

# Mælkeri tidende

TIDSSKRIFT FOR

MEJERIINDUSTRIEN



**Theme: The Nordic Dairy and Supplier Industry**



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Au2mate services the dairy industry from offices in Denmark, Norway, Sweden, Dubai and England.



[www.au2mate.com](http://www.au2mate.com)



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# Nordic Dairy Market - an exciting community

By Lars Winther, editor

These days a year has gone, since the 44th Nordic Dairy Congress was held in Copenhagen, and more than 250 dairy enthusiasts met for three exciting days, focusing on dairy production in the Nordic countries. Once again, the organizers were convinced that, despite various structures and markets, strong professional ties exist between dairies and suppliers in the Nordic countries. Therefore, the tradition of common Nordic Dairy Congresses continues, and the next conference will be held in the spring 2020, with Sweden as host.

However, two years is long waiting time. Therefore, Mælkeritidende in collaboration with dairy medias in the other Nordic countries, respectively Meieriteknisk Forum (Sweden), Meieriposten (Norway) and Maitotalous (Finland) produced this Nordic publication, which is issued in a stock of 2,500 in the four countries.

First you can read about the current situation of dairy production based on the latest figures for 2017. While farmers are still under pressure of structural changes with many closures and consolidations, the dairies largely are doing well, despite increasing competition both in domestic and export markets.

After the review of the countries, you will meet a large number of advertisers, who provide the industry with machines, ingredients and various services. Many of them see the Nordic countries as one big market and have submitted a variety of articles with news, that appeal to dairies in all countries.

We hope that readers as well as advertisers will find interesting content in the magazine, and that this will lead to a chance for additional Nordic themes towards 2020.

Happy reading to everybody. ■

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# Four Nordic Dairy Industries – country by country

In the first pages of this Nordic issue we have collected figures for 2017 describing the national production, import and export. For each country there will be a short presentation of the dairy industry and the supplier industry (except Norway and Finland) – made by a skilled person with knowledge of the national development, who has been asked four questions. In the first page – below – key figures for the main dairies are presented.



## Nordic Dairies, 2017

No.	Country	Dairy	Milk mio. kg	Farmers	Plants	Staff
1		Arla Foods*	4.827	2.675	25	7.069
2		Arla Foods	1868	2625	14	3.151
3		Valio	1.800	5500	12	3150
4		TINE**	1.433	10.478	35	5.476
5		Skånemejerier	428	358	3	645
6		Arla Ingman	220	605	3+7 <sup>1</sup>	590 <sup>2</sup>
7		Norrmejerier	206	379	3	527
8		Mammen Mejerierne	177	85	3	180
9		MS Iceland Dairies	150	600	5	450
10		Falköping/Grådö	142	136	2	117
11		Synnøve Finden***	130	-	5	195
12		Thise	103	71	1	235
13		Q-Meierierne	75	530	2	150
15		Kaslink Foods Oy	70	-	1	170
14		Osuuskunta Maitomaa	70	180	1	68
16		Grådö Mejeri	68	61	1	-
17		Bornholms Andelsmejeri	60	31	1	70
18		Osuuskunta Maitokolmio	46	110	2	85

Table 1: List of biggest Nordic Dairies ranked in relation to yearly milk amount. The figures are based on direct interviews or annual reports from 2017.

\* Arla Denmark - staff at headquarter included.

\*\* Incl. 20 mio. kg goatmilk

\*\*\* Synnøve buys milk from TINE. Norwegian figures = 2016.

<sup>1</sup> 3 own dairiplants – 7 collaborationdairies.

<sup>2</sup> Incl. collaborationdairies

## Nordic dairy structure is stable

The dairies are largely stable in the four Nordic countries with only few closures in recent years. Arla Foods is in its own league as one of the world's largest dairy companies with suppliers in 7 countries. In recent years, the company has increased the milk intake in Denmark, while the milk intake has fallen slightly in Sweden.

The other two big Nordic dairies, Valio and Tine, are solid in their home markets. Finnish Valio still manages to pay one of the highest milk prices to the suppliers in the EU. The company has been under pressure by the Russian embargo, but this has not covered the lactose-free products, which make up a significant part of the Valio production.

Norwegian Tine is challenged by the liberalization of the Norwegian customs related to EU products, and the company seeks to establish a larger production of Jarlsberg cheese in Ireland.

The smaller dairies seem to be solidly founded in all four countries, where Mammen Dairies in Denmark are among the most growth-oriented.



### Dairy production 2017 - Denmark

National (mio. ton)	Production	Import	Export
Butter	57	14	38
Cheese	446	93	382
Drinking milk, cream + soured products	703	48	66
Canned milk/powder	277	52	201



## The Dairy Industry in Denmark

# Production continues to increase



By  
**Jørgen Hald  
Christensen,**  
CEO Danish Dairy  
Board.

### Explain the main changes in national production, exports, imports - over the last 5 years?

The deliveries of raw milk has increased partly due to the disappearance of the Milk quotas in 2015, which means a general increase in the Danish production of butter, cheese, milk powders and fresh products. Except for butter, the export for all products has increased.

In general the trade with dairy products continues to rise, since you also see a higher import of cheese, however the import of fresh products has decreased. The other import fields are unchanged.

### Explain the most important changes in the dairy structure in the last 5 years?

We have again seen a few mergers. Mammen Dairies have taken over Sædager, Søvind and Haarby, and you have seen mergers between Naturmælk and Øllingegaard, and also Arla and Endrup Andelsmejeri. Several dairies have heavy investment plans in many different areas. Arla Foods invests eg. heavily in the area of Milk ingredients

through the subsidiary company Arla Foods Ingredients, and you also see expansion of several cheese plants.

Arla Foods has become a truly international company with owners in several countries.

### Explain the biggest changes in consumer dairy preferences in the past 5 years?

Skyr is a product which has been introduced with great success. Cheese and butter has had a comeback and become popular due to increasing interest in gastronomy and cooking. The consumption of liquid milk is decreasing - partly due to introduction of vegetable alternatives.





## The Dairy Supplier Industry in Denmark

# Danish innovation in foreign companies

### **Briefly explain the main industries - including the 3-5 largest companies in the country?**

Denmark has a more than 150 year history of developing and supplying both equipment and ingredients to the domestic - and export markets. This development has emerged together with the first cooperative dairies established back in the 1880'es. The main companies in Denmark anchored in this long tradition and having significant activities in Denmark today are SPX (American), Tetra Pak (Swedish) and GEA (German). Although not Danish owned anymore, their vast success is based on Danish innovations and well-educated employees holding both academic and technical skills. In the early years it was mainly equipment for heat treatment, centrifugal separation and butter making. Later other technologies like evaporation, drying, cheese making and membrane filtration were added to the long list of Danish innovations and successful sales to the global dairy industry. Also, additives (Chr. Hansen, Danisco/Dupont, Palsgård) like starter cultures, rennet, colors, stabilizers and other products and services (Foss Electric, Eurofins) became a part of the "Danish portfolio". Besides these very big companies many small and medium sized businesses have played a significant role in establishing and branding Denmark as a global competence center for dairy technology.

### **How have these industries and businesses developed over the last 10 years?**

Although some consolidation and acquisitions in the supply industry has been going on over the last decades, I



By  
**Niels Osterland,**  
President of **The Danish Society of Dairy Technology**

still see the industry in general being both innovative and dynamic. Still able to offer new and attractive services to the dairies around the world. Launching of new and smarter ways of manufacturing known dairy products is still the key, but more and more attention is paid to add value by using the various components in milk in new products. Membrane filtration is a good example of a relative new technology, which has changed the traditional understanding of milk processing dramatically. Over the last 10 years more and more attention has been paid to environmental issues like water consumption and – reuse, energy reduction and use of green energy CO2 foot print. The suppliers to the dairy industry has in partnership with the dairies developed and implemented many solutions improving these areas.

All in all it is my impression that the Danish supply industry is as strong as ever and having a positive outlook for the future. The global milk production is increasing as well as the global population is growing and becoming wealthier. This will put a high pressure on the global demand for high quality and healthy dairy products to the benefit of both the dairy industry and the many companies servicing the dairy industry.

At the same time the consumers are less frightened of fat dairy products, which is reflected in an increase in the sale of wholemilk. You also see several new types of milk, where more dairies is having special series with jersey milk .

### **What do the Scandinavian neighboring markets mean for your dairy industry?**

They are of course important trading partners – first of all Sweden, which is the 3. biggest export market for Denmark.



# Open market with more international activities



By  
**Bengt Palmquist,**  
chairman  
Mejertekniskt  
Forum

## **Explain the main changes in national production, exports, imports - over the last 5 years?**

Exports of powdered products between 2011-2015 nearly doubled to over 80,000 tonnes, while imports of yogurts increased marginally to 82,000 tonnes. Cheese imports has increased with a third to nearly 130,000 tonnes.

Raw milk deliveries from farms have been fairly stable at 2.9 billion kg.

## **Explain the most important changes in the dairy structure in the last 5 years?**

The major producers of milk products in Sweden are Arla Foods, Skånemejerier, Norrmejerier and Falköpings Mejeri. Only Norrmejerier and Falköpings Me-



### **Dairy production 2017 - Sweden**

<b>Nationalt (mio. ton)</b>	<b>Production</b>	<b>Import</b>	<b>Export</b>
Butter	16,3	10,4	1,0
Cheese	82,7	132,8	19,0
Drinking milk, cream + soured products	1017,2	132,5	28,8
Canned milk/powder	86,6	20,3	92,6

jeri are wholly owned by Swedish farmers. Arla Foods is a transnational farmers cooperative while Skånemejerier is a subsidiary of French Lactalis.

Besides these, there are several small farm-based dairies only active on their close by markets. Most of them make cheese from cows' and goats' milk.

### **Explain the biggest changes in consumer dairy preferences in the past 5 years?**

Consumers tend to drink less milk but increase their consumption

of yoghurt and cheese. Non-milk alternative is increasing especially among young women.

### **What do the Scandinavian neighboring markets mean for your dairy industry?**

Since Arla Foods is the major player on the Danish and Swedish markets and it is also important on the Finnish market, it is natural that the company has a big impact on these markets. But the other Swedish companies traditionally hold strong positions in the areas close to their production sites.

## **The Dairy Supplier Industry in Sweden**

# Tetra Pak and foreign suppliers



**By**  
**Håkan Andersson,**  
**Sales Manager,**  
**Kemikalia**

Iron and steel constitute an important leg in the Swedish industrial community, where the economy is built around relatively few, very large companies operating globally. One of these is Tetra Pak, which is founded in the dairy industry with packaging and process equipment in most dairy production areas.

Sweden also has several subsidiaries owned by foreign groups, where GEA and SPX have major production and development departments in the country.

In addition, there is a large subgroup of smaller manufacturers who specialize in different technology areas.

### **Ingredients**

The Swedish dairy industry uses several ingredients in the production, and the market is dominated by large, foreign companies:

- Chr. Hansen (cultures, FPC Chymosin, microbial coagulants, rennet etc).
- DuPont / Danisco (cultures etc).
- Kemikalia AB (cultures, rennet/enzymes, microbial coagulants, vitamins/colours, cheese moulds, cheese wax etc.) Distributor for Sacco, CSL.
- Kebelco AB Aromas, emulsifiers, colours, cultures, enzymes / rennet, cheese wax, salts, acids, vitamins etc. Distributor for Chr. Hansen.
- Procudan A / S Ingredients (package, cheese wax and coating etc.).
- CSK (cultures, etc.).





# Valio managed to handle russian embargo



By  
**Petri Linkoneva,**  
Development  
Director of  
the Finnish  
Food Industry  
Association (ETL)

## **Explain the main changes in national production, exports, imports - over the last 5 years?**

Finland's dairy industry, with Valio in front, still manages to deliver one of the highest milk prices in EU to the farmers, though it was hit by the Russian embargo of EU dairy products back in 2014. As a consequence, the Finns experienced a tough development with many farms shutting down. Today the challenge in milk production is the increased fluctuation in global market prices for powder and butter and overproduction in the EU. Peaks in milk oversupply quickly manifest as an increase in cheap imported products in Finland.

In 2017 Valio's domestic net sales remained unchanged, but the international net sales increased by 12.4 percent. Valio continued its growth particularly in Sweden, the Baltics, China and Russia - since the embargo does not concern lactose free-milk products, infant food and ice cream. Also Valio has a cheese plant in Belarus.

## **Explain the most important changes in the dairy structure in the last 5 years?**

Valio is the market leading dairy company. It's 5.500 farmer entrepreneurs delivered 1.837 mio. liters in 2017. That is roughly 80% of all Finnish milk, therefore I mainly answer these questions from Valio's point of view.

Valio has 12 plants in Finland, after closing down three dairies in the recent years.

A new snack plant, Riihimäki, was opened in September 2017 and is the largest single investment in Valio's history.

Number two on the top five list is Arla Foods, who takes about 300 mio. liters from around 650 farmers and has 10 plants. Number 3 to 5 on the list is Osuuskunta Maitomaa, Osuuskunta Maitokolmio and Osuuskunta Satamaito – each with one plant.

## **Explain the biggest changes in consumer dairy preferences in the past 5 years?**

The consumption of milk in Finland has been declining for several years, but Valio has a wide product portfolio and was e.g. one of the first dairy companies to launch lactose-free milks world wide. Lactose-free is a big trend today. Examples of the innovations include ValSa® milk salt, LGG® lactic acid bacteria, lactose-free milk drink production technology, and protein technology. Last year Valio introduced 109 new products to the Finnish market as well as new products to other markets to answer costumers needs.

## **What do the Scandinavian neighbouring markets mean for your dairy industry?**

Valio stands for nearly 100% of the country's dairy product exports. Sweden is an important export market. The most significant product categories are lactose-free products, fruit yoghurts and butter. Arla is Valio's biggest competitor in both the Swedish and Danish markets and across all product categories – in Finland as well as abroad.





