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September/October 2022

magazine

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(Bad) sign of the times

High prices must lead to less sales



Roland Sossna
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Depending on the world region, the dairy industry has probably not had as many worries since its industrialisation some 150 years ago as it does today. Whereas rising prices and higher costs put pressure on virtually every dairy company worldwide, the worries are much bigger in Europe.

The dependence on Russia as an energy supplier has hit EU dairies especially hard. If by chance gas supplies last throughout winter – let's hope we don't have a very cold one – as shortages of energy supplies in spring will hit the industry like a sledge hammer if gas flow from the Russian pipelines continues as they are now. Gas storage at nil and only 20% supply compared to normal will make it a necessity to close down parts or even whole milk and whey processing plants. Looking onto the chain, dairy farmers will need to dispose of their milk in any way they can as once prospering dairy firms will be bankrupt and supply of dairy products to the population will significantly decrease or even stop.

In the meantime, rampant inflation may be further exacerbated and above all prolonged by excessively high wage settlements, thus causing all kinds of undesirable reactions in the markets – both export and domestic. Neither is at all surprising of course as restraint on the buyer side when prices are high is not really anything new. Sales of liquid milk and cheese in mid-Europe are already showing signs of decline and sales in plant-based dairy alternatives are no longer growing at high rates.

Even if consumers are not yet fully affected by the energy cost explosion at the moment, except of course for fuel, the buying mood is darkening rapidly. It is to be expected that later in the year and even more so in 2023 there will be much more dramatic changes in dairy sales. In an extreme case, the markets may even return to a surplus situation – despite declining production – if consumers simply have to do with less cheese and milk so that they can still pay their rent and utilities. The signs are also pointing to alarm for the important sales in holiday regions which will be quiet this autumn and next year. Those who have to skimp will probably not be able to afford a holiday, which will cause the tourist strongholds once again to begin to fail just as they did two years ago after the Corona lockdowns.

All in all, there are signs indicating a dire imminent future for the dairy industry, thinks Roland Sossna.

HYDROSOL

News

New Homemade compounds

Home cooking has become more popular than ever since the start of the pandemic. Hydrosol supports food producers with a new line of Homemade concepts for dairy and deli foods. With these new products, consumers can make desserts, ice creams, dips and pasta sauces with little effort.

Hydrosol offers two different kinds of compounds, all-in and integrated. The all-in compounds contain all the ingredients, including colourings, flavourings and seasonings. Manufacturers just need to fill the compounds into their own packaging and market them to the trade. With the integrated compounds, Hydrosol supplies all the necessary stabilising ingredients. The customer then adds certain components themselves.

The line currently comprises seven different product concepts. There is a compound for vanilla pudding that needs only to be boiled with milk and sugar. It features a velvety sheen and creamy texture. The same goes for the flan with vanilla-caramel flavour, which after cooling has the desired gelled yet creamy structure. Another system can be used for a dessert that doesn't even need cooking – just whip it up quickly to get a fluffy chocolate mousse with stable foam. For homemade ice cream Hydrosol has developed a flexible system that lets consumers make milk, fruit or yogurt ice cream.

For the deli section there are three different sauces.



Home cooking has become more popular than ever, Hydrosol has developed special compounds for this trend (photo: Hydrosol)

NEKTIUM

News

Organic elderberry extract

Nektium is launching an organic version of its elderberry extract as consumer demand for natural ingredients with antiviral properties continues to rise. The botanicals specialist is also releasing a more concentrated version of the product, containing 10% anthocyanins. The 10% variant will join the existing 6% grade.

The global market for organic food and drink products is expected to expand at a CAGR of 11% per year, reaching a value of \$220 billion by 2024, while the popularity of organic supplements is also on the rise.



Nektium can now supply a concentrated version of elderberry extract (photo: Nektium)

INNO-MEETING

News

Flexpack & Climate Change

Having established itself in the German-speaking region as the packaging industry meeting, Innoform organises the first English-language Inno-Meeting Europe in Berlin titled „Flexpack & Climate Change“. Co-organiser is the European Flexpack Association. The conference will have a holistic view of the value chain around flexible packaging. Numerous speakers represent the diversity of the industry.

Info and registration: <http://www.inno-meeting.eu>

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Next Event on 06./07.10.22





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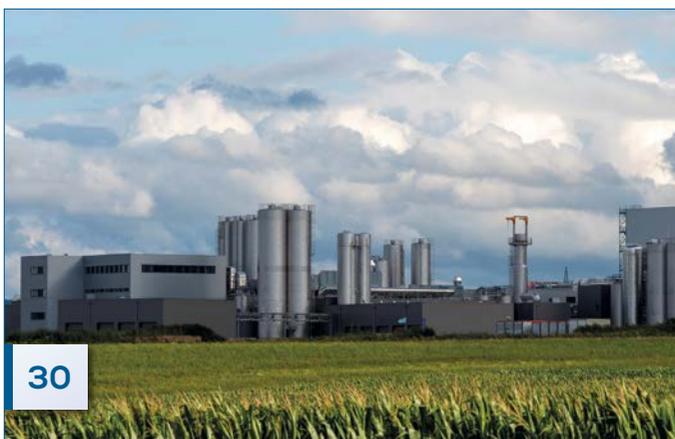
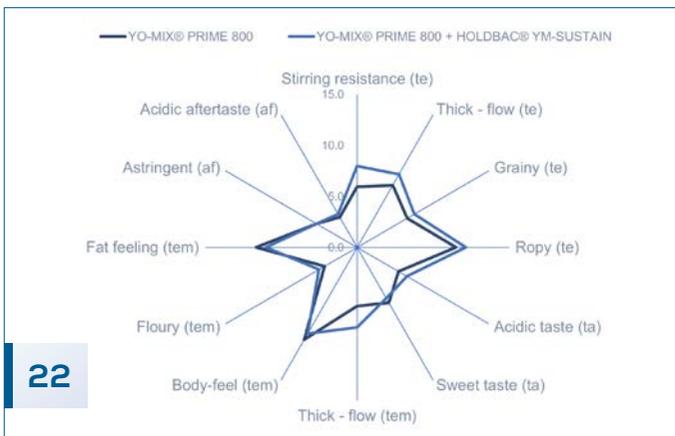
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Jessen becomes a strategic location

BMI: Focus on ingredients and cheese

The Jessen plant of Bayerische Milchindustrie eG (BMI), which went into full operation some 18 months ago, has been their largest plant for a long time, and is now gaining in importance with the sale of the fresh produce activities to Lactalis. With this strategic change BMI is now concentrating more on ingredients and cheese. IDM was granted an exclusive look into the cheese dairy, in which a total of €165 million has been invested.

"The distribution of raw milk within the BMI group will be enhanced by the transfer of our fresh produce activities around the Würzburg dairy. Whereas the Jessen plant previously processed 55% of our of our milk volume, it now accounts for 80% of our milk processing," explains Dr Thomas Obersojer, BMI's CEO and Speaker. "However we are not completely abandoning the fresh business because in Zapfendorf we produce fresh cheese and other fresh dairy products for Lactalis."

Unaffected by milk processing, southern Germany remains BMI's core region for whey. Of the 29 member companies, 2.2 billion kg are taken over and processed into the well-known B2B industrial products. "In the future we want to expand whey processing at our Zapfendorf plant," adds Winfried Meier, BMI board member responsible for sales. The drying plant in Jessen currently processes primarily its own whey, which accounts for about 25% of BMI's total whey intake.

Highly efficient processes

Jessen is one of the most modern and efficient cheese dairies in Europe, if not worldwide. The processes interlock perfectly in the year-round, round-the-clock production. Mozzarella is produced in balls and blocks, as well as various hard and semi-hard cheeses, with a focus on Cheddar. Only two milk streams are processed, conventional and organic.

About 70 trucks bring the raw milk from a radius of 180 km around the clock via three covered receiving lanes into the plant. From the raw milk storage tanks (with a total capacity of 1.8 million kg) it flows into the GEA-equipped processing dept., which is equipped with two 60,000 l/h process lines. In one line, double bacto-fugation is possible. The milk is adjusted to the respective fat content in the tanks and, after pre-maturing sent to the two cheese dairies.

Hard cheese plant

The cheddar cheese dairy was set up by Tetra Pak and has a capacity of 100 t/day. Nine Tebel OST vats, each with 20,000 l capacity are used for the production of Cheddar, Cagliata, semi-hard cheese and Emmental. The cheese dairy runs for 20 hours a day, with cleaning scheduled for four hours. The cultures are not grown by the dairy itself, but are added directly (e.g. DVS from Chr. Hansen). There is no need for presses and moulds are completely dispensed with, the curd-whey mixture is instead processed in a three-storey Alfomatic plant.

The Cheddar chunks are pneumatically conveyed onto six 14-metre-high Casomatic columns, where they are formed into blocks of cheese. Directly at the lower end of the column the blocks are immediately bagged by two Stäubli robots. After sealing the bags coming from the reel in a Multivac machine, the blocks are then weighed and labeled (15 kg of Cagliata, 20 kg of Cheddar, 40 kg of Emmental), before they are packaged in a grey zone adjacent to the cheese dairy. These are palletised, and the pallets are then sent fully automatically to the ripening warehouse.



BMI's Jessen plant produces cheese and whey-based ingredients in a highly efficient manner (photo: BMI)



Mozzarella cheese plant

The Mozzarella plant was equipped by Sulbana/CMT/GEA and is divided into two zones. In the block cheese dairy, three OST 20,000 litre vats do the cheese-making. The hourly output here is 2.5 t. After the cooling process, the blocks are automatically put into trays that are placed in a chaotically organised brinebath. After the recipe-dependent salting time, the Mozzarella blocks are lifted out of the bath, dried externally and packed in bags.

The second mozzarella cheese dairy produces only 125-g balls with an output of 1.8 t/h. The freshly chilled balls are packaged in bags ready for sale immediately afterwards. In the grey zone, this is immediately followed by cartoning.

Grated cheese

The majority of the cheese BMI makes in Jessen is processed into different types of grated cheese, pure Mozzarella or mixed with Cheddar etc. Two Groba grating lines are available for grating. The bagging is done by two SN machines and one from the manufacturer PFM. A special solution was developed with Buhmann which ensures reliable cartoning of the grated cheese bags (250 g) without jamming and stressing the packages. Starch to prevent the grated cheese from sticking is added from big bags.

All product routes for grating as well as for Mozzarella are, of course, equipped with weighing and foreign body detection stations.



Tobias Kämpfer, BMI: At the Jessen plant we produce nine tonnes of cheese per hour (photo: IDM)

The cheese dairy Jessen manages with remarkably few personnel. Five employees per shift work in the ball Mozzarella and three in the block Mozzarella production. The hard cheese dairy can be run by two to three people, and in the grated cheese production there are eight employees per shift. In total, the factory has 230 employees, including whey processing.



- 1** View from the Casomatic towers to the hard cheese production at the Jessen plant
- 2** 1.8 t of mozzarella balls are produced per hour in Jessen
- 3** The blocks of cheese are bagged by robots directly after they are released from the Casomatic
- 4** Most of the industrial mozzarella is grated in Jessen
- 5** View into the cheese forming process in the Alfomatic

(photos: IDM)

Whey processing

While the whey from the production of coloured Cheddar is collected separately and sold to pig farms, BMI processes the remaining whey into industrial products. For concentration UO is used, and drying is carried out via a fluidised bed. The products (WPC 80 and lactose) are packaged in sacks or big bags.

Logistics

The transport of the pallets to the warehouse is handled by four driverless, self-guided vehicles. They also take over the supply of the production from the auxiliary and operating materials warehouse. The high-bay warehouse with 16,000 storage space is divided into four temperature zones: 2 - 4 °C, 4 °C, 8 - 10 °C, 14 - 16 °C and uncooled. This means that pallets with the cheese blocks can be optimally positioned for the respective ripening phase. The entire logistics, including high-bay warehouse, was supplied by SSI Schäfer.

The expansion of the Jessen plant was planned and organised by BMI itself. Larger partial orders for process technology, and logistics were handed over to renowned suppliers. After a somewhat problematic start-up phase, normal for an extraordinarily high degree of automation, the plant is now working to the full satisfaction of the BMI cooperative.

BMI in figures (2021)

Milk collection:

941 million kg, of which 110 million kg is organic milk.

Whey intake:

2.2 billion kg, of which 420 million kg is organic whey

Employees:

1,100

Turnover:

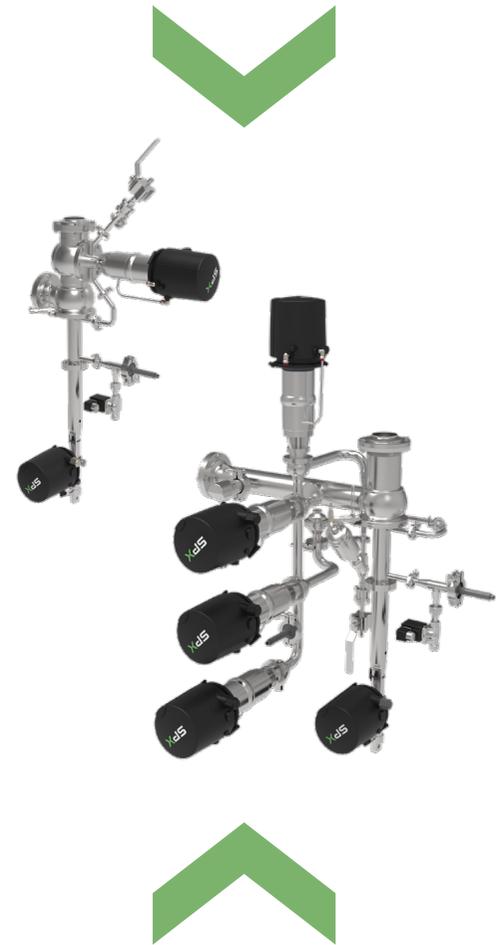
€ 725 million, 47% export share

Production:

73,000 t cheese, 114,000 t dry products

Locations:

Zapfendorf (dry products, fresh dairy products),
Ebermannstadt and Windsbach (both cheese),
Peiting and Winzer (dry products),
Jessen (cheese, dry products).



