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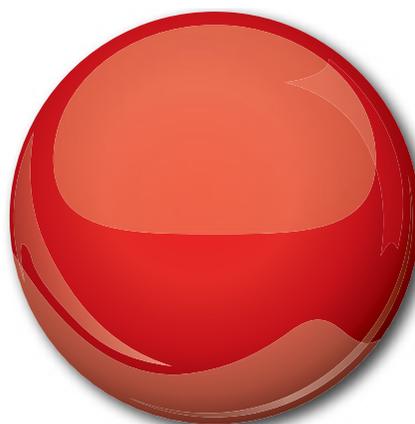
IDM 4-5

April 2016

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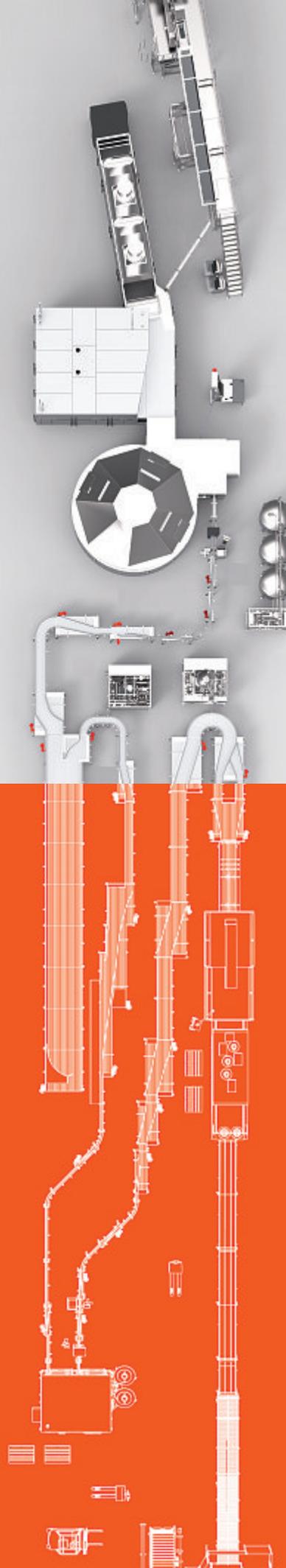
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# There's light at the end of the tunnel

But it will take some time before one can feel the market recovery



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

**H**ow will it go on? Milk supply in Europe is still on the up with many a farmer not even having started to think about reducing his herd's output. The intervention price is, sadly once again, determining the effective bottom of milk utilisation. What would happen to markets, milk prices and dairy farmers's economic situation if the EU would have given up its intervention concept during one of the many market reforms in recent years? One doesn't need much imagination to envisage a massive exodus of farmers from dairying.

But on the other hand one could say that intervention is just prolonging any market crisis. Would the state, in this case the EU, just let markets develop as they are set to develop, maybe phases of low and extra-low prices would be much shorter as signals come faster across the sector. This might make life for milk suppliers easier in the end as they may expect a return to a 'normal' state of market sooner than now when the serious downturn has been here for much more than a year.

Anyway, analysts already believe to see the light at the end of the tunnel. By the turn of the year, most economists expect a slow recovery of the commodity prices in the world market. This is good news but everyone knows that increasing prices take still a long time until one can recognise them in the monthly milk supply bill. It is fair to assume that we all will be very much into the year 2017 before the milk prices start to climb again. But it is questionable whether the sector will return to 2013 price levels in the foreseeable future. There are hints that 2013 may have marked the all-time high for this decade when we talk about milk prices, now that developing countries as well as those who supply crude oil are running out of money, thinks Roland Sossna.



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# In-feed of ingredients

## A warm feeling in a cold environment



One of the largest ice-cream producers in the world was not able to find a suitable solution to replace the manual in-feed of ingredients into the ice-making machines. Although they had thoroughly investigated potential solutions as the possible efficiency improvements would be significant, they were struggling to find the solution. Being a professional organisation they were keen to prevent people from working in temperatures as low as -30 °C, and finally approached CSI's dedicated Account Manager to seek help.

The Dutch plant was pushing hard to find a solution to improve efficiencies as the future of the site was under threat. In CSI they found a professional partner with the potential to develop and deliver a completely new solution. From the outset both teams worked closely together – and this was necessary as not only did a new installation have to be designed, but changes also had to be made to the bags and to the tape and the total process had to be adjusted. To work through all the project risks the joint project team spent a full day in a remote location to avoid disturbance. To further reduce risks several tests were designed and carried out prior to the order. This really paid off. Starting with an official order in April, hand-over was achieved in November and in February the targeted 99.5% system availability was reached.

With input from the customer's ERP-system pallets with ingredients are transported to the de-palletising area. The gantry robot uses a vision camera to locate and orientate cases one by one.

The next step is to automatically open the case. This has to be achieved without polluting the product and a special machine was developed for this function. The opened cases are then transported to one of the three robots. Each equipped with an ingenious gripper which inverts the cases, lifts and places the empty case into the waste conveyor. The next phase is to cut open a bag which is inside the case and empty the contents of the bag into the infeed hopper. The plastic bag is then placed on a waste conveyor. Plastic and cardboard waste is separated at the end of the waste conveyor.

### The project

Executing this project was a real challenge. Not only was this a very complicated project from an engineering standpoint and therefore high-risk, it had to be completed in a relatively short period of time. The location where most of the conveyors and system assemblies had to be installed was in a very confined space with limited access. All of the equipment is located on the first floor on a very thin floor structure.



One of the largest ice-cream producers in the world now enjoys a solution with automated in-feed of ingredients into the ice-making machines (photo: CSI)

An important advantage for the customer was the extra space that resulted on the factory floor with no more transport and storage of ingredients in this area, less fork lifts and no transfer of product from wooden pallets to plastic pallets.

The complete system is controlled by CSI to provide a just-in-time supply of ingredients to the ice-machine whilst guarantee-



Each of the three robots is equipped with an ingenious gripper (photo: CSI)

ing the product does not stay outside the deep freeze for more than 20 minutes. This was achieved through 100% data tracking where the location of every ingredient is known in real time.

The start-up phase was a joint effort and a 99.5% availability level achieved three months after hand-over. To be able to monitor the system constantly, several cameras were installed. The maintenance department find this is a very useful tool. In combination with the sms-text-alert they automatically receive when something goes wrong, they are able to work very efficiently and effectively. As part of the project CSI Lifecycle Services delivered Hypercare support during the first 8 weeks of operation.

The customer is very satisfied with the outcome of the project. The plant also has a new future because unacceptable and costly working methods have been eliminated. Several colleagues from other factories have been into the plant to look at the result and CSI looks forward to delivering more of these types of projects in the future.

## Factbox

### Key data of the CSI project

- Sector: Ice-cream
- Country: Netherlands
- Gantry de-palletising in deep freeze, case cutting, opening and emptying, feeding ingredients into three production lines with robots and removing carton and plastic waste
- 3 production lines with capacity of 12 cases per minute

### Innovations

- First fully automatic filling line for ingredients into ice-cream in the world
- Recognition of pallet patterns in deep freezer on the basis of orientation
- Complete automatic split of waste material (carton and plastic)

### Benefits

- Impressive productivity gain: 5 people less per shift
- More factory floor available: all systems located on first floor (height)
- Less internal transport
- Waste output minimised
- Just-in-time supply to the production line with a maximum 20 minutes between deep freeze and the ice-machine, thus reducing waste
- Full data tracking
- Safety: automatically opening cases instead of manually (with a knife)
- No transfer from wooden pallets to plastic pallets

### Technical highlights

- De-palletising in deep freeze at -30 °C
- Full redundancy gripper tools in the deep freeze
- Extension to line 4 and 5 possible
- Multi-functional gripper: picking and turning case, picking and emptying plastic bag, removing bag and case
- Opening taped cases without product pollution
- SMS-alert in case of disruptions of the process

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# Way more than just emulsifying salts

## IDM visiting ICL Food Specialties

The internationally operating public company ICL is pursuing a new strategy in its food segment by specializing in product stability and texture. The ICL Food Specialties business unit intends to grow particularly in the dairy segment, and with its almost 100 years of experience it wants to support producers of the white and yellow lines in improving the added value. IDM visited ICL in Ladenburg.

“We engage in development with a view to the consumer which also means that we try and include trends that will become apparent in market products only sometime in the future,” explains Dr. Alexander Smerz, Global Market Segment Lead Bakery & Cereals and Beverages at ICL Food Specialties. “Just anybody can sell ingredients, but we bank on our unrivaled expertise in order to offer tailor-made solutions to our customers.”

ICL acquired BK Ladenburg, a producer of emulsifying salts, 20 years ago and since then the Food Specialties business unit has aimed at extending its business as a supplier of stabilizers and texture-enhancing products. “Emulsifying salts currently account for about two thirds of the ICL Food Specialties business volume,” explains Dr. Anne Grünhagen, Regional Market Segment Lead Dairy at ICL Food Specialties. Nowadays the portfolio comprises the whole range of the relevant ingredients and also seasonings for processed meat products. On matters of flavoring and coloring of foods the company cooperates with leading external suppliers.