### Dairy production 2017 - Finland

National (mio. ton)	Production	Import	Export
Butter	52,6	1,1	34,4
Cheese	86,0	69,7	12,9
Drinking milk, cream + soured products	891,1	46,6	62,6
Canned milk/powder	..	1,0	46,0

.. No published information available







#### Dairy production 2017 - Norway

Nationalt (mio.ton)	Production	Import	Export
Butter	18,2	30	20,2
Cheese	79,7	11,7	10,1
Drinking milk, cream + soured products	551,7	3,0	8,8
Canned milk/powder	11,4	1,0	0,5



## The Dairy Industry in Norway

# Tine looks abroad

### **Explain the main changes in national production, exports, imports - over the last 5 years?**

In Norway, most of the milk and dairy products are produced by TINE, Synnøve Finden, Q-meieriene and Rørosmeieriet. There are also a number of local farm producers who make special cheeses. In the past year, TINE has experienced losing segment shares within several of the major dairy categories, especially in sweet milk, yogurt and sour cream. The cheese sales also decrease for the first time in several years, all though the total consumption of cheese increase. The reason for this is the increased cheese import.

We are pleased to see that TINE has grown both in the sale of acidified and flavored milk, as well as butter. This growth does not compensate for the decline in the larger segments.

Innovations such as Litago® UTEN, a chocolate milk based on lactose-free semi-skimmed milk, is very successful. This is the first chocolate milk on the market with no added sugar or sweeteners.

### **Explain the most important changes in the dairy structure in the last 5 years?**

The board in TINE has decided for the construction of a new Jarlsberg cheese production factory in Ireland. Having undertaken a strategic review of the future export of Jarlsberg from Norway, TINE has decided to invest in Ireland in

partnership with Dairygold in Mogeely, Co. Cork, and to further strengthen the sales and marketing of Jarlsberg in international markets. The rationale for the move is the upcoming World Trade Organisation (WTO) regulation that will require Norway to cut Jarlsberg subsidies.

### **Explain the biggest changes in consumer dairy preferences in the past 5 years?**

“Snacking” is a trend we see is affecting TINEs product innovations. Several analyzes and surveys show that snacking between traditional meals increases worldwide. In Norway, we associate this with eating something unhealthy and not as defined: Everything eaten between meals, or as a substitute for or in addition to a meal. This can be for example muesli bars, smoothies, yoghurt or other small energy fills. In such TINE has launched both Go Morgen Muesli Bars, Cheese Snack and more on-the-go products the last few years.

### **What do the Scandinavian neighboring markets mean for your dairy industry?**

TINE wants growth outside Norway and the Nordic region is a close market in such. TINE sells approximately 18,000,000 kg of cheese in the Danish market annually with a turnover of approx. NOK 90 million. These are not just TINE brands, but mainly Wernersson products. Wernersson Ost AB is one of



By  
**Lars Galtung,**  
konserndirektør  
Kommunikasjon og  
bærekraft i TINE

Scandinavia’s biggest speciality cheese wholesalers. They are turnkey suppliers of cheese and specialise in storage, packaging and processing. They have many strong brands – both their own and others’ – in their portfolio.

USA, Sweden, UK are the three largest markets - present with their own subsidiaries. Jarlsberg is our largest export product with over 16,000 tons per year - and we are aiming for increased growth.

# Au2mate - total end to end Dairy Automation Solutions

Dairy production facilities are becoming larger and more complex in terms of processes as well as applied automation & IT technology. Au2mate delivers high value adding total dairy automation solutions at high quality, timely delivery and right price.



By  
**Klaus Dam**  
Managing Director  
Au2mate A/S

The below profile describes the deliverables from Au2mate as a supplier of total end to end dairy automation solutions.

## Total Dairy Automation Solutions

Today dairy process plants operate 24/7 – 365 days a year. This increases the demand for highly reliable and easily operated automation systems for management, operators and service & maintenance personnel. Total dairy automation solutions from Au2mate

include the core dairy automation, training & technology transfer in Au2mate Academy as well as a comprehensive 24/7 service & package.

## Au2mate end to end dairy automation

The end to end dairy automation includes all processes in the dairy factory from receipt of raw material to delivery of the final product. The dairy automation software package includes standard software building blocks structured according to S88 & S95 covering: control modules, equipment modules and units. Hereby scalability, plant uptime and lowest cost of ownership are ensured.

The end to end dairy automation solutions are based upon products from world leading suppliers e.g. Siemens, Allen Bradley, Wonderware, ABB, CISCO,

Microsoft and are embedding industry 4.0 technologies.

The operator interface and dialogue can be based on the ISA 101 standard which is intuitive, easy to navigate and guides the operator between different process cells, operator actions, manual operations and the alarm system.

Vital data e.g. recipe data, process parameters and software status are available and editable on engineering dialogue pictures, accessible for authorised staff.

The comprehensive user-friendly operator interface ensures efficient plant operation.

The fully integrated optional documentation package accelerates troubleshooting and reduces plant downtime.

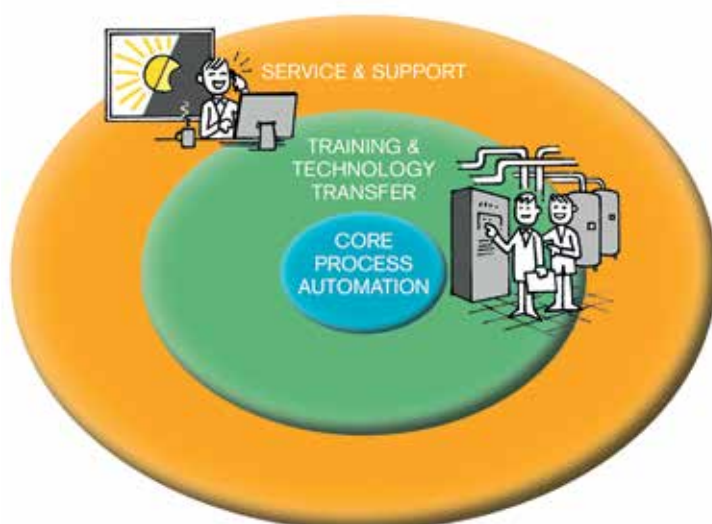
## MES Solutions

Au2mate end to end solutions also include MES applications. MES solutions are implemented in dairy enterprises seamlessly linking orders placed by customers with the final products delivered to end consumers.

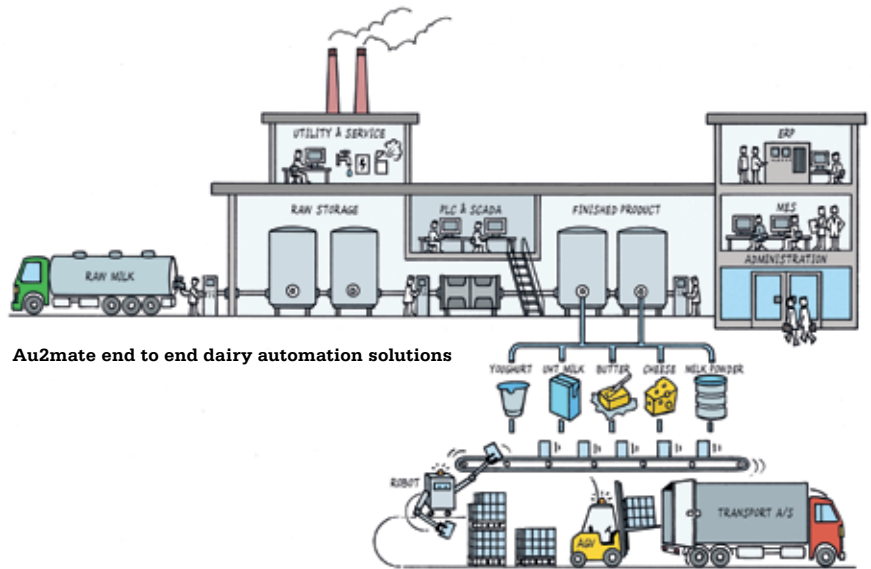
The MES solution ensures full traceability, planning, handling of materials and products as well as data collection and monitoring of production efficiency via OEE.

Au2mate possesses and is concurrently enhancing the core competencies fundamental to deliver state of the art dairy automation systems. Au2mate is offering its services to clients wishing to apply best practise to their

## Total dairy automation solutions







**Au2mate end to end dairy automation solutions**

standard framework. The applications in the framework are engineered according to the customer user requirement specification added with Au2mate dairy automation expertise increasing product yield and production performance.

### **Training & technology transfer**

Total dairy automation solutions from Au2mate include training and technology transfer. Training & technology transfer mainly takes place via Au2mate academy. Au2mate Academy is a knowledge centre for dairy automation that offers education and training of managers, operators and technicians in dairy automation!

The Au2mate Academy is established in modern facilities at our headquarters in Silkeborg DK and holds a class room and a live pilot process plant consisting of: reception, raw material storage, pasteurisation, buffer tanks and dispatch as well as CIP plant.

The pilot plant is built in mini-scale. The plant is designed and built in industrial standard with instrumentation, PLC, SCADA & MES in order that theory and practice can be trained in correlation!

### **24/7 Service and support**

Total dairy automation solutions from Au2mate include after sales service and 24/7 HOTLINE support.

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### **5 quick facts about Au2mate**

- Founded in 2001.
- Delivers total end to end dairy automation solutions.
- Have 100 employees at offices in Silkeborg, Dubai, England, Norway and Sweden holding more than 600 man years of experience in dairy automation.
- Project-oriented, has delivered more than 1600 projects; PLC, SCADA, MES and ERP integration to dairies throughout the world, including Nordic countries, Europe, Middle East and Africa, America and Asia.
- Supply solutions based on open standard platforms and internationally recognised methods for software development and project management.



**Au2mate Academy's training room consists of 5 units: Simulated tanker and milk reception, raw milk storage with mixer, pasteurizer, finished warehouse and one CIP plant. In addition, there is surveillance on energy supply.**

# Bactoforce tightens the rope for Dynamic Tank Inspection



'Rope access' provides access to the ultimate tank test, which provides the full hygienic overview of tanks with Bactoforce's Dynamic Tank Inspection program.

**By Lars Frydenlund, Area Sales Manager**

Bactoforce introduces a Dynamic Tank Inspection program in which inspection frequency and method are evaluated based on risk analysis performed on individual tanks on the customer's premises.

To date, Bactoforce has only inspected tanks from the bottom and 2 meters up, as this is where the biggest load factor occurs on tanks. Based on experience with our Dutch company, Bactoforce Benelux, who primarily only performs full tank inspections, we found that between 5 and 10% of their inspections also detected faults in tanks above 2 meters.

We therefore see increased demand for providing our customers with extra

reassurance concerning the condition of their tanks. By doing so, we can prevent product waste and recalls due to defects that can cause unwanted organic growth.

## Inspection frequency and type

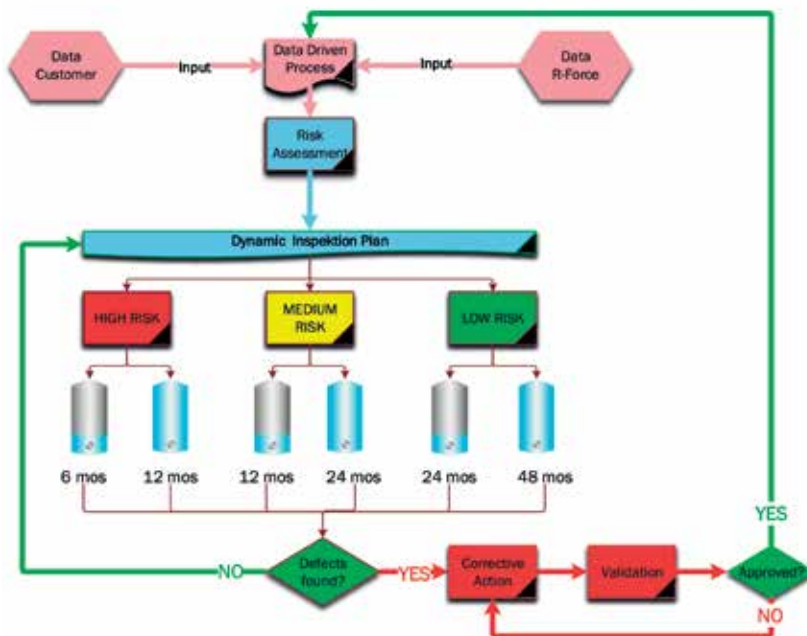
It's important for the customer to find the right inspection frequency - and type. We aim to hit just the right balance to minimise downtime, boost hygiene and cut costs for individual customers.

Bactoforce bases inspection frequency and type on our Dynamic Tank Inspection program, using a risk analysis performed on each tank on the premises of

each customer. Bactoforce uses 'Rope Access' for full-tank inspections. This is a rope-based method for access, protection and work in places with difficult access. One of the advantages of Rope Access is that a full inspection can be performed, including repairs and subsequent validation in just one day. Previously, up to two days could be spent on performing a complete tank inspection using traditional methods.

## Risk analysis of tanks

Risk analysis is conducted in consultation with the customer and is based on the customer's own input on the tank, such as age and product type the tank is used for. Another key factor of the risk analysis is the tank's inspection record. All the inspections we perform are logged in our online database R-Force, which customers also have access to. Based on the inspection record, we



**Figure 1. diagram of risk analysis for tanks**



know the tank's condition - an important factor in risk analysis.

Bactoforce then supplies a complete report to the customer of the tank's hygienic status. Given the risk group a tank belongs to, the customer has a range of prevention options to choose from.

Bactoforce can use this form of risk analysis to provide a service that ensures better monitoring of a tank's hygienic parameters for the customer in a single overview report. Risk analysis also gives recommendations for whether the inspection type should be full tank inspection, or inspecting the lower part of the tank will suffice. This helps improve operating costs for any individual tank. ■

#### About Bactoforce

Bactoforce has a long and successful history within the field of inspecting tanks, spray dryers, pasteurisers, heat exchangers, pipes and other installations for global companies in the food industry.

Bactoforce is the preferred supplier for a number of leading food manufacturers in Europe. With more than 7000 inspections annually, an ISO9001 certification and a dynamic training program for our employees, Bactoforce provides the necessary experience and competence to meet all our customers' needs and comply with the strictest criteria.

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# New test-kit ensures safe milk for everyone

Chr. Hansen and Neogen partnership results in a quick and easy test method to confirm milk is free from toxins and antibiotics.

