

 Tetra Laval  
The background of the entire page is a high-speed, close-up photograph of water splashing and bubbling, creating a dynamic and energetic blue-toned scene. The water droplets are captured in mid-air, with some appearing as sharp spheres and others as blurred streaks, conveying a sense of movement and freshness.

**2016**  
**2017**



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The Tetra Laval Group consists of three industry groups, Tetra Pak, Sidel and DeLaval, all focused on technologies for the efficient production, packaging and distribution of food. The head of each industry group has operational management responsibility for his respective industry group and reports directly to the Tetra Laval Group Board. The Group Board is responsible for the overall strategy of the Group and for controlling and supervising all of its business operations. The chairman ensures the implementation of the Group Board decision and the implementation of strategy and policy for the group.



### TETRA PAK – PROTECTS WHAT'S GOOD

Tetra Pak is the world leader in liquid food processing and packaging. Tetra Pak's motto PROTECTS WHAT'S GOOD reflects the philosophy upon which we conduct our business in order to make food safe and available, everywhere.



### SIDEL – PERFORMANCE THROUGH UNDERSTANDING

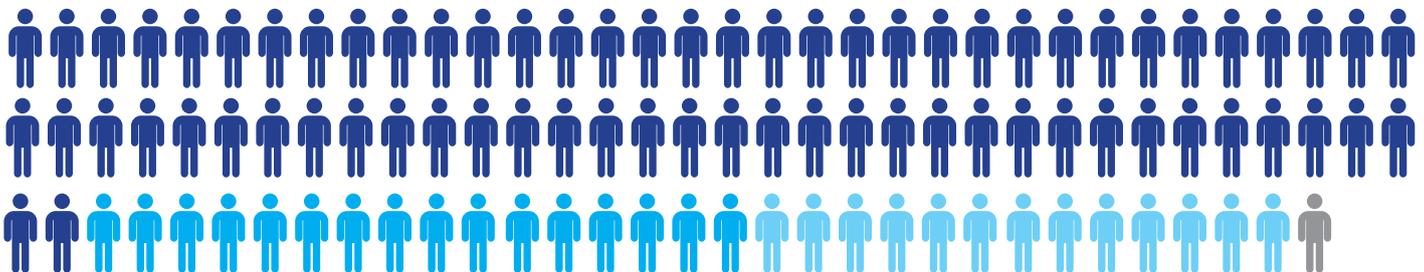
The Sidel Group is a leading provider of equipment and services for packaging liquids, foods and personal care products in PET, can, glass and other materials.



### DELAVAL – WE MAKE SUSTAINABLE FOOD PRODUCTION POSSIBLE

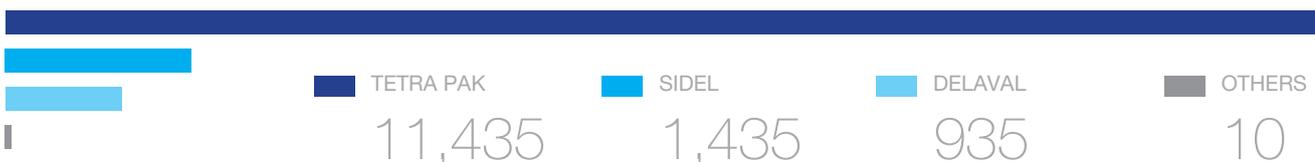
DeLaval is a full-service supplier to dairy farmers. The company develops, manufactures and markets equipment and complete systems for milk production and animal husbandry.

## NUMBER OF EMPLOYEES, DECEMBER 2016



## NET SALES 2016, MILLION EURO

TETRA LAVAL GROUP 13,815



# 2016 – Year in brief for the Tetra Laval Group

- Net sales for the Tetra Laval Group amounted to €13.8 billion.

## TETRA PAK

- Net sales for Tetra Pak amounted to €11.4 billion.
- Tetra Pak continued to secure growth opportunities in areas beyond its core business, strengthening its end-to-end solutions offering and making further inroads into new food and beverage categories.
- Tetra Pak's Gornji Milanovac factory in Serbia received the world's most prestigious award for manufacturing excellence, the Japan Plant Maintenance World Class Total Production Maintenance Award.
- Tetra Pak completed the acquisition of Laude BV, a market leader in the design, development and manufacture of plastic moulds for cheese production.
- Tetra Pak launched a number of new products, including the world's highest capacity homogeniser, the next generation Tetra Pak® PlantMaster plant automation system, plus a range of package formats, processing technologies and service offerings.



Tetra Pak PlantMaster – the next generation plant automation system



Sidel strengthened its complete line offerings, combining the expertise of Sidel and Gebo Cermex



DeLaval installed the biggest operating voluntary milking facility in the world in Chile.

## SIDEL

- Net sales for Sidel increased to €1.44 billion.
- Sidel strengthened its complete line offerings, combining the expertise of Sidel and Gebo Cermex. Thus, Sidel is able to act as a full solution partner to help any customer choose the right solution for the specific needs of any liquid product.
- The Sidel subsidiary Novembal, offering a full range of caps and closures to the liquid packaging industry, opened a new plant in Peoria, Arizona, improving the logistics within the North American market.
- Sidel launched the Sidel Matrix Predis™, in which Predis aseptic technology became available for the company's latest generation of modular Sidel Matrix™ Combi equipment. In addition, Sidel introduced two notable PET packaging design innovations, building on the benefits of the existing StarLite™ bottle base.

- Sidel introduced Sidel Services Online web interface, with higher line performance and maximum uptime just one click away. This tool has been recently enriched with new features, such as line improvement options and upgrades.

## DELAVAL

- Net sales for DeLaval were €935 million.
- DeLaval installed the biggest operating voluntary milking facility in the world in 2016 with the Ancali family in Chile. This highly professional farm is one of the best performing DeLaval VMS™ farms in the world in terms of milk quality and milk yield per cow.
- DeLaval introduced a range of new innovations in 2016 including organically approved teat dips, the award winning

DeLaval Cleaning Analysis DCA as well as a Stanchion barn app and a new cleaning control unit.

- DeLaval's Dairy Data Warehouse has partnered with Cargill, a global leader in advanced nutrition and productivity solutions for dairy cattle, providing them with data services for the animal nutrition industry. The collected data can now be used to improve technologies in related businesses and help farmers improve operational efficiency, sustainability and profitability.
- "We Live Milk" is a DeLaval campaign that showcases innovations and in 2016, the company added a customer focus to inspire and continue driving change in four important areas where dairy farmers face challenges: farm profitability, food safety, work efficiency and animal welfare.

# Improved profitability in a challenging market

2016 was a challenging year for the Tetra Laval Group. Net sales amounted to €13.8 Bn, a nominal decrease of 3.4 per cent compared to 2015. At comparable rates sales contracted by 1.4 per cent. The weakening of the Brazilian real, Mexican peso and Chinese yuan renminbi relative to the euro contributed to the lower sales. The main reason for the declining sales was that some of our larger markets didn't develop as well as anticipated. Particularly sales of capital equipment were affected by lower demand, while technical service sales improved significantly or were stable in all industry groups. Operating profit improved both in absolute and relative terms despite the declining sales. This was the result of our cost-efficiency programs, which have been ongoing for some years in our industry groups. Lower material costs also contributed to the improved result. When summarising 2016 I would like to thank all our dedicated personnel for their outstanding achievements during the year.



## **WEAKER DEMAND IN LARGE MARKETS**

From a geographical point of view, sales declined in our largest market, China. Sales of capital equipment in China declined due to underutilisation of the installed base, while technical sales and service showed a slight growth. While sales in South East Asia and Oceania developed favourably, the Group was negatively impacted by the difficult market conditions in Brazil and Russia. Despite the volatile geopolitical environment in the Middle East, sales improved, mainly related to a strong demand for our technical service offerings.