### Phosphates and protein

When it comes to a complex matter like “milk” ICL Food Specialties has a totally different approach to supplying solutions than other, comparable companies. Grünhagen and Smerz are referring to the basis of ICL (14,000 employees, USD 6.1 bn sales) which is the extraction, processing and marketing of potash, magnesium, phosphorous and phosphates the last two of which are especially used for fertilizers so that one might say ICL is accompanying and securing the “origination process” of milk from start to finish. At a later stage phosphates and milk proteins are combined again so as to bring about a structuring and texturizing effect. When ICL speaks of milk, what their experts actually mean is “protein” on which the activities of ICL Food Specialties are focusing.

### R&D

ICL is banking on research and development in a system of partnerships with and in the interest of customers. The company has hired experts from various fields for this purpose. 70 employees work in Ladenburg for the business unit of Food Specialties, 520 in the EMEA region including those in production. Just recently an excellently equipped food lab and pilot plant were taken into operation where tests can be run even with customers directly involved.



(photo: ICL)

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Dr. Anne Grünhagen and Dr. Alexander Smerz, ICL: Just anybody can sell ingredients, but we bank on our unrivaled expertise in order to offer tailor-made solutions to our customers (photo: IDM)



ICL has one of the best equipped food R&D labs in its industry available at the Ladenburg facilities (photo: ICL)

Since January 2015 ICL Food Specialties has significantly strengthened its competence in the field of natural proteins by integrating the Proactal GmbH in Austria and the Rovita GmbH in Germany.

This opens up innovation potentials for unique product solutions but also for the development of advanced technologies to produce high-grade proteins from natural raw materials.

First innovative product solutions and several interesting product ideas were shown by ICL at the Food Ingredients trade fair in Paris last December. Among others, a milk drink with more than 10% protein content which could withstand a conventional UHT treatment due to the carefully selected raw materials it contains. On the same occasion a pasteurized whey drink (pH < 4.2) was presented, which

does not have a cheesy off-flavor and is as clear as apple juice. One product designed rather for the bakery industry was a dairy spread in an egg-free, crispy pastry crust.

An important part of the activities are also directed to compounds for dairy-based spreads. "The producers only have to add water and fat and prepare the products in a continuous cooker. This offers a simple solution in terms of transport and logistics and good quality is guaranteed. It is an advantage especially for emerging countries that mistakes in the production process can thus be largely excluded," explains Grünhagen.

In the coming years ICL Food Specialties is setting great store by 'free from' products in the nexus of ethics and nutrition, in vegan lifestyle, or with flexitarians.

## Further growth expected

### Dairy Processing Equipment Market 2015-2025 – Shares, Trend and Growth Report

Future Market Insights has published the "Dairy Processing Equipment Market: Global Industry Analysis and Opportunity Assessment 2015-2025" report.

The global dairy processing equipment market has showcased a higher growth over the past few years and is anticipated to showcase a significant CAGR from 2015-2025. Advancement in technology as well as rising consumption of dairy products to bolster the overall global dairy processing equipment over the next 10 years till 2025.

Change in technology along with higher consumption of dairy products are the major growth drivers in the global dairy processing equipment market. Apart from this, rising demand for milk in cream, cheese, milk powder and yogurt are intensifying the market of global dairy processing equipment. The innovation as well as the expansion in the new dairy products with respect to end-user applications are also fostering the growth of the global dairy processing equipment market. It has been noticed that for the

production of milk powders and protein concentrates, the equipment such as membrane filters and evaporators are used which is anticipated to witness significant demand in the coming 10 years from 2015-2025 in the global dairy processing equipment market.

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## Separator animation shows benefits of Seital technology

SPX

The Seital Separation Technology product series brings with it decades of experience and technology that is based on in-depth understanding of applications, flow dynamics and centrifuge technology. The new animation illustrates to customers how the vertical disk stack centrifuge operates and why it offers exceptional separation/clarification functionality and reliability.

The animation shows how the Seital centrifuge is designed for minimum vibration and noise. The high dynamic stability of the machine helps to protect it, increase reliability and reduce maintenance. The way the centrifuge operates facilitates high quality product output with outstanding solid concentration levels and efficient separation results. The gentle process protects the desired characteristics of the final product and the sanitary design of the machine makes it ideal for hygienically sensitive applications. Hermetic seals are also available.



A new animation available in the Web explains how Seital centrifuges are designed to offer increased reliability and reduced maintenance intervals (photo: SPX)

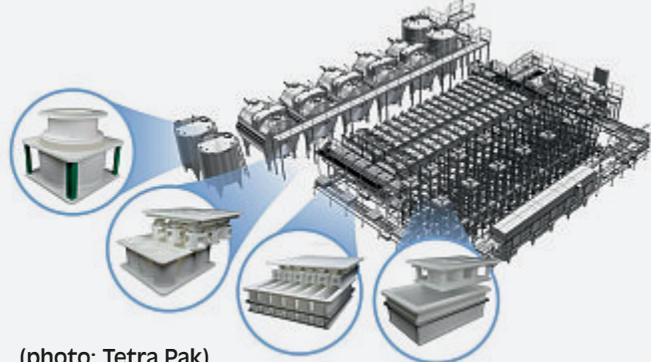
The animation further explains how the centrifuges are designed to offer increased reliability and reduced maintenance intervals with efficient gear or belt drive transmissions and continuous vibration monitoring. It also presents how high levels of process control with automatic discharge of solids using an integrated programmable controller help assure easy operation specific to application needs.

To learn more about separation technology, view the animation at <https://goo.gl/J0yrES> or visit SPX FLOW on the web at <http://www.spxflow.com/en/seital/>

## Tetra Pak acquires Dutch cheese mould leader Laude

Tetra Pak has acquired Laude, a market leader in the design, development, and manufacture of plastic moulds used in hard and semi-hard cheese production.

Laude was established in 1962. Based in Ter Apel, The Netherlands with 38 employees, the company is at the forefront of cheese mould design and supply, offering exceptional performance and durability, coupled with superior hygiene and cleanability standards. Laude will form part of Tetra Pak Cheese and Powder Systems.



(photo: Tetra Pak)

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# Complete lifecycle efficiency

## Industry 4.0 solutions



Authors: Dipl.-Ing. (FH) Erwin Ruppelt, Head Project Engineer, Dipl. Betriebswirtin Daniela Koehler, both of Kaeser Kompressoren SE, Postfach 21 43, 96410 Coburg, Germany; phone +49 9561 6400, web: kaeser.com

What was once simply a dream is now becoming reality: new products and services in the compressed air production sector are bringing Industry 4.0 to life.

When it comes to compressed air production, intelligent contracting model-based solutions, such as Sigma Air Utility, have been

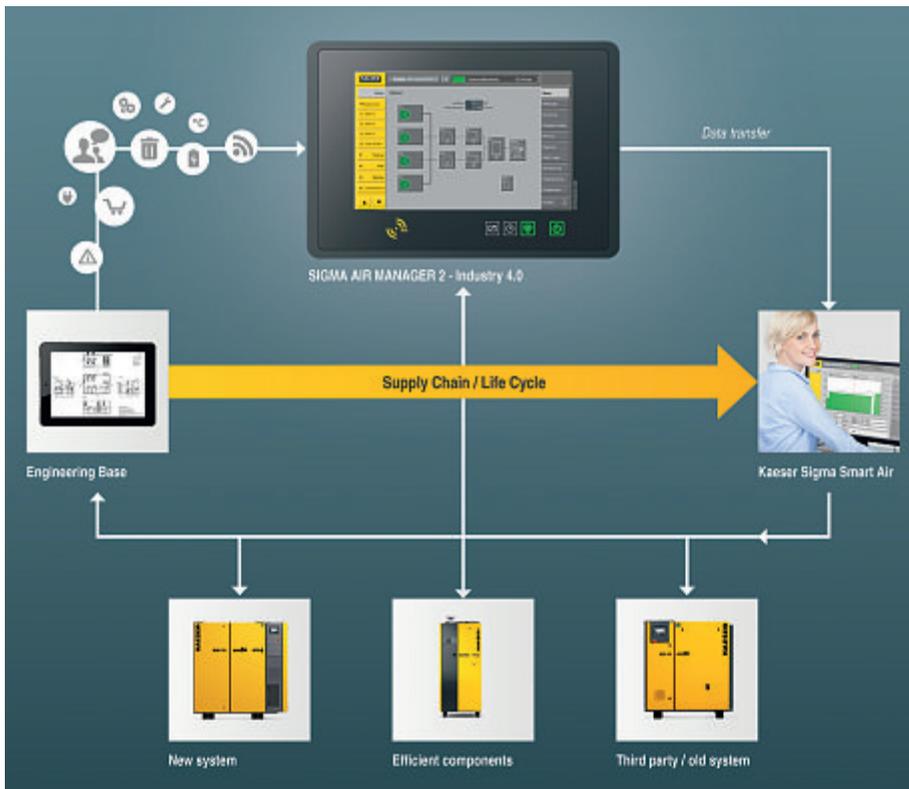
available for quite some time now. These so-called hybrid service bundles combine highly efficient, innovative products with intelligent services in the fields of engineering and predictive maintenance. In essence, it is these solutions that laid the foundation for Industry 4.0 in the compressed air production sector. Now, thanks to new communica-

tions technologies and services, these compressed air contracting models are being further refined and improved.