**By Debbie Spillane Communication Partner, Corporate Communication**

Raptor® is a new analysis platform that helps dairy producers test milk in a simple and easy way. As both consumers and food manufacturers are very conscious of the importance of food safety, the milk that we drink today has passed through numerous quality procedures and checkpoints from farm to fridge. Raptor® is an easy and reliable way to ensure that milk is antibiotic-free.

If a sick cow is in need of antibiotic care, she is removed from the milking herd during her treatment until she is fully recovered. The dairy industry has safety measures in place to ensure that antibiotics do not enter the milk supply, but the measures are not always enough. Legislation requires that all milk is strictly tested for antibiotics throughout the process.

## **Simple and reliable testing**

So how do busy dairy manufacturers ensure that their milk is 100% clean? Chr. Hansen's partnership with Neogen brings the Raptor® Integrated Analysis Platform to dairy manufacturers around the world. Raptor® is a highly automated system, which means it avoids human-related errors and is very easy to use. Raptor® scans test strip barcodes and lot specific QR codes, avoiding the manual setting of test parameters, such as time and temperature. When the test finishes, Raptor® automatically interprets and documents the result,

ensuring that there is no risk of a test running overtime or of a delay resulting in an inaccurate interpretation.

- Raptor® is so easy to use, and helps to simplify and ensure consistency throughout the complex safety procedures in the dairy industry, since the instrument has three independent ports and can assess three different tests per sample, so it is very flexible and can save time during testing, says Jes Jensen, Test and Equipment director at Chr. Hansen.

Fluid front technology means that the camera monitors the tests in real time and automatically starts when the milk enters the membrane. This ensures that the test time remains the same, even if the operator changes. The Raptor® system supports a wide range of file formats and data separators, and is open for data exchange with LIMS systems. The system offers the complete ability to tailor data export tables together with several modes of connectivity.

## **Safe milk for everyone**

The World Health Organization stresses that everyone needs to play a part to ensure food safety – from the farm to production chain, from producer to consumer. But without doubt, the bulk of this responsibility lies with the food industry. Systems such as Raptor® make testing more intuitive and accurate, and give dairy manufactures confidence in

the quality of the milk they produce. In turn, dairy consumers enjoy a safe and delicious product.

## **Digital solutions for the dairy industry**

Chr. Hansen offers a variety of future-focused digital solutions to simplify processes in the dairy industry. The LactoSens® test kit is changing the way the food industry ensures that lactose-free dairy products truly are lactose free. LactoSens® enables in-house testing to measure the concentration of residual lactose in dairy products within minutes. The system secures complete traceability, including batch number and expiry date, to document low lactose / lactose-free claims for every product batch, and comes with an international certification that confirms just how precise the results are.

Learn more about Chr. Hansen's advanced testing solutions at <https://www.chr-hansen.com/en/food-cultures-and-enzymes/test-and-equipment>

### **For yderligere kontakt:**

+45 4574 7474.

[www.chr-hansen.com](http://www.chr-hansen.com)



Senior adviser Svend Jessen and Key Account Manager Karsten Andersen, DSM.

# Small or full-scale solutions for the cheese dairies

DSM has gotten a foothold in the cheese making dairies. Among others as a supplier for Mammen Dairies.

By Lene Mikkelsen Walsh

DSM has been well received and become well known as a supplier of equipment to the cheese dairies, mainly in Scandinavia. Both when it comes to manual equipment and automatic plants.

The most recent full-automatic plant they delivered, was a salting plant for Mammen Dairies – used for production of both square and round cheeses. The facility consists of:

Post-press chain conveyors with CIP technology, salt shelves, a system for wet

filling of salt shelves in cooling water, a system for cleansing of salt shelves and finally chain conveyors for smear processing of cheese and production of rind free cheese.

Concerning Mammen Dairies choice of DSM as supplier of dairy equipment, dairy owner Lars Staunsbæk says:

- Choosing a supplier is a matter of trust to the people who work with the case. The supplier must be aware of the dairy products that we produce and

know how they are treated. The equipment must be designed with regard to hygiene and should be manufactured with a high level of craftsmanship. The equipment must be solid and the servicing of it reliable.

## From Cheese molds to full-scale solutions

In the late 1990s, DSM took over production and sales of the well-known Perfora Cheese moulds, thus gaining foothold





The new salting plant at Mammen Dairies – in front Dairy Operating Manager Jørgen Bertelsen.

lowing equipment to dairies within the last year: A cheese vat of 2000 litres with agitator and press-forming equipment, PERFORA cheese moulds, trolley tables, washing machine for moulds, salting shelves and salt vats. DSM has also made various changes to existing dairy plants.

**Dedicated employees and dialogue**


DSM – which is a contraction of the Danish name Dansk Smede & Maskinteknik A/S – perform design engineering and manufacturing at the factory in Rødding in the south of Denmark. The company has 50 specially trained employees, and the staff take pride in having a good working relationship with their collaborators. The team possesses considerable know-how and expertise and prioritize guidance and dialogue, when a task is to be solved.

in the dairy industry. Today, the dairy projects at DSM fill approx. one third of total annual output - and the proportion is growing, says Key Account Manager Karsten Andersen at DSM. He adds, that the growth is partly due to the fact that the company in 2015 employed Svend Jessen as senior adviser. Svend Jessen has 40 years of experience in the design and supply of equipment for particular cheese factories and has led

several of the current projects within the dairy industry.

In the recent years, smiths and project makers at DSM have designed and engineered technical solutions for many dairies, supplying them with everything from cheese moulds to full scale cheese making facilities.


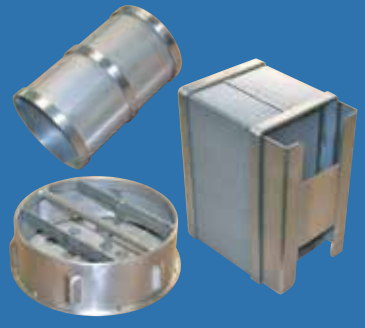
In addition to the earlier mentioned salting plant delivered to Mammen Dairies, DSM has delivered the fol-




## Solutions for the cheese dairies

DSM offer individual solutions for the production of all kinds of good cheeses.

- Cheese moulds, shelves and vats
- Washing and cheese making facilities
- Hygienic design and long durability



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A photograph of a white robotic arm with orange accents, labeled 'JORGENSEN ENGINEERING A/S', working on a production line. The arm is positioned over a conveyor belt with several cans of NAN baby formula. The background shows a clean industrial environment.

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## Cooperation between Nordic dairy employee organisations

Four Nordic organisations have cooperated to publish this Nordic special issue. Mælkeritidende from Denmark, MVL from Finland, Norske Meierifolks Landsforening from Norge (- unions representing different employees in the dairy sector) and Mejeritekniskt Forum from Sweden (- open interest organisation for dairy employees). These organisations started a cooperation after the last Nordic Dairy Congress in 2017. So far the cooperation is about transnational ads in all countries – and also this special issue of Mælkeritidende is a product of our cooperation. Read more about the four organisations here.



### Denmark:

## Mælkeritidende - two associations behind one magazine

Mælkeritidende was established as a professional magazine in 1888 by Danish Dairy Managers Association (FMF). Mælkeritidende was thus a professional journal for dairy-educated. In 1975 the Association of MSc's in Dairy Science and Technology (DMF) became a partner to FMF and got access to the magazine. Mælkeritidende has since that time been a common communication platform for the two organisations and for the dairy industry in general. The magazine is published biweekly and it is the only specialized dairy magazine in Denmark. In addition to the members of the two organizations, the subscribers are suppliers of machine equipment and ingredients etc. Mælkeritidende is also an online media with daily dairy industry news on the webpage and a weekly newsletter. Finally Mælkeritidende, also serves as the secretariat for a number of Danish dairy organizations, including

The Danish Society of Dairy Technology, Dairy People without Borders, various scholarships and funds etc. Since 2016, Mælkeritidende has been a secretariat for the Nordic Dairy Congress, as well as managing the communications agency, Winther Communication, which supply communication expertise and tasks in the dairy industry.

The secretariat is located in Odense and has 6 employees.

### Danish Dairy Managers Association (FMF)

Danish Dairy Managers Association is a 130-year old association for primarily technical management staff in the Danish dairy industry - typically with education as a dairyman or a dairy technician. FMF has its own collective agreement with The Danish Dairy Employers' Association and negotiates or supports working conditions for approx.

900 members, as well as representing members in different contexts, including education, pension, etc.

### MSc's in Dairy Science and Technology (DMF)

MSc's in Dairy Science and Technology was established on April 7, 1932. The association's purpose is to protect and represent the common interests of the members and to promote the dairy industry's professional development.

The members of the association are largely Masters from the University of Copenhagen, Department of Food Science who graduates as MSc in Dairy Science and Technology Other MSc's with equivalent technical and scientific education can also be admitted as members.

The organization has approx. 400 members.

**Finland:**

# Professional Dairy Association MVL

Professional Dairy Association MVL is an organisation for trained specialists and other professionals in the dairy industry, who occupy manufacturing, managerial and specialist positions in dairies. Their duties can be summarised:

- skilled dairy worker, dairy engineer
- manufacturer, laboratory technician
- manufacturing manager
- production manager
- warehouse manager
- maintenance managers
- various other plant management functions
- skilled maintenance worker and supervisor

About 5,000 people work in the dairy industry, of whom just under 2,000 have completed specialist dairy industry training. MVL is the only union lobby-

ing for the interests of dairy industry professionals.

MVL is an active labour market organisation that works with various stakeholders and is also involved in developing training for dairy workers and dairy engineers. MVL provides training for industry students in regulations governing the world of work, and supports them in various ways at Häme Vocational Institute and Häme University of Applied Sciences.

The principal function of MVL is to negotiate terms and conditions of employment, including pay, working time and holidays. The collective agreement determines the minimum terms and conditions of employment that employers must observe. Members enjoy many other benefits in addition to collective bargaining on their behalf. MVL

administers an unemployment fund for members, and negotiates concessionary rates on leisure time accident and travel insurance, discounts on holiday destination packages throughout Finland.

**Facts - Professional Dairy Association MVL**

- established in 1945
- improves and oversees the terms and conditions of employment of dairy industry professionals
- negotiates an independent collective agreement and salary system
- operates nationally and locally
- A total of 3,000 members. 55 per cent are women and 45 per cent are men
- publications: Maitotalous magazine, The Finnish Dairy Calendar
- website in Finnish at [www.mvl.fi](http://www.mvl.fi)



**Norway:**

# Norske Meierifolks Landsforening (NML)



Norske Meierifolks Landsforening (NML), established in 1914, is an organization for dairy professionals and other employees in the Norwegian dairy industry. NML's main purpose is to take care of the members' economical, professional and social interests and to work for dairy educational issues and human resource development.

As an important part of the activity NML also publishes the trade magazine "Meieriposten" (6 issues a year) and "Norsk Meierikalender" (once a year).

NML has approximately 1060 members, mainly in the cooperative dairy industry.

The administration (secretariat) is in Oslo.

**Sweden:**

# Mejeritekniskt Forum



Mejeritekniskt Forum is an association of persons employed in the Swedish dairy industry and companies, which supply technology and services to this industry. The members work with production, research, marketing, etc. and often have a college education. Mejeritekniskt Forum strive to increase the knowledge

and skills in the dairy and milk areas. The association organizes seminars, conferences and study visits with high relevance for the members. It allocates significant amounts in scholarships. The association cooperates with Nordic sister associations. At the meetings, members meet to develop their professional net-

works under social forms. [www.mejeriteknisktforum.se](http://www.mejeriteknisktforum.se) is well visited by the members. On the webpage we offer a news report about the dairy industry in Sweden and in the world is posted. Members can sign up for the newsletter, reporting from study visits, meetings, scholarship reports and much more.

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# Dairy & Suppliers Day



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- Technology
- Product/Quality
- Membrane Technology
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# Aseptic enzyme dosing unit of small quantities – for lactosefree milk production

Making lactose-free milk is simple - in principle: you just have to add some of the enzyme lactase and the problem is eliminated. But the problem lies in the details, especially in the effort to require as little enzyme as possible, due to price, and at the same time and without great trouble, to guarantee perfect sterility in the enzyme addition. Manufacturer GEA has achieved a quantum leap with its variable aseptic dosing station VARI-DOS-ASEPT.

**By GEA**

Lactose-free milk is becoming more and more important in the dairy business, and just in time for this trend GEA has developed an aseptic dosing station for the production of lactose-free milk, which sets GEA apart from previous technologies. When producing Lactose-free milk it is necessary to break down the milk sugar in the milk with an enzyme. Lactose-free milk can basically be produced in two ways;

You can either add this enzyme *before* the thermal process, i.e. mix the milk in the tank, add the lactase enzyme and

then thermally treat the milk to ESL milk and / or UHT milk, and afterwards have the lactose free milk. Here however, you need ten times as much of the enzyme as when it was added only after the thermal processes of the already-treated milk. In the past, the enzyme was usually added before the thermal process.

Or you can add the enzymes *after* the heat treatment, for this GEA has built a small aseptic dosing unit named VARI dos Asept (VDA), meeting customers' requirements:

- For the dosing of small quantities 0,3 g/kg aseptic liquids directly into the aseptic main product
- Extended automatic sterilisation of all installed interface components before the product rinse into the design port
- Total aseptic safely by constant supplied pressurized air in the production mode
- Full automatic controlled dosing before the aseptic tank or direct before the filling machine
- Fully integrated CIP



## **GEA – engineering for a better world**

GEA is one of the largest suppliers of process technology for the food industry and a wide range of other industries. The international technology group focuses on process technology and components for sophisticated production processes in various end-user markets.

In 2017, GEA generated consolidated revenues of about EUR 4.6 billion. The food and beverages sector, which is a long-term growth industry, accounted for around 70 percent. The company employs almost 18,000 people worldwide.

GEA is a market and technology leader in its business areas.