## **IMPRESSED BY CLOSE CUSTOMER RELATIONSHIPS**

In June 2016, I was appointed Chairman of the Board for the Group, after having served on the Board since 2013. During my intense six months' introduction in my new role, I met many competent and dedicated employees. There are three reflections from this introduction. Firstly, I am impressed by the strength of our relationships with our customers. We are all keen to understand their business so that we can deliver outstanding customer value. Secondly, all industry groups have the challenge of innovation in a broad sense and keeping up with changing customer demands

and technology trends. Thirdly, a prerequisite for success is the need for a cost and productivity focus. This is a perpetual journey and here the industry groups are at different stages.

## **MIXED DEVELOPMENT FOR TETRA PAK**

Tetra Pak had a year of mixed developments. Net sales decreased by 3.6 per cent compared to 2015, particularly affected by lower demand for its capital equipment business. Across its five geographic clusters, Tetra Pak achieved year-on-year net sales growth in two, Greater Middle East & Africa, and South Asia, East Asia & Oceania. Despite contracting sales, Tetra Pak managed to deliver improved

operating results and cash flow due to significant cost savings.

The packaging material business was impacted by slower growth in large markets, such as China, Brazil and Russia, and also saw a decline in traditional categories, such as milk and juice.

Conversely, packaging material showed double-digit growth in South Asia, East Asia & Oceania.

For the full year, the number of packages grew by 3.4 billion to in total 188 billion or 1.8 per cent, reflecting the shift from large family packages in markets like China to portion packages in other Asian markets.



During the year Tetra Pak continued to drive the deployment of its newer packaging solutions, offering customers a range of shapes, closures and materials. In 2016 the advanced portfolio accounted for 43 per cent of total packaging material sales – an increase of 3 percentage points compared with 2015.

Regarding the capital equipment business, there was a continued delay in investments, reflecting uncertain market conditions, both for processing and packaging applications. Technical services, however, continued to deliver a strong sales increase. As an example, Technical services had a double-digit growth in the sale of Consumables, Expert Services

and Equipment Upgrades, with several new offerings gaining strong traction among customers.

### **SIDEL – SIGNS OF RECOVERY**

Sidel saw signs of recovery during 2016. Net sales increased by 1.7 per cent at prevailing rates compared to previous year, and by 3.6 per cent at comparable rates. Sales of capital equipment for PET decreased, but order intake improved for the full year after a strong development during the second half of the year. Revenues from Gebo Cermex grew significantly in the glass and can business, mainly driven by a strong demand from the brewery industry. Gebo Cermex's integrated solutions, as part of Sidel's offering of complete line solutions, also developed favourably. I am very pleased with the Sidel group's improved operating results.

Sidel's transformation programme is ahead of schedule and internal efficiency measures are paying off. The programme entails both cost reductions for improved productivity as well as improved quality in most aspects of customer delivery and installation. Sidel and Gebo Cermex business units are now working closely together, combining their respective strengths and expertise, and delivering the benefits of the group's entire portfolio to their customers. In recent years, Sidel has made considerable investments in R&D, and during 2017 there will be a number of new product launches.

### **DIFFICULT MARKET FOR DELAVAL**

DeLaval had a year with tough market conditions. The uncertainty of EU subsidies and price drops in dairy commodities continued during the year which lead to that the order intake in capital equipment decreased, while the aftermarket managed to remain stable. Net sales decreased by 8.6 per cent at prevailing rates and 7.2 per cent at comparable rates compared to 2015. Due to the sales decrease, the operating result also decreased for DeLaval. However, global demand for milk is increasing, which suggests that the price recovery that we saw during the second half of 2016 could be sustainable in the longer term. In addition, global feed price development remained favourable, keeping costs down for farmers. Another positive trend is the increased demand for voluntary milking systems. The robotic business is expected to continue to grow as large farms

are striving for productivity improvements.

To manage these difficult market conditions DeLaval has launched a substantial two-year transformation programme, including reduction of personnel, transfer of administrative and engineering functions from the centre, and not least, a substantial increase in R&D investments. These investments are not restricted to capital equipment but also to new aftermarket products as well as new ways of working with preventive maintenance in order to improve milk quality and animal health. This will certainly emphasise DeLaval's position as technology leader within the dairy industry. The result of this massive effort within R&D will be several innovative products to be launched in 2018. In relation to the transformation programme the company went through organisational changes including a restructure of the market organisation into clusters in order to be even closer to the customers. The measures taken by DeLaval have already paid off – despite decreasing sales the company managed to increase its market share in 2016.

### **GROWTH, EFFICIENCY AND INNOVATION – OUR FOCUS FOR 2017**

Taking into account the widespread political instability as well as macroeconomic developments, the world seems to have entered into a low-growth mode compared to some years ago. The ability to manage changing conditions and lower market growth is key to our future success. Our focus areas for 2017 are Growth, Efficiency and Innovation. Growth will be achieved by helping our customers to introduce more attractive products at competitive prices. There is also a demand from our customers for our expertise in improving their operational efficiency. Continued improvement of internal efficiency in all parts of the Group is necessary in a world with limited growth. The ongoing transformation programmes will make the industry groups leaner and faster. Finally, innovation is in our genes and we will launch several products this year. We are addressing these focus areas with speed and determination and I am confident that the Group will deliver good results under challenging market conditions in 2017.

Lars Renström



## TETRA LAVAL GROUP BOARD

### 01. Lars Renström

Chairman of the Board since 10 June 2016.

Lars Renström joined the Board as non-executive director in 2013. Lars Renström was President and CEO of the Alfa Laval Group 2004 - 2016. He has previously held positions as President and CEO of Seco Tools, President and head of Atlas Copco's Rock Drilling Tools division and head of Ericsson's Telecom Cables Division. He is currently also Chairman of the Board of Assa Abloy AB.

### 02. Paul Conway

A non-executive director since 2014.

Paul Conway OBE. Former Vice Chairman of Cargill Inc and Chairman of Carval Investors Llc.

Vice Chairman of the US-China Business Council and board member of the US-India business council. In his 36 year Cargill career worked mainly in Food & Agriculture supply chain businesses in East & West Europe, Asia and the USA. He had Executive supervision of Asia-Pacific as well as Strategy & Capital allocation and approval. Paul has been a frequent speaker on Food Security & Sustainability issues worldwide.

### 03. Nigel Higgins

A non-executive director since 1st August 2016.

Nigel Higgins is Managing Partner and has been Chairman of the Executive Committee of Rothschild & Co since 2010. He has worked at Rothschild since graduating from Oxford University in 1982. He was a member of the Advisory Board for the Commercial Directorate of the UK's National Health Service from 2002-2007. He is a member of the Trilateral Commission. He is Chairman of Sadler's Wells, the world's No. 1 venue dedicated to international dance.

### 04. Ola Källenius

A non-executive director since 1st June 2016.

Ola Källenius is currently a member of the Board of Management of Daimler AG, responsible for Group Research and Mercedes-Benz Cars Development. He was appointed to the Board of Management of Daimler AG effective January 1, 2015 and was responsible for Mercedes-Benz Cars Marketing and Sales until December 31, 2016. Before his assignment in Marketing & Sales, he was the CEO of the performance and sports car division Mercedes-AMG GmbH for three years after having led Mercedes-Benz U.S. International, Inc., the Mercedes-Benz SUV production plant in Alabama, as its CEO in 2009. From 2005 - 2009 Ola Källenius was the Managing Director of Mercedes-Benz HighPerformanceEngines Ltd. in Brixworth, UK - Daimler's Formula 1 powertrain operation. He assumed this position after his role as Executive Director of Operations for McLaren Automotive Ltd. in 2003 through 2004.

### 05. Jorma Ollila

A non-executive director since January 2013.

Jorma Ollila is Chairman of Outokumpu since 2013. He was Chairman the Board of Directors of Royal Dutch Shell plc 2006 - 2015, Chairman of Nokia 2006-2012, Chairman and CEO, Chairman of the

Board of Directors and Group Executive Board of Nokia Corporation 1999-2006, President and CEO, Chairman of the Group Executive Board of Nokia Corporation 1992-1999. He is Vice Chairman of the Board of Directors of Otava Books and Magazines Group and Member of the Board of Directors of the University of Helsinki, Chairman of the Boards of Directors and the Supervisory Boards of the Research Institute of the Finnish Economy ETLA and Finnish Business and Policy Forum EVA. He is Advisory Partner of Perella Weinberg Partners as of 2014. He is Chairman of Miltton as of 2015 as well as Chairman of the Board of Xinova Management Company LLC since 2016. Board member of TBG AG since 2016.