On the one hand, these solutions include the components of the compressed air station itself, which are responsible for the actual production and treatment of the compressed air itself; specifically the compressors, dryers, filters, etc. as well as peripheral equipment such as ventilation louvres. On the other, they also include the many services that can be rendered throughout the entire lifecycle of the compressed air station. These encompass precision air demand analysis, optimal design for compressed air supply systems and regular maintenance and servicing; not to mention energy management options, as well as planning of new systems, expansion of existing ones and investment in replacement equipment.

Let's first examine the components. To take full advantage of their Industry 4.0 capabilities, components must meet two sets of requirements: they must support efficient control when utilised in combination with other machines and also provide real-time operating data for monitoring purposes and be able to forward all relevant data to master control systems.

Modern compressors and compressed air treatment components are therefore equipped with internal controllers based on industrial PC technology which are able to pass data to a master control system via convenient interfaces, such as Ethernet.



The Industry 4.0 concept offers solutions for all lifecycle phases of compressed air systems.



**In the station itself, the individual components communicate with the master controller for optimal coordination of compressed air production.**

The data generated by the components are first delivered to a master controller, such as the Sigma Air Manager 2 (SAM 2). This controller fulfils two roles: it acts as an actual management system for the compressed air station as well as a central node for the forwarding of relevant data.

Advanced management systems such as these must successfully meet some highly demanding challenges. Not least, they must be capable of efficient and, most importantly, predictive compressor control, taking into account a range of contributing factors, such as switching losses, control losses, etc. Another key requirement is the ability to handle the sheer volume of incoming data from the compressor station – these data must be compiled appropriately, then sent on to a superordinate service centre.

## Multiple levels of functionality

These advanced controllers allow for varying levels of involvement by external service providers, so compressed air system operators can still choose to perform all of the maintenance, evaluation and servicing of the system themselves. In this case, the master controller is integrated into the operator's control system and the data can be requested by any desired part of the company.

Alternatively, system operators can simply opt for a conventional service agreement. Or, in order to take advantage of further services, they can choose a predic-

tive maintenance service model, and then there's the option of remote diagnostics. Real-time monitoring of a full range of sensor data enables immediate response to unusual operating statuses and also lays the foundation for optimal service planning. Thanks to intelligent predictive tools, operators will already know what's actually going to occur in the compressed air station. Advanced solutions such as these therefore represent the highest level of operational reliability and offer some key advantages: Firstly, operators are released from the burden of performing maintenance and service on the compressed air station. This saves fixed costs in the form of payroll expenses, as well as the cost of investment in their own service

management system. Secondly, outsourcing of these services allows customers to benefit from the very latest knowledge and expertise in the compressed air technology sector. The value of this should not be underestimated, since the field of compressed air engineering is now so complex that normal industrial companies are rarely able to maintain such high-level knowledge in-house.

Thirdly, outsourcing of these services to a compressed air specialist delivers clear-cut cost advantages. The data from the compressed air station are requested, transmitted and analysed in real-time. This of course translates into a huge amount of data, which, in turn, requires significant investment in IT infrastructure in order to handle and utilise such large data volumes. For most operators, such an investment would be neither possible nor economical.

## Always up-to-date

Moreover, real-time monitoring gives the service provider a detailed picture of what is happening in the compressed air station – whenever desired. Such detailed monitoring is not restricted to the main system components, but can be extended to peripheral equipment as well, such as control louvres, etc.

If irregularities occur, a notification is automatically generated in the service provider's service centre; this then triggers preventative measures to avoid system disruption or failure. In addition, sophisticated algorithms developed by compressed air engineering experts allow specialists to predictively estimate whether potential disruptions may



**The Sigma Air Manager 2 (SAM 2) master controller acts both as a management system for the compressed air components and as a central node for secure data transmission.**

occur in the near future, and if so, to take appropriate preventative measures.

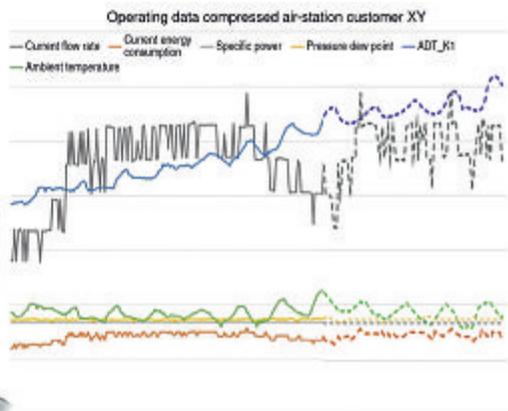
This type of maintenance, which is based on usage or need, cuts costs and prevents system failures. Operators enjoy significantly enhanced reliability, cost-optimised servicing, longer system service life and assured specific power thanks to needs-based maintenance.

Customers' benefits from predictive maintenance agreements, however, extend far beyond the guaranteed high availability of their compressed air systems. For instance, lifecycle costs can be reduced by up to 30 percent since the compressed air specialists can adjust the energy performance of the compressed air station according to demand (e.g. with rising or falling compressed air demand, expansion, etc.) to ensure that it operates at peak performance at all times. Needless to say, this increases the system's overall effectiveness.

Furthermore, the usefulness of the data does not end with the service technicians who optimise the customers' systems: the service provider's research and development department also benefits. Through analysis of how products behave during disruptions, they are able to identify patterns, and the causes of malfunctions – in order to ultimately further develop and optimise the components themselves and to further enhance operational reliability into the future.

### Engineering Base: the ideal planning tool

In most cases, however, another key service is required in order for operators to take full advantage of their compressed air system's



The data are monitored in real time at the Service Centre.

Industry 4.0 capabilities: proper planning of the compressed air system.

Such a service involves the gathering of all parameters and components relevant for compressed air production in a planning tool, called Engineering Base. This innovative tool allows operators to systematically track every aspect of their compressed air system throughout its entire lifecycle. It also ultimately serves as the foundation for intelligent services, such as efficiency management and predictive maintenance.

In the past, systems were usually mapped out by hand, on paper. The documentation was hardly ever kept together in one place, but rather stored in disparate locations. Moreover, subsequent modifications were not usually recorded or if so, this documentation was stored yet elsewhere. As a consequence, information regarding the compressed air station was seldom up to date and there was no single, centralised way of accessing the information.

Engineering Base is therefore a powerful tool that records and maintains data cor-

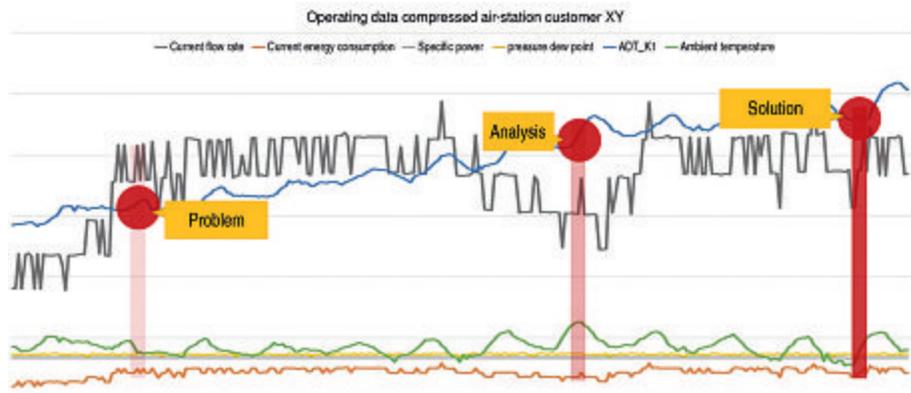
rectly, quickly and completely, stores them securely and ensures they are always up-to-date thanks to real-time transmission and evaluation. To a certain extent, it's even possible to integrate existing systems or those of different manufacturers, provided the compressors have a suitable microprocessor.

In terms of planning new systems, Engineering Base elevates optimal design of the compressed air station to a new level; it also ensures secure and efficient operation indexed to actual demand, both after and during commissioning.

The data also act as an ideal resource that's always available whenever it's time for implementation of optimisation measures. Consistent and complete collection of all data for the compressed air station and its peripheral equipment also saves valuable time when it comes to expanding or reconfiguring the system.

Operators that take advantage of all the solutions on offer for their compressed air station enjoy highly efficient components and all of the benefits of precision planning. Yet the whole package is far greater than the sum of its parts: a state-of-the-art system in terms of energy efficiency; which in turn translates into the most significant reductions in energy costs currently possible; not to mention innovative services like predictive maintenance, which reduce other service costs throughout the system's entire lifecycle – up to 30 percent based on common current costs.

Energy efficiency monitoring also enables yet further savings over the system lifecycle as continuous adjustment to fluctuating operating conditions ensures that the system always operates at optimal load.