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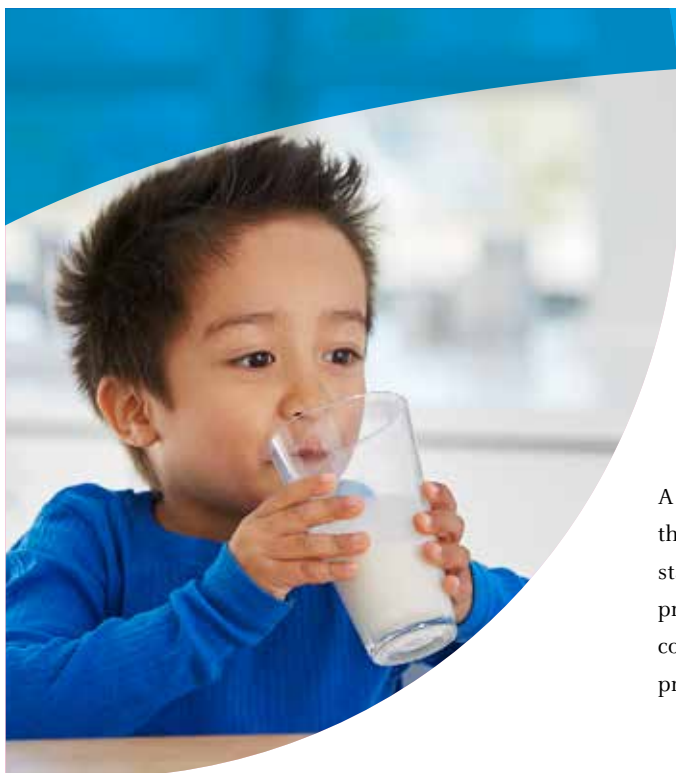
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# INOXPA is offering perfect test facilities

A unique pilot plant enables the customers to understand equipment features and applications, offering functional tests using actual products prior to purchase and installation.

## By INOXPA

INOXPA Skandinavien A/S is the sales and distribution center for all the Nordic countries. We keep a wide range of sanitary flow components, such as pumps, agitators, mixers, filters and valves at the warehouse in Horsens. This way we can give our customers the best professional service, and secure short delivery on all standard products.

INOXPA is a renowned and long-standing business group specialized

in the manufacture and trade of stainless steel components, management of processes and services for different industries. Its commitment to innovation and continuous improvement has allowed INOXPA to enter the global market without compromising its product quality or customer relations.

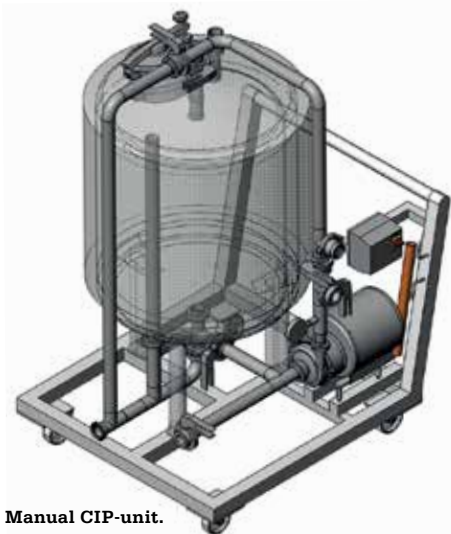
## Test your production

Specifically, the pilot plant responded

to INOXPA's internal and external needs, is forming a key facility within the group's development strategy. The plant is situated in Banyoles, near Barcelona in Spain, and you can get an impression of it in google streetview. On the one hand, it enables our customers to understand equipment features and applications, offering functional tests using actual products prior to purchase and installation. On the other hand, it as-

## Facts about INOXPA

- Established in 1972 in Spain
- Multinational Company with own branches in 15 countries
- More than one hundred distribution points worldwide
- 600 employees all over the world
- 10 employees in the Nordic countries
- Stainless steel process components and fluid handling equipment in the Dairy, Food-processing, Pharmaceutical
- Products: Mixing skids, CIP skids, product recovery systems, pasteurizers, manifolds, process automation, pumps, agitators, blenders, mixers, valves and fittings.
- Pilot plant in Banyoles, Spain
- Mission of being both a local and a global company in the same time
- B2B e-commerce platform



Manual CIP-unit.

sists our R&D team in the development and promotion of pioneering solutions, adapted to the specific needs of a market in constant flux.

The pilot plant re-creates production facilities and conditions in which small production runs are completed, then assessed in our laboratory to confirm results.

We offer similar conditions to those found in pharmaceutical and food manufacturing facilities, catering for a vast range of required tests utilizing our on-site facilities: Continuous CIP, steam generation, heated and chilled water, compressed air and vacuum systems.

Our facility so far has aided our customers in confirming the suitability of INOXPA products in the production of various dairy products. In many cases the product has been improved in areas such as homogenization, emulsion and texture.

Our Research and Development Team find the pilot plant invaluable, the standard tests and trials contribute towards the development of new products and

## INOXPA in the Nordic Countries

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### All around the world

INOXPA has centres distributed all around the world, affording the company great flexibility. This helps to establish synergies which, in turn, balance the

price-quality relationship and allow the group to enter into high-potential emerging markets. This coordination with other countries, in addition to providing more competitive prices, allows the Banyoles headquarters to dedicate more time and resources to innovation, a factor which differentiates INOXPA from its competitors.

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# Specialized in processing viscous product

Tanks and vessels in stainless steel, scraped surface heat exchangers and process units for high viscous products are some of the benefits JH Staal has to offer the dairy industry.

By Lene Mikkelsen Walsh

Founded in 1990, the Danish company JH Staal has 27 years experience in producing stainless steel tanks and vessels. The factory is located in Spentrup in Jutland and has 25 employees, but is soon to expand the workforce, partly due to JH Staal's focusing on heat exchangers and process units for high viscous products.

JH Staal started out producing tanks and is able to deliver in sizes ranging from small process tanks to large outdoor storage tanks. Also pressure vessels where the requirements usually are high

for surface treatment and documentation are a part of the product portfolio. JH Staal's primary customers are in food, dairy and pharma industry. The company has costumers in Norway, Sweden and Denmark.

## Heating and cooling with JH Staal

During the years JH Staal has also produced scraped surface heat exchangers. Rotapro is the name of JH Staals scraped surface heat exchanger. Rotapro is used for heating and cooling viscous



Process unit with Rotapro Scraped surface heat exchanger

products, that can contain particles such as berries, nuts etc. and so up to 30 millimetres in size.

Process units for high viscos product processing, based on Rotapro has become an important part of JH Staal's business. Among others they have designed and delivered units for cooling of Prim cheese (a Nutella / caramel-like product) from 50 to 17°, for cooling of fish soup from 80 to 20° and for cooling of high viscous vanilla cream from 80 to 25°C and Colling of marmalade from 80 to 50°C

The process unit is based on the Rotapro scraped surface heat exchanger with adjacent tanks before and after – the number of tanks depends on the assignment. In addition, it consists of a cleaning tank and automatic vales. The unit is controlled by a Siemens PLC .

## Quality and high skilled employees

Quality and documentations are keywords for JH Staal, when asking owner and manager Lars Sørensen.

Owner and manager Lars Sørensen







Scraped surface heat exchanger: Rotapro

- Also JH Staal puts effort in meeting the costumers' needs from clarification to engineering, he adds.

- Manufacturing of tanks and vessels for environments, which sets special

requirements to hygiene and corrosion, demands engineering knowhow and craftsmanship from start to finish. That is why human resources are central to JH Staal. Competent employees sup-

port at all phases in the process and together with the costumers they find the right solution, he explains.

- Our smiths are certified according to PED requirements, and we have welding procedures for several stainless steel alloys, Lars Sørensen explains.

- Through the production process we control the quality of welding. And finally we follow up on certifications so that we always have full traceability on the products, he says and adds:

- Quality can also be measured in numbers of reclamations, and during the years JH Steel has had an absolute minimum of reclamations.



[www.jhstaal.dk](http://www.jhstaal.dk)

## STAINLESS STEEL EQUIPMENT FOR THE DAIRY INDUSTRY



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# LPK constructs, delivers and now also cleans tanks

LP Kolding has great experience in process optimization within the production of dairy products by delivering tanks to the industry. In addition, LP Kolding has now developed a CIP-cleaning cabin for transportable tanks.

**By Mogens Feld-Andreasen, Manager at LP Kolding**

LP Kolding (LPK) has more than 50 years of experience within construction and delivery of stainless steel tanks - both atmospheric tanks and pressurized tanks for the food industry. Last year at this time we were able to announce, that we had just delivered 30 processing tanks to a new ingredient manufacturing company, and four tanks to a Swedish company that manufactures oat milk.

Latest news this year – apart from business as usual, meaning delivering tanks to all over the world— is the development of a new washing cabin, based on CIP technology (Cleaning In Place) to a German costumer. The cabin is specially designed to clean transportable tanks for food products. The

development has been done in collaboration with a German specialist in CIP plants and in close cooperation with the costumer.

The cleaning cabin provides a full automatic wash both inside and outside of tanks or containers, in a volume from 10 to about 2,500 litres. The washing cycle per tank varies from 3 to 5 minutes.

It is possible to run the wash with different detergents, and the cabin is delivered as a complete CE marked unit with the necessary safety precautions.

## **LP Kolding – the steel tanks**

Apart from the new cleaning cabin, LP Kolding's primary business is construction and delivery of tanks in stainless

steel. Pressure pressurized tanks are custom made with a PED approval in accordance with 2014/68/EU, which enables them to meet current EU safety standards for function, material design, manufacturing process and tests.

LP Kolding has specialized skills within the manufacturing of pressure tanks such as: Fermenters, mixer tanks, graft containers, process tanks, tube heat exchangers, sterilized tanks, tanks for compressed-air as well as vacuum tanks and boilers.

We clarify the requirements for the processing tank in regard to design, number of valves, agitator, cooling-/ heating jacket as well as various applications and measuring equipment.



**LP Kolding has recently delivered tanks to a Swedish costumer in the Pharma industry, finalized with a test for Riboflavin and penetration. During the test the CIP nozzles in the tank are tested for critical areas for cleaning. The photo shows the penetration test.**

## **LP Kolding – the company**

As sub-supplier LP Kolding has manufactured processing plants and tanks for most of the world. We offer customized standard solutions both directly to the customer as sub-supplier to larger plant manufactures or engineering institutions. We are specialists within design, planning, construction, documentation and installation of tanks and processing plants made of stainless steel. The company typically co-operates with the customer starting from when the idea has been presented and until the desired plant has been constructed, installed and is ready for use.

Our business is based on tailor made solutions dedicated to the customer and the co-operation is built on the good dialogue focused on the best solution depending on the design and functionality.

The know-how of the company LP Kolding is founded on its 26 well educated employees, who have the necessary skills ranging from knowledge about planning, welders to technical handling of materials during construction and installation.



Cleaning cabin for transportable tanks.

In addition, we clarify the requirements for strength, insulation and sheeting depending on the location of the tank, and we also handle the final installation and subsequent the documentation.

Complete systems made as units at LP Kolding include: Pasteurizing units, mixer units, fermentation systems, evaporators, powder pumps, drying chambers as well as butter churns and pressure filters, all turnkey units ready for installation at the dairy or wherever they are needed.



Design and manufacturing of stainless steel tanks

More than 50 years of experience

Advice from idea to finished product

LP Kolding, Egtvedvej 2, 6000 Kolding, Denmark  
www.lp-kolding.dk Email: lp@lp-kolding.dk  
Tel: +45 7552 4177



# New conference focuses on sustainable water consumption

International Food Contest / FoodTech offers the opportunity to supplement the trade fair with the new IFC World Congress. The conference will be held the 14th.-15th of November, participants will be offered the latest knowledge about sustainable water consumption, recycling of process water and suggestions for how the food and beverage industry can address its water challenges.

By Isabel Sande Frandsen



Besenbacher participates with Sami Naffakh, Arla Foods VP and Head of Supply Chain.

## Important decision makers with a strategic outlook

An expert group with special knowledge in the purification of process water and recycling of water has been the primary engine of the program development. One of them is Søren Nøhr Bak, Segment Director at Grundfos BioBooster. He is very certain why people should attend the congress.

- The conference has a very high level of key decision makers and opinion makers in strategic perspective of aquaculture in food businesses. We will get an insight into the technical and economic opportunities and an understanding of how this is possible without compromising food safety, which is what the Scandinavian companies are internationally recognized for, he says.

Danish food producers spend 5.5 billion liters of water a year for cleaning pipes, tanks and other equipment in production. Even though Danish food production has grown steadily, leading producers have already significantly reduced water consumption. But the industry wants to go further, so that Danish food production will remain one of the leaders in terms of sustainable water consumption. Fortunately, there are a lot of co-players where both Danish and foreign supplier companies constantly develop new solutions.

When the IFC World Congress brings together producers, suppliers, researchers and authorities - and up to 200 participants - the organizers expect a conference that collects the latest knowledge and prepares everyone for the current challenges of sustainable water use.

The program hadn't been finalized by the deadline of this magazine, but the

organizers have a commitment from Karen Hækkerup, CEO of Agriculture and Food, who is the opening Keynote speaker on Wednesday the 14th of November. And the chairman of the Carlsberg Group, Flemming Besenbacher, is the keynote speaker on Thursday, November the 15th. The conference will end with a panel debate, where

## International Food Contest (IFC)

International Food Contest will take place 13.-15 November in Messe Center Herning (MCH). More than 1,500 dairy products will be rated by professionals with grades and public taste samples for each product. Dairy is the core of the exhibition, but it is continuously expanded with new food categories, most recently meat, poultry, beer, fruit & vegetables, fish and wine. Products can be submitted for evaluation after registration until the end of August. IFC also offers a wide range of events with food at its center, as well as attendees can participate in various lectures and short courses.

A wide range of suppliers with special ties to the dairy industry are part of the IFC.

See more at [www.foodcontest.dk](http://www.foodcontest.dk)



## Foodtech

FoodTech takes place the 13.-15 November and is the most important meeting place for the food industry and its customers in Northern Europe. 300 exhibits are offering 8,000 guests the latest food technology with equipment for all industries. In addition to the many exhibitors and stands, FoodTech allows participants to experience more special events:

- FoodTech Product News & Award - rating of up to 100 submitted product news.
- Tech City - competitions, expert sessions, conferences, exhibitions with the latest technological trends.
- Food Lab - analysis and measurement of food production
- FoodTech Challenge - Food Students prepare solutions for food challenges from different food businesses in operating workshops.

See more at [www.foodtech.dk](http://www.foodtech.dk)

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Furthermore, Søren Nøhr Bak points out that the program will reveal where we are in relation to sustainable water



within production in the food industry. What can be done? And what challenges do we meet?