### 06. Dr. Bernd Pischetsrieder

A non-executive director since 1999.

He is Chairman of the Supervisory Board of Münchener Rückversicherungs-Gesellschaft, Aktiengesellschaft in München. Dr. Bernd Pischetsrieder has been Chairman of the Board of Management of Volkswagen AG from 2002 to 2006. He has been Chairman of the Board of Directors of Scania AB, Sweden from 2002 to 2007. Dr. Pischetsrieder is a member of the Supervisory Board of Daimler AG since April 2014.

### 07. Finn Rausing

A non-executive director of the Tetra Pak Group Board from 1985 to 1989 and of the Tetra Laval Group Board from 1995.

Finn Rausing, who is the chairman of the Audit Committee of the Tetra Laval Group Board, is also a board member of Alfa Laval AB, DeLaval Holding AB, EQT AB, Excillum AB and SwedeShip Marine AB. Mr. Rausing is also chairman of the Stockholm Institute of Transition Economics (SITE).

### 08. Jörn Rausing

A non-executive director of the Tetra Laval Group Board since 1991 (an alternate director of the Tetra Pak Group Board since 1985).

Jörn Rausing is the chairman of the Remuneration Committee of the Tetra Laval Group Board and head of Mergers and Acquisitions in the Tetra Laval Group. He is also a board member of Alfa Laval AB, DeLaval Holding AB Ocado PLC and a Member of the Board of Governors of the Museum of London.

### 09. Kirsten Rausing

An alternate director since 1985 and a non-executive director since 1991.

Kirsten Rausing is a Member of the Jockey Club and a Director of the British Bloodstock Agency. In addition, Ms. Rausing is the Hon. President of the European Federation of Thoroughbred Breeders' Associations (Paris). She was a Trustee of the newly formed Racing Foundation (UK) from 2012 to 2017; this Foundation handles the proceeds of the British Government's sale of the Totalisator Board. In January 2017 she was elected Chairman of The International Thoroughbred Breeders' Federation, a world-wide organisation with over 40 member states.

## A supervisory board to all Tetra Laval units

The three Tetra Laval industry groups have operations and representatives in more than 170 countries. It is a decentralised organisation but with clear rules and guidelines. The framework for Corporate Governance establishes the Board's requirements and expectations for the industry groups, and communicates governance guidelines throughout the organisation. The Tetra Laval Group Board has six primary areas of responsibility.

- Development and definition of overall strategies and policies.
- The appointment and succession planning of senior management.
- Corporate governance.
- Financial and operational control. An Audit Committee and a Remuneration Committee support the Board in these functions.
- The Board defines financial targets for the Group's different operations and for total resource allocation within the industry groups.

The Tetra Laval Group Board schedules four regular meetings each year and when circumstances require, additional meetings are held.



## PROTECTS WHAT'S GOOD

Tetra Pak is the world leader in food processing and packaging solutions. For more than 60 years, we have worked with customers across the globe to help make food safe and available, everywhere. Continually building on our heritage of innovation, our deep market knowledge and our commitment to the principles of sustainable development, we deliver end-to-end solutions that create value for our customers, helping to meet the needs of hundreds of millions of consumers in more than 190 countries every day.

### CUSTOMER VALUE GOES BACK TO ITS ROOTS

Tetra Pak was built on delivering customer value. Ruben Rausing, who founded the company more than 60 years ago, believed that a package should save more than it costs; that greater efficiency, better quality, increased differentiation and business growth should more than offset what customers pay for packaging. That principle continues to guide our business today. As an end-to-end solutions provider, we offer a complete portfolio of processing, packaging and service products that deliver outstanding performance and quality at lower comparable cost, and with higher value, than anyone else in the industry. Moreover, we apply the same principle in our approach to the environment, finding ways to reduce our total impact across the value chain, even as we continue to grow our business worldwide.

### PRODUCTS

Tetra Pak is uniquely equipped to provide solutions that meet our customers' complete needs. We provide solutions for processing, packaging and distributing a wide range of food products. We are experts in minimising raw material and energy consumption during manufacturing and distribution, thereby

maximising operational and environmental performance.

Our products are divided into the following categories:

- Packages
- Processing equipment
- Filling machines
- Distribution equipment
- Service products

### MARKETS & CUSTOMERS

Tetra Pak operates in more than 190 countries employing 24,140 people. Our customers come from across the food industry, including liquid dairy products, juices and nectars, wine, ice cream, cheese, fruit and vegetables and pet food.

### SUSTAINABILITY

At Tetra Pak, our approach to sustainability is shaped by our brand promise: PROTECTS WHAT'S GOOD™. Clearly, that's about protecting food through the processing, packaging and servicing activities that have long been the core of our business. But it goes further. It is also about protecting people: our own employees, as well as the communities in which we work and society as a whole. And it is about protecting futures: by developing the products and services that will support the future business growth of our customers; by acting and operating in ways that best protect the future of our environment; and by driving a sustainable growth agenda that best ensures the future success of Tetra Pak.

Our approach to sustainability extends across our entire value chain. We work with stakeholders to develop solutions and create shared value, and we ensure transparency by reporting regularly on our business practices and performance.

### COUNTRIES SERVED

>190

### NET SALES 2016

€11.4

### BILLION

### NUMBER OF EMPLOYEES DECEMBER 2016

24,140

### TECHNICAL TRAINING CENTRES

11

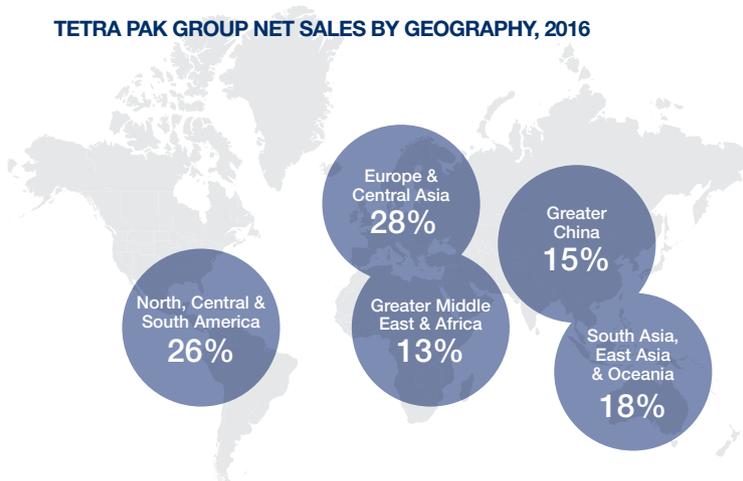
### RESEARCH AND DEVELOPMENT CENTRES

6

### PRODUCTION PLANTS

36

TETRA PAK GROUP NET SALES BY GEOGRAPHY, 2016



TETRA PAK PACKAGING SALES SPLIT BY MARKET SEGMENT, 2016

Liquid dairy products 64%	Food 3%
Wine and spirits 2%	Dairy alternatives 7%
Still drinks 8%	Juices and nectars 15%

Other 1%

# COMPLETE SOLUTIONS TO FULFIL CUSTOMER NEEDS

The Sidel Group helps package beverage, food, home and personal care products in PET, can, glass and other materials. Comprising three strong brands – Sidel, Gebo Cermex and Novembal – we are passionate about providing complete solutions that fulfil customer needs and boost the performance of their lines, products and businesses.

Delivering this level of performance requires that we continuously understand our customers' challenges and commit to meeting their unique goals. We do this by understanding the needs of their markets, production and value chains. We complement this by applying our strong technical knowledge and smart-data analytics to support maximum lifetime productivity to its full potential.

With over 37,000 machines installed in more than 190 countries, we have nearly 170 years of proven experience, with a strong focus on advanced systems, line engineering and innovation. Our more than 5,000 employees are based in over 50 locations worldwide, including 19 production plants and eight technical training centres.