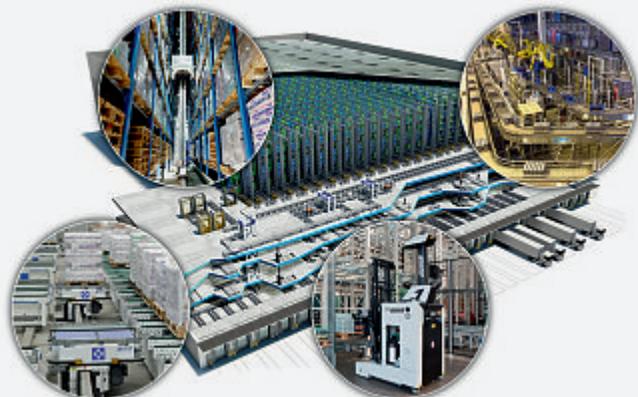


Irregularities are immediately detected, accurate predictions are generated using modern analytical tools and appropriate measures are initiated.

## Majority in System Logistics acquired Krones

Krones has purchased 60% of the shares in System Logistics S.p.A. The company is based in Fiorano, in Northern Italy, and is a leading, international supplier of innovative solutions for intralogistics, material flow technology, and warehousing. A majority of the customers come from the food and beverage industries. In 2015, the company achieved a turnover of around 100 million euros, with a workforce of more than 250 employees.

The company develops almost all system solutions itself, including the software, so that the entire process know-how is anchored inside the firm. The product portfolio of System Logistics includes automated storage and retrieval systems including stacker cranes, mini-loaders, material handling systems as well as automated guided vehicles. [krones.com](http://krones.com)



Krones has taken a majority share in Italian intralogistics specialist System Logistics (photo: Krones)

## The world's highest capacity homogenizer Tetra Pak

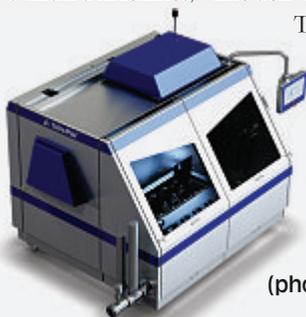
Tetra Pak has developed the world's largest capacity food processing homogenizer. The Tetra Pak Homogenizer 500 can produce up to 63,600 litres per hour. The machine features Tetra Pak's pioneering HD EnergyIQ, a homogenizing device that uses six gaps, enabling it to operate at pressures around 20% lower than standard machines, while delivering the same quality end product.

The result is a significant reduction in energy consumption, and considerably reduced wear.

[tetrapak.com](http://tetrapak.com)

Tetra Pak has developed the Homogenizer 500 that has a capacity of 63,000 l/hr.

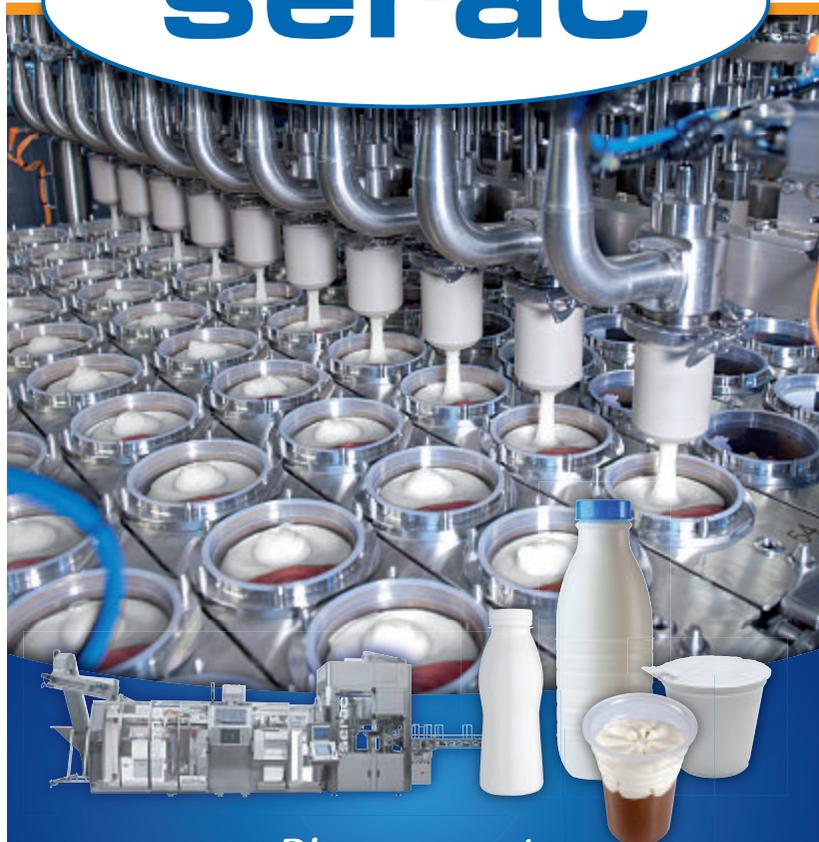
(photo: Tetra Pak)



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# Significant growth is expected

IDM-Interview on markets and sustainability from the view of a culture maker

The fruit yogurt market in Western Europe has been on a decline for the past 5 years. But DuPont expect a growth of 2% CAGR now until 2020. IDM spoke with Didier Carcano, Marketing Strategy Leader, Probiotics & Cultures, DuPont, about the role of a culture maker in this context and the merger of the industry giant with Dow.

**IDM:** Does the merger between DuPont and Dow Chemical in any way affect customers in the dairy industry?

**Carcano:** We see the announcement of the intended merger of equals between Dow and DuPont as a win for our customers – each resulting business will have clear focus and the ability to deliver superior solutions and choices for custom-

ers. We expect to be an even better partner for all our customers including those within the dairy industry. The continuity and stability of our customer relationships is our top priority. Until the merger closes, which is expected sometime in the second half of next year, DuPont and Dow will continue to operate as two independent companies. Longer term, in preparation for the eventual changes we intend to pursue, planning will take place to assure that in every phase of this effort, customer needs are met and we continue to deliver the same high level of value added services and solutions customers have come to expect from DuPont.

**IDM:** The fruit yogurt market is on the decline in many regions. What can be done against it from a culture supplier's view?

**Carcano:** In Western Europe\* the fruit yogurt market value has shown a moderate decline from 2010 to 2015 (-0.6% CAGR), but from 2015 to 2020 it's expected to grow at a 2% CAGR. That growth will be higher in the US with a 3.5% CAGR and much higher in China with a 14% CAGR. As the global demand for fruit yogurt increases, it will open new opportunities for DuPont Nutrition & Health and the broad

DuPont Danisco culture portfolio. Of particular interest are our premium texturizing cultures for very creamy and low sugar fruit yogurt in the US and EU, and our probiotic yogurt cultures that can be used in fruit yogurt and have been developed to address the growing demand of Chinese and Asian consumers.

*\* Euromonitor passport data (Western Europe includes 16 western Europe countries and Turkey)*

**IDM:** Where do you see the actual main market trends when it comes to cultures for dairy?

**Carcano:** Consumer demand for natural and clean label yogurt increases the global demand for premium texturizing yogurt cultures which can deliver a premium, high and creamy texture in the absence of starch and added texturizing ingredients. Increased consumer demand for higher differentiation is being driven by their local preferences, creating demand for a very broad range of yogurt cultures that provide a wide variety of tastes and textures to be used in products like kefir, tvorog, ryazhenka, and greek yogurt. In this context one can also foresee a broader biodiversity of cultures used in fermented dairy products, coming with an identified origin and a well characterized identity. In addition, in the mature yogurt countries, the demand for higher yogurt productivity and production output increases the demand for fast acidifying yogurt cultures which provide the same flavor profile as slower cultures.

**IDM:** What does sustainability mean to a culture maker?



(photo: iStock)



Didier Carcano, Marketing Strategy Leader, Probiotics & Cultures, DuPont: One can foresee a broader biodiversity of cultures used in fermented dairy products, coming with an identified origin and a well characterized identity (photo: DuPont)

**Carcano:** With regard to the social aspect of sustainability in cultures production, we focus a lot on food quality which is critical for our customers and their end-consumers. In terms of protecting the environment, while the cultures industry does not

have a high impact on the environment, we still ensure waste is managed in full compliance with local regulation, and minimize the use of energy and water through continuous improvement of our manufacturing processes.



(photo: DuPont)



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# The benefits of weight filling

## Filling of sauces and dressings

**T**hree main technologies are currently used in order to fill viscous products such as sauces and dressings into containers: volumetric filling, flow metering and weight filling.

Although not new, weight filling has received a renewed interest from sauces and dressings manufacturers over the past few years. The main reason for this success is that weight filling offers the consumer the important benefits they seek, such as lighter, healthier and more varied products.

### Weight filling maintains a superior texture

Beyond taste, manufacturers pay particular attention to texture and appearance as they are key elements for a satisfied consumer experience. However, maintaining the original state of the product throughout the packaging process can sometimes be a technical challenge due to the specific rheology of sauces. This is particularly true for low-fat emulsions (mayonnaise or others), which are more delicate than traditional recipes. The crucial point that is true for any emulsified sauce is that dynamic forces applied to the product must be reduced to a minimum. This is where weight filling offers true benefits.

The weight filling technology is based mainly on gravity or assisted by a light overpressure for highly viscous products. The sauce is not strongly forced into the filling unit, as is the case with volumetric filling where the product suffers a double intake and down stroke to get in and out of the dosing chamber, or with flow metering where it has to be pressurized to pass through a flow meter and the narrow tubes. To the contrary, weight filling uses a gravimetric tank, where the product load is maintained at a constant level, ensuring a linear and regular flow which reduces viscosity loss.