### **The water's path from research to technology, to industry - and to consumers**

The program is structured, so that participants will be introduced to some of the industry's overall goals for their sustainability strategy and future scenarios. The research community will offer the latest research on water purification, food safety and measurement methods. The industry will show the latest technology in the field and the food industry will show examples of cases where technology has been used to promote sustainable use and recycling of water.

One of the other members of the expert group is Arla Foods Environment

and Climate Manager, Jan Dalsgård Johannesen, who points at several examples, where technology can help food companies with a more sustainable use of water in production:

- We constantly need new knowledge and technology in the field of water. At the same time, it is important to implement this new knowledge and technology in our businesses as quickly as possible. Only this way we will remain a leader in the water area.

The final program is expected to be completed by the end of May. Then the planning committee will announce the program and open up for registrations. But people who are potentially interested are encouraged to mark the calendar on the 14th and 15th November 2018.





# Boost cost savings with production audits

NIRAS' proven methodology for identifying operational improvement initiatives has helped food and beverage players at production sites around the world to cut cost effectively.



**By**  
**Morten Aae**  
**Olander,**  
**Market Director,**  
**Food & Beverage,**  
**NIRAS**

Food and beverage production sites are most often operated with room for improvement due to excessive yield loss or other kind of waste. This can be a consequence of outdated or maintenance heavy production equipment, high energy consumption, new or uninformed staff, sub-optimal production logistics, etc. The financial impact of even minor operational improvements is, typically,

quite significant in the food and beverage industry and is strengthened by the fact that improvements can often be implemented with short payback times.

## **Tailor-made factory audits**

NIRAS has developed a smooth, industry-unique methodology for conducting food and beverage factory audits in close cooperation with factory management and owners. An audit can be tailored to the individual production site in terms of scope and focus area, but the overall approach is always the same: Define, Measure, Analysis, Improve, Control (DMAIC).

The phases Define, Measure and Analysis are typically conducted on-site over a two week period. This work

leads to a management audit report that presents an overview of improvement initiatives. Each initiative is assessed and described in detail both technically and financially: What is the impact of the improvement initiative, what is the cost of implementing the improvement initiative and what is the expected payback time? Is it a complex or simple improvement initiative and what are the risks?

## **Proper planning is half the success**

In close cooperation with the production site management, NIRAS carefully prepares the audit including interviews, equipment and line mapping as well as mid-term and final reporting. Steffen

Wissing, Business Consultant and experienced auditor at NIRAS, explains:

- Half of the success is secured through the people working on the plant in combination with our own observations. This is a comprehensive data collection process and alignment of understanding that requires all parties to have a clear plan for the audit and to know exactly what to do. The other half of the success comes from a well-proven tool kit operated by the right handful of subject matter experts.

For reporting, all improvement initiatives are summarised, and the total potential saving and total required investment are identified and presented. This enables site management to prioritise the improvement initiatives and make an implementation plan. Typically, the implementation of initiatives runs 6-24 months following the audit (Improve phase), and the improvements are monitored going forward (Control phase).

### Full success through a multi-disciplinary approach

Over the years, NIRAS has conducted production audits on all continents where food & beverage production takes

place. Not two audits are the same; producers have different plants and focus areas. However, an audit scope typically includes Support functions, Logistics, Utility, Process lines, and Packaging.

Rolf Pedersen, Expertise Director at NIRAS, says:

- We always open a thorough dialogue with our customers, before we conclude an audit scope. It is vital for the outcome of the audit that the scope and focus is customised to meet the customer's exact needs. NIRAS is able to fit the audit to the individual customer while taking into account that to succeed, the audit most often will become a multi-disciplinary exercise that requires a high level of expertise in many areas of food production. This is one of our unique forces.

### Historically, we have always identified improvement potential

NIRAS has over the last decade developed and refined the production audit service. Though we cannot guarantee a financial benefit of the identified improvement initiatives, the many production audits that we have conducted

### NIRAS

NIRAS covers all disciplines as consulting engineers and has its headquarters in Denmark. The company has approximately 2,200 employees and holds offices in 27 countries with Sweden, UK and Norway being the largest ones outside Denmark. NIRAS is one of the leading engineering consultants to the Food & Beverage industry globally.

Contact: +45 4810 4200  
www.niras.com



throughout the years, globally, have always shown significant improvement potential.

Steffen Wissing says:

- We focus on delivering improvement initiatives with tangible cost savings and payback in our audit reporting. In one of our recent audits, we managed to identify savings of 5 million Euros per year based on an investment of 8.2 million Euros. The savings were related to 7 improvement initiatives.

The improvement findings of an audit are presented in the audit report where each initiative is presented individually so that the initiatives subsequently can be handled and implemented individually.

NIRAS production audit has proven to be an efficient method for identification of improvement initiatives. ■

#	Improvement initiatives	OPEX Savings	Capex Investment	Estimated payback time
1	Waste Water Reduction	233,800	225,000	1,0
2	Cleaning Optimisation	55,500	76,500	1,5
3	Heat Recovery	1,484,400	2,015,000	1,5
4	Automation Initiatives	1,100,500	1,900,000	2,0
5	CIP Upgrade Initiative	1,885,000	3,350,000	2,1
6	Electricity Metering	170,800	340,000	2,4
7	Raw Material Handling	150,000	315,000	2,5
<b>Total Euro</b>		<b>5,080,000</b>	<b>8,221,500</b>	<b>1,9</b>

The table shows improvement initiatives from a recent production audit conducted with a European beverage producer. The overall savings are 5 million Euros against a total investment of 8.2 million Euros.



# Taste can build a bridge

Indulgence and authenticity – two comprehensive words, however important. Consumers would probably say “it tastes really good” and “this one has a special character”. To innovate the next cheese, dairies should co-create new ideas with strategic partners. It is about activating all knowledge and ideas from the supply chain, speeding up the time to market!

It is possible to copy products that have already penetrated the market. One can also stick to the current portfolio of strong product brands. By keeping up to speed with the latest trends and innovative perspectives, the strategic direction can be confirmed - or challenged!

Procudan is an expert in ingredients and packaging for food, and we believe that value is co-created. We enjoy bringing food people together and to facilitate future business possibilities. Legal

formalities are put away by a secrecy or non-disclosure agreement. And now generation of new ideas, brain storming, trend presentations etc. can begin.

One of Procudan’s strategic partners is Royal CSK who are dedicated to help food producers respond to trends with distinction and success. Royal CSK’s position is captured in its tagline, ‘Taste can build a bridge’ – an expression of the Dutch company’s resolve to make a difference on the global dairy market as a competent team of taste makers and

bridge builders, working closely with customers to co-create dairy products that will indulge consumers.

– In today’s cheese industry, flavour and taste differentiation remain one of the key drivers, explains Marketing Manager Christian Hemmer.

– Royal CSK’s experience in this area is unmatched. We are regularly presenting new products under our Flavour Wheel™ concept.

Royal CSK also produce bio-protective cultures under our own brand name Dairy Safe™. This trade mark offers manufacturers protection against late blowing defects without the need for using preservative additives.

– The Dairy Safe™ concept fits in perfectly with the on-going natural and artisanal cheese trend and also fits in with semi hard Goat’s milk cheeses, says Hemmer and adds:

– On top of that, this product range



not only has a protective functionality against unwanted Gram-positive bacteria and spore outgrowth. It is also used in award-winning cheeses every year.

### **Appetite for growth**

Royal CSK's significant investments over the last few years confirm the company's appetite for growth. After opening a new cultures factory in Leeuwarden, the Netherlands, Royal CSK also founded a new innovation centre on the University of Wageningen's food campus – Food Valley – in the summer of 2017. Royal CSK's market-driven innovation cycle is picking up speed, with many promising new products in the pipeline ready to enter the global market in the years ahead. This year's investment will be a new warehouse for frozen starter cultures, a project that underlines Royal CSK's strategy and ambitions.

### **Milase® Premium coagulants**

Royal CSK was founded over a century ago with the aim of guaranteeing high-quality rennet supplies to the Dutch dairy industry. Over the years, the customers' demands have led Royal CSK to expand its portfolio to include cultures with very specific properties as well as other relevant dairy ingredients.

– Our interest and expertise in coagulants remains vital, says Hemmer.

Royal CSK was the first to introduce a new class of non-GM derived microbial coagulants that in contrast to the currently used microbial coagulants can really give the same flavour and texture performance as chymosin also in longer ripened cheese. Royal CSK worked side by side with customers to demonstrate that their Milase® Premium indeed lives up to its claims. Milase® Premium introduces a new era in coagulants that meet modern demands. When it comes to

preferences like kosher, halal, vegetarian, organic or VLOG, Milase® Premium is the answer.

### **High-quality cheeses demand high-quality solutions**

In dairy performance, the quality of cheeses and whey is instantly recognizable.

– Our yield proves that we meet the highest quality standards. The flavour and texture of fresh, matured and soft cheeses are of the highest level. They are excellent examples of how taste can build many bridges – between demands and desires, between the past and the future, and, ultimately, of course, between people eager to enjoy great flavours together, says Marketing Manager Christian Hemmer. ■

[www.cskfood.com](http://www.cskfood.com)  
[www.procudan.com](http://www.procudan.com)



We are experts in ingredients and packaging for food,  
and we believe that value is co-created!

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# Probably the best NIR solution in the world

Q-Interline is offering analytical solutions for at-line, lab and online applications to the dairy industry

By Per Sand, BU Manager Nordic, Q-Interline

For more than 20 years Q-Interline has offered high-end analytical solutions for the dairy industry based on industry leading FT-NIR technology. With headquarters in Denmark, Q-Interline is offering analytical solutions for at-line, lab and online applications:

- InSight Pro – New online concept for process applications
- DairyQuant – Unmatched analysis performance for lab and at-line applications

From our many years of experience, we understand the need and requirements of the dairy industry from quality control to process. This combined with our close cooperation with leading Dairy Groups has resulted in our new InSight Pro product line - probably the best NIR solution in the world.

## InSight Pro – Controlling your process has never been easier

Production sites in the dairy industry are all facing the need to increase productivity and raw material utilization in order to stay competitive. At the same time, they need to minimize waste and re-work and produce within specifications and legislative limits. In order to achieve these objectives, the production sites needs to monitor and control the process.

Online NIR solutions are gaining growing popularity as a powerful tool to continuously monitor important parameters in production processes.

InSight Pro FT-NIR concept from Q-Interline is the newest generation online NIR solution. It combines the advantages of FT-NIR technology, with ease of use and low cost of ownership. The new generation FT-NIR spectrometer has no scheduled maintenance on the hardware and hence does not require neither annual change of light source nor change of laser unit.

InSight Pro will analyze most types of dairy products for important parameters. The high analytical performance of InSight Pro makes it ideal for analysis of standard parameters like fat, moisture and protein, but also ideal for analysis and low signal components e.g. salt.

InSight Pro is designed to be installed directly in the process. The spectrometer is placed in an IP65 stainless steel

### Contact us to learn more

Contact Q-Interline if you wish to learn more about InSight Pro for online analysis or DairyQuant product line for lab and at-line analysis.

### Q-Interline A/S

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Web: [www.q-interline.com](http://www.q-interline.com)

cabinet, protecting it from influences from the surroundings and providing stable analyzer conditions. Results are presented on a touch screen monitor placed in an IP65 cabinet directly at the production line where the results are needed.



InSight Pro online solution for butter analysis



InSight Pro can be equipped with optimized sampling cells and probes, all fulfilling strict food safety requirements and regulations. You can connect up to two measurement points to the same InSight Pro analyzer, giving you more flexibility and more attractive economy compared to one-point analyzer systems.

Probes and cells are available for analysis of e.g. butter and spreads, cheeses, powders, liquids and many other types of dairy products.

**InSight View user interface offers fast overview to operators at the process line**



### Secure return on investment and high value throughout the analyzer lifetime

Installing an online analyzer provides obvious advantages for the production, but it also requires a strong project and implementation plan, allocation of local resources and education of customer personnel. To provide an efficient implementation, fastest possible return on investment and to secure that the customer organization is ready to take over the InSight Pro installation, Q-

Interline offers a well proven project plan based on our experiences from many online installations.

InSight Pro has no scheduled maintenance on the hardware, but only a well-calibrated and maintained online NIR analyzer will provide high value throughout the lifetime of the solution. To support local resources in this process, Q-Interline offers various levels of support concepts for InSight Pro.

With a support agreement, you can let Q-Interline monitor the application, hardware and perform calibration updates if needed. Support agreement also secures software updates, short response times, free phone and e-mail support etc. Signing a support agreement will enable you to focus on other more important tasks, knowing that the InSight Pro is running at optimal performance.

## Probably the best NIR solutions in the world

- No annual lamp change
- No analyzer maintenance
- Best signal to noise ratio
- Same calibration models for lab and process
- Automatic application and hardware surveillance
- 3 years full warranty

Controlling your process has never been easier

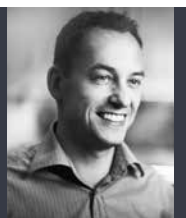


*Value through insight*

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# Reliable water treatment for the food and beverage industry

Danone Ukraine, a large international manufacturer of dairy products, and the company RUD, a leader among the Ukrainian producers of ice cream, are both realizing the benefits of reliable water treatment from SILHORKO-EUROWATER.



By  
**Jens O. Gjerløff,**  
**Marketing**  
**Manager,**  
**SILHORKO-**  
**EUROWATER A/S**

One of the most important issues within the food and beverage industry is a reliable daily supply of the desired water quality and quantity. It is vital for ensuring high-quality products as well as dependable production with no downtime. The focus of Danone Ukraine is to follow extremely high international standards providing the best dairy products for the Ukrainian market. And the aim of RUD is to ensure high water quality to produce one of the best ice creams in Ukraine.

Designing, manufacturing, delivering, and servicing water treatment plants with high reliability of operation is EUROWATER's mission. In other words, what these two compa-

nies wanted characterizes exactly why EUROWATER is here: "We treat water" - and have been doing so since 1936. That is more than 80 years of proving the quality of our solutions, confirmed by a very high repurchase rate from existing customers.