WHAT POSITIVE DISRUPTION LOOKS LIKE

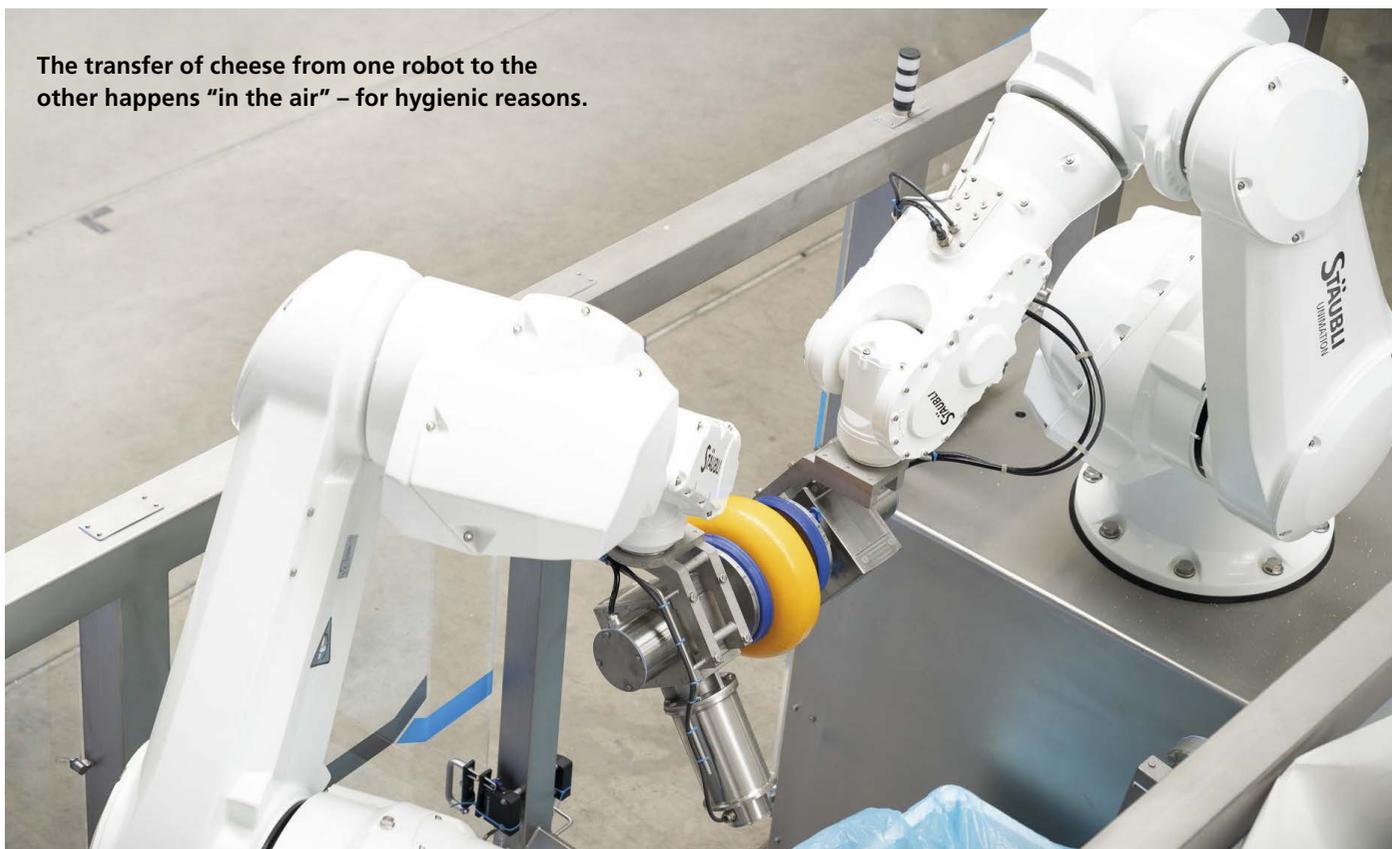
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Hard labour made easy

DERO GROEP automates the derinding of round cheese



The transfer of cheese from one robot to the other happens “in the air” – for hygienic reasons.

Even in many advanced cheese dairies which are packing high-quality cheese in large quantities, derinding natural ripened cheese is hard manual labour. The removal of the rind is necessary before cutting or slicing the cheese. DERO GROEP has automated this process by the ELTEN/ DER* 200S/2 derinding machine. Two Stäubli six-axis robots are working “hand in hand” to remove the rind in less than half a minute: a real milestone in cheese processing.

It takes about two minutes, two strong arms and a skilled worker to manually remove the natural rind from a round cheese. Considering that modern cheese-making plants process thousands of round cheeses each day, it is evident that this task calls for automation. And it is also evident that the Dutch DERO GROEP is a natural candidate for developing the right machine for this process.

The company’s headquarters, employing more than 130 people, is based in Nieuw Venneep near Amsterdam and not far from Gouda, the Netherlands’ capital of cheese with its famous cheese market. The DERO GROEP, under the brand names Dero, Elten and Bosgraaf offer automated solutions for cheese production, processing, treatment and packaging. Other sectors for automation include convenience foods which are handled as carefully (certainly by robots).

Within the portfolio of automated cheese processing machines, there was a gap which has now been closed. Joop Bouman, Sales Manager of DERO GROEP: “Up to now, the majority of companies – even those that are automated to a high degree – still remove the rind from their natural aged cheese manually, which is very tough work, like woodworking. Our goal was to find a solution for automating this process.”



Joop Bouman, Sales Director of DERO GROEP: "The next step will be a similar machine for rectangular cheese blocks."

But there also was a reason why this process had not yet been automated to a higher degree: "Cheese is a natural product which varies in size, age and because the rind is the hardest part of the cheese, the forces that have to be applied are rather high."

Two robots working "hand in hand"

This challenge has been overcome with the new machine developed by DERO, and the process is as simple as it is impressive. A round cheese arrives on a conveyor. A Stäubli TX200 six-axis robot in HE design picks up the cheese with a large suction cup, covering most of its top side. HE stands for humid environment, denoting robots that are modified for use under exposure to splashed water. They are preferred for applications with the strictest hygiene standards, where the machines are subjected to cleaning processes that would mean the immediate end for any standard robot.

As the specially developed derinding tool is fixed, the robot performs a combined multi-axis movement, including rotation of the cheese, thus derinding exactly one half the cheese, which takes no longer than fifteen seconds.

Good reasons for automating derinding process

This goal is reasonable, since manual derinding is not only hard work. It is also – for this reason – more and more difficult to find staff for the task. And: Even when workers are skilled, the amount of waste is considerable. Another issue is a hygienic one. Joop Bouman explains: "As bacteria are causing the ripening, contamination has to be avoided at all costs. For this reason, the basic rule is: No hands on the cheese! This is an important driver for automating cheese processing."



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**Operation is easy as it can be:
The operator only has to choose the type,
weight and age of the cheese.**



Having completed this task, the robot arm moves to a transfer position in the air, where a second robot grips the other side of the cheese which is then be derinded in exactly the same way. And since both robots can work simultaneously, cycle time is about 30 seconds for each cheese. The machine is very open and hygienic, because the waste falls directly into plastic bins that can easily be removed.

Recipes for cheese of many types and ages

Apart from its speed and productivity, the machine's flexibility is equally impressive. According to Joop Bouman: "Operation is really easy because we have programmed recipes adjusted to the form, type and hardness of the cheese. Whether it is six-weeks-old Gouda or 100-weeks-old Edam – the robots know what to do."

After the first prototype was built in 2020, several machines were built and sold, running to the utmost satisfaction of their users. Now the derinding robots are being presented to the market. DERO is optimistic about attracting more customers because the advantages are obvious: "The companies save time and costs, they improve hygienic conditions, they can deliver consistent quality, and they minimize waste, which is proven by the weighing systems," says Bouman.

The machines can also be equipped with an inline vision system for controlling the process of derinding. After processing of each side, the cheese is checked by cameras to control whether all the rind is removed. If not, the robot can move the cheese to the derinding tool again or to a separate rework station. In this way the quality of the process is guaranteed.

An easy choice: Stäubli HE robots

Asked about DERO's robot selection criteria, Joop Bouman names quite a number of them: "First, we often use Stäubli robots be-

**The two TX200 robots in DERO's innovative
derinding cell are the flagships of Stäubli's
six-axis robot range – in hygienic design .**



cause they meet the tough hygienic requirements of cheese processing and food production in general. In HE design, they can be cleaned with water or chemicals every day without affecting their lifetime."

Apart from that, the complete Stäubli TX range offers high precision and accuracy. Programming is easy, too: The complete derinding cell is driven by only the robot controller – no extra PLC is used.

The DERO engineers chose the flagship of the TX six-axis robot series because of the range of the arms, and because a very rigid construction is required due to the contact pressure of the rotating cheese against the derinding tool. And, of course, the massive stainless-steel motor enabling the cheese's rotation adds weight to the arm.

Apart from presenting the derinding cell to its main customers, DERO is also driving forward the development of automated derinding solutions. Joop Bouman: "The next step will be a similar machine for rectangular cheese blocks." For both types of cells, market demand should be rising: "Derinding is employed when the cheese is packed and sold in slices, and this is a clear trend in the food industry."

Cardboard instead of plastic

The British company, Premier Foods, accomplishes an innovative packaging and palletising solution for dessert cups

Author: Michael Hafer, A+F Automation und Fördertechnik GmbH

No longer wanting to sell its dessert cups in shrink-wrapped plastic trays, the British company, Premier Foods, decided to invest in a combined packaging and palletising centre. Here the cups are now packed in cardboard cases using tray erectors and sleeving machines and then palletised fully automatically. The palletising centre simultaneously handles two additional packaging lines. The entire plant was successfully approved in February 2022. Read on for a more detailed portrait.

As one of the largest listed food companies in the UK, Premier Foods employs a workforce of over 4,000 people at 15 production sites and different branches across the UK. Some 96 percent of the products are made in the UK. The raw materials are supplied to the maximum possible extent by British merchants and farmers.

Rice pudding, other puddings and desserts

The brand portfolio of Premier Foods is divided into four main categories, these being: flavours and seasonings; sauces and accompaniments; convenience foods, snacks and soups; and lastly aseptically packaged desserts. In addition, the corporate group makes products such as cakes and desserts to order for many food retailers in the UK.

At the Ambrosia Creamery, Premier Foods makes the UK's most popular rice pudding and pudding desserts, as well as a host of other desserts. The company itself dates back to 1917. The production site is located in the village of Lifton, in the heart of the county of Devon in southwest England.



Graeme Strike,
Project Manager
at Ambrosia:
The development
project with
A+F had to be
carried out under
the difficult
circumstances of
the UK having
left the EU and
the Covid
pandemic

Goal was a state-of-the-art multipack format

The first packaging line from A+F went into operation at the Lifton site back in 2012. Since then, a number of other projects have been completed in joint cooperation, the last of which was at the beginning of 2022. "The most recent collaboration was for the development of a state-of-the-art multipack format for our popular dessert cups. In this project we wanted to simultaneously change over to a more sustainable case solution," comments Graeme Strike, project manager at Ambrosia. At that time, the filled cups were

In the used palletisers the changeover of pallet type takes place via stored product settings. This is also the case with the layer pattern.

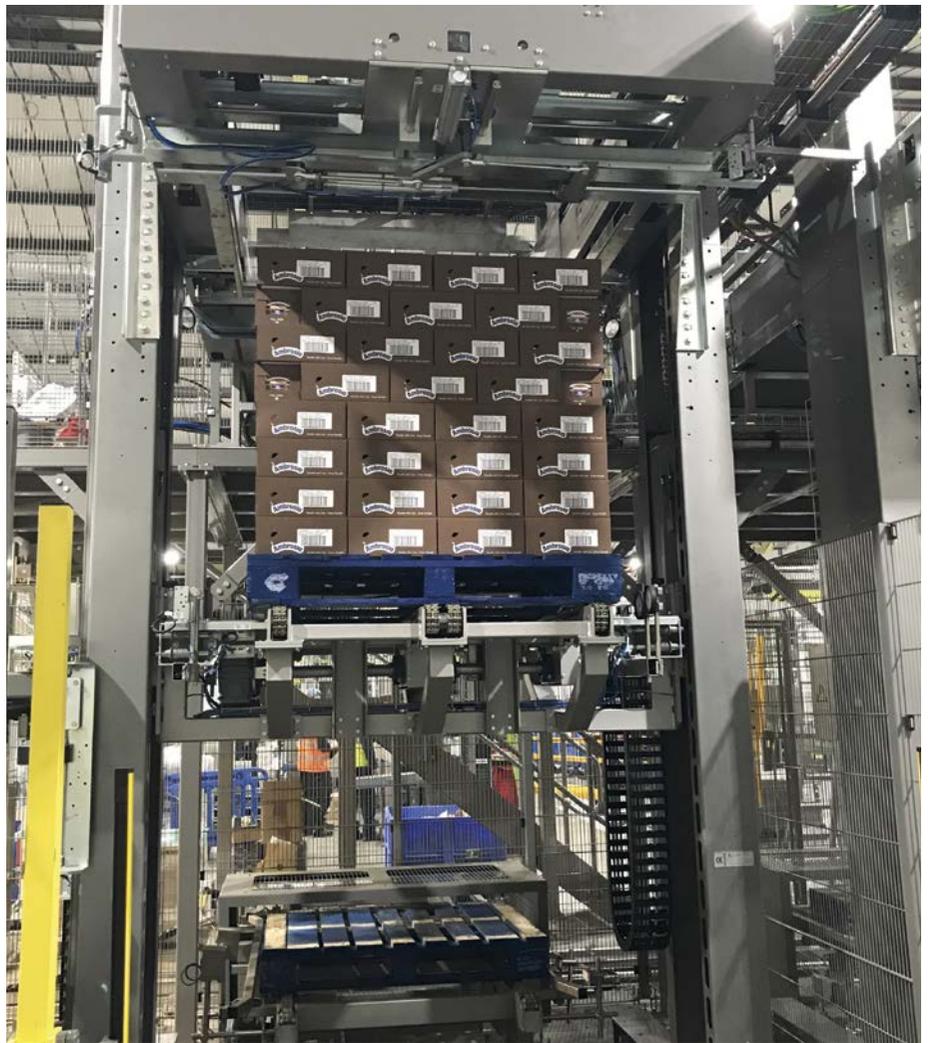
being inserted into an open plastic tray that was additionally wrapped in shrink film prior to palletising. “Now we pack our cups in solid cardboard sleeves and corrugated cardboard cases,” Strike adds.

In addition to this challenge, a suitable plant layout had to be determined in order to be able to spatially incorporate the planned palletising centre with integrated packaging unit in the respective hall intended for this purpose. Furthermore, all existing options from cup filler to product routing were to be maintained. This is where flexibility in the packaging unit design, with its tray erector and sleeving machine, was hugely important. Because this would ensure that the cups could leave the filling line in the existing format and still be processed in a seamless manner by the new packaging and palletising line”, Strike explains.

Successful award of contract after an extensive tendering process

The first stage in choosing a machine was an elaborate tender process. Strike recalls: “It was here that the tray erector and sleeving machine stood out from the rest as well-established and proven flexible machines.” And there was a further additional advantage over the competitors: the existing equipment could be adapted to the new conditions without any difficulty whatsoever. Choosing one of the other bidders would have necessitated an investment by Premier Foods in replacements. “So the final decision was relatively easy for us”, Graeme Strike continues.