The product circuit is also much simpler with weight filling than with volumetric filling. The sauce is piped out of the process into a small buffer tank and then poured into the container, all this with no dynamic seal and very few moving parts. It thus generates almost no turbulence in the product.

### Naturally clean

Weight filling is a naturally clean technology. This is one of the unique selling points which is clearly demonstrated when looking at the filling nozzles: fully opening and 100% self-draining, they remain perfectly clean throughout the filling process. Moreover and unlike volumetric filling, the filling valves never touch any container, which avoids any contamination.

Taking a closer look at a typical weight filling unit proposed by Serac, one can see that the whole product circuit is designed with easy cleaning in mind. It involves no joints or gaskets that are hard to clean and subject to wear, but employs metal to metal valves with extremely clean closure and very few mechanical parts in direct contact with the product. It is very easy to clean, especially with efficient CIP equipment. Those proposed by Serac work in a closed sanitation circuit and make use of multidirectional sanitary spray balls for a higher impact of the



Weight filling assisted by overpressure for highly viscous products

liquid jets. Tanks are 100% self-draining, convexed shaped with no dead corners, fully inspectable and suitable for swab tests.

Weight filling is a particularly versatile technology, as far as the nature of the product is concerned. It is adapted to hot (60-80°C) and cold preparations, as well as non-conductive, aerated or non-homogenous products, which is not the case for inductive and mass flow metering. The technology is also more flexible in terms of packaging, since it can accommodate a 1 to 20 ratio whereas volumetric filling is limited to a 1 to 6 ratio. With this double flexibility in hand, it is possible to design a line that will be able to fill up to 20 recipes in different packaging sizes, as Serac recently did.



Dry decontamination of the packaging just before weight filling

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The drinktec Innovation Flow Lounge, a conversation and discussion platform unique in this form, provides answers to questions dealing with all issues of marketing and branding beverages and liquid food. Visitors to drinktec can discuss these topics and lots more with high-level speakers and discussion partners in the Innovation Flow Lounge. There are various action modules from the "Talking Table" to "Speakers Corner" for sharing ideas and networking.

Learn more about drinktec at [drinktec.com](http://drinktec.com)

# drinktec

## GEA Whitebloc: a world of advantages



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# The obesity challenge

Is reducing sugar in chocolate milk the ultimate solution?



Author: Kinga Adamaszwilli, EDA Nutrition, Health & Food Law Officer



(photo: colourbox.de)

**T**he rising obesity prevalence among adults and children is a serious threat to public health systems and the future generations. The recent data shows that public health policies have not been efficient to tackle this multifactorial challenge. We have seen that product reformulation and benchmarks on salt, fat and sugar reduction per food category continue to be one of the preferred options discussed by the authorities. One may ask – is a single-nutrient approach an efficient and adequate measure to fight the obesity challenge? Are we aware of data showing that reformu-

lated food makes people slimmer and healthier? And finally, should we focus on solutions without being certain of evident public health benefits? Maybe the time is ripe to look at the problem from another perspective.

## The world has an obesity problem

The recently published data of body-mass index (BMI) trends in adults in 200 countries tell us that more people in the world are now obese as opposed to underweight<sup>1</sup>. According to the latest Lancet analysis, the number of obese people globally had increased from 105 million (1975) to 641 million (2014). At the same time, the number of underweight people had increased from 330 million (1975) to 462 million (2014). If post-2000 trends continue, by 2025 the global obesity prevalence will reach 18% in men and surpass 21% in women; severe obesity will surpass 6% in men and 9% in women.

Trends in Europe are also not positive for the future generations – according to the latest WHO HBSC survey<sup>2</sup> on trends in adolescents, the prevalence of overweight and obesity has been growing in all EU regions with highest prevalence in the South (from 20.2% in 2002 to 22.5% in 2010) and the sharpest

increase in the East (from 11.5% in 2002 to 18.5% in 2010). No doubt that these trends are alarming for health authorities in Europe and around the globe.

## Product formulation & added sugar on the EU agenda

Since the beginning of 2016 we have seen an intensification of debates on how to combat the obesity challenge. It seems that policy makers tend to opt for reformulation and further reduction of 'bad nutrients' in foods and drinks. After salt and saturated fat in the previous years, the main focus of 2016 is added sugar.

In January 2016 the European Commission and EU Member States experts (High Level Group on Nutrition and Physical activity<sup>3</sup>) have endorsed a strategy on reduction of added sugars in foods and drinks – including sweetened dairy products. The new policy (so called "Added Sugar Annex") aims at setting "general benchmarks for added sugar reduction of a minimum of 10% by 2020 in food products against the Member State baseline levels at the end of 2015 or to move towards 'best in class' levels". It is worth noting that the document suggests that reduced sugar should not be replaced by sweeteners as the overall aim is to reduce the sweet taste of foods.

In parallel, the Dutch Presidency has taken up product reformulation and reduction of fat, salt and sugar as one of its

priorities – the Dutch "Roadmap for action" widely presented in February 2016 called for "combined action to make food products healthier by gradually reducing the amount of salt, saturated fat and sugar (calories)." Interestingly, among the 22 Member States who have signed the Dutch Roadmap, we will not find neither Italy nor France – countries of undisputable rich culinary heritage.

## Reflection on the role of the industry

The recent debates triggered further reflections around the duties of food and drink industry, including the products offered by dairy sector. EDA is fully engaged on nutrition and health topics with policy-makers, industry groups and other stakeholders to help make a positive impact on the overall public health.

The health and nutrition debate has always been very close to the dairy industry. Over the last years, the European dairy sector has put a lot of effort, research and resources to ensure that consumers have access to a wide range of nutritious dairy products.

It is widely recognised that milk and dairy products are an important part of the dietary guidelines and recommendations across the EU. The health benefits of milk and dairy for school children has been continuously acknowledged in the recently evaluated European School Milk Scheme<sup>4</sup>. In a Western diet, dairy products provide between 40% and 70% of the



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recommended daily calcium intake. In some Member States dairy is also one of the main natural sources of iodine in diet – the intake of iodine from milk and dairy products is up to 37%. Milk and dairy products are also natural sources of high quality protein.

### Are dairy products really high in sugars? Putting facts into a wider perspective

Dairy products are low contributors to added sugar intakes in Europe while they are high contributors of essential nutrients in all population groups. The dietary surveys show that consumption of added sugars from dairy is low and ranges between 6% (UK) to 12% (NL). At the same time dairy consumption contributes to 36% (UK) to 58% (NL) of calcium intake<sup>5</sup>. It should be considered that inadequate intakes of certain nutrients in the European diet may be partly a consequence of low dairy consumption. Adding sugar to dairy increases palatability and therefore may help consumers reach recommendations of dairy consumption. Flavoured milks and yoghurts are a way to increase milk consumption and to boost the population's vitamin, mineral and protein intake.

### What does the science say on chocolate milk and health?

In many EU countries sweetened dairy products such as flavoured fruit yoghurt and fermented milks are consumed as desserts or snacks. A number of studies show that yoghurt consumption, including flavoured ones, has a neutral or beneficial effect on weight status<sup>6,7,8</sup>. Consumption of flavoured milk has been linked to better overall diet quality without any adverse impact on weight<sup>9,10,11</sup>. Recent science also shows a positive association between yoghurt consumption, including flavoured ones, and diet quality and metabolic profile in children<sup>12</sup> and adults<sup>13</sup>. The latest science and dietary guidelines also suggest that higher intake of yoghurts, including flavoured ones, is linked to a reduced risk of type 2 diabetes<sup>14,15</sup>.

### Is the EU food and nutrition policy taking the right direction?

For many years it has been challenging to explain to the policy makers that nutrients present in food exist in combination and there is a complex interplay which is not captured by a single nutrient approach. Our diets are not composed of isolated, single nutrients but of multiple, varied and complex foods.

The focus on 'bad nutrients' in the EU food and nutrition policy might not bring the expected results. Consumers are expecting evidence-based advice on how to compose their daily diet and what products should find place on their plate. Do the policy makers take the right direction and use the best tools to tackle the obesity challenge? Is a nutrient-focused approach appropriate in the context of public health and nutrition policy? It seems that the reality is complex and this complexity needs to be adequately reflected in the health and nutrition strategy of the EU if the efficiency is at stake.

Dietary guidance and science increasingly recognise the importance of total nutrient content of food rather than of particular individual nutrients. Let's all make the effort to help

the policy makers understand that a positive approach to nutritious wholesome foods such as milk and dairy products can play an important role in fighting the obesity challenge.

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## Ice Cream Filler A3 Tetra Pak

Tetra Pak's new Ice Cream Filler A3 is designed specifically for small to medium producers looking to lower operating costs with minimal investment. The machine produces up to 18,000 ice cream cones per hour and features three enhanced components:

- A cone dispenser with high reliability and capable of handling different cones and cups;
- An easy-to-operate chocolate sprayer with exceptional accuracy;
- A precise lid dispenser improving standardisation.

These features help manufacturers boost efficiency by reducing waste, minimising stops and increasing overall speed, while ensuring product quality. Furthermore, the modular design of the machine offers significant production flexibility with simple setup and easy equipment changeovers.