## CREATING VALUE AT EVERY STEP OF THE SUPPLY CHAIN

At the Sidel Group, we direct all our efforts to creating performance for our customers throughout their entire supply chains. We strive to understand the specific needs of all our customers. No matter if these needs are related to product features, market context or value chain challenges: by combining our strengths and expertise, we can tailor our solutions through a combination of technology, services and experienced

people, to deliver customers the exact performance they need to ensure their long-term success.

## SOLUTIONS

Today's consumer is growing more selective – demanding products with greater individuality, variety and convenience. For beverage, food, home and personal care producers, this generally means the need for increased flexibility and more productive uptime in their bottling lines, with more frequent product launches, resulting in shorter production cycles and faster changeovers. Additionally, the influence of e-commerce and – in parallel – the establishment of new consumer experience at the point of sale require distribution with more customised delivery methods and increased responsiveness.

Ultimately, it is about coping with a growing pressure to continually adapt and change, while still exploring ways to improve line performance overtime and keeping total cost of ownership (TCO) as low as possible. Producers need to monitor equipment efficiency, in order to ensure optimum productivity. They must also control system performance to maximise uptime across the line and implement sustainability measures to lower the consumption of energy, raw materials and other resources. To help customers deal with these challenges, the Sidel Group strongly focuses on offering complete line and stand-alone solutions that are more connected, smart, flexible and responsive comprising innovative equipment and services, supported with leading packaging and material handling expertise.

COUNTRIES SERVED

>190

NET SALES 2016

€1.4

BILLION

NUMBER OF EMPLOYEES DECEMBER 2016

5,320

TECHNICAL TRAINING CENTRES

8

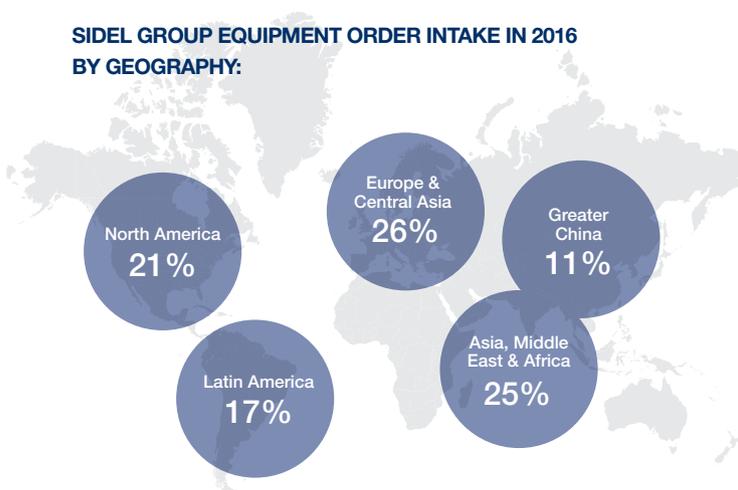
RESEARCH AND DEVELOPMENT CENTRES

8

PRODUCTION PLANTS

19

## SIDEL GROUP EQUIPMENT ORDER INTAKE IN 2016 BY GEOGRAPHY:



## SIDEL GROUP EQUIPMENT ORDER INTAKE IN 2016 BY MARKET SEGMENT:

Water 27%		Carbonated Soft Drinks 9%	
Beer & spirits 26%		Food, Home and Personal Care 16%	
Juices, Nectars, Soft Drinks, Isotonics & Teas 18%		Liquid Dairy Products 4%	

# WE MAKE SUSTAINABLE FOOD PRODUCTION POSSIBLE

DeLaval is a full-service supplier to dairy farmers. The company develops, manufactures and markets equipment and complete systems for milk production and animal husbandry worldwide. Service and sales of a wide range of accessories are also key aspects of DeLaval's operations. The company supplies highly efficient system solutions for milking, herd management, animal traffic control, feeding, cooling, manure handling, ventilation and energy recovery.

## SOLUTIONS

DeLaval offers automatic and conventional milking systems, cooling and feeding systems, effluent & housing systems and farm management support systems. DeLaval customers can also choose from a wide range of services and consumables which are grouped in four portfolios: liners & tubes, farm supplies, services & original parts, and milk quality & animal health.

## OUR CUSTOMERS

More and more dairy farmers are turning to technology to ensure they can optimise their milk production and cows' well-being. At DeLaval, we add value by meeting and exceeding our customers' requirements on quality, productivity and safety. We design, manufacture and supply integrated milking solutions with the needs of dairy farmers in mind. At all times. We serve customers in more than 100 countries around the globe.

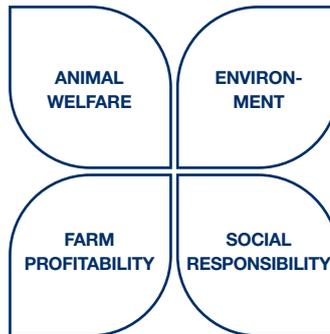
## RESEARCH AND INNOVATION

Research and innovation are central to the continued success of DeLaval supporting our customers and we have seven R&D centres across the globe. We work closely with a worldwide network of farmers,

academics, dedicated research facilities, scientists, sales teams and authorised dealers.

## SUSTAINABLE DAIRY FARMING

Our goal is to reduce the environmental footprint of farms, while improving milk production, farm profitability and the well-being of the people and animals involved. We believe the goal of Sustainable Dairy Farming can be achieved by supporting dairy farmers with smart technology and services to continuously increase resource efficiency on farms. To put it another way, we support them to do more with less.



## COUNTRIES SERVED

>175

## NET SALES 2016

€935

MILLION

## NUMBER OF EMPLOYEES DECEMBER 2015

4,450

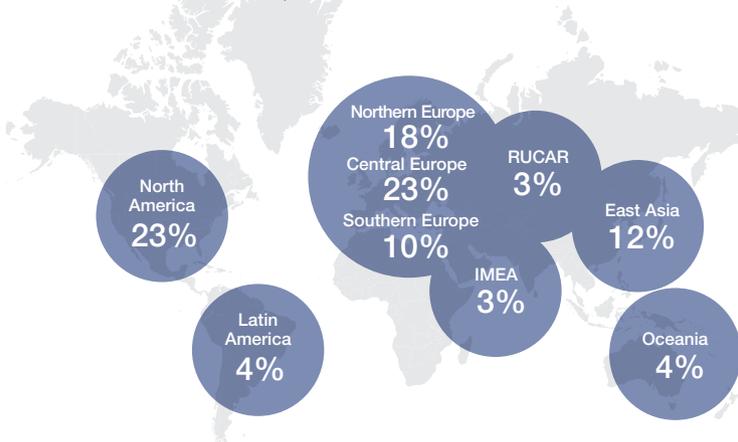
## RESEARCH AND DEVELOPMENT CENTRES

7

## PRODUCTION PLANTS

19

## INVOICING BY REGION, 2016



## INVOICING BY PRODUCT SECTOR, 2016

Service and original parts 20%		Milking 47%	
Cooling 5%		Hygiene 22%	
Farm Supplies 7%			

# Tetra Laval around the world

Tetra Laval contributes to the lives of people around the world in many positive ways. Our three industry groups – Tetra Pak, DeLaval and Sidel – provide innovative systems that improve the efficiency, quality and safety of food production, processing and packaging.

## TETRA PAK **FROM TREE TO TABLE WITH THE COCONUT HANDBOOK**

Coconut beverages have become very popular in recent years, with worldwide sales of packaged coconut water alone now estimated at more than US\$1 billion. The coconut's delicate composition, however, presents many challenges for manufacturers. Tetra Pak's new 180-page guide to coconut beverage production offers expert advice and practical information on everything from plantations and nutrition to production and distribution, covering the entire supply chain from tree to table. The Coconut Handbook draws on know-how from industry experts, including Tetra Pak's 20-year experience in the category and its global expertise in food processing. Tetra Pak established the world's first Coconut Knowledge Centre in Singapore in 2012.



## SIDEL **EXPANDING NOVEMBAL OPERATIONS IN ARIZONA**

Novembal, part of the Sidel Group, has established a new plant in Peoria, in the State of Arizona in the US.