The contract included the layout, two new palletisers, the conversion of an existing palletiser, a multi-former tray erector and a SetLine sleeving machine, also all required conveyors as well as the mechanical-side and control-side connection to the specified interfaces. Two spiral conveyors were purchased and integrated by the general contractor. Equipment from third parties was also taken over, such as X-ray-checkweighers, Inkjet printers, pallet wrappers as well as pallet and case labellers.



During the plant planning, particular attention was paid to ensuring the most energy-efficient operation possible – one of the goals being to minimise the use of expensive pneumatics. Consequently, the most up-to-date servo drives and three-phase drives are used, and vacuum pumps replace conventional Venturi vacuum generators. The entire project was managed on a turnkey basis, including the dismantling and training of operating staff.

Specified output reached in record-breaking time

Assembly work in Lifton started at the end of 2021. The new packaging and palletising centre reached the specified output in record-breaking time. Acceptance was successfully completed in February 2022, just a few weeks after the commissioning. “This was also made possible thanks to the excellent operator training”, Strike emphasises. Another useful tool in this respect was, of course, the “digital twin”. This system is used in the run-up to an investment to determine via computer simulation how to best implement the task set by the customer in a technically and economically expedient manner. In the Premier Foods project this focused on the design of the pallet transport system. However, the “digital twin” can do a lot more than just computer simulation. The tool runs the exact PLC that is to be used by the customer, and this in turn controls the simulation. The knowledge gained in these tests,



The SetLine sleeves up to 304 dessert cups per minute.

The tray erector, type MultiFormer, automatically forms the desired packs comprising sleeve and wraparound tray.

that are run under close-on operation conditions, helps optimise the machine design as well as the subsequent commissioning at the customer's premises.

Designed for 24/7/365

Since then, the packaging and palletising centre has proven its worth under tough day-to-day working conditions. The plant is designed for 24/7/365. It is currently being used in a two-shift operation. The sleeving machine forms the packaging variants: 2 cups x 1 layer = 2 cups, 2 cups x 2 layers = 4 cups as well as 3 cups x 2 layers = 6 cups. The rated output is 304 cups per minute. The tray erector subsequently forms the desired packs comprising sleeve and wrap-around tray. Its rated output is 19.0 packs per minute for the 2-cup sleeves and 12.7 packs per minute for the 3-cup sleeves. The palletiser of the new packaging system also has a rated output of 19.0 packs per minute. The other two palletisers simultaneously handle two other packaging lines. Their rated output is 13.9 packs per minute respectively. On all three palletisers Chep or Euro pallets are used. The changeover of pallet types is carried out - as with the layer pattern changeover - using stored product settings.

"Something we can all be proud of"

"We were well aware of the company's potential and that of its components", says Strike. This was an important aspect, considering that the general conditions were far more challenging this



time - the project had to be carried out under the difficult circumstances of the UK having left the EU and the Covid pandemic. Among other things, the installation teams had to go into quarantine. Summing things up Strike concludes: "Despite these unprecedented challenges, the A+F team were always closely engaged with us and extremely cooperative. This was definitely one of the key drivers in getting the project done within the budget and on time. And that is something we can all be proud of."

FACHPACK

27 to 29. September, Nuremberg

From 27 to 29 September 2022, the European packaging industry will meet at FACHPACK, a trade fair for packaging, technology and processes. Over 1,100 exhibitors are expected at the Exhibition Centre Nuremberg. They will present innovative products, machines and solutions.

This year, FACHPACK is taking place under the guiding theme of "Transition In Packaging", which describes the change currently taking place in the industry. This is characterised above all by more sustainability, increasing e-commerce and increasing digitalisation. The guiding theme is reflected in the trade fair section, but also in the supporting programme. Visitors from the consumer and industrial goods industry can expect an extensive programme of lectures, special shows and awards ceremonies.

myFACHPACK

This year, there will again be the digital extension myFACHPACK for matchmaking and knowledge transfer. myFACHPACK extends the on-site exhibition into the virtual world. Already in the run-up to the fair from 16 September, the tool offers visitors the opportunity to network with exhibitors, partners and speakers. During the trade fair, the programme of the PACKBOX, TECHBOX and INNOVATIONS-BOX lecture forums will be streamed live on myFACHPACK and will also be available there afterwards.

POWTECH, a leading international trade fair for powder, granulate and bulk solids technologies, will be held at the exhibition centre at the same time as FACHPACK. Further information: fachpack.de

On the following pages, we present an overview of innovations and new concepts that will be on show at the fair.



(photo: doomu/peshkova/fozitoeroe/ Anusorn_stock.adobe.com)

ULMA Packaging: full-range supplier

ULMA Packaging presents itself as a full-range supplier of machine technology for sustainable packaging solutions - especially in the food industry. A wide variety of solutions can be seen at the stand, all of which optimise processes, conserve resources and predominantly use recycled material.

ULMA Packaging will show the complete range of packaging machines in action on the exhibition space of over 240 m². In the DACH region, more than 1,200 ULMA packaging machines are now in use.

ULMA Packaging: shows its machines in action (photo: ULMA Packaging)



Lantech: Intelligent stretch wrapping

Complaints, new customer requirements regarding wrapping standards or retention force, less film consumption and labour time - there are many reasons for using a semi-automatic pallet stretch wrapper. Lantech's new QL-400 stretch wrapper features the patented Load Guardian control system. The intelligent system creates the appropriate load profiles for frequently occurring loading applications. After the one-time set-up, the presets can be recalled via memorable images, and adjustments can be made at any time. The operator simply enters the loading characteristic and Load Guardian automatically determines the parameters for a safe load.

The QL-400 stretch wrapper is suitable for a diagonal load size of up to 1829 mm, a maximum wrapping height of 2032 mm (optionally 2794 mm) and a maximum weight of more than 2,250 kg. The largely maintenance-free machine wraps up to 35 loads per hour, and the film can have up to 300 per cent pre-stretch.

GERNEP: New generation of labellers

GERNEP offers its worldwide customers individual labelling with precision. For almost 40 years, labelling machines for self-adhesive, cold-glue and hot-glue labelling have been developed and manufactured at the Barbing location.

At Fachpack, visitors can marvel at the new GERNEP machine generation. Users benefit from even greater flexibility in the labelling station suspension.

Siegling – total belting solutions

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MOVEMENT SYSTEMS

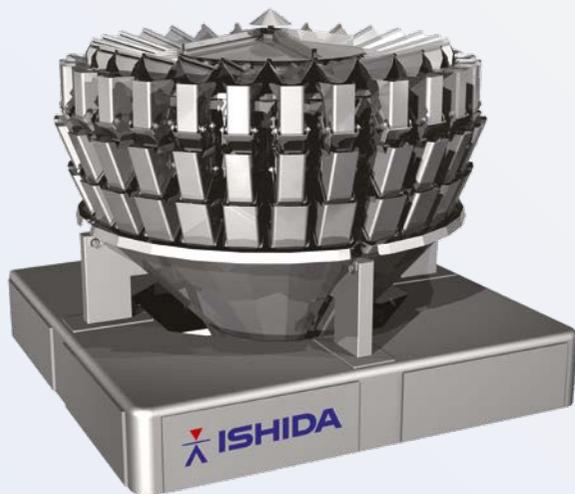
Ishida: Efficient systems for food products

Ishida will be showing multihead weighers and quality control solutions tailored to the needs of users in the food industry.

One solution for the automatic packaging of highly adhesive and pressure-sensitive products is the CCW-R2 multihead weigher. In the six-head version, the linear scale manages up to 30 weighings per minute and the product loss is less than 1 per cent. The scale is also an economical solution for automating smaller batches. Another advantage is the machine's small footprint.

Ishida AirScan enables fully automatic leak detection for MAP trays and bags. The inline system detects holes as small as 0.25 mm in diameter at high speeds of up to 180 packages per minute. AirScan can be easily retrofitted to existing lines.

Ishida will also show the IX-EN-5592 X-ray inspection system for large and heavy products or collating containers.



The CCW-RV-228W multihead weigher processes multi-mixes of, for example, confectionery (photo: Ishida)

A+F: Packer with integrated Multiformer

A+F Automation + Fördertechnik will be presenting a new development at Fachpack: the Contiflex packaging system with integrated multiformer. It is used to pack plastic bottles in open trays in a continuous process that is gentle on the product. Bottled spice sauces, milk-based drinks, cold coffee drinks, smoothies as well as liquid or pasty products in squeeze bottles are among the products processed.

The machine is based on the proven Contiflex packer. This picks up twelve bottles at a time in line tracking and places them in the waiting glued trays. The maximum output is 240 bottles per minute. The multiformer required for producing the open trays is integrated into the machine frame to save space. Its output is up to 40 trays per minute.

The multiformer can be used flexibly in terms of format via format parts. The same applies to the entire line, which can also be quickly converted using format sets.

Schubert:

Ready for the challenges of tomorrow

Among other things, Schubert will be presenting its new Mission Blue sustainability programme. In addition to a flexible tray packer, visitors can also experience the PARTBOX, the newly developed 3D printer from Schubert Additive Solutions, live.

At Fachpack, Schubert will be demonstrating how robotics enables more flexibility with a tray packer. The customer machine packs hamburgers into cardboard trays with a separate lid. The machine can pack products in three different packaging variants from 4-count to 16-count packaging. In the future, even up to 14 different packaging formats will be available. Different packing schemes are created by flexibly combining single and multiple packs. Single trays can be glued next to each other or stacked to form a double tray. In addition, a completeness check ensures that only complete trays filled with faultless products are sealed.

The PARTBOX is a 3D printer that enables manufacturers to produce components with the fastest possible availability directly in their own operations. This means that defective parts can be replaced quickly and new formats for modified products can be produced in-house. Schubert also supplies the PARTBOX Black plastic as a suitable printing material. This is food-grade and also has good mechanical properties and high temperature resistance..



The new PARTBOX printer offers consistently high print quality, which improves process reliability within packaging machines (photo: Schubert)



Somic: SOMIC 424 DT end-of-line packaging machine

SOMIC tray packer, wraparound packer and multi-part packaging solutions offer plenty of scope for changeovers. Format changes in the carton blank can also be implemented by the after-sales team after installation at the customer's plant. In addition, digital exchange has been consistently strengthened: "Our digital Factory Acceptance Test is a clear gain. At times when travel restrictions cannot be ruled out, we can comprehensively test the machine with our latest virtual technology together with the customer before delivery," the company says. The SOMIC 424 DT carton end-of-line packaging machine will be on display at FACHPACK. With this machine, SOMIC illustrates its high flexibility and future-oriented approach.

SOMIC has significantly expanded its digital solutions (photo: SOMIC)

ppg>: Sustainable solutions for strategic positioning

Under the motto "refresh your packaging films", ppg> presents its portfolio of sustainable packaging solutions. In order to meet the legal requirements and the LEH style guides, ppg> has developed solutions based on PP or PE that meet the targets for national and European sales markets.

The top priority here was to ensure optimum operability at the current technical level of the packaging systems available on the market.

At Fachpack, ppg> will also be demonstrating the technical possibilities for reducing CO₂ emissions and the use of petrochemical materials with concepts made from renewable raw materials. Here, solutions for pouch and top film applications can be found which, in addition to alternative resources, also have good recyclability.



Under the motto "refresh your packaging films", ppg> presents its portfolio of sustainable packaging solutions (photo: ppg>)



Solutions
beyond
tomorrow

KRONES

Hovmand: 50th anniversary

Hovmand can look back on its 50th anniversary this year. Since its foundation in 1972, the market leader in mobile lifting equipment has helped numerous companies in the manufacturing, food, pharmaceutical and chemical industries, the retail trade and also public institutions to achieve greater ergonomics, efficiency and productivity in the handling of raw materials and materials. At FACHPACK the exhibition stand became a birthday lounge.

By using Hovmand's mobile lever solutions, the downtime of packaging machines can be reduced: Not only is the film change faster, it is also less often necessary because larger rolls can be used. Employees can also change film rolls on their own and are protected from accidents and injuries caused by incorrect lifting.

Hovmand also offers ergonomic solutions for lifting, stacking and transporting crates, cartons or KLTs, which will also be on show at FACHPACK.



Mobile lever solutions save time when changing packaging reels (photo: Hovmand)

OPTIMA: Sustainable turnkey solutions

At Optima, the focus is on sustainability. With this in mind, the Optima Group acquired a stake in the Weyhmüller company in June. Weyhmüller manufactures special machines for the production of paper cups and cans. Optima can thus offer holistic and sustainable turnkey solutions - from packaging development to the inline production of sustainable paper packaging, packaging and sealing to the resource-saving operation of the systems.

Optima expands its turnkey portfolio for sustainable packaging solutions with an investment in Weyhmüller (photo: Weyhmüller/Optima)



SÜDPACK and SN Maschinenbau: Sustainable packaging concept

With the versatile PP- or PE-based Pure-Line portfolio, SÜDPACK and SN Maschinenbau are jointly presenting an innovative and at the same time sustainable solution for the pouch packaging of a wide range of products. SÜDPACK's fully recyclable packaging concept will be on show on the new FME 20 form-fill-seal machine.

The innovation from SN Maschinenbau is a low-cost, flexible and compact pouch packaging machine for producing, filling and sealing 3- and 4-rim seal pouches as well as stand-up pouches. The pouches can be filled and sealed with products of different consistencies via corresponding dosing devices. Modern recyclable materials such as PurePP or PurePE can be processed easily and without any loss of speed or quality, with an output of up to 180 pouches per minute.

The FME 20 convinces with proven SN technology and enables an easy entry into the world of flexible pouch packaging. It is designed as a simple and economical pouch packaging machine and is very easy to operate. The central pouch gripper adjustment as well as the optimised height adjustment of the folding wedge contribute to a reduction in format changeover times and simplify the operation of the machine.



SÜDPACK and SN Maschinenbau show the form-fill-seal machine FME 20 (photo: SÜDPACK)

SSI SCHAEFER

News

Awarded as ÖKOPROFIT company

Protecting the environment and climate, reducing operating costs, and optimally preparing one's company for the challenges of the future - this is the basic idea of ÖKOPROFIT, a German cooperation project between municipalities, local business and local partners. After a year of intensive testing and consulting by the expert network, the participating companies, including SSI Schaefer/Fritz Schäfer at the Neunkirchen site, received their awards in June.

The award as an ÖKOPROFIT company now confirms that the company has a practicable and efficient environmental management system at its headquarters in Neunkirchen. The environmental program set up by SSI Schaefer includes measures such as reinvesting in an energy-efficient compressor station, replacing diesel-powered forklifts with electric forklifts and switching the energy supply to green electricity.