The cone dispenser, chocolate sprayer and lid dispenser are also available individually for customers who want to upgrade their existing ice cream filling lines. [tetrapak.com](http://tetrapak.com)



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Levels of confidence in the nutrition industry are currently riding sky-high, according to a survey carried out exclusively for Vitafoods Europe 2016, the global nutraceutical event.

The event will feature a number of attractions designed to showcase what's new in the nutrition industry, including two New Products Zones – one for ingredients and one for finished products. A new addition to this year's show will be the Vitafoods LaunchPad, where visitors can hear concise, bite-sized presentations from exhibitors about the latest product launches in the nutrition industry. LaunchPad will take place in the Vitafoods Centre Stage, a new theatre that will play host to a wide selection of stimulating events.

There will be further opportunities to discover what's new in the industry with the new Vitafoods Springboard. This will be a dedicated space for visitors to engage with start-ups and other entrepreneurs at the cutting edge of the nutrition sector. It will offer insights into the latest ingredients, products and technologies that make it possible to tap into current and future trends.

The new Tasting Bar Spotlight, meanwhile, will be an extension of the existing Tasting Bar. It will give exhibitors the chance to present their products to visitors while simultaneously offering them the opportunity to taste and sample them.

#### Increased focus on business challenges

The show will be focused on four distinct sectors:

- Ingredients & Raw Materials
- Finished Products
- Contract Manufacturing & Private Label
- Services & Equipment.

Premiering in 2016 will be the Sports Nutrition Zone, where visitors can discover the very latest developments in the exciting and fast-growing sports nutrition category. In the Optimal Health Testing Centre, meanwhile, exhibitors will demonstrate how it's possible to identify specific health needs and deliver tailored nutrition solutions to meet them.

In the new Life Stages Theatre, leading independent experts will discuss specific nutrition requirements for consumers of all ages. There will be stimulating panel discussions tackling current hot topics, such as personalised nutrition, appealing to Millennial

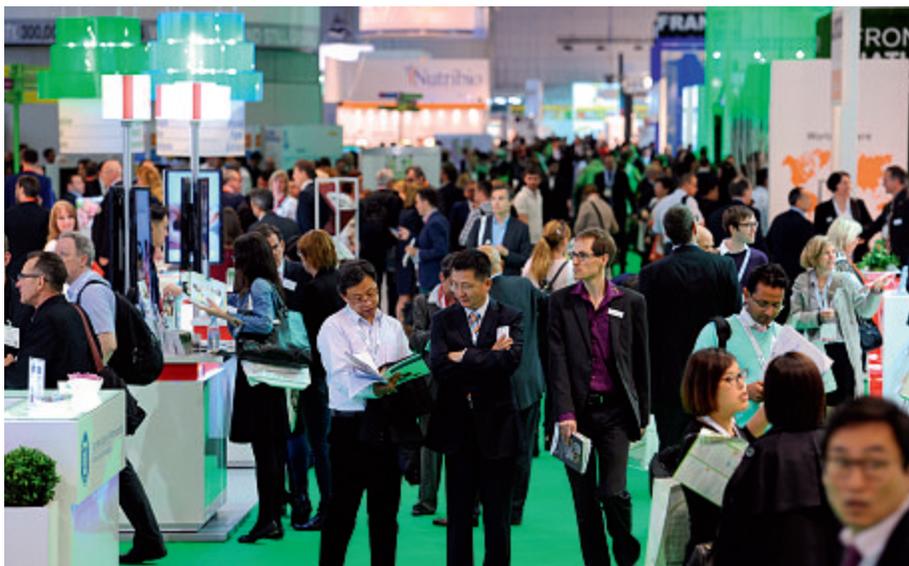
# Vitafoods™ Europe



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consumers, addressing allergies, and optimal nutrition for infants and children.

Elsewhere, a new Packaging Innovation Centre will provide an insight into advances in packaging technology, with a focus on hot topics such as design, delivery systems, convenience, labelling and sustainability.

Other popular features returning this year include the Exhibition Presentation Theatre, the Tasting Bar, and the Market & Trend Overview in association with Innova Market

Insights. The Omega-3 Resource Centre in association with GOED, which made its debut at Vitafoods Europe 2015, returns in 2016 but will be twice as big with many new features.

Register for your free visitor's pass at [vitafoods.eu.com](http://vitafoods.eu.com).

Here's a little overview on what visitors may expect at Vitafoods:



Frutarom Health will present the benefits of a healthy Mediterranean diet for instant drinks (photo: Frutarom)

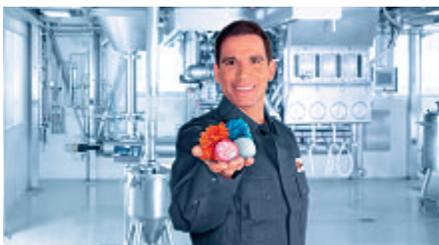
► **Frutarom Health: Naturally Mediterranean**

Frutarom Health and Nutrafur join forces at Vitafoods to present advanced innovations in natural extracts from the Mediterranean. On display will be NutraT, the next generation of all-natural antioxidants – with all the benefits of a healthy Mediterranean diet – for instant drinks. These powder formulas dissolve easily in water and soft drinks, and are designed to provide flavorful health support in different areas: depurative (detoxifying and purifying), cardiovascular, circulation and relaxation. Once the powder dissolves, the beverage stays clear, without turbidity, and with surprisingly great taste.

Nutrafur expands the Frutarom Health portfolio with typical Mediterranean ingredients well known for health benefits, including citrus extracts, such as grapefruit, bitter orange, sweet orange and others. [frutarom.com](http://frutarom.com)

► **Glatt: Optimized properties for functional ingredients**

At Vitafoods Europe 2016, Glatt will present state-of-the-art fluidized bed and spouted bed technologies to dry, agglomerate, granulate and coat various ingredients. Thanks to its comprehensive expertise, the compa-



Glatt will present state-of-the-art fluidized bed and spouted bed technologies (photo: Glatt)

ny is able to provide solutions for demanding or complex applications that require precisely defined shape or solubility characteristics, homogenous particle sizes or the functional protection of active ingredients, for example. [glatt.com](http://glatt.com)

► **Kaneka: Supporting an active lifestyle**

Kaneka Pharma Europe will showcase nutraceutical ingredients backed by science that assist sports performance and help to maintain a healthy body. One of these is Ubiquinol, the directly active form of coenzyme Q10.

The latest product application of Ubiquinol targets active “Best Agers” who want to stay healthy, as well as athletes who are keen to optimise their immune defences and muscular capability.



Kaneka Pharma Europe's Ubiquinol targets active “Best Agers” (photo: Fotolia, Budimir Jevtic)

Kaneka will also present the liquorice root extract Glavonoid. This provides unique dual support in fighting visceral fat, thanks to its ability to activate the body's fat metabolism and suppress fat synthesis. Having held Novel Food status since 2011, Glavonoid can be used in food supplements and beverages based on milk, yoghurt, fruit and vegetables. [kaneka.be](http://kaneka.be)

► **Lipogen: New brain ingredient for stress management**

Lipogen will exhibit its Lipogen PSPA next-generation PS brain ingredient, Lipogen PSPA. PSPA is a new, patent-protected solution for stress management and brain health support. PSPA is a natural, vegan, high-quality blend of phosphatidylserine (PS) and phosphatidic acid (PA). Lipogen PSPA is available in liquid and powder formats, is vegan, non-GMO and kosher certified. Lipogen PS (Memree) line contains high quality, vegetarian source phosphatidylserine (PS), an ingredient widely studied for cognitive health benefits. PS is the



Lipogen launches a New Brain Ingredient for stress management at Vitafoods (photo: Lipogen)

only food ingredient with an FDA-qualified health claim related to cognitive function. [lipogenbio.com](http://lipogenbio.com)

► **Unique benefits of Peptan unveiled**

Rousselot, the world-leading manufacturer of gelatin and collagen peptides, will unveil the results of a new study on Peptan collagen peptides and showcase its range of natural proteins for the health and nutrition market. Experts will highlight how its unique Peptan collagen peptides and ProTake hydrolyzed gelatin can help manufacturers meet the demand for functional foods and protein-enriched products. The study will be presented at the seminar by Dr. Janne Prawitt and Dr. Elke De Clerck on 10th May at 12:50 pm in the Exhibitor Theatre.



Rousselot will unveil the results of a new study on Peptan collagen peptides (photo: Rousselot)

Rousselot will also present its new hydrolyzed gelatin, ProTake P. With its superior organoleptic properties, ProTake P is a 90 per cent pure protein that is easily integrated into a wide range of applications to boost protein intake, without impacting on odor or taste.