## Pre-engineered filtration units for RUD, Ukraine

The Public Joint-Stock Company "Zhytomyr Butter Plant" - known as RUD is an industry leader among the Ukrainian ice cream producers. "Ice Cream No. 1" is not only considered to be the publicity slogan but also the goal of the company's activities.

A reliable supply of 2 x 25 m<sup>3</sup>/h of clean water was needed for several purposes; ingredient water for the ice cream production (mixing with dry milk), water for rinsing and water for push-out between production batches.

The raw water is municipal water sourced from a river. Therefore, to secure a good inlet water quality the first

treatment step is to treat the water for mechanical impurities. This is done in pressure filters designed and manufactured at one of EUROWATER's own vessel factories. The filters are quite unique in design, offering very efficient backwashing for continuous and trouble-free operation.

The second treatment step is nanofiltration. Nanofiltration is a membrane technology, which is constructed and operates like reverse osmosis, but only retains divalent ions and larger molecules. It leaves some hardness in the water, which is a requirement for this specific application. The technology operates with a lower pressure than reverse osmosis (RO), typically less than seven bar, resulting in a lower energy consumption per volume of treated water.

The delivery included several units: pressure filter, dosing units, nanofiltration units, CIP unit, and central PLC control cabinet. The scope of supply included installation and start-up, undertaken by the EUROWATER sales and service team in Ukraine.

## Custom-made reverse osmosis unit in sanitary design for Danone Ukraine

The products for RUD were pre-engineered, meaning that they were selected from a catalogue of standard units based on the requirements. The EUROWATER modular-built standard system includes all necessary documentation such as certificates, instructions manuals, and spare parts lists. Danone Ukraine wanted a solution that was not directly available in the standard product range; a reverse osmosis (RO) unit in sanitary design and equipped with a selection of customer-defined measurement equip-



Complete water treatment solution based on pre-engineered EUROWATER units for RUD, Ukraine.

ment following the very high Danone standards for all components.

The production needed a reliable supply of 12.5 cubic meters of demineralized ingredient water per hour.

The supplied RO unit is custom-made for Danone Ukraine. The horizontal pressure vessels holding the membranes as well as the pipe system and valves are in stainless steel, quality AISI 316L. The unit also includes a UV disinfection unit as well as a cartridge filter on the inlet, and is equipped with a range of very high-quality instruments for measuring flows, conductivity, and redox. The inlet water for the RO unit is pre-treated in existing sand filters and ultrafiltration units.


In addition to the RO unit the solution includes a CIP unit for the RO as well as installation and start-up. The unit has been supplied to the Danone facility in Kremenchug, 300 km south-east of Kyiv and is ready to be installed, again by the EUROWATER sales and service team in Ukraine. A factory acceptance test (FAT) has been performed in Denmark before delivery. ■

### Pure water treatment since 1936

SILHORKO-EUROWATER has more than 80 years of experience within the fields of developing, manufacturing, selling and servicing complete water treatment plants for the food and beverage industry, heat and power plants, waterworks, hospitals and other industries. The main applications are product water, boiler water, process water, cooling water, rinse water and drinking water. SILHORKO-EUROWATER has almost 400 highly qualified employees at 23 sales and service offices around Europe. For more information, please visit [www.eurowater.com](http://www.eurowater.com)




EUROWATER custom-made reverse osmosis unit in sanitary design for Danone Ukraine.



**Reliable water treatment**  
– for the food and beverage industry

Safety, product quality and running costs are important issues in food and beverage production. EUROWATER has decades of experience in dimensioning, producing, installing and servicing water treatment plants for a demanding industry.



Find your local EUROWATER sales and service office  
– visit [eurowater.com](http://eurowater.com)

**EUROWATER**  
PURE WATER TREATMENT



# SPX FLOW – your Dairy Processing Expert

Mixing, cavitation, separation or spray drying - SPX FLOW offers revolutionary technology in every dairy product field.

**By Irene Constantin, Marketing Communications Manager**

As consumers demand a more diverse range of healthy, nutritious and fresh-tasting products, dairies must be able to develop and produce innovative, high quality offerings in order to remain competitive. The extensive experience, advanced technology and world-class testing facilities SPX® FLOW offers in dairy processing, means it can help dairies reach and exceed their goals in terms of quality, flexibility, agility, cost and sustainability.

## **Cavitation and vacuum mixing**

Examples of its revolutionary technology include the APV® Cavitator, which offers breakthrough performance in mixing, scale-free heating and product conditioning using controlled, hydrodynamic cavitation. Also, the cleverly designed APV Flex-Mix® Instant vacuum mixer, which uses a bottom-fed system to improve wettability and dispersion characteristics of even difficult to mix

powders. Its superior, high shear mixing performance creates desirable product characteristics with small, narrow particle distribution.

## **Separators, spray dryers, heaters**

Additional technology offered by SPX FLOW includes its Seital® separators, which are not only engineered for excellent performance but also for easy installation and, with high dynamic stability, exceptional mechanical reliability. Anhydro® spray dryers are yet another offering which are carefully designed to protect nutritional value of powdered products such as Infant Formula. SPX FLOW also manufactures a wide range of highly respected plate, tubular and scraped surface heat exchangers; steam infusion and injection UHT systems; hygienic valves, and a full range of pump solutions.

## **Global service**

SPX FLOW solutions are supported by a global service network. World-leading Innovation Centres, equipped with state-of-the-art technology and processing experts, ensure dairies get the results they need from their processes with agility and innovation to create leading edge products. Whatever the process, SPX FLOW works with its customers to ensure high quality, sustainable and cost-effective solutions to meet the demands of the modern dairy producer.







**SPX FLOW Innovation Center in Soeborg**



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**About SPX FLOW, Inc.:**  
 Based in Charlotte, North Carolina, SPX FLOW, Inc. (NYSE:FLOW) innovates with customers to help feed and enhance the world by designing, delivering and servicing high value solutions at the heart of growing and sustaining our diverse communities. The company's product offering is concentrated in rotating, actuating and hydraulic technologies, as well as turn-key systems, into the food and beverage, industrial and power and energy end markets. SPX FLOW has approximately \$2 billion in annual revenues with operations in more than 30 countries and sales in more than 150 countries. To learn more about SPX FLOW, please visit [www.spxflow.com](http://www.spxflow.com).



**Sustainable Solutions for Tomorrow**



As a leading supplier to the food, dairy and beverage industries, SPX FLOW offers a comprehensive portfolio of flexible, cost-effective and sustainable process solutions which play an important role in helping to meet the rising global demand for high quality nutritional products.

From specialized fluid handling equipment to complete system packages, SPX FLOW solutions are designed to achieve the most out of your products.

To learn more, contact us today at [ft.enquiries@spxflow.com](mailto:ft.enquiries@spxflow.com) or visit us at [www.spxflow.com](http://www.spxflow.com)



- >Anhydro
- >APV
- >Waukesha Cherry-Burrell
- >Gerstenberg Schröder
- >Seital Separation

By Tetra Pak

# New energy saving technology for separators



Tetra Pak® Separators with Encapt™ technology slash energy consumption by 40% due to low friction and low-pressure technology.

Tetra Pak has reduced the energy use of its separators by 40%, by incorporating a breakthrough pressure management technology, Encapt™, into the systems' design. The Encapt technology lowers the atmospheric pressure around the spinning bowl using a low-pressure pump, and the system is supervised by sensors that keep air friction minimal. Less friction means less energy required. Encapt is combined with a unique Air-Tight design inside the bowl, where the whole system is hermetically sealed to ensure no air enters. With the inlet at the bottom, and the outlet at the top it saves the centre for outlet flow, and so requires less energy. These two techno-

logies together make the machines the most efficient on the market.

- We want to help customers meet the challenge of achieving superior product quality with lower operational costs, and a lower environmental footprint, says Ulrika Rehn, Tetra Pak Product Manager. Most commonly used to separate milk or whey – the Tetra Pak Separators with Encapt technology, when paired with AirTight technology, offer incomparable energy savings.

- Designed with built-in operational flexibility for different speeds and flow rates, customers can use the same line for different products, and achieve higher energy efficiencies than any other

model available. In fact, they can save around 4 Million kWh during the machines' lifespan, she says.

Speaking at the time of the announcement, Holger Lüers, General Manager at Müritz Milch GmbH, within DMK group, Germany explains:

- This is a sophisticated combination that really works. The AirTight technology ensures energy efficient separation and a flexible flow rate to the line during a production run. Plus, the additional energy savings brought by the low-pressure technology is a real bonus.

More information: [www.tetrapak.com](http://www.tetrapak.com)

## About Tetra Pak

Tetra Pak is the world's leading food processing and packaging solutions company. Working closely with their customers and suppliers, Tetra Pak provides safe, innovative and environmentally sound products that each day meet the needs of hundreds of millions of people in more than 160 countries. With more than 24,000 employees around the world, Tetra Pak believes in responsible industry leadership and a sustainable approach to business. The motto, "PROTECTS WHAT'S GOOD™," reflects the vision to make food safe and available, everywhere.

## CONTACTS IN NORDIC COUNTRIES:

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Phone: +45 40201024.  
Mail: [Rasmus.Bagger@tetrapak.com](mailto:Rasmus.Bagger@tetrapak.com)

# ENCAPT™ TECHNOLOGY INSPIRED BY SPACE!



The further away from Earth, the thinner the air. Gravity pulls down molecules in the atmosphere, making the air gradually denser closer to the ground. The more molecules, the higher the air pressure.

In space, there are almost no molecules. If you threw a ball, it would just keep on going.



Aircraft cruise at 35,000 feet because air is thinner at high altitudes, making travel more fuel efficient.

Water is even more dense. Try aqua-dancing, and you'll get it.



We utilize this phenomenon in our Tetra Pak® Separators. To make the bowl spin more easily, we have lowered the pressure around it.



# MEMBRANE DIAGNOSTICS HAS NEVER BEEN EASIER.



## Tetra Pak® Membrane Scope

- No dismantling required
- No downtime
- No unneeded membrane replacement

The Tetra Pak® Membrane Scope is safe and easy to operate and will have your membrane system up and running again in no time.

Contact us for more details.

**Moving food forward. Together.**

Tetra Pak Filtration Solutions

Phone +45 8720 0840

[filtration.info@tetrapak.com](mailto:filtration.info@tetrapak.com)

[www.tetrapakfiltration.com](http://www.tetrapakfiltration.com)







By Tetra Pak Filtration Solutions

# New Tetra Pak® Membrane Scope delivers innovation in membrane filtration leak detection

First-of-its-kind diagnostic tool decreases downtime and maintenance costs for spiral-wound membrane filtration systems



Tetra Pak's expert center for membrane filtration is Tetra Pak Filtration Solutions, located in Silkeborg Denmark and Champlin MN USA. A world-leading hub for advanced liquid separation solutions to the global food & dairy industry, we offer an unmatched range of filtration processing solutions for value-added products and optimized process economy.

For more information, visit [www.tetrapakfiltration.com](http://www.tetrapakfiltration.com)

The Tetra Pak® Membrane Scope made its official debut at this year's International Cheese Technology Expo in Milwaukee, Wis. Using a waterproof recording video inspection camera and a 20-meter-long probe to visually identify the source of failure, the patent-pending Tetra Pak Membrane Scope provides visual confirmation of the source of poor permeate quality and product loss in spiral-wound filtration systems.

- No one likes to see cloudiness in the permeate because that typically means product loss and a labor- and time-intensive process of replacing membranes and shipping them back for warranty claims, says Tim Eilrich, market area leader and lead engineer in the development of the Tetra Pak Membrane Scope.

- Now, with the Tetra Pak Membrane Scope, a process that used to take hours and involve lots of heavy lifting can be

accomplished in 5-10 minutes—and without machine downtime or unnecessary membrane removal.

Tetra Pak Membrane Scope allows filtration system operators to visually identify the precise location of failure while the system is in production, eliminating the need for shut-down and the additional, unnecessary work of uninstalling and reinstalling the membrane. This streamlined diagnostic process delivers reduced costs associated with product loss, equipment down-time, operator intervention time and unnecessary element replacement.

## Contact

Tetra Pak Filtration Solutions  
Bergsøesvej 17, 8600 Silkeborg, Denmark  
Phone: +45 8720 0840  
[filtration.info@tetrapak.com](mailto:filtration.info@tetrapak.com)

# 70-years' experience in customer-driven innovations

TREPKO delivers full packaging lines with different types of unit packaging and a great variety of end-of-line solutions. Among our latest releases we have an integrated system for product mixing and filling and a double indexing feature in rotary machines and further development of aseptic machines.

By Piotr Lisewski, Msc Eng, Development Director, TREPKO Poland  
Agnieszka Libner, Msc MBA, Managing Director, TREPKO Poland.

For more than 70 years TREPKO has had a very special attitude to the packaging innovations for our customers. Their common feature is the fact it's customer-driven. The TREPKO's vision of the innovation process is always based on the customers' visions and specific goals that must become embodied in the form of a new product, new packaging or a new process.

TREPKO's activity concentrates on

two innovation types: process innovation and product innovation, which are closely connected which is treated as a sequence within the same project. Very often, new market possibilities can even be multiplied thanks to an investment in TREPKO's equipment and flexibility.

Recently, a number of interesting new solutions that illustrate the TREPKO's innovation policy have been introduced.

## **A new system for mixed product filling**

Thanks to a new dosing system, rapid flavour change is made possible. It's a Small machine in respect of footprint dimension which is prepared for fast short batches, which gives the possibility to prepare a huge variety of flavours to be produced with minimum product, water and media losses.

Smart product delivery installation is based on two dosing systems, one for white mass, and the other for e.g. different flavours of fruit with separated CIP system. The measured flavour is injected into the pipe coming from the main hopper. White mass and fruit is delivered through the mixer by the main dosing system into containers. A dynamic mixer, mixing two components together. The speed of the dynamic mixer is adjustable from the HMI touch-screen panel, by this design a perfect mixing result is guaranteed.

For flavour change the automatic CIP manifold and the main dosing pump is activated, thereby it is possible to flush the dynamic mixer and the dosing cylinders, at the same time keep the white mass in the main hopper. Additionally it is a huge reduction of fruit as well as the white mass waste with a guaranteed reduction of the changeover time.