SSI Schaefer offers sustainable materials handling solutions for its customers - holistically and consistently integrated (photo: SSI Schäfer)

TRELLEBORG

News

Low friction lightweight thermoplastic composite bearing

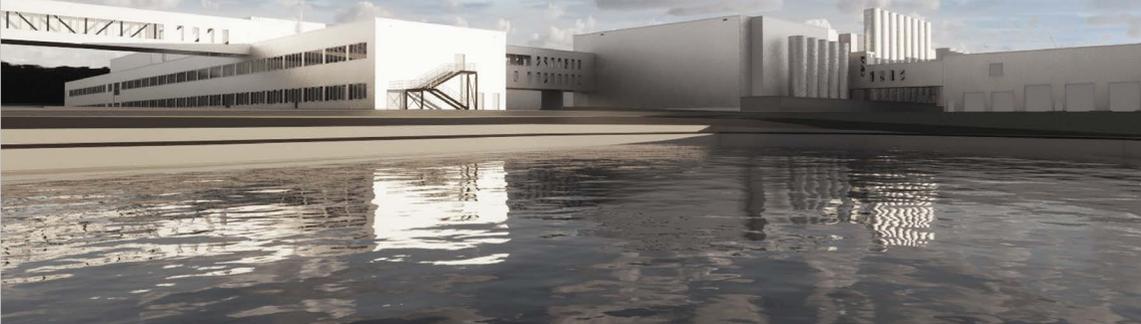
Trelleborg Sealing Solutions launched a lightweight thermoplastic composite bearing, the HiMod Advanced Composite Bearing Plus, an enhanced dual-layer bearing with a low-friction modified PEEK layer that reduces friction and increases wear performance for use in bearing, wear ring, and bushing applications.

Manufactured using Trelleborg's patented Automated Fiber Placement (AFP) technology, a thin low friction liner is bonded to the inner diameters and can be added to the outer diameters of the bearing to create a high-quality solution for use in a wide range of industries. HiMod Advanced Composite Bearing Plus will not seize or gall, unlike metal bearings, has a low coefficient of friction, and can withstand extreme temperature ranges.



Trelleborg Sealing Solutions introduces a lightweight thermoplastic composite bearing (photo: Trelleborg)

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Pros of Natural Protective Cultures for Dairy Preservation



Author: Julien Plault, IFF Global Product Manager, Protective Cultures

Each year, 116 million tons of dairy products go to waste.¹ Eighty percent of all yogurt waste in EU is due to the “use-by” date expiring while the product is somewhere in supply chain.² Dairy producers seeking to reduce product waste and increase sustainability must navigate between managing temperature-controlled supply chains to deliver fresh-tasting, high-quality dairy products, while meeting retailer and consumer shelf-life expectations. To achieve this, manufacturers have the possibility to use artificial preservatives to control the growth of unwanted contaminants.

However, consumer preferences are changing. In the U.S., almost 30% of consumers look for preservative-free labels when shopping while 83% of Brazilian consumers are willing to pay more for food with “no preservatives,” and 56% of Chinese consumers go so far as claiming preservatives decrease the nutritional value of food.³

“Clean labels” for foods have grown in popularity in recent years. These labels are typically linked to simplicity in ingredients and less processing in production. “No artificial preservatives” is the most common type of “clean label” claim used in packaged food. Thus, transparency in ingredients through labelling has become a crucial strategy for establishing and maintaining consumer trust.

Protective cultures

Thankfully, promising solutions that address these challenges have emerged in the form of bioprotective cultures. Protective cultures harness the natural power of fermentation, an ancestral way of supporting food freshness that has been implemented for thousands of years. These cultures are made of an edge selection of good microorganisms which have a natural ability to fight against the bad ones through different complex mechanisms such as the competitive exclusion, organic acids compounds or other natural metabolites production. Protective cultures are the results of

TATE & LYLE Sustainability programme for stevia

Tate & Lyle has entered into the next phase of its sustainability programme for stevia, a plant-derived and in-demand low-calorie sweetener, by enrolling new farmers in China. The programme will support participating farmers to implement best practices identified in its 2019 stevia life-cycle-analysis and verified in its 2021 on-farm pilot.

Tate & Lyle partnered with environmental charity Earthwatch Europe (Earthwatch), working with Nanjing Agricultural University in East China, to develop the programme, which aims to ensure that the stevia industry grows sustainably. In 2022, an expanded cohort of farmers

in Dongtai, Jiangsu Province, East China and additional stevia farmers in Linze, Gansu Province, West China will implement the agronomic practice changes piloted last year, and trial additional changes to further minimise their environmental footprint.

Participating growers will be supported to pursue sustainability-related verification for their stevia through the Sustainable Agriculture Initiative Platform’s Farm Sustainability Assessment and have been encouraged to sign Tate & Lyle’s Stevia Supplier Sustainability Commitment, a pledge to reduce the environmental impact of stevia farming.

News

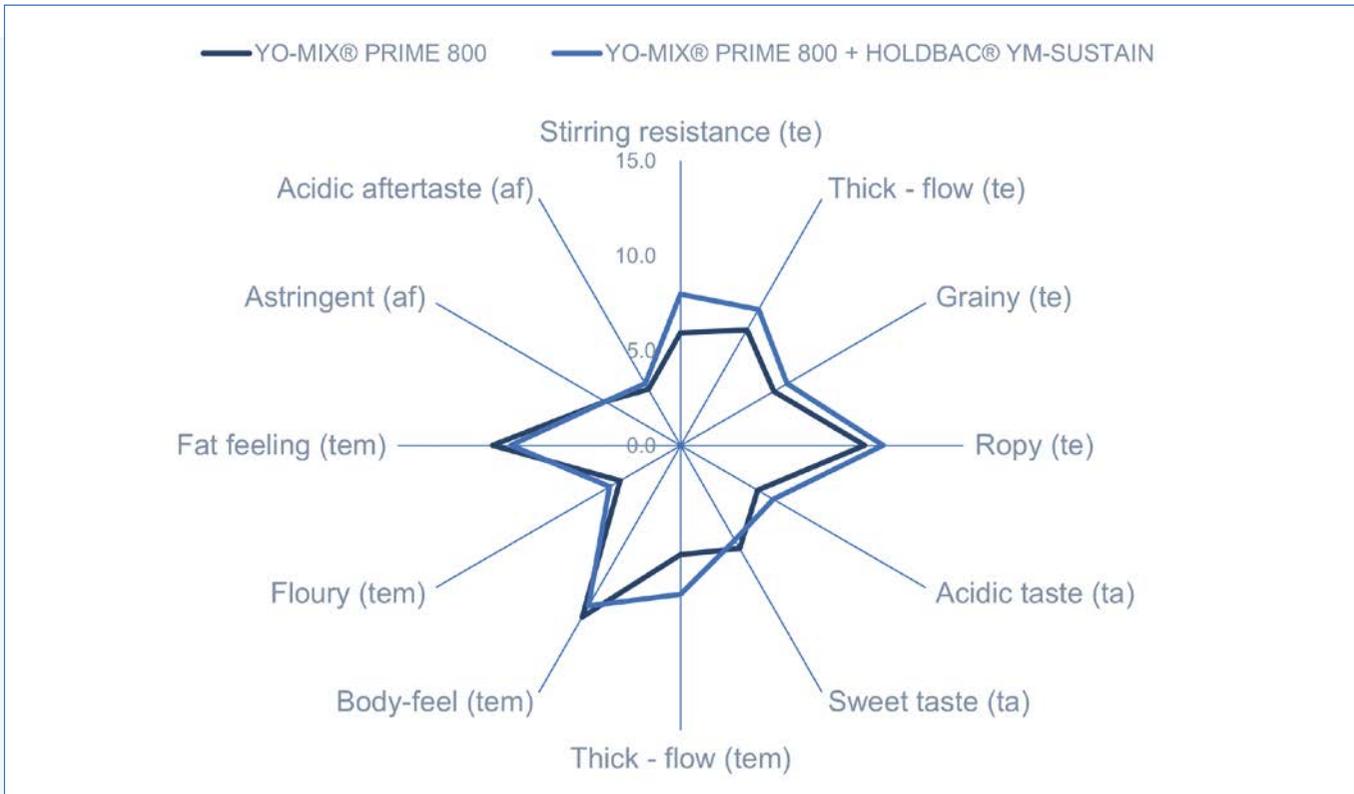


Figure 1: Sensory analysis of HOLDBAC YM-SUSTAIN in yogurt using a new generation starter culture. Asterisks denote statistically significant differences. Stored at 5°C for 30 days.

te = texture on spoon | ta = taste | tem = texture in mouth | af = aftertaste

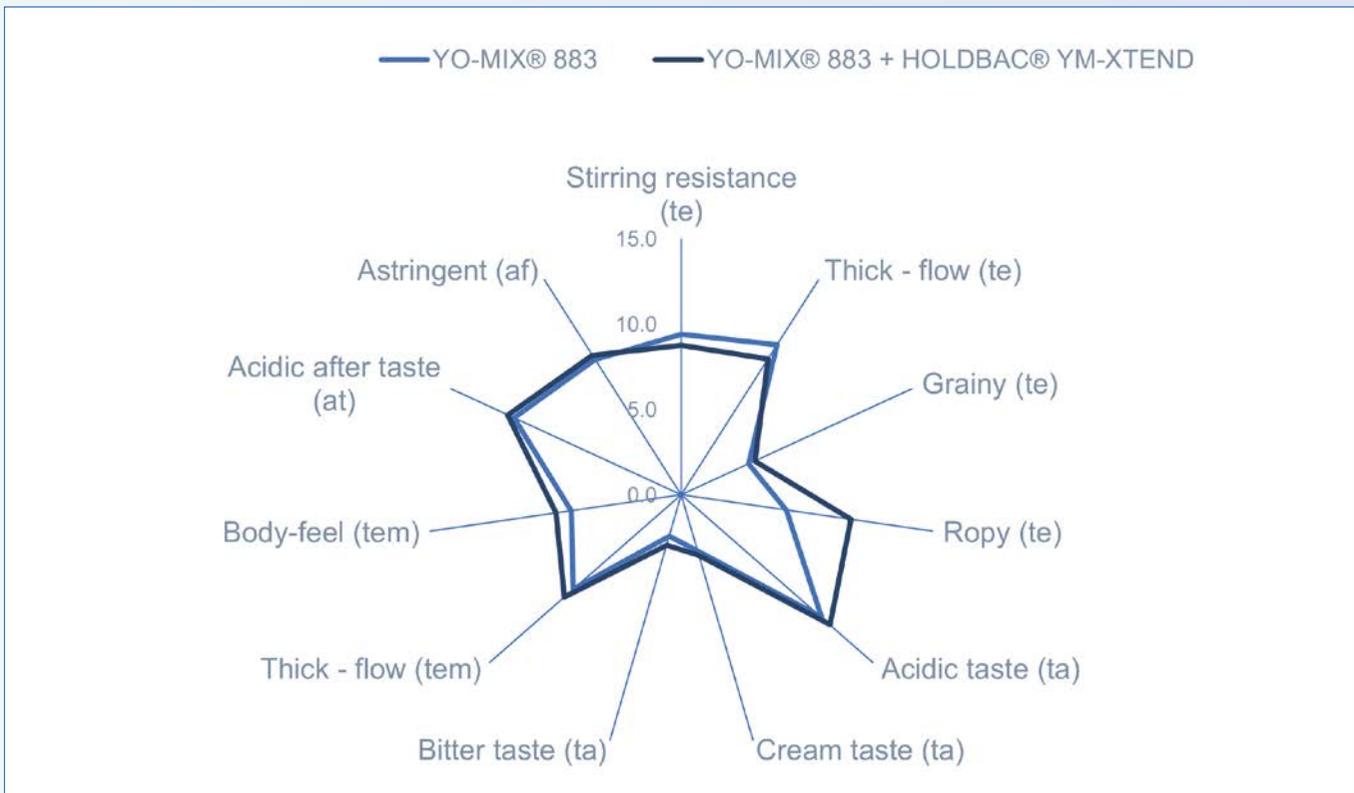


Figure 2: Sensory analysis of HOLDBAC YM-XTEND in yogurt using a standard starter culture. Asterisks denote statistically significant differences. Stored at 5°C for 30 days.

te = texture on spoon | ta = taste | tem = texture in mouth | af = aftertaste

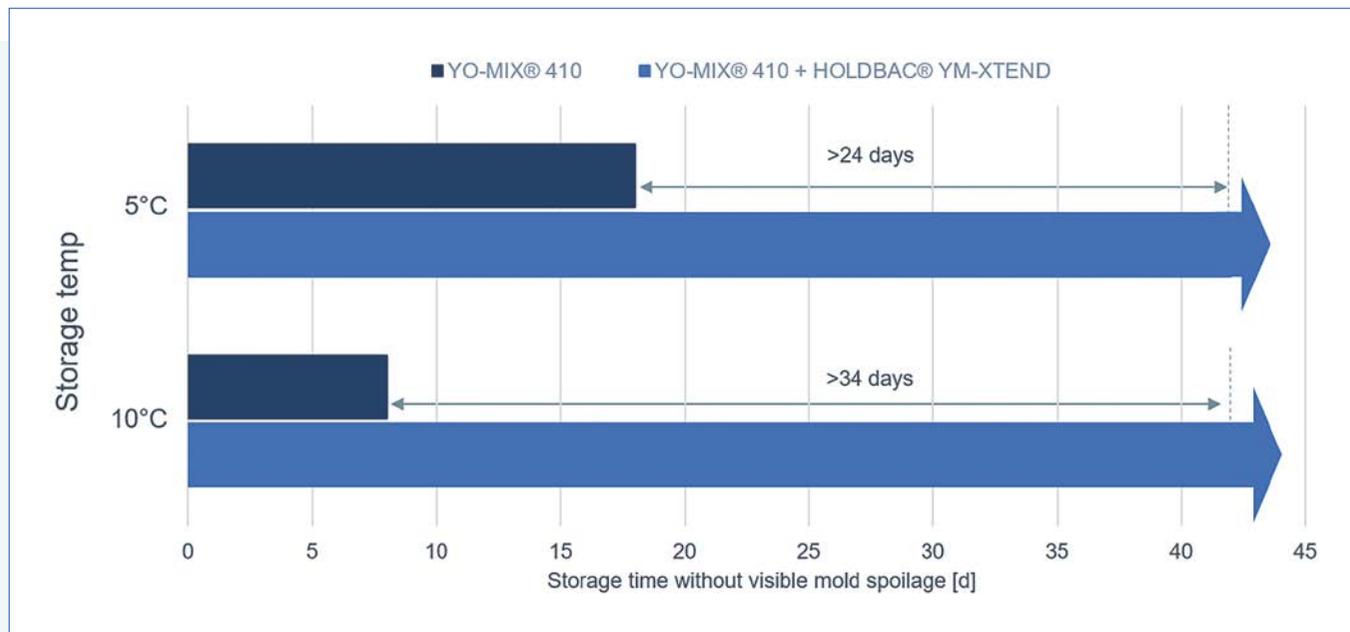


Figure 3: Storage time without visible mold growth in yogurt with and without HOLDBAC YM-XTEND, stored at 5°C and 10°C. Mold Culture: Pool of three mold strains at 13 spores/g.

science-driven technology during the last decades to develop solutions inspired by the nature to naturally control unwanted contaminants like mold, yeast and bacteria without noticeable sensory changes.