"For over 50 years, our extensive knowledge of the industry and our commitment to continuous quality improvement has placed us among the leading suppliers of plastic closures for liquid packaging producers," commented Lorenzo van Haelst, Managing Director of Novembal. "For this new plant in Peoria, we are proud to have hired 50 people from the local area. This brings a third facility to our network of production sites, enabling us to better respond to our customers' needs anywhere within the North American market."



## DELAVAL **FAIR OAKS GOES ROBOTIC IN USA**

Fair Oaks dairy farm, one of the biggest dairy operations in America, with a total of 37,000 cows in Indiana, will install 12 DeLaval VMS™ (voluntary milking systems) to gradually replace a rotary based milking system. The main triggers were labour scarcity and cow comfort. DeLaval VMS™ allows cows to be milked automatically whenever they like in a calm, quiet and stress-free environment. Fair Oaks farms consists of 12 family-run farms, with a commitment to educating the public about modern farming efforts, protecting the environment, caring for our animals

and ensuring the highest quality products possible.



## TETRA PAK **FIRST TETRA TOP® CARTON BOTTLE WITH BIO-BASED PLASTIC HITS MARKER WITH JUST® WATER**

In April 2016, Tetra Pak's new Tetra Top® carton bottle made its debut in the USA with JUST® water. The new-generation water bottle comes with a cap and top made from high-density polyethylene (HDPE) derived from sugarcane and Forest Stewardship Council™-certified paperboard, resulting in a significant reduction in CO<sub>2</sub> emissions compared with plastic bottles, with no impact on recyclability. The new packaging upholds JUST's ethos that everyday products should evolve in ways that continually reduce their impact on the environment.



## TETRA PAK **LAUDE ACQUISITION EXTENDS CHEESE PORTFOLIO**

In April 2016, Tetra Pak acquired Laude, a market leader in the design, development and manufacture of plastic moulds used in cheese production. The Dutch company is at the forefront of cheese mould design and supply, offering exceptional performance and durability, coupled with superior hygiene and cleanability standards. This acquisition strengthens the company's position as the world's leading provider of complete solutions for cheese manufacturing, and will extend the availability of Laude's products in the global market.





**DELAVAL FIRST AMR IN ESTONIA**

An Estonian farm has signed a contract for the nation's first automatic milking robot (AMR™) system. The purchase was motivated by the difficulty in finding qualified milking labour in conjunction with planned expansions. The AMR solution required fewer changes to the barns than a VMS™ system would have required, and allowed milking to continue in the existing parlour as long as needed during the transition phase. After relocating heifers and dry cows about 480 lactating cows will be milked by the AMR, with a potential to reach a total of 570 cows.



**SIDEL DESIGNING PET BOTTLES FOR YILI'S NEW RANGE OF YOGHURT DRINKS**

The Yili Group is the largest dairy producer in China and one of the fastest growing companies in the country. Months of close collaboration between the Sidel packaging team and Yili's Liquid Milk Division has seen the creation of a PET bottle for the company's new Changyi brand, a new range of yogurt drinks intended to attract active, health-conscious consumers with growing expendable income. Response towards the new container shape and the branding of Yili's new product – which has been rolled out throughout China – has been very favourable with both being well received by local consumers.



**DELAVAL TIANJIN FACTORY EARNS SAFETY DISTINCTION**

The Delaval factory in Tianjin, China, includes both a supply chain plant and a plant for milk quality and animal health (SC plant and MQAH plant). In 2016 it was designated by the Safety Production Committee of Tianjin Port Free Trade Zone and Tianjin Airport Economic Area as the pioneer factory for safe production in the Tianjin airport and seaport area. Tianjin is the largest port in Northern China and the main maritime gateway to Beijing, 170 km to the northwest.



**SIDEL AUTOMATIC CASE PACKING SOLUTION FOR FRISIAN FLAG INDONESIA**

Frisian Flag Indonesia, a subsidiary of the international Dutch dairy group Friesland Campina, has turned to Gebo Cermex to strengthen safety and increase productivity for its sweetened condensed milk bag line in their Djakarta factory.

The customer was dealing with two major challenges: a congested packing area with more than 100 people working manually and the 10-15 per cent rising labour cost increase.

Gebo Cermex, part of the Sidel Group, was able to provide a very compact and customised robotic case packing solution, while saving material by 10 per cent material when replacing the former RSC cases by Wrap Around blanks. Gebo Cermex presence in Indonesia for a long time with a well-staffed local support team has been also one of the decisive factors driving the customer's choice.



# Difficult year but improved profitability and cash flow

2016 was not easy. The headwinds that have slowed our progress in recent years grew stronger, hampering sales across many areas of our business and interrupting top line growth. We finished the year with net sales of €11.4 billion, 3.6 per cent lower than in 2015.

It was a year characterised by continued slow global growth and rising economic uncertainty, with further downturns in several important geographies. Of our top 10 markets worldwide, Brazil, Russia and Argentina all saw GDP shrink, while China, Mexico, Spain and the USA each reported further slowdowns in the growth of their economies. Across our five geographic clusters, we achieved year-on-year net sales growth in just two, Greater Middle East & Africa, and South Asia, East Asia & Oceania, both at a slower pace than in 2015. On the plus side, Europe & Central Asia performed better than we had expected, albeit still contracting, with consumer confidence edging higher despite Brexit and other EU-related uncertainties.

Through the year we faced ever-more aggressive competition, we saw customers shy away from investment, and we watched consumption wilt further in core categories.

Yet despite this, thanks to our continued focus on cost control and resource optimisation, both cash flow and profitability remained strong, ending the year above last year and in line with our long-term ambitions. Given the hostile backdrop, these achievements speak volumes for the professionalism of our employees, the loyalty of our customers and the effectiveness of the strategy that we put in place seven years ago.

## SALES OF CAPITAL EQUIPMENT DECREASED

Sales of capital equipment, both for processing and packaging applications, were particularly hard hit in 2016. Customers were reluctant to invest and a number of major projects were delayed. Our Packaging business reported equipment sales down 14 per cent year on year, to €770 million, with just 453 filling lines placed, 20 per cent

less than in 2015. Processing also saw equipment sales drop, down 4 per cent to €1,170 million, with margins squeezed as tougher competition and cost under-absorption, caused by lower-than-expected sales, took their toll. Orders received by our Processing business in 2016 also came under pressure, ending the year 10 per cent below target, a shortfall that may prove difficult to recover as we move through 2017.

## STRONG GROWTH OF OUR SERVICES BUSINESS

By contrast, our Services business contributed strongly once again in 2016, with year-on-year growth of around 9 per cent in both Processing and Packaging, lifting total sales to €1,300 million. We saw double-digit growth in the sale of Consumables, Expert Services and Equipment Upgrades, with several new offerings gaining strong traction among customers. Since 2011, sales in our Services business have achieved a compound annual growth rate of more than 10 per cent, climbing from €800 million to €1,300 million in five years, whilst also expanding margins.

## INCREASE IN PACKAGING MATERIAL VOLUMES

Despite another increase in packaging material volumes, which climbed from 184 billion packages in 2015 to 188 billion packs in 2016, net sales fell 1.2 per cent, to €8,150 million. In part, the decline was caused by a shift in product mix, from family packs to portion packs, but it also reflected a number of pricing actions designed to further strengthen the competitiveness of our portfolio. Despite this, our market share was again put under pressure, as competitors

“Our Services business contributed strongly once again in 2016, with year-on-year growth of around 9 per cent in both Processing and Packaging, lifting total sales to €1,300 million.”

fought hard to take ground in both the white milk and juice & nectars categories. In response, we continued to drive the deployment of our advanced portfolio, offering customers a range of shapes, closures and materials that bring greater functionality, convenience and differentiation. In 2016, our advanced portfolio accounted for 43 per cent of total packaging material sales, up three percentage points compared with 2015, and 30 percentage points higher than in 2010.