Ideal for food and beverage products, ProTake P is clean label ingredient that is highly soluble and compatible with other ingredients. ProTake P is also ideal for protein fortified foods including dairy products. [rousselet.com](http://rousselet.com)

► **SternLife: Organic smoothie with superfoods**

SternLife has taken up the health-conscious trend with a tailor-made product concept with its instantized shake range "smile!". At the exhibition, the company will show the green variant of the shake, which is based on vegetable powder made of spinach, kale and apples. The special feature of the "green smile!" variant is its high protein content: the full 55 percent protein from different purely vegetable sources helps to build up and maintain muscle mass. "smile!" contains no gluten, soy or lactose. [sternlife.de](http://sternlife.de)

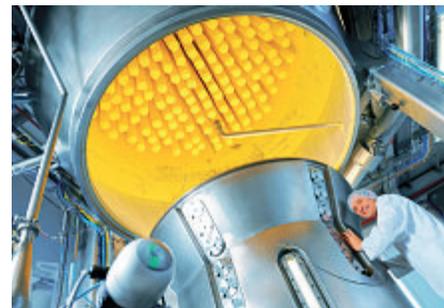


**SternLife will show a high-protein veggie smoothie (photo: SternLife)**

► **SternMaid: Outsourcing solutions**

At this year's Vitafoods, SternMaid will present its wide offer of services. These range from blending, drying and processing to a complete package that includes purchase of raw materials, co-packing, warehousing and delivery. The contract manufacturer has facilities for blend-

ing and optimizing practically any product in the food or life science industry and packaging it as requested. State-of-the-art fluid bed technology, for example, makes it possible to adjust and standardize the properties of foods, ingredients and food supplements to meet individual requirements. [sternmaid.de](http://sternmaid.de)



**Contract manufacturer SternMaid will highlight their capabilities (photo: SternMaid)**

## Modern and flexible dosing technology for increased sales GRUNWALD

GRUNWALD has for many years dealt with the further development of dosing technology for first-class products with appealing product presentation.

Dosing technology which can be used flexibly according to the market requirements is of significant importance. Apart from pinpoint dosing accuracy and flexibility of the dosing technology is the important factor allowing filling the most varied products in different presentation images on one and the same cup filler.

Additionally to the already known filling technology "put under fruit", fur-



**GRUNWALD dosing technology "swirl" (photo: GRUNWALD)**

ther dosing technologies are available for the rotary-type and cup filler. By combining these filling technologies, which were

particularly designed by GRUNWALD, presentation images like "multi-layer", "side-by-side", "swirl" and even "topping" can be filled quickly and in a flexible way. This flexibility and the fast change-over times makes product changes easy. Product losses and machine downtime are reduced to a minimum.

In doing so it is not important whether the production of small series of different premium products, the processing of small orders or field tests and laboratory experiments are concerned. All this can be done on one and the same filling machine. [grunwald-wangen.de](http://grunwald-wangen.de)



## In-house exhibition TREPKO

The TREPKO Group and its Partner Companies invite to the 4th TREPKO Conference & Exhibition. This event will be one of the biggest packaging shows in 2016.

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# Strengthen innovation and communication

## Ways to counteract the media's denigration of milk

**S**tephan Karl, CEO Tetra Pak Mid Europe, at a major dairy industry conference in Germany recently held an interesting presentation on how the global milk market can find its revival. IDM took the opportunity to ask Mr Karl how the dairy industry should handle innovation and communication.

**IDM:** What can the industry do to escape the vortex of constant negative headlines about the alleged detrimental effects on health of milk consumption?

**Karl:** There are no easy answers to that. In my view, however, innovation and communication have to be intensified. Compared with other foods, milk has one significant advantage. A survey by Tetra Pak among 1,200 consumers in six countries found that 82% of respondents had no doubts about milk being healthy and wholesome. Despite the scaremongering in some media reports, 61% of this sample population do not see any negative characteristics associated with milk. 30% do not even believe the negative reviews. You can build on that using innovation and communication.

**IDM:** A survey is only ever as good as the way it is constructed. Where exactly did the interviews take place? Were there big differences in how milk is perceived in individual regions?

**Karl:** We included both developed countries as well as emerging markets. Specifically, the survey was conducted in Spain, Germany, the US, China, Thailand and Brazil. There were, of course, differences in perception. While, on average, 43% of consumers viewed milk spontaneously as healthy, this percent-



**Stephan Karl, CEO Tetra Pak Mid Europe: One doesn't need to develop radical innovation always. It can be sufficient to reposition existing products (photo: LZ)**

age was at 70% in China. In the United States, Germany and Brazil, milk is enjoyed mainly for its taste whereas health aspects were rather in the foreground in other regions, to cite only some conclusions of our study.

**IDM:** You just mentioned innovation as the key to the future market success of dairy products. What would you recommend to dairies?

**Karl:** At Tetra Pak, we identify four major trends in dairy product innovation. Milk 2.0 stands for personalised products in which ingredients are omitted or enriched. Designer dairy products subsume a variety of different products to be used as a meal replacement, as a snack, for use "on the go" or for recovery after sports.

Alongside this, milk products enter a market that subscribes to a special kind of purity, almost purism; here the environment, health or the motto "back to nature" are the focus. We classify everyday culinary delights as the fourth trend, meaning the absolute enjoyment you can get especially from dairy products.

**IDM:** There aren't many of those types of products on display ...

**Karl:** In terms of innovation, Europe is a more traditional market. Companies are aware of the risks, and perhaps don't experiment enough. Though one doesn't always have to come up with radical innovations. It may be enough to re-position existing products, for example, by placing a greater emphasis on the refreshing effect of buttermilk. In each case we can clearly demonstrate the four major trends of the dairy product innovation with numerous examples from a diverse range of countries.

**IDM:** Let's now look at communication. What ought to be done there?

**Karl:** Communication has to be positive and based on facts, using an emotional approach and above all a language the consumer is familiar with. As well as the emotion, naturally a scientific background also has to be offered. In this way, the industry should make every effort to populate the media with positive stories about milk. Opinion leaders must not be forgotten either and they should be integrated into the communication. Social media here does not yet play the role it does in the US, for example, but a concerted collective industry communication has to commence here as well.

## Third coating's the charm Permanent coating provides a one step solution to rust treatment

Water, energy and maintenance solutions provider NCH Europe's Maintenance and Partsmaster Innovation Platform has launched Salvage 2+, a durable permanent coating product that prevents liquid from causing corrosion in infrastructure. Salvage 2+ has been designed to combat damage caused when liquid penetrates outer paint layers to reach the substrate and cause problems.

Salvage 2+ is an epoxy two-part formulation that is painted onto surfaces requiring protection. Unlike most rust treatment solutions on the market, the product combines the treatment and protection stages of rust prevention programmes into one simple step to provide an extensive solution to corrosion.

This is achieved by encapsulating rust and preventing it from causing further corrosion, while at the same time creating a protective layer that locks liquids out. Once loose rust has been removed the product can be directly applied to a rusty surface without the need for a primer. [ncheurope.com](http://ncheurope.com)



Salvage 2+ encapsulates rust and prevents it from causing further corrosion, while at the same time creates a protective layer (photo: NCH)

## Board changes Tate & Lyle

Tate & Lyle PLC announced that Lars Frederiksen and Sybella Stanley have been appointed as Non-Executive Directors with effect from 1 April 2016. Frederiksen was CEO of Chr. Hansen Holding A/S from 2005 until his retirement in March 2013. Stanley is Director of Corporate Finance at RELX Group plc (formerly Reed Elsevier Group plc), where she is responsible for global mergers and acquisitions.



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# Saphera for better lactose-free products

Novozymes launches an innovative lactase

**N**ovozymes has launched a new innovative lactase called "Saphera". The enzyme opens new possibilities for dairies that are active in the field of lactose-free products.

Lactose-free has developed from a niche into the mainstream market. The number of product innovations introduced to the market has grown by 28% per year since 2012 in a global scale. Within that time sales of lactose-free milk products were up by 12% with a volume increase of 9%. This development seems to have spurred the Danish world leader in enzymes to enter the market whose volume can be estimated at €50m to €55m. For the time being, the market for lactose-free milk products is forecast to grow at a CAGR of 8%.

Simon Lyndegaard, Director, Food Platforms & Strategic Development Novozymes, told IDM that the name "Saphera" was chosen to highlight a special property of this lactase that derives from *B. bifidum* instead of yeasts as is the case with "normal" lactases. Saphera is active even at a pH of 4.5 and at 42 °C. This makes



(photo: Novozymes)

it possible to produce lactose-free yogurt in a co-fermentation. Instead of having to treat the yogurt milk with lactase, Saphera can be directly added to the fermentation tank. This saves a lot of time, energy and capacity in a yogurt plant. Of course, Saphera can also be used for manufacturing other lactose-free dairy products.

What's more is that Saphera also produces less oligosaccharides. This allows for accurate and easy analytics of the residual lactose content in the product. As Emmanuel Michelot, Business Development Manager, Food & Beverages Novozymes, explained to IDM, the lack of invertase activity when using Saphera has the additional advantage that physical and organoleptic properties during shelf life can be better kept than by any other product on the market.

Novozymes employ a total of 6,600 staff of which 1,300 is working in R&D. Approximately 50% of these have a Ph.D. The company spends



**Emmanuel Michelot: Saphera has the additional advantage that physical and organoleptic properties during shelf life can be better kept than by any other product on the market (photo: Novozymes)**

on average 14% of sales in development. Saphera has been tested by a number of major milk processors before the actual launch.



**Simon Lyndegaard: Saphera can be directly added to the yogurt fermentation tank (photo: Novozymes)**

## Maximum Yield approach Arla Foods Ingredients

Arla Foods Ingredients (AFI) has launched a new drive to raise awareness of the ways in which whey protein ingredients can enable dairy companies to maximise output, increase profits and significantly cut waste. The campaign – called Maximum Yield – highlights how simply adding whey protein to an existing production process with only small or no processing adjustments can significantly increase a dairy's efficiency.