Two recent examples of these protective cultures include IFF's HOLDBAC® YM-SUSTAIN and HOLDBAC YM-XTEND. These newly launched innovative solutions are intentionally designed for easy combination with starter cultures to inhibit mold and yeast growth with minimal effects on sensory experience and taste. By implementing HOLDBAC bioprotective cultures alongside starter cultures, processors can extend the freshness of dairy products by an average of 7 additional days.

In a recent challenge trial, researchers applied mold strains to determine the inhibition potential in yogurt containing HOLDBAC YM-XTEND and HOLDBAC YM-SUSTAIN. Results for HOLDBAC YM-XTEND showed the protective culture extended storage time without visible mold by almost five weeks compared to the control yogurt, giving up to 42 days without visible mold spoilage at storage temperatures up to 10°C. Results for HOLDBAC YM-SUSTAIN show the protective culture extended storage time without visible mold by two to almost three weeks compared to the control yogurt, giving up to 19 days without visible mold spoilage at storage temperatures up to 10°C.

Trials were also conducted to compare the level of yeast inhibition in yogurt containing HOLDBAC YM-XTEND and HOLDBAC YM-SUSTAIN. HOLDBAC YM-XTEND was tested in a yogurt matrix against a starter culture combined with a market alternative and a control with a starter culture only. HOLDBAC YM-SUSTAIN was tested against a control with a starter culture. Results for HOLDBAC YM-XTEND show the protective culture delivers efficient protection against a wide range of difficult-to-control yeasts.

When incorporated into yogurts alongside starter cultures during challenge trials, the addition of HOLDBAC YM-XTEND resulted in no change in yogurt flavor using standard starter cultures when stored at 5°C for 30 days. In similar trials, the incorporation of HOLDBAC YM-SUSTAIN resulted in good post-acidification control with no change in yogurt flavor and a slight change in thickness and stirring resistance using new generation starter cultures when stored at 5°C for 30 days.

HOLDBAC YM-SUSTAIN and HOLDBAC YM-XTEND pose an attractive answer for manufacturers seeking to switch to natural protective solutions. By extending food freshness, both cultures expand distribution reach, increase brand loyalty and reduce customer complaints while enabling manufacturers to place a live culture on product labels, creating a more pleasant experience for consumers. By switching to natural protective cultures solutions, all participants in the dairy supply chain can contribute to economical and eco-friendly consumption habits.

- 1 Gross, A. S. (2018, November 28). One in six pints of milk thrown away each year, study shows. The Guardian. Retrieved June 6, 2022, from <https://www.theguardian.com/environment/2018/nov/28/one-in-six-pints-of-milk-thrown-away-each-year-study-shows>.
- 2 Market study on date marking and other information provided on food labels and food waste prevention. ICF, January 2018.
- 3 Patent insights: advanced food preservation innovation, Mintel – February 2021, Lightspeed/Mintel, KuRunData/Mintel.

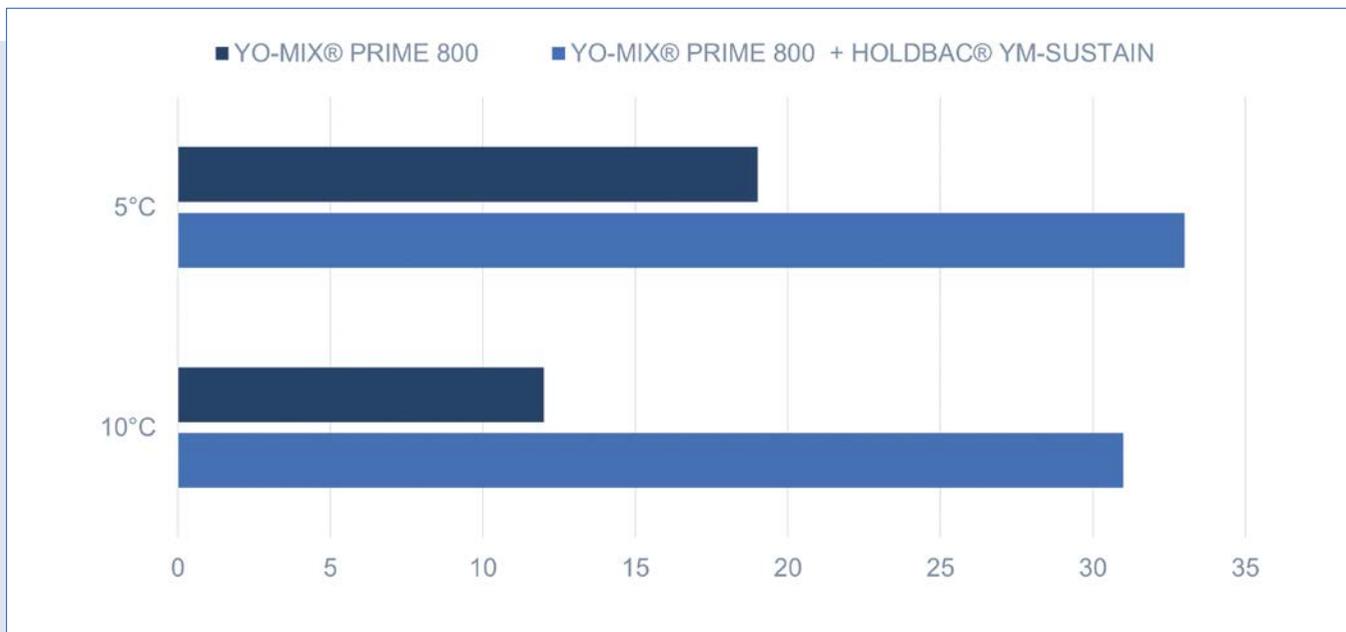


Figure 4: Storage time without visible mold growth in yogurt with and without HOLBCAC YM-SUSTAIN, stored at 5°C and 10°C. Mold Culture: *Penicillium commune* (8 CFU/10g).

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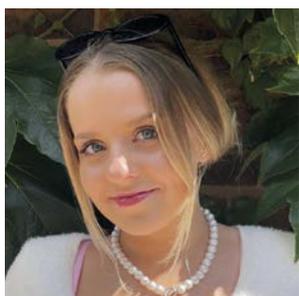


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The Relationship Between Sustainability and Dairy in 2022



Author: Emily Ann Smith,
Content & Editorial Analyst at FMCG Gurus



As the concerns surrounding sustainability becomes increasingly popularized, consumers look to change their diets and lifestyles to help protect the future of the planet. 69% of global consumers in 2022 reported they have made changes to their diets over concerns for the environment. Consumers, now more than ever, are becoming more attentive to the products they're consuming and this directly influences shopping habits and a higher response to brand identity, as consumers are actively seeking brands that align with their attitudes and values toward sustainability. The focus on the dairy industry and its impact on sustainability have been particularly highlighted in the media over the last few years, with plant-based alternatives becoming gradually more popular amongst everyday consumers in an attempt to make a positive influence on the environment.

Consumer concerns on sustainability

FMCG Gurus consumer insights show that 74% of global consumers voiced their concerns for the state of the environment. Witnessing the destruction of the planet's ecosystems firsthand, paired with the catastrophic damage caused by COVID-19, has led many consumers to feel a sense of urgency for change in order to save the planet before it's too late. The three main areas of concern for 74% of consumers in 2022 was reported to be carbon emissions, global warming, and plastic pollution; closely followed by 68% of consumers being concerned by unnecessary food waste. Other areas of concern listed air and farming pollution, which has a massive impact on consumer outlooks on the food and drink industry and examining their effects on environmental health.

Alongside the dwindling of natural resources and wildly adverse weather conditions it's difficult to ignore the responsibility of becoming more sustainable. As consumers become more alarmed by the state of the environment, they turn their concerns to brands and retailers, questioning what steps they're taking to proactively protect the planet.

66% of consumers believe that food, drink and supplement brands should be doing more to protect the planet. Many feel that organizations, particularly large multinationals, are driven by corporate greed and prioritize profits over sustainability. This attentiveness to brand action influences shopping habits and product choices, especially as the everyday consumer becomes more concerned with sustainability and environmental wellbeing.

Consumer actions on sustainability

Consumers are taking action through their shopping habits, searching more attentively for brands that align with their sustainable approach. 73% of shoppers reported they look out for less plastic pledges when choosing what food, drink, or supplements they buy. Therefore, brands that commit to tackling plastic pollution by using upcycled materials as a sustainable packaging alternative, or committing to a 'Path to Net Zero' pledge are more likely to appeal to consumers. This is a clear influence that promotes a more sustainable approach to the individual's lifestyle whilst creating the idea of collaborating with brands to create a better future. This not only strengthens the brand-consumer relationship but also encourages consumers to be more proactive in their

shopping habits in order to become more sustainable. This effectively creates a much bigger impact as consumers and brands work together to create a better future.

Besides benefiting the environment, 68% of consumers reported changing to a sustainable diet made them feel healthier, associating wellness of the environment with increased internal wellness. Consumers want food and drink products that are both beneficial to themselves and the planet. Proving concerns about the environment manifests into actual behavior, influencing consumer shopping habits and lifestyle choices.

Impact the dairy industry has on sustainability

The dairy industry is a big contributor to concerns such as carbon emissions, farming and plastic pollution, and food wastage.

Dairy brands need to demonstrate their ethical and environmental credentials in order to strengthen their relationship with consumers as well as committing to improving environmental wellness. Three quarters of global consumers say that sustainability pledges are important when buying dairy products. The top five pledges that consumers are most likely to look for when buying dairy are reduced carbon footprint; animal welfare initiatives; recyclable packaging; initiatives around ethical treatment of farmers and less plastic. Reduced carbon footprint was rated highest, with

67% of consumers reporting this is what they look out for when purchasing dairy. Therefore, dairy companies should examine how they can make reductions in areas like farming pollution.

Freshness is something that consumers prioritize when purchasing dairy products, especially as freshness is closely associated to naturalness, locality and quality. Brands need to ensure they are not contributing to food waste by re-examining use-by-dates, encouraging consumers to not be so overly cautious in order to promote sustainability. Finding solutions to overcome problems and promoting sustainability will strengthen consumer satisfaction.

Conclusion

Moreover, consumers are taking matters into their own hands by switching to plant-based products in order to increase sustainability, as the concerns surrounding dairy farming increase. With a noticeable increase in consumers who claim to eat or drink dairy alternative products, with 47% of consumers saying that they turn to plant-based products in order to be more sustainable. We can predict this number will continue to increase as concerns for sustainability grow in hopes to save the state of the planet.

In order for brands to meet the requirements of consumers, they too must look to behave in a more sustainable way from farming to packaging, down to the shelf life of products in order to strengthen relationships with consumers, as well as encourage more sustainable behavior.

This article is based on FMCG Gurus Sustainability survey series in 2022. For more information, please contact info@fmcggurus.com.



photo: HollyHarry/Jenny Sturm/stock.adobe.com

Bergader switches to MilkSafe

Easier handling, lower costs



Thomas Schilling is responsible for test systems at Chr. Hansen (photo: Chr. Hansen)



South Germany's private cheesemaker Bergader has switched to the MilkSafe rapid antibiotics test system from Chr. Hansen. This was preceded by an intensive evaluation and adaptation phase. IDM spoke with Johann Argstatter, Supplier Service Officer, and Lab Manager Franz Resch.

For years, Bergader had been using a test from another established supplier to check the incoming milk trucks for inhibitors at the two sites in Waging and Bad Aibling. This test was not replaced because it delivered poor results, but because MilkSafe promised simpler, i.e. better handling and data collection in the cloud. Moreover, according to Mr. Argstatter, the changeover enabled existing processes to be further developed and optimised.

Easy to use

"We were first confronted with the MilkSafe concept by Chr. Hansen Sales Manager Thomas Schilling. We looked at the system and, after discussions also with the drivers who, after all, have to cope with everything on the front line, suggested some changes. After these were quickly implemented, we were able to enter the test phase," reports Mr. Argstatter. Specific implications for the decision to change were that invalid tests could be kept to a minimum and that MilkSafe users were given safe guidance on how to use the test. Chr. Hansen solved this with a step-by-step guide for operators, which enables new drivers in particular to perform the procedures quickly and safely. Mr. Argstatter also emphasises the design of the MilkSafe test, which does not require complex pipetting and, with its cassette design, also conveys a certain 'value' during manual handling.

Analyses in the cloud

Lab manager Franz Resch is particularly satisfied with the cloud solution. All test data, i.e. tour number, driver ID, results, etc., are automatically saved in a cloud storage. All relevant evaluations can be made here, so Bergader has a complete overview at all times, which is also audit-proof and enables complete traceability. However, the company has not coupled its control system with the cloud, so that the pump release after a negative test result is still triggered directly on site and not remotely.

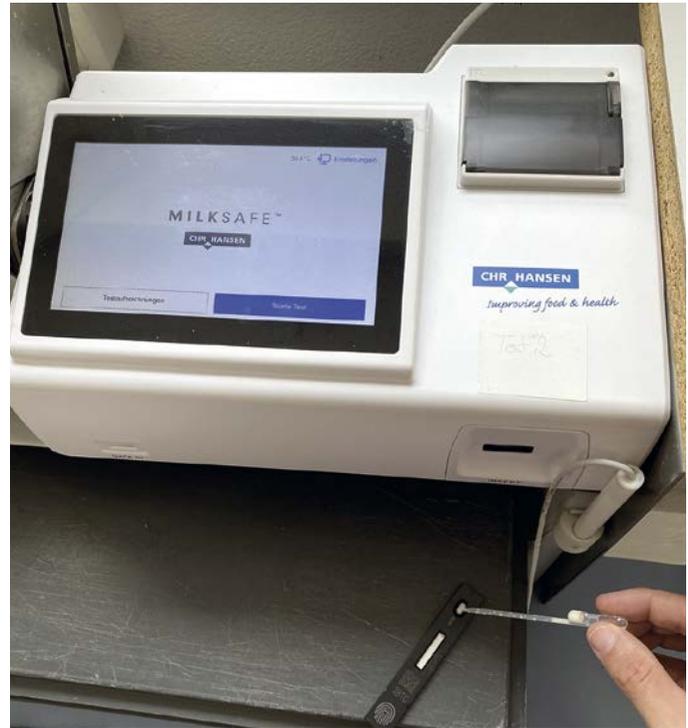
The MilkSafe is installed twice in the reception at each of the two plants. In total, the test controls 320 million kg of milk intake via some 60 milk collection trucks.