#### **CONTINUED GROWTH FOR TETRA RECARTE**

The year also saw us successfully expand the global footprint for Tetra Recart, our retortable carton packaging system for food, which is now widely recognised in Europe and the Americas as the modern, convenient alternative to steel cans and glass jars. Following a strategic review of the business, the product is now being deployed in the Middle East, China and other parts of Asia, where it is mirroring its success in the west. We remain very optimistic about the product's ability to fulfil its potential, with good traction among consumers, retailers and brand owners, thanks to its convenience, environmental profile and strong branding possibilities.

#### **STRATEGIC SUCCESS**

Through 2016 we again reaped benefit from our focus on accelerating growth in areas beyond the traditional packaging material core of our business.

For example, we picked up several major contracts for end-to-end production facilities, like those awarded to us by Yili in New Zealand, Abbott Laboratories in the USA and Tianyou Dairy in China. We saw continued



uptake of our service contracts, including Tetra Pak® Plant Secure, a new offering that is helping customers increase asset utilisation and improve their return on expenditure. There was strong interest in our pilot condition-based monitoring service, through which we are able to remotely track the behaviour of our production lines, enabling us to predict when parts will need to be replaced. And we expanded our Customer Innovation Centres, which are receiving an extremely positive response from our customers.

During the year we also introduced an array of new products, including the world's highest capacity homogeniser, our next generation Tetra Pak® PlantMaster plant automation system, plus a range of package formats, processing technologies and service offerings. Our long-standing commitment to innovation continues to deliver results, providing a solid platform on which we will drive future growth. For packaging materials, our vitality index, which measures the share of sales coming from products launched during the past five years, stood at 19 per cent in 2016, up from 2 per cent at the start of the decade. For our filling machines and distribution equipment, the index is 15 per cent - up from 4 per cent in 2010.

#### **ACHIEVEMENTS IN 2016**

Beyond the sphere of product and service sales, a number of events stood out in 2016, for different reasons.

Our Gornji Milanovac factory in Serbia became one of only 20 facilities in 40 years to receive the world's most prestigious award for manufacturing excellence, the Japan Plant Maintenance World Class Total Production Maintenance Award.

We made tremendous progress in field trials of our E3 Hyper Speed filling lines, incorporating the revolutionary eBeam sterilisation technology, which have now produced more than 1 billion packages at rates of 40,000 units an hour.

We completed the acquisition of Laude BV, a market leader in the design, development and manufacture of plastic moulds for cheese production, further strengthening the

One area of specific focus through the year ahead will be digitalisation. With new technologies and data-driven applications emerging all the time, we see this as an area of huge opportunity, not just when it comes to enhancing productivity, but also in terms of driving business growth.

company's leadership position in providing complete solutions for this expanding industry. We also announced the go-ahead for a new packaging material factory in Vietnam, where we see significant opportunity for growth, while also facing the tough decision to close two under-utilised facilities in Europe, in Kiev, Ukraine and in Romont, Switzerland.

Also last year, China's State Administration of Industry & Commerce, SAIC, announced the outcome of its investigation into the business practices of Tetra Pak China. It concluded that, in a limited number of areas, Tetra Pak China has been in breach of the Country's Anti-Monopoly legislation. It fined the company €91.4 million.

Corrective actions have been taken to ensure that all our business practices are in full compliance with the country's Anti-Monopoly legislation.

#### **PROGRESS WITHIN SUSTAINABILITY**

During the year we took further strides in our sustainability journey. At one level, our decision to sign the Paris Pledge for Action at COP21, our invitation to join the Circular Economy 100 and our commitment to secure all of our electricity needs from renewable sources by 2030 made clear our determination to steer the right course. At another, milestone achievements like delivering 65 billion packages with the FSC logo, extending our use of bio-based polymers and securing the highest possible ratings from the Carbon Disclosure Project for our Climate and Forestry reporting, showed that it's not just words, it is also actions.

In 2016 we also made further progress on the recycling front, with more than 47 billion packs recycled across the globe, or 25 per cent of our annual sales.

#### **LOOKING AHEAD**

As we move through 2017, with the global economy entering its sixth year of stagnation and showing little sign of respite, the challenges seem set to continue. But we are confident of our ability to restore the company's growth trajectory, raising the bar of our performance as we drive our strategic agenda.

One area of specific focus through the year ahead will be digitalisation. With new technologies and data-driven applications emerging all the time, we see this as an area of huge opportunity, not just when it comes to enhancing productivity, but also in terms of driving business growth.

Our starting point is strong. We already have a range of industry-leading activities under way in the digital arena; we have put in place a single shared platform on which we run our entire global business; and we have lean and modern IT operations in many areas that provide a solid foundation on which to use information as a strategic asset.

With a dedicated programme now in place to advance digital opportunities with speed, agility and appropriate capability, we see tremendous potential across many different areas to deliver digital products, solutions and services that will help fuel our future success.

Dennis Jönsson



## TETRA PAK GLOBAL LEADERSHIP TEAM

- 01. Dennis Jönsson - President & CEO
- 02. Michael Grosse - Development & Service Operations
- 03. Chris Huntley - Corporate Communications
- 04. Monica Gimre - Processing Solutions
- 05. Pål Lunning - General Counsel
- 06. Phil Read - Human Resources
- 07. Adolfo Orive - North, Central & South America
- 08. Steve Yin - Greater China
- 09. Michael Zacka - South Asia, East Asia & Oceania\*
- 10. Amar Zahid - Greater Middle East & Africa
- 11. Charles Brand - Product Management & Commercial Operations
- 12. Charles Héaulmé - Europe & Central Asia
- 13. Eric Baudier - Supply Chain Operations
- 14. Bruce Burrows - Finance & Business Transformation



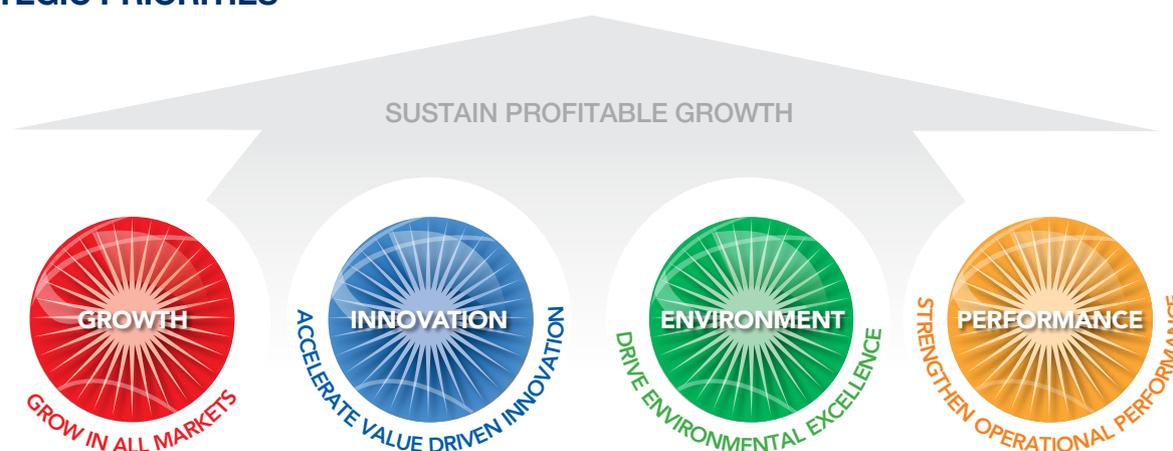
\* will leave the Tetra Pak Group June 30, 2017.



## VISION

We commit to making food safe and available, everywhere

## STRATEGIC PRIORITIES



## STRATEGIC DIRECTION

Tetra Pak's 2020 Strategy, introduced in 2010, focuses on ensuring the company is properly positioned to face the challenges, and capture the opportunities, of our continually-changing business landscape.

Since its launch, we have secured growth across all parts of our business model: capital equipment, packaging materials and services. In doing so, we have moved beyond our core business of carton packaging for dairy and juice, with a particular focus on strengthening our processing and service offerings, and on creating new business opportunities in non-traditional food and beverage categories.

At the same time, we have become leaner and more productive, taking steps to greatly improve our organisational effectiveness and operational performance.

We have accelerated value driven innovation, broadening and bolstering our product and service portfolio to help meet the current needs and future expectations of customers and consumers alike.