## **Double-indexing rotary and in-line machines**

Another perfect example of customer-



driven innovation is represented by a number of delivered filling machines with a double-indexing feature. Thanks to this feature, different product and packaging combinations are being filled at the same time. Such solutions are based on a modern driving technology.

Using two different packaging types on the same machine and at the same time does not limit other machine functions, such as additional dry fillers. These types of machines are very popular both in the rotary and in-line versions.

### Ultra-Clean and Aseptic solutions

The consumer requirements of the product safety keeps growing, and a failure to meet them can be very expensive for a dairy producer. TREPKO is ready to share this responsibility and therefore pays special attention to further improvement of the hygienic features of the filling machines. Both rotary and in-line machines are delivered today in the Ultra-Clean standard with packaging sterilisation. At the same time, the



Double Index Rotary Filler

TREPKO's dedicated team can offer in-line aseptic machines with a proven sterilisation efficiency, which has been certified by an independent laboratory with the killing rate level of log 5, 9.

### TREPKO's premises

These are very few examples of the TREPKO's innovation potential. During the past years TREPKO has grown not only in numbers, but, first of all,

in capabilities. Today we are ready to deliver full packaging lines, including both different types of unit packaging and a great variety of end-of-line solutions. All of this is available from the TREPKO's own premises with technical support included.

Thanks to these possibilities TREPKO is prepared not only to deliver packaging machines, but assist at implementing the boldest customer-driven innovations. ■

# Technology for your ideas



**TREPKO A/S** Energivej 30, DK 2750 Ballerup Tel.: +45 43 99 22 44 Fax: +45 43 99 26 55 [trepko@trepko.dk](mailto:trepko@trepko.dk)



# More than just a pump

Are you looking for a novel positive displacement pump for your shear sensitive product with high suction capability, low shear and virtually pulsation free? Using Masosine pump technology, Certa sets a new standard combined with a new standard for easy maintenance and downtime.



By  
**Jesper Færch,**  
Watson-Marlow

This article illustrates, where you can improve efficiency in modern dairy- ing, especially focusing on cheese and yoghurt production. Certa is especially designed for the Food and Dairy industry, where we have more than 200 refer- ences, all with gentle handling of dairy products like cheese, yoghurt, butter, casein, powder, ice cream, emulsifier, confectionery like chocolate, caramel, fondant, strawberry etc.



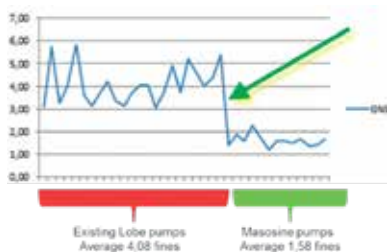
## Certa operating Sine technology & simplicity

Certa's pump Sine rotor principle is il- lustrated in figure 1, where the product is gently moved in the four chambers, not cutting it like other pump types.

With only a few inside parts, Certa sets new standards for easy maintenance and downtime.

Certa has one shaft, one seal and one rotor, thus being very energy efficient, up to 50 % less power than other pump types. In fact, the more viscous your product is, the more energy efficient Certa is.

Another advantage of the Certa Sine rotor principle is better inside tolerances and you will have no galling marks (metal-to-metal contact) during CIP at 85 C.



## Improving efficiency - cheese production

A large Scandinavian cheese dairy changed their pump types to Maso- sine pumps, and instantly experienced a significantly less amount (27 %) of cheese fines (illustrated in Figure 2), meaning they got more cheese out of every litre of milk. The yearly savings were 100.000 EUR and the Masosine ROI was therefore very attractive.

Besides this tangible economic ben- efit, the dairy also experienced more

## About Watson-Marlow

With over 50 years of experience and 19% worldwide market share within niche pumps e.g. Masosine positive displacement pumps, Bredel hose pumps, Watson-Marlow peristaltic pumps, we offer our customers an unmatched range of solutions & knowledge for their pumping applications.

Watson Marlow is a wholly owned subsidiary of Spirax Sarco Engi- neering Group – a global organiza- tion employing over 4,500 people with a turnover of 1.8 mia. DKK and sold more than 1 mio. pumps worldwide. Watson Marlow is rep- resented in 48 countries.

intangible benefits like pulsation free pumping and lower noise at the produc- tion floor and the area around the pump.

## Improving efficiency – yoghurt production

A large European yoghurt dairy changed their pump types to Masosine pumps, and instantly experienced a significantly lower amount (33%) of viscosity loss during pumping. The yearly savings were 33 % less added protein in the protein standardization before pump- ing their shear sensitive yoghurt to the filling machines.

## Certified cleanability

We are proud to announce, that Certa is one of only two pumps worldwide that obtained both EHEDG - Class 1 and EHEDG - Class 1 Aseptic certifi- cates (Figure 3). Meaning Certa is very hygienically designed and easy to clean. Dairy production plants pay ever more attention to EHEDG certifications – and rightfully so, a pump is more than just a pump. ■

<p><b>EHEDG Class I</b></p> <p><b>CERTIFIED</b> EHEDG TYPE 01 - CLASS I</p>	<p><b>EHEDG Class I Aseptic</b></p> <p><b>CERTIFIED</b> EHEDG TYPE 01 - ASEPTIC CLASS I</p>
<p>More than 30 pump manufacturers worldwide</p>	<p>Only 2 pump manufacturers worldwide</p>



**NEW**

# The cleanest pump you will ever need

**certa**  
*by MasoSine*



High suction capability  
to handle viscous fluids

EHEDG Type EL - Class 1

Up to 50% less power than  
other pump types, especially  
with viscous applications

Low shear and zero pulsation

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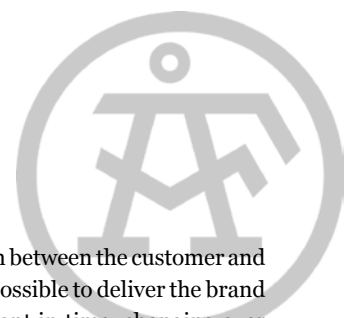
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# ÅF completes advanced CIP plant for Danish dairy



The CIP Plant project has been a very exciting journey covering close cooperation across departments in ÅF and creating better ways of developing a CIP plant focusing on energy recovery, safety and reliability.

The scope by ÅF has been delivering the process and automation equipment and services including electrical and mechanical installation and commissioning.

The CIP plant consists of tanks for lye and acid, recovery water, fresh water, cheese lye and oxonia. It has 7 CIP-forward lines. A white water recovery and treatment system is included, collecting white water from the 5 CIP lines, 2 milk pasteurisation and 2 microfiltration plants and concentrating the white water through reverse osmosis (RO).

As part of the project, ÅF has changed the automation system from IGSS to SCADA control system and all recipes

are managed in a Recipe Management System in order to ensure that batches are made accurately and efficiently. All CIP activities are logged to provide full traceability.

The customer wanted to improve the safety and efficiency with the new CIP Plant. With a very close and strong

cooperation between the customer and ÅF, it was possible to deliver the brand new CIP plant in time, changing over from the existing to the new CIP plant in only one week including more than 80 tie-ins to the existing plant. And we managed to optimize cleaning in accordance with the customer's demand.

## Contact:

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Engelsholmsvej 26  
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Hallenborgs gata 4  
SE-211 74 Malmö  
+46 10 505 00 00  
[info@afconsult.com](mailto:info@afconsult.com)

## ÅF – Providing leading solutions for generations to come.

Making Future. 

ÅF A/S is a leading engineering and design company within the fields of production and mechanical engineering focusing on process design, automation and technical calculation.

ÅF A/S is divided within process, automation and electrical-contracting focusing at the following industrial segments:

- Food & Pharma
- Infrastructure
- Building and Planning
- Oil & Gas
- Road & Rail
- Architecture
- Lighting
- Energy

ÅF A/S offers our services in both turnkey projects and consultancy assignments where we can be the advising and the performing part towards our customers in terms of achieving optimal solutions.

2018/26



### Arla hæver afregningsprisen og har positive markedsforventninger

Efter flere måneder med vigende priser, er der tilsyneladende en vending på vej i markedet. Arla sætter sin mælkepris 1 euro-cent op med virkning fra 1. juni. Dermed bliver acontoprisen for den konventionelle mælk inklusive deltagelse i Arlagården Plus, som langt størstedelen af de danske andelshavere deltager i, på 234 øre/kg. Det skriver Landbrugsavisen.dk.

- Selvom vejrforholdene nu bliver bedre, har det lange, kolde forår i visse områder reduceret udbyttet og industri-markederne mangler varer. Dette har sammen med stigende eksportefterspørgsel og stærk europæisk efterspørgsel højnet priserne især på ost og smør, mens SMP-priser også er blevet en smule stærkere end forventet, lyder det i markant varmere toner end tidligere på foråret fra Arla. Selskabet tilføjer endda, at udsigterne for de kommende måneder er decideret positive.

### Them Andelsmejeri skifter direktør

Efter at have siddet i direktørstolen i syv år stopper Alette Ahlgreen-Ussing (billedet) som direktør for Them Andelsmejeri. Hun fortsætter dog som direktør for mejeriets nyoprettede handelselskab, Dairy 1888, som bl.a. står for eksport til Kina.



- Det er et nyt og voksende marked for os, hvor vi allerede har de første kunder og ordrer, men hvor vi nu vil satse endnu mere, siger Alette Ahlgreen Ussing. Det nye selskab vil i begyndelsen udelukkende sælge økologiske produkter til Kina og det øvrige asiatiske marked, mens der senere kan blive føjet konventionelle produkter til, skriver FoodSupply.dk

Ny direktør for Them Andelsmejeri bliver 44-årige Torben Aarris, der bl.a. har stået i spidsen for flere divisioner hos den britiskejede emballagekoncern RPC.



### FrieslandCampina tror på Etiopien

Hollandske FrieslandCampina investerer sammen med Veris Investments i nye mejerifaciliteter i Holland Dairy PLC i Etiopien. Selskabet skal udbygge produktionen af yoghurt, pasteuriseret mælk og andre mejeriprodukter, samt styrke distribution og markedsudvikling, skriver Dairy Reporter. FrieslandCampina forklarer endvidere, at man forventer, at det lokale engagement kan bane vejen for større eksport af UHT-mælk og mælkepulver, hvor man i forvejen er blandt de markedsledende selskaber.





## Mejerierne hædrer den gode fødevaredebat

Mejeriforeningens initiativpris tildeles i år den fødevarepolitiske tænketank Frej for dens indsats for at etablere "en kritisk og konstruktiv dialog mellem forbrugere og fødevarerivirksomheder." Med prisen følger 25.000 kr. Det skriver Landbrug & Fødevarer i en pressemeddelelse. Prisoverrækkelsen fandt sted i forbindelse med Mejeriforeningens årlige generalforsamling. Tænketanken Frej blev grundlagt af fire unge kvinder i 2016 og har i løbet af ganske kort tid markeret sig med en række arrangementer, hvor man har sat aktuelle og ofte kontroversielle emner inden for landbrug, natur, miljø og fødevarerproduktion til debat med det erklærede formål at bygge bro mellem forbrug og produktion af fødevarer i Danmark. I løbet af de par år Frej har eksisteret, har den fødevarepolitiske tænketank afholdt omkring 20 debatarangementer i eget regi. Til disse 'tværfaglige arrangementer' er det lykkedes at få selv hårdnakkede modstandere til at indgå i en saglig dialog, hvilket der har vist sig at være stor interesse for. Det er ikke usædvanligt, at et arrangement kan trække op mod 300 tilhørere, hvoraf en stor del er unge.



## Uddannelse på vej til 100 ufaglærte mejerimedarbejdere

I 2018-2020 får 100 medarbejdere i dansk mejeriindustri chancen for at uddanne sig til industrioperatører. Det sker med økonomisk støtte fra Mejeribrugets Uddannelsesfond, ligesom forløbet afvikles i et hurtigere tempo end normalt, såfremt man allerede har erfaring. Uddannelsesfonden har allerede været på en tur i det jyske med informationsmøder mandag den 28/5-2018. For yderligere oplysninger – kontakt Dansk Industri, Hanne Lindberg Greisen, chefkonsulent, hlg@di.dk.

## Valio reducerer energiforbruget i yoghurtproduktion

Valio reducerer energiforbruget med 30% på sit nye Riihimäki-anlæg i forhold til selskabets øvrige produktionsanlæg. Det nye mejeri er i stand til at producere 30 tons yoghurt pr. time og inkorporerer alle processer fra mælk modtagelse til produktfyldningsstationer. Anlægget er leveret af SPX FLOW, skriver Dairy Reporter.

- Maksimering af vores brug af råvarer, minimering af affald og optimering af energiforbrug er alle kritiske designpunkter for den nye fabrik. Vi er meget tilfredse med de resultater, der gør os i stand til at opfylde vores sociale ansvar, samtidig med at vores produkter er stærkt konkurrencedygtige, siger Jukka Partti, Project Director i Valio.



## Kødfrie dage er kommet for at blive

Flere og flere danskere vælger kødet fra. Det viser en ny undersøgelse fra Karolines Køkken foretaget af Epinion. 55 procent af danskerne laver aftensmad uden kød en eller flere gange om ugen, og samtidig planlægger 15 procent af danskerne at spise mindre kød i 2018 end sidste år, viser undersøgelsen. Det er især blandt kvinder og de unge, at tendensen har fået fat. 60 procent af kvinderne spiser aftensmad uden kød mindst én gang om ugen, og hos de unge mellem 18 og 29 år er tallet 73 procent. Forbrugsmønstret er kommet for at blive, lyder det fra Tove Færch fra Karolines Køkken, der i en pressemeddelelse deler ud af gode råd til måltider uden kød, men hvor mejeriprodukter stadig er en vigtig ingrediens. Kun to procent af danskerne betegner sig selv som vegetarer og undgår kød, mens én procent sværger til vegansk kost, hvilket vil sige kost helt uden animalsk indhold.



## Kort fortalt

### Arla i kraftig vækst på Filippinerne

Arla er i gang med at opbygge et nyt vigtigt eksportmarked på Filippinerne, idet den daglige leverance de seneste fem år er vokset til to-tre containere om dagen. Det skriver Landbrugsavisen. En af årsagerne til, at Filippinerne aftager danske produkter i stor stil, er at landet ikke selv har decideret landbrugsjord, men samtidig er i rivende vækst og har en befolkningstilvækst på 1,5 millioner om året.