Reliable and safe

Thanks to the support of Chr. Hansen, however, the resources required for the changeover could be reduced considerably, reports Mr. Arstatter. In return, the feedback from the thoroughly trained drivers is now consistently positive. And it is clear anyway that the MilkSafe works reliably and brings sufficient safety to the cheese maker. Mr. Resch: "With the MilkSafe we can safely comply with the legal requirements and false positive results are minimal".

Lab Manager Franz Resch (left) and Johann Argstatter, Supplier Service Officer, have switched antibiotics control of the milk collection vehicles at Bergader to the MilkSafe from Chr. Hansen (photo: Bergader)

Handling the MilkSafe test is very easy for the milk collection truck drivers (photo: Bergader)



Mega-dairy in the West

Hochwald's new plant in Mechernich

Hochwald officially commissioned the new large-scale dairy in Mechernich on 25 June 2022. €200 million was invested in the mega-project on a 220,000 m² green-field site, and the project kept within budget during its three-year duration. The result is a plant trimmed for maximum efficiency and designed exclusively for liquid products - UHT milk, UHT milk drinks, coffee cream, condensed milk, which are mainly filled in carton packs in addition to the popular coffee cream jug.

Among the suppliers involved were GEA (milk reception, complete processing, evaporator, UHT systems), Krones (palletising, high-bay warehouse, intralogistics incl. an electric overhead conveyor from GP), Derichs (handling of dry ingredients), Elopak

(carton filler), Meurer (secondary packaging) and VDB Packaging (cup filling machine). KSI was responsible for the general planning and project management of what is currently the largest new dairy building in Europe.

On the energy side, Hochwald in Mechernich relies on a contracting solution from GETEC, which operates sustainable energy generation plants using the latest technologies. The factory's wastewater is treated in a specially built wastewater treatment plant, and AWS (Gelsenwasser) was won over for a partnership as the plant's operator. There is the possibility of an expansion to 1.5 billion kg raw milk throughput on the site.





With an investment of € 200 million, Hochwald has built a greenfield plant for 800 million kg milk throughput in Mechernich, Germany (photo: Hochwald)

View into the filling area, here on an Elopak filler (photo: Hochwald)



Raw milk reception/tank farm

Five reception lines are provided for the raw milk intake. Lanes 1 to 4 operate separately, each with a capacity of 60,000 l/h; the cooled milk goes to the raw milk tank farm. Lane 5 is used for the delivery of cream and can also be used as an output line with a capacity of 40,000 l/h. The milk is cooled in the milk tank store.

Six coolers, 30 pumps and 320 automatic valves are installed. All tanks were designed and installed in such a way that emptying in free fall is possible without pumps. The stainless steel tanks were supplied by Roth and HBB/KKS.

Processing, mixing station

Raw milk is standardised, cleaned and/or pasteurised via two milk heaters and two separators with a line capacity of 50,000 l/h each and conveyed to the tank farms.

Pasteurised milk is processed into milk beverages via the mixing station by adding various dry substances and other additives. The finished batch of milk-mix is then pumped to the UHT department.

Milk is also standardised in a special tank farm and concentrated into skimmed milk concentrate or condensed milk via the evaporator. The skimmed milk concentrate can then be used for further process steps or pumped to the output. The condensed milk is made available for the UHT process via another tank farm.

The raw cream is pasteurised via a cream heater. The pasteurised cream can then be used for further process steps, prepared for UHT-cream or pumped to the output.

102 valve nodes, approx. 40 tanks, three CIP systems for automatic cleaning of the process equipment, two homogenisers for the condensed milk, 35 MCC groups with 103 MCC control cabinets (approx. 330 frequency converters) and 101 on-site control cabinets are installed. The automation system from ProLeiT works with 22 Siemens S7-1500 controllers. The total energetic connected load is 6 MW.

Evaporator

The evaporator capacity is up to 52,000 kg/h for condensed milk in the feed. In this operating area, 40 heat exchangers, 160 pumps and 1,800 automatic valves are installed, 38 km of pipes, 22 km of air hoses and 44 km of cables have been laid.

Aseptic

The pre-produced products (milk, cream, milk mix and condensed milk) are sterilised on six UHT lines and prepared for filling in 12 sterile tanks. The sterile tanks, with a combined capacity of 820,000 litres, are connected to 17 filling machines.

All UHT lines heat indirectly and enable a heat recovery of 85 %. The lines are connected to the sterile tanks in a highly flexible way; the latter run on up to three filling machines each.

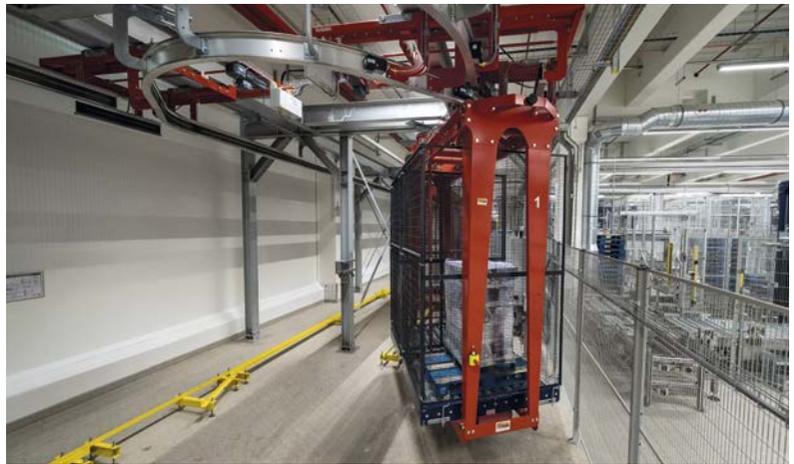
In the aseptic area, 85 aseptic valve clusters are installed.

In-house logistics

14 driverless transport vehicles of the type FTF: AGV Mini take care of the replenishment of packaging material and supplies. The vehicles navigate freely in the filling hall without a driver using a laser. Nine palletisers are fed by two packaging lines each, two wrapping centres with two film wrappers each take care of the load securing. The overhead monorail has 50 double hangers and conveys the full pallets from the palletising centre to the high-bay warehouse, which has about 50,000 storage locations. The 40 m high high-bay warehouse has 15 levels and 13 aisles, each with one crane. The storage and retrieval capacity is 400 pallets/h.

A separate narrow-aisle warehouse offers 2,000 storage locations on six levels.

24 motor-driven shipping lanes have a capacity of more than 300 pallets/h. An automatic depalletising system has been installed for loading containers.



An electric overhead conveyor with 50 hangers takes care of transport to and from the high-bay warehouse (photo: Hochwald)



14 driverless transport vehicles take over in-plant logistics (photo: Hochwald)



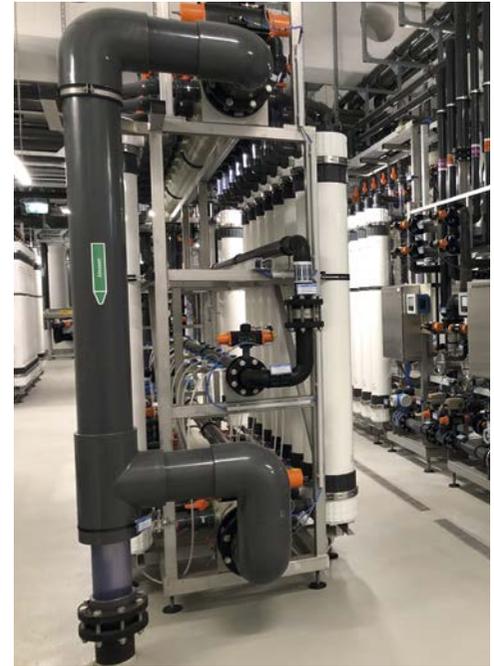
Hochwald mainly produces products in carton packs in Mechnich (photo: Hochwald)

Sachsenmilch

Considerable water savings



Sachsenmilch Leppersdorf now saves up to 3 billion litres of fresh water a year (photo: Sachsenmilch)



Sachsenmilch has installed state-of-the-art membrane filtration to re-use process water (photo: Sachsenmilch)

In line with its claim to be a technological leader in all areas, Sachsenmilch Leppersdorf, part of the Theo Müller Group, has invested in a new water treatment plant using membrane filtration.

The dairy has already installed several plants since 2006 which treat the water extracted from milk or whey and make it reusable, for example in the evaporation condensers. Since then, around 4.5 million litres of water are recycled every day. In June 2022, Sachsenmilch commissioned an additional water treatment plant. The new plant treats production wastewater to such an extent that it can be used as water for cleaning processes - up to 4 million litres of water a day, i.e. around 1.46 billion litres per year. This increases the total savings potential to 3 billion litres of fresh water per year.

Every year the dairy processes around 1.7 billion kg of milk. The cleaning processes require large amounts of water - about 14 million litres on an average day. Almost the same amount is produced as waste water.

The prerequisites for the new development were made back in 2013. Since that time, the dairy has had a separate wastewater system and two separate wastewater treatment plants.

The smaller of the two wastewater treatment plants treats sanitary wastewater, the second treatment plant exclusively purifies wastewater from production. A separate sewer system ensures that only the wastewater needed to clean the production facilities, including product residues and the cleaning agents, reaches the waste water plant.

The purified water at the end of the process meets the chemical, physical and chemical, physical and microbiological requirements of the German drinking water ordinance. In addition to a risk analysis carried out in advance, the entire process water treatment is subject to QA in accordance with all applicable food standards.

Fortress dual lane combi

Doubling down on dairy inspection waste

In a space-saving product inspection breakthrough, Fortress Technology has custom-engineered a unique twin aperture metal detector and dual lane Raptor checkweigher for one of the world's premium dairy companies, helping to halve waste.

Receiving shredded cheese pouches directly from a dual head bagger, the bold design unlocks substantial space and cost savings for the busy dairy plant.

Offering a customised solution that no other food inspection company could come close to in performance attributes, the twin lane conveyor configuration, consolidates a single Fortress metal detector uniquely divided into two apertures and two independent weight verification Raptor checkweighers for optimised quality control. Each technology and lane has its own air blast reject mechanism to isolate metal contaminants and weight rejects, helping to reduce and minimise good product being wasted by over 50 percent. Measuring just 10ft in length, Fortress also integrated a radius conveyor into the metal detector infeed.

For the producer of some of the world's most iconic cheese brands, compromising on metal detection sensitivity was not an option. Highlighting the benefits of the multi-aperture metal detector concept Fortress' European commercial manager Jodie Curry expands: "The high-spec Fortress multi-aperture system was engineered specifically to ensure that there was no trade-off in terms of performance and metal detection sensitivity. One of the key benefits of a twin aperture system is the halving of waste caused by rejects."

Multiple advantages

The special dual-lane version of Fortress Technology's multi-aperture metal detector comprises a single unit split into two smaller dedicated apertures for each lane that act as independent metal detectors. For optimal metal detection sensitivity the two compact apertures – measuring just 102mm in height by 254mm wide – means that the packs pass individually right through the centre point of the metal detector.

"With output per hour being such a critical productivity benchmark, this game-changing multi-aperture design facilitates high speed and accurate metal detection and marks a step change for lean manufacturers seeking to reduce factory footprint and improve Total Cost of Ownership (TCO)," notes Jodie.

Fully integrated with the dairy plants' upstream and downstream equipment and matching the 120-140 ppm output speed of the dual head VFFS bagging system, the compact geometry of the customised radius conveyor facilitates the positioning and orientation of product packs as they smoothly round the corner towards the metal detector. Providing optimal spacing between product packs as they are presented to each metal detector aperture helps to avoid congestion, bottlenecks and flexible packaging formats overlapping which could lead to sensitive weight verification checks being distorted.

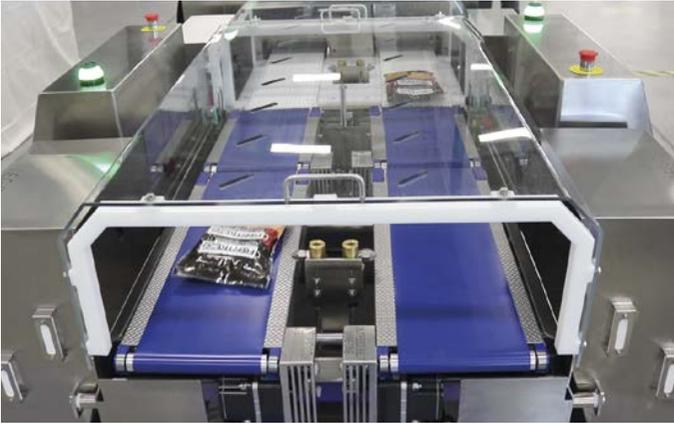
As each lane is programmed to run independently, the bespoke design helps to minimise interruption to the packing process during product switchovers or if one lane stops working or requires maintenance. Additionally, the unique design gives the plant extra inspection and weight verification capacity, as two different product lines, pack sizes or SKUs can be run simultaneously adjacent to each other.

Air blast nozzles located between the two outfeed conveyors efficiently and independently remove contaminated product into lockable reject bins equipped with reject confirmation and bin full sensors. With heavier products, Fortress would typically suggest using a pusher, drop conveyor or retracting belt mechanism.

A Rapturous reception

Using compatible collective parts, the inaugural integration of the new Raptor Checkweigher marks another big milestone for the inspection specialist. Delivering dynamic weight monitoring with minimal customisations to existing product feed and packing lines, the hygienic dual lane design also targets operational inefficiencies, notably upstream product giveaway, non-conforming food packs and packaging waste.

A single metal detector is split into two individual apertures for each lane to ensure metal detection sensitivity isn't compromised.



Fortress Technology installed this twin aperture metal detector and dual lane Raptor checkweigher to integrate seamlessly with a dual head VFFS bagging system

In just milliseconds two packs pass over two Raptor load cells to weigh, analyse, capture and report data simultaneously. For ease of integration, air blast nozzles reject out of weight specification products with minimal operative intervention.

To ensure absolute traceability and compliance with retailer Codes of Practice and QA protocols, both the metal detector and Raptor checkweigher capture easy to read live OEE data. Enabling the dairy group to establish the operational parameters and extract statistics most valuable to their business, for instance volume, weight, inspection speed, rejects or downtime.

Equipped with Contact Reporter software, the dairy plant has the facility to export and convert time-stamped production data. "This level of cohesive reporting on a multi-lane system provides valuable upstream trend feedback to boost operational efficiencies," notes Jodie.

Constructed to the highest food grade standards, the modular 200mm wide conveyor assembly, conveyor decks and belts are all designed to be easily removed from the machine for rapid deep sanitation and maintenance. Operatives simply unclip and disconnect the conveyor motor. In just seconds, the conveyor belt is removed, and the belt tension and tracking is instantly restored when clipped back into place. All without using a single tool.