And we have continued to pursue environmental excellence, expanding that agenda to embrace the broader elements of corporate responsibility and taking steps to ensure that sustainable thinking is embedded into our long-term business strategy.

## OUR VALUE PROPOSITION

Our value proposition to customers is built on a straightforward commitment: to place their success at the heart of everything we do.

In practice, this means dedicating ourselves not only to understanding their needs, but also those of their customers, using our global resources, industry expertise and market insight to help them fulfil their ambitions.

As the leading innovator in the food processing and packaging industry, providing end-to-end solutions, we focus on ensuring that our customers deliver products of outstanding quality and consumer appeal, while maintaining the highest standards of food safety, operational performance and sustainability.

It is a value proposition we hope sends a clear message: we are one company, putting the customer first, in pursuit of our shared vision.



## New heights for plant management

In November 2016, Tetra Pak launched a new version of Tetra Pak® PlantMaster, enabling manufacturers to manage an entire plant through a single control and data management system. The world's most advanced plant automation and information solution, it is specifically



designed for the food and beverage industry, and is based on our extensive production knowledge.

The new release includes Tetra Pak PlantMaster Manufacturing Execution Systems Suite (MES), which provides full end-to-end information management. In our industry, plants often contain equipment from different suppliers that use separate information systems or even require manual data collection. With the new MES, Tetra Pak PlantMaster provides one set of software tools that integrates all operations, from incoming raw materials to finished, palletised products, with any brand of equipment, and across all sites. More streamlined data collection facilitates accurate analysis and, ultimately, improves efficiency.

Customers can take total control of their operations and maximise the value of their production, cutting downtime and waste and reducing operational costs and environmental impact. They can also achieve consistent product quality and full control of food safety, while providing end-to-end traceability from raw material to consumer. This reduces complexity in their management processes and increases productivity, which in turn has a further positive impact on their bottom line.

Tetra Pak PlantMaster can be easily customised to fit each customer's specific needs: they can choose the modules relevant to their operations today, while enabling quick and easy creation of new functions they may need in the future. It is available globally as an upgrade to existing versions, or as a new installation.

## Tetra Pak introduces world's first aseptic carton package to receive highest class of renewable certification

In December 2016, Tetra Pak launched a new version of Tetra Brik® Aseptic 1000 Edge with Bio-based LightCap™ 30: the first aseptic carton package in the world to receive the highest class of Vinçotte certification for its use of renewable materials. The new package is manufactured using a bio-based plastic film and cap, made from polymers derived from sugarcane. Combined with the paperboard, this lifts the share of materials from renewable sources in the package to above 80%, the threshold for four-star certification from Vinçotte, the Belgium-based accreditation agency. Earlier in the year, in April, Tetra Pak surpassed the 200 billion mark for packages carrying the Forest Stewardship Council™ label.



# Working directly with the customer's brands

Tetra Pak® Marketing Services are taking off around the globe, supporting growth and market success for food and beverage producers and brand owners. Participating customers work with us on a tailored, collaborative innovation journey using best-in-class tools and creative methods, and leveraging our industry expertise. This joint approach enables us to unlock richer insights into markets and consumer trends; identify mutual growth opportunities; and create new or improved products and solutions.

The innovation journey often starts at one of our five Customer Innovation Centres, currently up and running in Denton (USA), Dubai (UAE) and Singapore, with new centres planned for 2017 in Lund (Sweden) and Monte Mor (Brazil). Sessions typically cover scoping, business intelligence, ideation, branding, formulation testing, graphic design, real-time consumer testing and rapid prototyping, depending on the customer's needs. Specialised pilot plant facilities nearby allow us to test ideas and bring product concepts to life.

In South America, for example, Tetra Pak collaborated with a leading dairy on both its branding and promotional strategy, helping them to create a compelling case for consumers to trust and believe in

their products by focusing on the farmers and workers who bring them to the table.

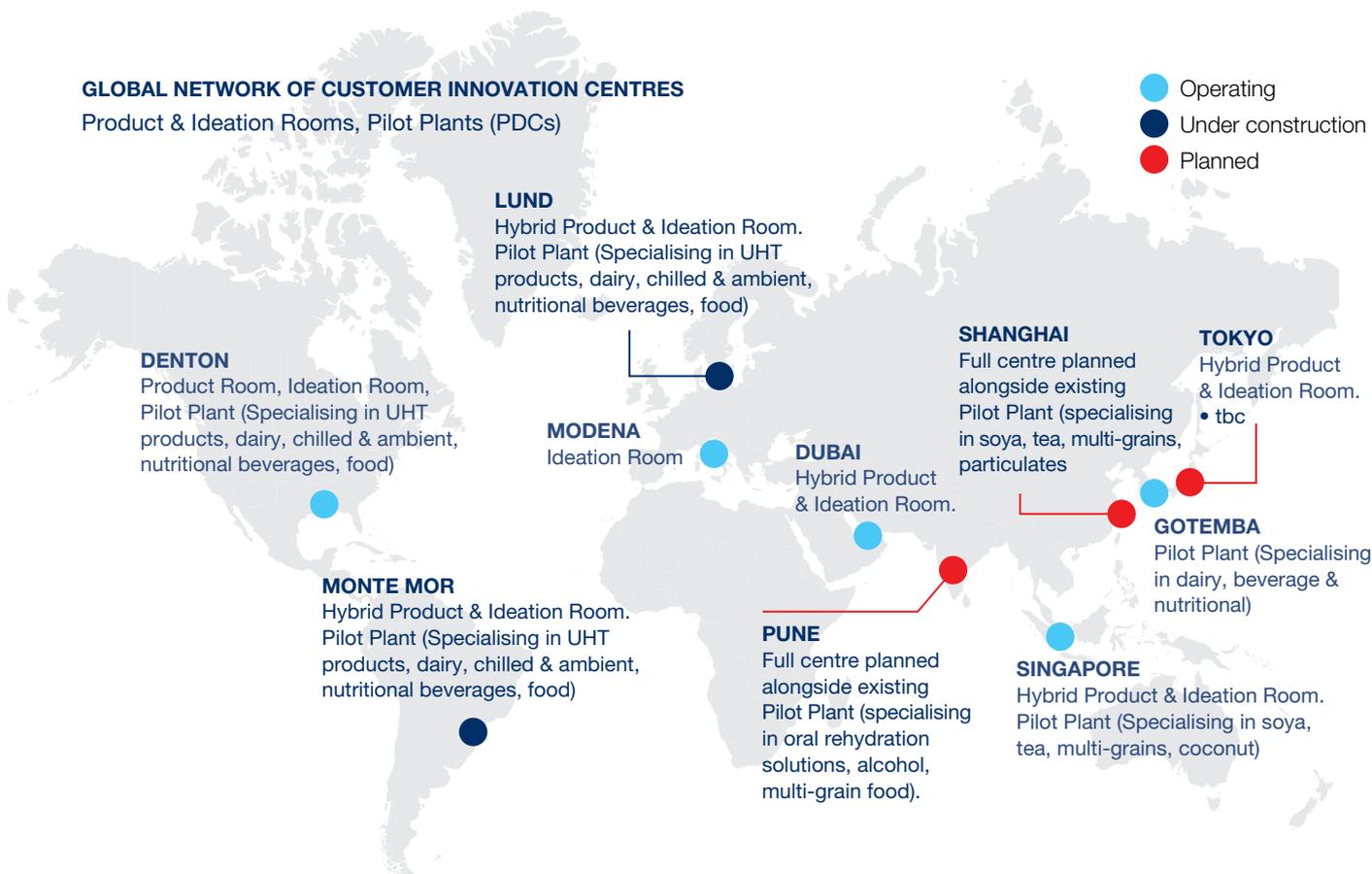
Two other customers, one in Malaysia and the other in South Africa, brought a rich array of ideas back to their innovation pipeline for further evaluation.

"Having a packaging supplier like Tetra Pak that's prepared to get involved in helping us win in the marketplace is a real advantage," says Cathy Eve, Marketing Executive for Parmalat, South Africa. "The real value was in the way that the sessions were founded on facts and market data, with actual consumers giving us their feedback, plus examples from other countries."

