.

While the shape of our four 'state of whey 2030' scenarios and our economic analysis are most probably subject to changes over time, the fundamental purpose basis of our whey industry is solid.

Download the Whey Protein Paper Outlook 2030:
https://ewpa.euromilk.org/fileadmin/user_upload/Public_Documents/EWPA_Publications/EWPA_whey_outlook_2030.pdf

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ANRITSU

X-ray machines pass PTB accreditation

Anritsu Ltd, global manufacturer of inline product detection and inspection equipment for the food industries, has received the highly coveted PTB accreditation from the National Metrology Institute of Germany. This is the first time that any X-ray systems have met the extremely stringent standards demanded by PTB. Anritsu believes this indicates that they are the safest X-ray machines in the world.

The certification, which is valued throughout Europe and beyond, applies to Anritsu's most popular KXS7522 and KXS7534 models. It means that visits by a radiation expert to test a new machine before it is put to use are no longer necessary: customers can install the Anritsu machine into a line and run it straight away, saving both commissioning time and test fees.

NEWS

Anritsu's models KXS7522 and KXS7534 can be regarded as the safest X-ray machines in the world (photo: Anritsu)

(photo: Mettler Toledo)

Less product loss, less effluent
Technology/IT

(photo: IDM)

Heat sources supply heat sinks
Site Report

(photo: Gernep)

Liberating labels
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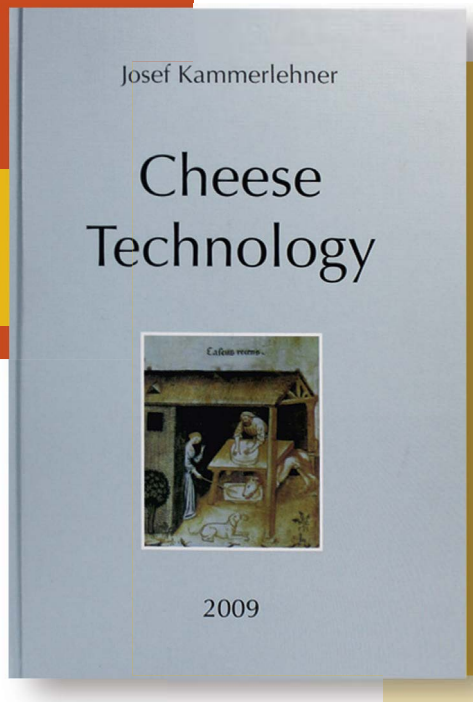
Learn from the expert!

The CHEESE TECHNOLOGY book has been a German a long-standing, widely appreciated benchmark and is now available in English. The book comprises all fields of cheese technology in an exemplary extent and depth. Much of the latest literature has been reviewed and insights thereof integrated in this book.



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THE BOOK HAS 9 CHAPTERS

General overview, divided into definition, processing scheme, history, significance of the various groups of cheese concerning nutrition Raw material and additives for the production for various groups of cheese Varieties of the respective groups of cheese as well as their manufacturing processes and evaluation (quality, shelf life, etc.) Packaging of the various cheese groups Influences on quality, checking and quality assurance Description of defects and notes for improving quality issues.

This book addresses above all cheese makers but also trainees as well as students, graduates of food technology and scientists. For special instructors, this book is a solid base for courses or lectures. It is an extremely valuable help as reference book for dairy specialists and the cheese industry as well as for technical advisers and suppliers. CHEESE TECHNOLOGY makes an invaluable contribution to the preservation and documentation of accumulated know-how of cheese technology across decades.

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