In 2021, the Fortress Raptor series won the prestigious Food Processing Lean Manufacturing accolade. Commending the natural synergy between metal detection and weight verification technology, judges hailed the high operational efficiency, cost savings and utilisation of common elements.

www.fortresstechnology.com/en-uk



In a space-saving product inspection breakthrough, Fortress Technology has custom-engineered a unique twin aperture metal detector and dual lane Raptor checkweigher



The special dual-lane version of Fortress Technology's multi-aperture metal detector comprises a single unit split into two smaller dedicated apertures



Multipack 7000

New high-speed dosing and wrapping solution from IMA BENHIL



(photo: IMA BENHIL)

Experience spanning over a century makes BENHIL an authentic benchmark in the butter and margarine wrapping sector. Part of the IMA Group, leading manufacturer of automatic packaging solutions, the company has recently introduced its latest high-speed dosing and wrapping machine, the Multipack 7000.

Fitting perfectly between the existing versions of the series, notably the 5500 and the 8000, the new 7000 provides high-speed performance and excellent value.

Flexibility and affordable performance

With an output of up to 200 packets/min. in twin execution and a filling weight/size range going from 50 to 250 g, the new double-cell Multipack 7000 combines performance and efficiency to provide a valid solution at an affordable price.

When faced with the need to switch frequently between different sizes, heights and packet footprints, the Multipack 7000 offers superb flexibility, and height adjustment procedures are fast, especially easy with the optional electrical packet height adjustment system. For complete changeovers, no more than 45 minutes are needed to replace size parts.

Clean-in-Place cleanable dosing system

Another feature which should not go unmentioned is the fully integrated CIP cleanable dosing system which fulfils industry-standard hygienic requirements. Furthermore, the kinetics and the product zone are clearly separated to ensure the best hygienic conditions.

Exceptional filling accuracy and reliability

Thanks to a cutting-edge drive and control concept, the Multipack 7000 guarantees maximum filling accuracy and increased flexibility, and the newly developed dosing device facilitates adjustment to different product consistencies with optimum filling levels. Easy to access for maintenance requirements, and with an uncluttered design, the machine is highly reliable and will ensure the product quality you demand in the most efficient way.

With an output of up to 200 packets/min. in twin execution and a filling weight/size range going from 50 to 250 g, the new double-cell Multipack 7000 combines performance and efficiency to provide a valid solution at an affordable price (photo: IMA BENHIL)



BECKHOFF AUTOMATION

Controller redundancy with standard hardware components

Beckhoff expanded its extensive range of solutions to include a software solution for redundant control operation: TwinCAT Controller Redundancy.

While the robust design of the company's Industrial PCs alone already ensures a high level of availability, Beckhoff is now expanding its product portfolio to check yet another box with TwinCAT Controller Redundancy (TF1100). This entirely software-based solution allows two standard industrial PCs that both run the same PLC program to operate as redundant controllers in just a few easy steps.

An additional, high-performance network connection between the two controllers provides the necessary synchronization. Standard Ethernet is used here, so no dedicated hardware components are required. With minimal effort, this ensures that only one of the two industrial PCs addresses the fieldbus components at any given time, and that the control programs are executed simultaneously on both computers. This synchronicity is the basic prerequisite for changing the primary industrial PC in the event of a fault without losing any information.



Beckhoff Automation added TwinCAT Controller Redundancy to its portfolio (photo: Beckhoff Automation)

CHILLVENTA 2022

GEA Heating & Refrigeration Technologies



GEA Heating & Refrigeration will show several new developments at Chillventa (photo: GEA)

At this year's Chillventa, which takes place in Nuremberg, Germany, from October 11-13, GEA will present product solutions to some of the most pressing issues of our time. These include products that help, for example, to reduce carbon emissions, achieve greater energy efficiency and ultimately also lead to lower total cost of ownership (TCO).

For the first time, the GEA Division will appear under its new name GEA Heating & Refrigeration Technologies. Product launches will therefore be presented not only in the refrigeration sector but also in the heating sector. Among others, the following will be presented

- » a screw compressor specially designed for heat pumps and their requirements,
- » a new semi-hermetic compressor that increases safety and is available together with the GEA BluX ammonia chiller or as a Grasso X package,
- » a monitoring and control system that allows compressors to be monitored from anywhere and requires little space and
- » the enhanced GEA RedGenium heat pump, which can be viewed using augmented reality.

A project by HRT's digitization team invites trade show visitors to share their thoughts on digitization trends. Topics here include potential for improvement and growth in processes, products and business models, digitization of production technology and in processes, and data collection and analysis.

Focus on customer-oriented solutions

GRUNWALD focuses on sustainability

Last year, Grunwald sold more than 100 filling machines for the first time in the company's history. For years, the company has been expanding its production capacities at its site in Wangen, Germany. IDM spoke with Stefan Sacher, Sales Director Business Development, and Christoph Trunzer, Sales Director Global Market, about the reasons for the success of the packaging machine specialist.

IDM: What is the secret of Grunwald 's success?

Sacher: For more than 65 years, Grunwald has focused specifically on the needs of the customer as a special machine supplier in the area of cup and bucket filling lines. Our machine solutions are specially designed for individual projects of our customers and do not correspond to any standard solution. Despite the positive business development and the growth in company size we have not forgotten to whom we owe this growth – our customers. Today, Grunwald offers a wide range of machines and it is important to us to supply every customer, regardless of the size of the company, with the optimum machine solution. Whether it is a small dairy with a 1-lane rotary machine or a large dairy that requires a linear high-performance system with up to 50,000 cups/hour. Our customers know that we stand by our technical and commercial commitments and can base their production planning on this. Despite the current electronics problems on the market and the preceding COVID crisis, we have met all delivery dates.

IDM: What trends can be identified in the market for packaging machines, especially for filling cups and buckets?

Trunzer: The trend in the packaging machinery sector varies geographically. It should be emphasised that production quantities are becoming smaller and smaller, even in large dairies, and thus the machines in all areas must prove flexibility in filling the different products and, above all, changeover sides or downtimes have to be reduced as far as possible according. In the field of hygiene, a trend towards sterilisation of packaging materials is clearly discernible. With our commitment in 2019 that Grunwald is

Last year, Grunwald sold more than 100 filling machines for the first time in the company's history (photo: GRUNWALD)



Stefan Sacher, Sales Director Business Development, and Christoph Trunzer, Sales Director Global Market, both Grunwald: We will continue to talk to our customers and listen to their wishes. (photo: GRUNWALD)



peroxide-free and that we no longer offer peroxide packaging disinfection, we were the first machine manufacturer in the world to dare to take this step to get the "unpopular" peroxide out of the production rooms of dairies. Today, 3 years later, this decision has been confirmed. More and more dairies are opting for the new packaging material sterilisation by means of Pulsed Light, from the simple rotary systems to the linear Ultraclean systems. The fact that this technical development is being heard more and more by German dairies is also shown by the great response we have felt for years at the ZDM trade conferences.

IDM: What about sustainability at Grunwald fillers?

Trunzer: Sustainability has been a big issue for many years. The average lifespan of a Grunwald cup and bucket filler is between 20 and 25 years and here it is important to think future-oriented, especially when the machine is used for such a long time. More than 10 years ago, it was already important to us to reduce the noise level of the machines and also to take the machine operator into consideration when it comes to ergonomics. For us, this is part of sustainability, because it means that machine investments will continue to meet current requirements for a long time to come. Furthermore, in addition to technical improvements in the area of dosing, it is also important for us to reduce energy consumption. Compressed air is one of the most expensive media in production today, and as a machine manufacturer it is important to focus on reducing reliance on this for future-oriented further development.

IDM: Where is the market tending - large fillers or medium/small ones with flexibility?

Sacher: Market requirements have been geared towards flexible machines for some time now. The machines must be able to handle several formats but also a wide variety of products.

IDM: How do you assess your ability to deliver for the rest of 2022 and 2023?

Trunzer: The current order situation and the current order intake show us that our customised concepts are exactly in line with the customers' needs and requirements.

At the moment, our suppliers' ability to deliver is very commendable, so there are no bottlenecks with the production and delivery of our machines. We are very positive about the coming months and machine projects.

IDM: How does Grunwald intend to develop further?

Sacher: Grunwald will continue its successful philosophy of many years and present customer-oriented solutions. A young team that enjoys working and identifies with the company is the most important asset for us. We will continue to talk to our customers and listen to their wishes for optimising the machines. This is the only way to realise new developments that make sense and serve a purpose in practice. As a pioneer in the field of cup and bucket filling machines, Grunwald will always be present for the customer and open for discussion.

Kuka

Dosing spoons for baby food

"The system is very easy to operate, looks good and the clear stainless steel robot design convinces our customer from the food industry. I am very satisfied with it."

Rajinderjit Singh, Regional Manager MODU System



Only the best for children: that's what system integrator MODU System in Malaysia thought, too, and has opted for a KR DELTA from KUKA. The high-speed robot in the Hygienic Machine version is perfect for its task: distributing dosing spoons for baby food quickly and hygienically. And the KR DELTA can do even more.

Increased hygiene requirements, sustainable solutions

Hygiene is an elementary component of food safety – and is a challenge in the food industry. Among the important points are increased hygiene requirements for production areas, cleaning and disinfection of surfaces and equipment, but also a trained and healthy staff. Malaysian system integrator MODU System aims to support the industry with its robot-based automation solutions. The company is getting help from KUKA, which has the ideal robot for these requirements on offer: the KR DELTA. "We want our customers to have confidence in us," says Rajinderjit Singh, regional manager of MODU System. "That's why we have invested a lot of resources in technology development and work closely with partners like KUKA to find a more sustainable solution."

Pick and Place: How the spoons fall

This solution is located in Klang, west of Kuala Lumpur. Two KR DELTA pick up dosing spoons from a conveyor belt and place them on a second belt into open conveyor bags. These in turn consist of a food bag containing baby food. Next to the bag is a free area with a sticker including a bar code. "If the robot detects the free area via the camera, it knows to place a spoon there," Singh says. Then another machine pushes the bag and spoon into a box. But if the bag covers the label, then no spoon is placed, because other-

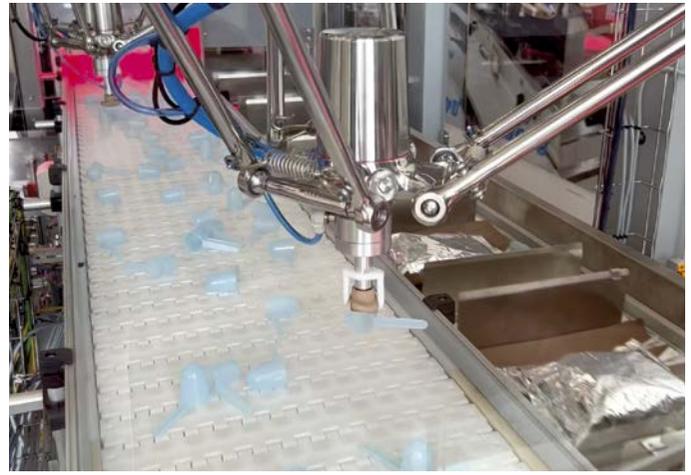
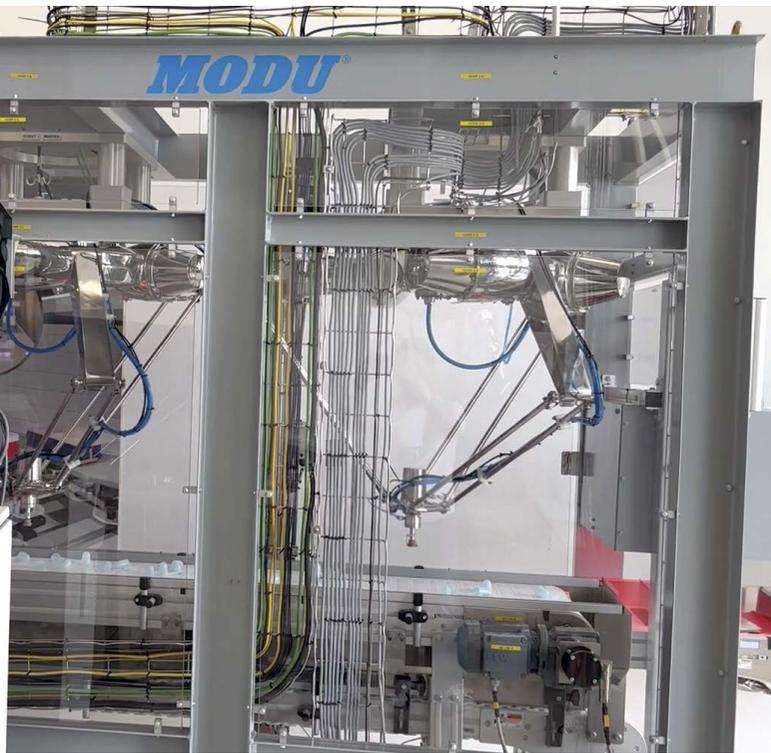
wise there could be a jam in the machine during packaging. What sounds relatively simple is actually an interplay of different systems that go hand in hand.

KR DELTA scores in the food industry

"Of course, the focus is on the KR DELTA, which can come into direct contact with food thanks to its stainless steel body," explains KUKA employee Lim Jia Ming. The robot's corrosion-resistant stainless steel body is designed to meet German LFGB and US FDA food standards. It also meets European CE certification, American UL certification and German TÜV safety function certification. The robot is protected against dust and moisture according to IP 67 protection class and can therefore also be cleaned under high pressure and with alkaline or acidic cleaning agents – which is perfect for the food industry from a hygiene point of view.

Up to 80 spoons per minute

But it is not only its appearance that is impressive; the KR DELTA is also extremely fast: with a cycle time of up to 0.5 seconds, the KR DELTA is ideally suited for pick-and-place tasks. "The two robots thus manage around 80 trays per minute," says Jia Ming. At the same time, they work extremely precisely: possible manual errors can thus be avoided. Before automation, this process step was carried out manually at the baby food manufacturer – a potential source of danger. With the robot in the Hygienic Machine version, this is an all-round hygienic work step. In addition, the entire solution is very space-saving. The two robots are mounted on the ceiling above the conveyor belts and each has an installation area of just 350 mm in diameter. One of the biggest challenges at the beginning was the precise calibration. After all, this is what is needed before the two robots can precisely grip the trays at speed.



The KR DELTA places the spoons next to the bag with the baby food. The next process step places both parts in their packaging.

Perfect for food: thanks to its stainless steel housing, the KR DELTA can be used in the food industry.

A question of the right position

Thanks to the combination of KUKA.VisionTech software, which is a powerful tool for 2D object recognition, and KUKA.PickControl, the KR DELTA can grab objects from one moving conveyor belt and place them on another. "One camera detects the position of the buckets on the belt, and a second detects the bags on the other conveyor. The system then calculates the distance traveled and exact position where it is," explains Jia Ming of KUKA. Thanks to KUKA.PickControl, multiple robots can also be easily coordinated and controlled. The software also ensures a smooth and energy-efficient production flow.