- Årsagen til, at Filippinerne er så interessant et marked for os, er, at deres egen produktion af mejerivarer er så godt som ikke eksisterende. Og derfor er de nødt til at importere 99 pct. af den type fødevarer, siger Jens Christian Krog Nielsen, der er landechef for Arla i Filippinerne, til dagbladet Børsen.

- Ud af en befolkning på over 100 millioner udgør middelklassen knap en tredjedel. De er efterhånden ved at tjene så mange penge, at de begynder at interessere sig for naturlige og sunde fødevarer, og det kommer os til gode, lyder det fra Arlachefen.



### Økologiske fødevarer fra Danmark i stærk kinesisk vækst

Den voksende middelklasse i Kina foretrækker fortsat importerede mejerivarer, og det glæder Landbrug & Fødevarer, der lige nu er på eksportfremstød i Shanghai sammen med blandt andre Arla og Thise Mejeri. Landbrug & Fødevarer forventer, at øko-eksporten til Kina lander på omkring 400 mio. kr. for 2017 mod 303 mio. kr. i 2016, skriver landbrugsavisen.dk.

Arla, der er verdens største økologiske mejeri, har været til stede på det kinesiske marked i omkring ti år.

- På markedet for økologisk børneernæring har Arla de seneste to år oplevet en vækst på 50 pct. om året, og Arlas brand 'Baby & Me' er nu et top tre brand i Kina, siger Frede Juulsen, der er landedirektør for Arla i Kina. Samme positive melding kommer fra Poul Pedersen, administrerende direktør for Thise Mejeri:

- Vi oplever en stadig stigende efterspørgsel efter vores økologiske mælkepulvere, og vi regner med, at 2018 bliver vores bedste år til dato, siger direktøren for Thise, der har haft fokus på det kinesiske marked i fem år.



### 13 landmænd med egen is på nyt kort over gårdbutikker

Hvor kan man købe lokalt avlet kød, nye kartofler eller frisk is? Det vil Landbrug og Fødevarer nu gøre nemmere at finde ved brug af et nyt interaktivt kort over landets mange gårdbutikker på [www.aabentlandbrug.dk](http://www.aabentlandbrug.dk). Det interaktive kort indeholder 110 forskellige gårdbutikker på Sjælland, Fyn, Jylland og på Bornholm, der sælger enten økologiske eller konventionelle varer. Det skriver [www.retailnews.dk](http://www.retailnews.dk). Udover klassiske butikker med ost, kartofler og jordbær, så sælger 13 landmænd is fra eget ismejeri. Udover Landbrug og Fødevarers nye initiativ, kan man allerede på Gårdbutiklisten.dk finde en oversigt over økologiske jordbrug, der har sin egen gårdbutik.

### NORDEX skuffer i årsregnskab

NORDEX er ikke tilfreds med regnskabet for 2017, selvom man øgede omsætningen med ca. 80 mio. kr. til knap 1,6 mia. kr. Indtjeningen faldt til gengæld drastisk, idet den primære drift (EBIT) faldt fra ca. 52 mio. kr. i 2016 til 8 mio. kr. i 2017. Årets resultat faldt tilsvarende fra godt 36 mio. kr. til 1 mio. kr. i 2017. Selskabets egenkapital er på 185 mio. kr. svarende til en soliditetsgrad på 30,2%. I en pressemeddelelse kalder selskabets bestyrelse resultatet for utilfredsstillende og langt fra som forventet. Man peger på høje afregningspriser på mælk samt uheldig udvikling i både dollars og pund som forklaring på udviklingen. Der forventes i 2018 en samlet omsætning på ca. 1,7 mia. kr. og et positivt resultat.





## Generalforsamling i FMF kreds Sydjylland

### Tidspunkt

Torsdag den 14. juni 2018.

### Program

- Kl. 15:00 Rundvisning på C & D Foods (Denmark) A/S, Esbjerg N.  
 Kl. 18:00 Spisning på Ech Park.  
 Kl. ca. 19:00 Generalforsamling.

### Dagsorden

1. Valg af dirigent
2. Bestyrelsens beretning om landsdelskredsens virksomhed i den forløbne periode.
3. Fremlæggelse af kredsens årsregnskab til godkendelse samt budget for det nye år.
4. Behandling af fremsatte forslag.
5. Valg af medlemmer til bestyrelsen.
6. Valg af revisorer.
7. Valg af delegerede til foreningens delegeretmøde, bestyrelsen er forlods valgt.
8. Eventuelt.

Opmærksomheden henledes på, at der vælges til vores delegeretmøde blandt de fremmødte på generalforsamlingen. Tilmelding til Leo Bødker på mail [sydjysk@kometek.dk](mailto:sydjysk@kometek.dk), senest den 11. juni 2018.

Partnere er velkomne til kaffearrangement under selve generalforsamlingen.



### Fødselsdage

#### 50 år

7. juni - Produktudvikler *Peter Blem Kofoed*, Premier Is – Thisted.  
 20. juni – Vice President *Sanne Weidner*, Arla Foods, Viby.

#### 60 år

23. juni – Team Leader *Klaus Bach*, Arla Foods AKAFa, Svenstrup J.  
 25. juni – Senior Dairy Application Technologist *Kjeld Fogtmann Kristiansen*, DuPont Nutrition & Health, Aarhus.

#### 80 år

10. juni – Fhv. forvalter *Poul Jørgensen*, Christiansfeld.

#### 85 år

5. juni - Fhv. mejeriejer og bestyrelsesmedlem i Mejeriforeningen *Ove Bach*, Hjallerup.

### Dødsfald

Ostemester *Gunnar Thomsen* er afgået ved døden 92 år gammel.

### Tilsagn til omtale af mærkedage

De nye regler vedr. persondataforordningen (GDPR) om behandling af personoplysninger er trådt i kraft i 2018. Den betyder, at redaktionen skal have en bekræftelse af alle, der nævnes på denne side under personalia. Vi appellerer derfor til alle medlemmer af Foreningen af mejeriledere og funktionærer samt Dansk Mejeriingeniør Forening om at give tilsagn ved at scanne denne QR kode og udfylde formularen.



## Mælkeritidende I/S

### Formand

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Frejasvej 4, 7600 Struer  
tlf. 97 85 34 34,  
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## Foreningen af mejeriledere og funktionærer

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1010 København K  
Tlf. 33 36 88 00  
Mandag-torsdag kl. 9-16,  
fredag kl. 10-16, lørdag lukket.

## FTF-A

Snorresgade 15  
2300 København S. Tlf. 70 13 13 12  
Mandag-fredag 8-18.

## Akademikernes

### Centralorganisation

#### ACs sekretariat

Nørre Voldgade 29, 1358 København K.  
Tlf. 33 69 40 40  
Mandag-fredag kl. 9-16.30.

## Akademikernes A-kasse

### AAKs hovedkontor

Nyropsgade 45, 1504 København V.  
Tlf. 33 95 03 95  
Mandag-fredag kl. 10-14.  
Onsdag dog lukket for telefonisk henvendelse.

# Leverandøroversigt

## Automation



### Au2mate A/S

Frichsvej 11, DK-8600 Silkeborg  
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www.au2mate.dk

### Eltronic A/S

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Mail: info@eltronic.dk.  
www.eltronic.dk

### ÅF A/S

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info.dk@afconsult.com  
www.afconsult.com/dk

## Emballage



### Tetra Pak Sverige AB

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SE-221 86 Lund, Sweden  
Tlf. +46 46 36 10 00  
Fax +46 46 36 30 06

## Gulve



### Bjarmodan A/S

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Tlf. 86551489  
www.bjarmodan.dk  
bjarmodan@bjarmodan.dk

### JTI Gulventreprise A/S

Storegade 15  
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www.jti-gulv.dk  
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Tlf: 7517 3248

## Kurser



### Au2mate Academy

Frichsvej 11, DK-8600 Silkeborg  
www.au2mate.dk  
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Kontakt: Eva Stanell, Service & Training Manager  
est@au2mate.dk, Tel. +45 8720 5061

## Maskiner og udstyr



### Salicath ApS

Troensevej 25c, DK-5700 Svendborg  
Tlf. 40 16 12 01 – Tlf. 40 28 18 02  
salicath@salicath.dk

## Membranfiltrering



### Tetra Pak Filtration Solutions

Bergsøesvej 17, 8600 Silkeborg  
Tel. 8720 0840  
filtration.info@tetrapak.com  
www.tetrapakfiltration.com

## Projektering og anlæg



### Tetra Pak Danmark A/S

Søren Nymarks Vej 13, 8270 Højbjerg  
Tlf. 89 39 39 39 – Fax 86 29 53 11  
process.progress@tetrapak.com

### ÅF A/S

Engelsholmvej 26, 8940 Randers SV  
Tlf. +45 8177 2444  
info.dk@afconsult.com  
www.afconsult.com/dk

## Totalleverandør



### S. Sørensen I/S

Tigervej 11, 7700 Thisted  
Tlf. 97 92 26 22 – Fax 97 91 05 22



# Møder og udstillinger

## Danmark ■■■

1.-2. juni:

Det Sønderjyske Fællesdyrskue, Aabenraa.

8.-10. juni:

Roskilde Dyrskue, Roskilde

14. juni :

Seminar: Membranfiltrering, Hotel Legoland, Billund.

15.-16. juni:

Det Fynske Dyrskue, Odense.

22. - 23. juni:

Hjørring Dyrskue, Hjørring.

24. august:

Mejerigolf, Mollerup Golf Club.

6. september:

Mejeriingeniørdagen.



## MEJERINYHEDER - ganske gratis!

Vil du gerne have ugens vigtigste mejerinyheder i din mailbox hver fredag?

Hver uge udsender vi en række korte nyheder fra ind- og udland samt mærkedage for mejeriindustriens ledere og en kalender for kommende arrangementer i mejeribranchen.

Du kan tilmelde dig UgeNyt på [www.maelkeritidende.dk](http://www.maelkeritidende.dk)

- Det er ganske gratis!

## Bannerannoncering af ledige stillinger

På [www.maelkeritidende.dk](http://www.maelkeritidende.dk) er det nu muligt at indrykke bannerannoncer for ledige stillinger, hvor ansøgere kan klikke sig videre til den ansøgende virksomheds egen hjemmeside.

En stillingsbannerannonce på [www.maelkeritidende.dk](http://www.maelkeritidende.dk) har målene: Bredde: 140 px x højde: 350 px, og prisen er 3.900 kr. for to uger!



### Mejeriliv

Ulykker • Tandskader • Sundhed

Forsikringer via Mejeriliv:  
Kontakt Optima for information  
[www.optima-gruppen.dk](http://www.optima-gruppen.dk)  
Claus Rasthøj tlf. 2075 55 25



## Mejeristhuset

Nedenstående kan du se ledige perioder for ophold i de næste måneder i Foreningen af mejeriledere og funktionærers sommerhus, "Mejeristhuset" i Kandestederne ved Skagen.

### Mejeristhuset – en ekstra dag?

Det er muligt at booke ekstradage ud over de almindelige perioder (tors-søn og søn-tors). Tjek kalenderen og book ekstradage ca. en måned før.

### Følg med på [mejerileder.dk](http://mejerileder.dk)

Medlemmer af Foreningen af mejeriledere og funktionærer og Dansk Mejeriingeniør Forening kan altid orientere sig om ledige uger/perioder i månederne efter de nedenstående tre på [www.mejerileder.dk](http://www.mejerileder.dk)

■	Sæson A	■	Sæson B	■	Sæson C	■	Sæson D
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### Maj

	M	T	O	T	F	L	S
18		1	2	3	4	5	6
19	7	8	9	10	11	12	13
20	14	15	16	17	18	19	20
21	21	22	23	24	25	26	27
22	28	29	30	31			

### Juni

	M	T	O	T	F	L	S
22					1	2	3
23	4	5	6	7	8	9	10
24	11	12	13	14	15	16	17
25	18	19	20	21	22	23	24
26	25	26	27	28	29	30	

### September

	M	T	O	T	F	L	S
35						1	2
36	3	4	5	6	7	8	9
37	10	11	12	13	14	15	16
38	17	18	19	20	21	22	23
39	24	25	26	27	28	29	30

**OBS:** Redaktionen tager forbehold for perioder, der evt. er udlejet, efter bladet er sendt til trykning!



# Advertising in Mælkeritidende – the strongest media platform for the Nordic dairy industry

Do you need visibility in the dairy industry and related food industries? Mælkeritidende offers your company a package, which represents Denmark and the Nordic countries largest and strongest communication platform in the dairy sector.

For 130 years Danish dairy employees have been reading Mælkeritidende. The magazine has built up a reputation as a serious industry media with a great mixture of content. That's why it is very popular for advertising among suppliers, who wants to flash their company, a new product or a case, which might be inspirational for decision-makers in the industry. We are also the most popular magazine for job advertising within the dairy sector.

The majority of our content is in Danish, but we offer several possibilities for foreign companies to use our medias with English content. It can be in an ordinary edition – or in one of our special issues, which this Nordic edition belongs to. Besides of the 1900 subscribers it is sent to 750 dairy employees in the four Nordic countries. Once a year we also publish the international magazine, Danish Dairy & Food Indus-

try, which is distributed worldwide among dairy people in 130 countries.

We also provide the dairy industry with online news and advertising on [www.maelkeritidende.dk](http://www.maelkeritidende.dk) and in an electronic newsletter published once a week.

In the recent years Mælkeritidende has strengthened the cooperation with our Nordic partners in Sweden (Mejeritekniskt Forum), Norway (Meieriposten) and Finland (Maitotalous). Job ads can thus be purchased for publication on our partners' websites, which also applies to corporate portraits.

#### Contact:

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(+45 2128 5906).

## Mælkeritidende is a Danish dairy magazine, owned and read by dairy top executives

Behind Mælkeritidende is The Danish Dairy Managers Association, Danish Dairy Engineers, the Danish Dairy Science and Technology Association and more organisations in the dairy industry. Our readers are members of these organisations, which counts executives at all Danish and several other Nordic dairies, dairy advisers and experts at universities, dairy organisations and R&D as well as personal at several other food companies.

Mælkeritidende is published every second Friday - in weeks with even numbers – in 1.900 copies.