AFI has developed a portfolio of whey-based solutions that offer the benefits of Maximum Yield in conjunction with exceptional quality. These include ingredients from the Nutrilac HiYield range, which will enable dairies make cheese,



Arla Foods Ingredients' Maximum Yield campaign is focusing on two fronts – the elimination of unwanted by-products, and the use of by-products as a raw material (photo: AFI)

Greek-style yoghurt and fermented beverages using 100% of their milk, as well as Nutrilac ingredients that enable processors to turn acid whey into added-value dairy products. In

addition, Nutrilac Softcheese makes it possible to reduce fat in soft ripened cheese by 50% with no loss of creaminess and increase the final yield by up to 20%.

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# POWTECH 2016

Trade fair for processing, analysis, and handling of powder and bulk solids

19 – 21 April, Nuremberg, Germany

The POWTECH event provides a presentation platform for innovations and advancements in processes for the manufacture of quality products made and processed from powder, granules, bulk solids and liquids – also for the food and dairy sector.

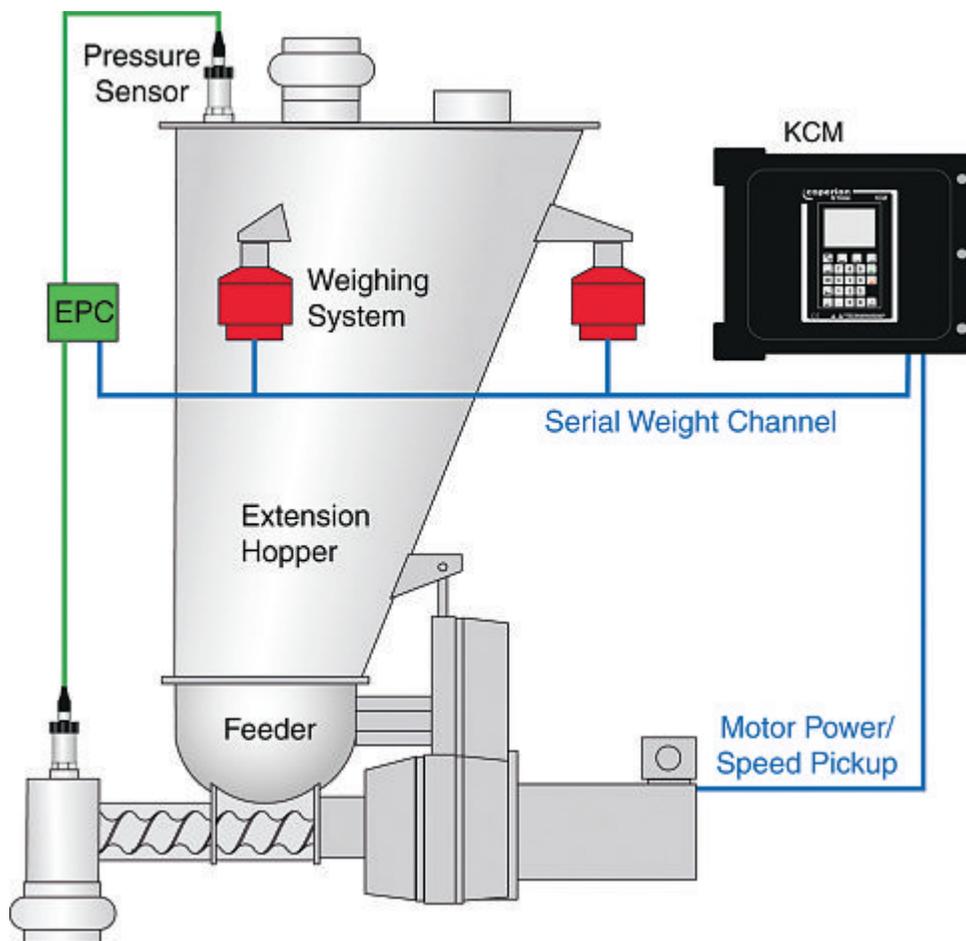
The show will provide a 360° view of mechanical processing technologies, have a clear focus on powder, granule and bulk solids technology and will provide inspirations for tomorrow's processing technologies.

As an international exhibition, POWTECH reflects the trends in the industry through its exclusive focus on mechanical processing technologies. The compact event gives easy access to the leading suppliers of basic processing technologies for powder and bulk solids, plant engineering and processing components, equipment for measurement, control and automation, products for nanoparticle technology, safety and environmental technology, plus services for mechanical processing technologies.

There is a POWTECH app available for smartphones that provides information on all visitors need to know about the trade show. [powtech.de](http://powtech.de)

## Coperion and Coperion K-Tron at Powtech

Coperion und Coperion K-Tron will present a variety of solutions for handling bulk materials in different process steps. In addition to the newly developed ZZB rotary valve and the ZHD ro-



(source: Coperion)

tary valve, which is now also available in Europe, visitors will also be able to see the completely re-designed FFS packaging machine ITL 250. In addition, Co-

perion K-Tron will present its new Electronic Pressure Compensation (EPC) on the booth as well as a batch weighing system. [coperion.com](http://coperion.com)

## Promoting the case for sustainable emulsifiers Palsgaard

After having supplied sustainable palm-based emulsifiers for some years, Danish-based, globally active Palsgaard A/S is now also able to deliver a broad range of emulsifiers based on segregated certified palm oil. "It's been a complicated task as we are using many different ingredient specialties where palm is the originating material, but we are currently expanding our range considerably and we are now able to satisfy most enquiries concerning emulsifiers and specialties based on sustainable palm oil," explains CEO Jakob Thøisen.

Palsgaard has been a member of the Roundtable on Sustainable Palm Oil (RSPO) since 2008, and sees the topic of sustainability as an essential issue for protecting the global environment, upholding biodiversity and providing suitable working conditions for local plantation workers. The company offers sustainable emulsifier solutions based on segregated palm oil within a range of industry categories, including dairy, ice cream, bakery, confectionery and margarine.

### Sustainability at the heart

"Maintaining our lead in emulsifiers requires that sustainability is considered with every step we take," says Jakob Thøisen. "Through sustainability initiatives that include considerable reductions in CO<sub>2</sub> emissions and sustainable sourcing of palm oil, we try to set an example for food manufacturers and raw materials suppliers around the world – and we like to share this extensive experience to provide valuable guidance."

By partnering with Palsgaard, food manufacturers can meet demands for a sustainable business model on palm

oil sourcing. And the company is fielding a growing number of calls from customers who want to know more about the difference between Segregated palm oil and Mass Balance products or find out what it would take for them to become SCCS-certified.

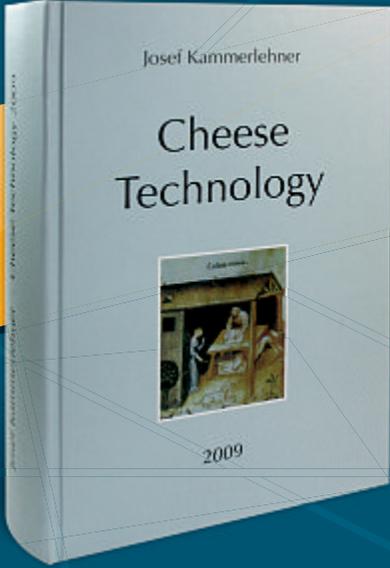
Achieving RSPO SCCS certification is a lengthy process with many different steps, from setting up guidelines for material handling flows in production to documentation of traceability and cleaning procedures in production. And it all varies depending on whether the producer is aiming for MB or SG certification. Food producers will need an implemented and RSPO-approved system for administration of purchases and sales for the MB level, and specific production processes for SG certification.

As Palsgaard is certified according to both levels, the company knows the approval process in intricate detail, making it a valuable source of know-how. To promote knowledge transfer, the sustainable emulsifier producer has provided a contact form on its website [palsgaard.com/sustainable-emulsifiers](http://palsgaard.com/sustainable-emulsifiers)



Palsgaard is now able to deliver a broad range of emulsifiers based on segregated certified palm oil (photo: Palsgaard)

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The long-standing, widely appreciated benchmark book „Cheese Technology“ by Josef Kammerlehner is now available at a reduced price of €109 incl. mail and tax.

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The screenshot shows the website interface with a navigation bar (Home, Milch-Marketing, KÄSE-THEKE, molkerrei-Industrie, IDM, Marktplatz). The main content area features two news articles: 'SIDEL STARLITE™ WINS "BEST ENVIRONMENTAL SUSTAINABILITY INITIATIVE"' and 'Greiner Packaging Develops Yogurt Packaging Specifically for Men'. At the bottom, there is a green advertisement for 'servo driven' packaging technology with the text 'Want repeatable, packaging performance? Get it from the servo driven'.

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(photo: Frischpack)

Frischpack's intelligent packaging solutions  
**Packaging**



(photo: OEA)

Membrane separation processes  
**Technology**



(photo: Lanxess)

Enhanced RO element performance  
**Technology**



(photo: SICK)

High demands placed on level measurement in dairies  
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