Program offline, test in real time

"In addition, KUKA.PickControl supports flexible patterns. This means that customers can pre-define placement patterns and easily switch by selecting different scenarios based on their current requirements," says Jia Ming. MODU System also used KUKA.Sim to match and test the customer's specifications. The 3D simulation created with this can later be transferred to the real controller. Behind KUKA.Sim is a smart simulation software that enables efficient offline programming of KUKA robots. With functions such as reachability checking and collision detection, the customer was able to ensure in advance that the robot programs and workcell layouts used were really feasible.

The robot is picky

Another challenge is the shape of the spoon including the handle. It determines where the robot can grip it. "One solution is to use a dark detection area to figure out which orientation of the bucket is best," says Rajinderjit Singh of MODU System. It is determined that only a few alignments are acceptable for picking. If the orientation

is outside the specified settings, the robot ignores that bucket and grabs another. "This allows us to further increase the cycle time of the robot," Singh explains.

Spoon filtering made easy

The system also masters overlapping trays. One of the most important aspects of the application is therefore the filter setting. An example of this function is the radius filter, which detects and ignores overlapping buckets within an area. Jia Ming explains, "You can think of it as the first robot picking up the top bucket, but then the bottom one is misaligned. With this filter function, the affected bucket is ignored by the second robot." To avoid this scenario in advance and simplify the robot's work, there is an elevator in front of the assembly line. It is followed by a vibration unit that separates the trays from each other in the best possible way.

Whether blue, green or orange: the spoon color does not matter

Although the shape of the dosing spoons is always the same, they differ in color: the customer uses blue, green or even orange ones. The different colors initially posed another challenge: "For example, if the customer uses a blue bucket, the best light for the vision system to detect the position is red. With a combination of different lighting colors, we were able to shorten the processing time of the image," Singh says. That's why RGB lighting was chosen, he says. A final inspection camera monitors the entire process. "The customer has great confidence in the solution developed by KUKA and MODU System," Singh explains. "We ourselves are very impressed with the stainless steel design of the KR DELTA and believe that the application is best suited for the food industry, which places a lot of emphasis on hygiene."

IDF World Dairy Summit 2022



India's leading dairy companies are main sponsors of International Dairy Federation's World Dairy Summit 2022 (photo: IDF)

to the world, a place to see the latest trends in dairy and to be seen. We invite all interested parties across the globe to participate in the IDF World Dairy Summit 2022".

India's top-ranking dairy brands Amul (marketed by Gujarat Cooperative Milk Marketing Federation Ltd and Nandini (marketed by Karnataka Cooperative Milk Producers' Federation Ltd) are named as main sponsors of International Dairy Federation's World Dairy Summit 2022 (IDF WDS 2022), powered by Mother Dairy Fruit & Vegetable Pvt Ltd (MDFVPL), a wholly-owned subsidiary of National Dairy Development Board (NDDB).

IDF WDS 2022 will provide a forum to industry experts to share knowledge and ideas on how the sector can contribute to nourish the world with safe and sustainable dairying. A collaborative approach is also required to mitigate challenges with respect to climatechange. The interventions so planned have to be both remunerative to the farmer and easy to adopt. Participants will get an opportunity to acquire knowledge on latest research findings and experiences relevant to the global dairy sector in the broadest sense.

For the full programme, please see www.idfwds2022.com

International Dairy Federation (IDF) World Dairy Summit 2022, which will take place in India's New Delhi-NCR from September 12-15 this year, is only a month away from its opening. Dairy stakeholders from all over the world would participate, which is the most coveted event in the dairy sector worldwide.

Mr Piercristiano Brazzale, President of the International Dairy Federation (IDF), said "IDF WDS 2022 attracts the participation of dairy actors and experts from around the world, who will certainly contribute to IDF's purpose to connect and empower the global dairy sector to nourish the world with safe, nutritious, and sustainable dairy and enhance IDF's mission of providing a science-based support to dairying".

Ms Caroline Emond, Director General of IDF, said that the "World Dairy Summit will be a great opportunity for dairy farmers, leaders, experts, scientists, profession-

als, journalists and academics to learn, connect and get inspired".

"India's success story will be shared with the world through the IDF World Dairy Summit where we can see how dairy is an engine of development and women empowerment in India", Ms Emond added.

Shri Meenesh Shah, Chairman, of the National Dairy Development Board and the Member Secretary of the Indian National Committee of IDF, said that "the Dairy sector is fundamental to boost the rural economy of India as it provides livelihood opportunities to about eight crore farmers". That is why "IDF World Dairy Summit 2022 is significant to the stakeholders in India. The developing countries may witness the uniqueness of Indian smallholder dairying system that has made India the world's largest milk producing nation" he added.

Ms Caroline Emond concluded "The IDF World Dairy Summit 2022 is a window

FONTERRA/DSM

Complementary nutrition partnership

Fonterra and DSM are establishing a new start-up company to accelerate the development and commercialisation of fermentation-derived proteins with dairy-like properties.

The start-up is a next step in Fonterra and DSM's long-standing joint development relationship. They have been working together since 2019 to build a comprehensive understanding of how to use precision fermentation science and technology to produce proteins similar to those found in dairy.

To date, this work has created valuable intellectual property for which Fonterra and DSM have filed patents. The new start-up company will enable the acceleration of commercial product solutions utilising this intellectual property, while continuing to focus on further precision fermentation research and development.

Fonterra and DSM are also collaborating to reduce on-farm greenhouse gas (GHG) emissions, by exploring applications for DSM's methane-inhibiting Bovaer technology in the New Zealand pasture-based farming system.

Fonterra's Chief Innovation and Brand Officer, Komal Mistry-Mehta, says "the new start-up is an exciting opportunity to combine DSM's world-leading expertise in

precision fermentation science and technology with Fonterra's world-leading dairy science and technology.

"With fermentation-produced proteins having a wide array of potential applications for customers and consumers, this partnership aligns well with the Co-op's strategy to be a leader in dairy innovation and science.

"By exploring the opportunities of nutrition science solutions, we can unlock the growth potential of our advanced specialty ingredients and play more boldly in this category.

"Dairy nutrition will always be our core strength, now and into the future, and there will continue to be strong demand for our sustainable, pasture-based dairy. At the same time, we are conscious that preferences of some consumers are evolving, and we believe proteins produced with emerging technologies can work alongside our dairy products.

"With continued population growth, there will be a role for both dairy and other sources of nutrition in feeding the world's population – they offer choice and they are complementary."



Taiyo presented more than 40 new product concepts at Vitafoods (photo: Taiyo)

TAIYO AT VITAFOODS

Special product prototypes

Taiyo, expert in health-promoting natural ingredients, introduced innovative concepts that generated great interest among visitors to Vitafoods Europe in Geneva. The focus was on Taiyo's water-soluble ingredients such as Sunfiber, SunActive Mg and combination products like SunCurcumin. Additionally, Taiyo presented a blue Sunfiber, which consists of a combination with phycocyanin from the spirulina algae. Other popular new products included power shot concepts based on prebiotic juice powders with Sunfiber, which were eagerly tasted by attendees.

Taiyo presented over 40 new product concepts at Vitafoods, based on seven different raw materials, including Guar bean fiber (PHGG), matcha, and elderberry. Highlights at the booth were its water-soluble ingredients – a range of Sunfiber blends with various additional health benefits, like blue Sunfiber: It consists of a combination from Sunfiber and the spirulina algae, which contains a lot of protein and is said to slow down ageing processes, and also strengthen the immune system.

Probiotics: a promising market looking for a better framework in Europe

More and more research has been focused in recent years on the intestinal microbiome and the complex relationship between gut microbiota and other functions of the human body. It is being widely acknowledged that some microorganisms, commonly referred to as probiotics and prebiotics, can play an important role in sustaining a balanced gut microbiota health.

But what are probiotics? Probiotics are live microorganisms that can be formulated into many different types of products, including foods (probiotic yogurt, fermented milk, dairy based products), drugs, and dietary supplements. Probiotics microorganisms are commonly defined as 'live cultures'. So far, the only authorised health claim in the EU is "live cultures of yoghurt improve lactose digestion". This health claim is used in several European countries to indicate the presence of 'probiotics' on product labels and communication of yoghurts, drinking yoghurts and sour milks.

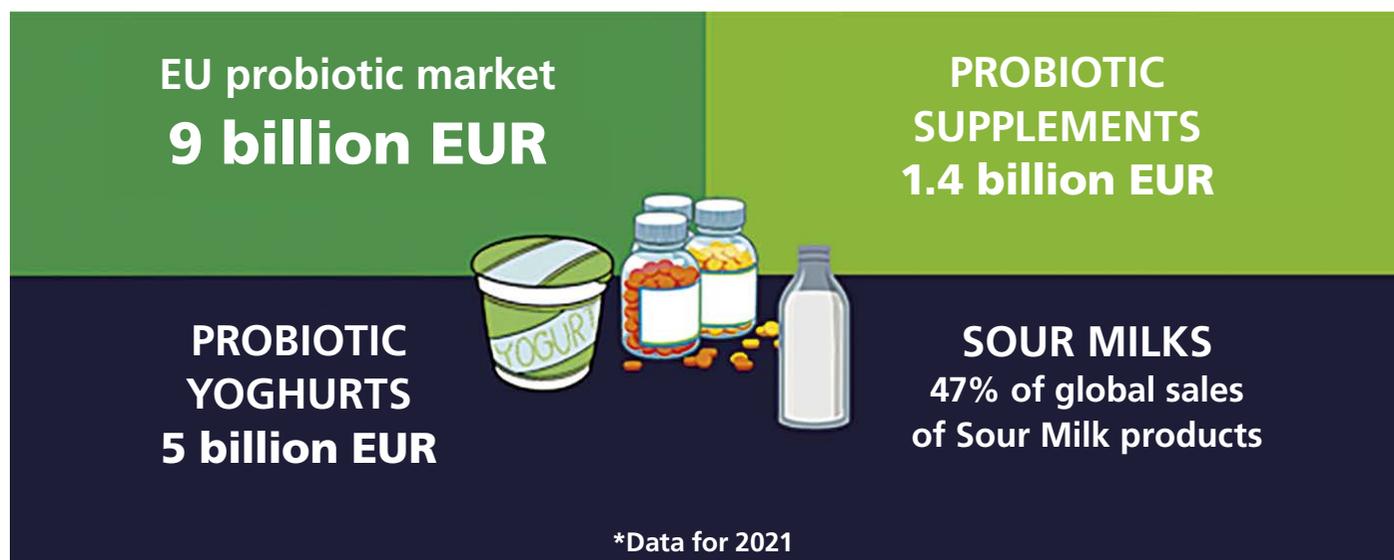
In Europe, the probiotic market has been growing steadily from €8.618,9 million in 2018 to €9.401,6 million in 2021. "Probi-

otic dairy products represent almost 80% of the probiotic market. Consumers enjoy these products in their everyday diet, as part of a balanced and healthy nutrition," points out Alexander Anton, Secretary General of the European Dairy Association (EDA).

The European probiotic supplements market was valued €1.464 million in 2021, close to 25% of the global value. For probiotic yoghurts, plain, flavoured and drinking yoghurts, Europe ranks second in the global scale, after Asia Pacific.

What's in a name?

The word 'probiotic' itself does not convey anything else than a simple "good for you", just like fibre, vitamins and minerals, and it is certainly not a health claim. More than 15 years ago, the European Commission issued a guidance on the implementation of Regulation 1924/2006, which introduced a reference to probiotics by stating that "contains probiotics/prebiotics" should be considered a health claim 'per se'. Nonetheless, the interpretation of the European Commission is today obsolete and did not differentiate between the word encompassing the category and the health





IPA Europe Executive Director Rosanna Pecere and EDA Secretary General Alexander Anton

benefits linked to specific probiotics. The consequence is a misinterpretation of the term 'probiotic', together with the lack of clear and harmonized criteria to qualify a microorganism as 'probiotic'.

EU member states: what is happening here?

As consequence of the lack of clarity on the use of the term 'probiotic' in Europe, some EU countries have in the meantime adopted individual national guidelines or legislations. Italy, the Czech Republic and Bulgaria have issued national guidelines indicating that the wording "contains probiotics" can be used, if specific conditions are fulfilled, as factual information. This was also the case of Spain in 2021.

Other national guidelines have been developed in recent years, and more European countries are flexible in allowing the use of the term probiotic on label and communication of dairy based products, food ingredients and food supplements. The reason for this is to inform consumers and to create equal opportunities for European manufacturers of probiotic foods and dietary supplements, since an increasing variety of probiotics products are advertised and sold online in the European Union and around the world.

Towards an EU harmonised criteria of 'probiotic' definition, communication and labelling

The results of a recent EU survey in 8 countries, commissioned by IPA Europe, show that probiotics are popular, and that people who do not use or buy probiotics also know the term. The survey findings show that EU consumers have high familiarity with the

word 'probiotic', but feel they are not informed about the presence in food and food supplements properly.

79% of the interviewed consumers would like to see the term 'probiotic' indicated on the product (e.g in the ingredients list or on the packaging).

IPA Europe and EDA won't stop requesting the European Commission to consider a way forward that will comply with the EU regulatory framework, providing a clear reference to the use of the term 'probiotic' on labels and in communication, as a description of a food and food supplements category.

"Regulators in other parts of the world recognise the benefits of probiotics under certain conditions and authorise the use of this word for a class of product and ingredients. We believe that a favourable environment for probiotics in Europe will benefit EU citizens and will contribute to cost savings at a societal level," states Rosanna Pecere, Executive Director of IPA Europe.

The clarification of the definition of the term 'probiotic' at European level would enhance the competitiveness of European companies, while providing clearer and more transparent information to consumers.

More information is available here:

<https://www.ipaeurope.org/legal-framework/market-data/w>

Cheese Cutting Machines



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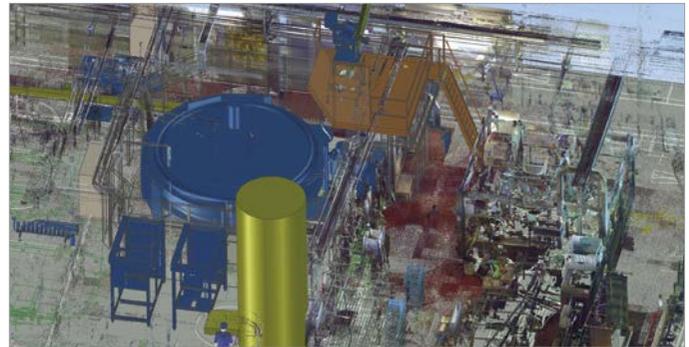
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