In Jordan, Khaled Kasih of Kasih Food Industries describes Marketing Services as an essential component of our end-to-end solutions, which enabled his company to bring a new, safe and nutritious children's hummus to market. "Without the involvement of all the teams – from Tetra Pak® Marketing Services to processing, filling and secondary packaging – this project would never have happened," he says. "They have helped us innovate together."

## GLOBAL NETWORK OF CUSTOMER INNOVATION CENTRES

Product & Ideation Rooms, Pilot Plants (PDCs)





## Predicting breakdowns and helping customers plan maintenance

Traditional equipment maintenance can be predetermined – run it every 1000 hours or every 500,000 litres – or corrective – fix it when it breaks. But thanks to digitalised services, Tetra Pak is now able to offer Condition Monitoring; a new approach that can predict failures before they occur, allowing customers to plan maintenance and save hours or even days of downtime.

Rather than risk either failure or too-frequent replacement of components, Condition Monitoring uses sensors to monitor their operating environment or internal state. Captured data is sent to our Performance Management Centre, where algorithms analyse the machine's behaviour and predict when failure is likely to occur – and so when parts need to be replaced.

Condition Monitoring provides customers with an unprecedented opportunity to improve plant efficiency, by enabling replacements to be scheduled during routine maintenance stops, preventing unplanned stops, optimising maintenance intervals and improving productivity. The service can also be tailored to monitor vibrations, lubrication, power circuits or acoustics, as well as process flows, pressures and temperatures.

Customers are already experiencing the benefits. In one case, Condition Monitoring predicted a servo motor breakdown 100 days prior to failure, sparing the customer 48 hours of downtime. Another customer avoided 36 hours of downtime after Condition Monitoring detected worn bearings and a damaged coupling. The service also detected an incidence of incorrect belt tension for a customer in South America, which helped prevent accelerated wear and breakdown.

Overall, the new digital technology made available by Tetra Pak Services is helping to ensure that customers' food manufacturing runs smoothly and delivers on time and in full. Systematic monitoring also benefits ongoing product and service development, since it enables our design, engineering and technical staff to modify maintenance recommendations, contributing to the development of even better equipment.

## Shaping up on shelves – and on the go

In September 2016, long-time customer Skånemejerier launched a range of drinking yoghurts in a package that offers a completely new shape for on-the-go consumption: the Tetra Top® 330 Mini Nallo. The package was developed in partnership with Skånemejerier, a dairy cooperative based in southern Sweden, and is designed for chilled, value-added dairy products such as drinking yoghurt, juices and nectars. These are all healthy products with a degree of novelty and indulgence, making them attractive to younger consumers. The fact that the package is made primarily of renewable materials adds to the appeal. The new carton package takes the place of plastic bottles, enabling Skånemejerier to cut their use of plastics by an estimated 45 tonnes a year.



## New ice cream filler delivers better cost of ownership

The new and improved Tetra Pak® Ice Cream Filler A3 is designed specifically for small- to medium-sized producers looking to lower operating costs and increase flexibility, with minimal investment. The new filler produces up to 18,000 ice cream cones per hour, with three enhanced components that are also available individually as line upgrades: a cone dispenser with high reliability and size flexibility; an easy-to-operate chocolate sprayer with exceptional accuracy; and a precise lid dispenser, which improves standardisation. These features reduce waste, minimise stops and increase overall speed, while ensuring product quality. The modular design also offers significant production flexibility with simple setup and easy equipment changeovers, which take just minutes.



## Enhanced standardisation unit offers industry-leading precision

Separating the expensive fat from milk is an important part of the dairy production process. Fat is then added back to the product to achieve the required percentage through a process called standardisation. An enhanced version of the Tetra Pak® Standardization unit has lifted the precision of this process to a new level, helping dairies to optimise fat content in their products and thereby achieve significant savings. The product has already achieved field success with international dairy cooperative Arla Foods at its plant in Palmers Green, London.

“For us, the big money is in cream,” says Christian Odgaard, Regional Project Manager. “To give cream away is an absolute no-no. We were quickly impressed with the reliability and precision of the Tetra Pak Standardization unit. The difference in higher accuracy is clear to see. A lot of cream is coming back into our tank.”

Arla Foods’ requirements were challenging: to replace three obsolete standardisers, while limiting downtime to three days. “That is exceptional for us,” says Regional Project Manager Josette Bogerman. “I love working with Tetra Pak. They gave us the right guarantees. We would never have had the commitment from anyone else to do it in three days.”

The unit, which is now available to customers worldwide, provides automatic in-line standardisation directly after milk separation, with a capacity of up to 75,000 litres of milk per hour. Highly reliable, the system is based on continuous development and testing of high-performance automation software and advanced flow transmitters and regulation valves. Overall, it delivers a reduction in the variation of “cream giveaway” from +/- 0.020% to +/- 0.015%.



## Homogeniser sets a new world record

The world’s largest-capacity food-processing homogeniser went into operation in March 2016 with its first customer, Chinese food company YinLu. The Tetra Pak® Homogenizer 500 can produce up to 63,600 litres per hour, offering outstanding product quality at the lowest operational cost available. The machine features Tetra Pak’s pioneering HD EnergyIQ, an innovative homogenising device that operates at pressures around 20% lower than standard machines, while delivering the same quality. The result is a significant reduction in energy consumption, considerably reduced costs, and the highest uptime in the market.

## World’s largest biscuit plant opens in Mexico

In May 2016, Tetra Pak completed work on the world’s largest biscuit manufacturing plant in Salinas, Mexico that includes 12 production lines of Tetra Pak processing equipment. Tetra Pak Guerin Systems beat stiff competition to win the contract for the greenfield plant for multinational food and beverage maker Mondelez. The new plant produces biscuits and cookies for the North American market, including such well-known brands as Oreo, Ritz, Chips Ahoy and Belvita. While Tetra Pak had previously worked with Mondelez on several powder-handling projects, most recently for a sugar reception expansion, this project also includes handling of liquids, such as oils and syrups.



# Whole peeled tomatoes in Tetra Recart®



Guloso in Portugal has become the first brand worldwide to pack whole peeled tomatoes in a carton package, thanks to Tetra Recart® technology. Lighter, safer and easier to transport and use than traditional tomato packaging options, a Tetra Recart® package maintains product quality for 24 months without preservatives or refrigeration. It can also be resealed if the entire product is not used in one go and is made of Forest Stewardship Council™-certified cardboard, a renewable resource. Consumers can easily close it again if the entire product is not used at once.

According to Nuno Saraiva, Marketing Director of Sugal, the company responsible for the Guloso brand: "The Tetra Recart® system offers the tomato segment, conventionally supplied in cans, all the functional, logistical and environmental advantages of carton packages throughout the supply chain."

## New regional packaging material factory announced in Vietnam

In November 2016, Tetra Pak announced its €100 million investment in a new state-of-the-art regional manufacturing facility near Ho Chi Minh City, Vietnam, to serve growing consumer demand in the Asia-Pacific region. The liquid dairy and fruit-based beverage categories markets in the country are forecast to grow at a healthy 5.6% per annum over the next three years, with products packed in Tetra Pak cartons projected to grow at a much faster rate than bottles and cans. The first-ever liquid food carton packaging factory in Vietnam, the new facility is expected to start commercial operations by early 2019, with an expandable production capacity of around 20 billion packs per annum serving customers across the region.





Leveraging our leading position as an end-to-end system supplier, we aim to implement our vision of an integrated digital value chain, ensuring better food safety and higher productivity.



## Driving food safety and manufacturing performance with digitalisation

As a global leader in food processing and packaging in more than 175 countries, we have long invested in our automation and service offering to improve product protection and drive manufacturing performance. As an end-to-end solutions provider, we focus on system integration and the application of digital technologies right the way across the value chain. 2016 has been a particularly busy year for this aspect of our work.

### PRODUCTION INTEGRATION ENABLES EFFICIENCY AND TRACEABILITY

In November 2016, we launched a new version of Tetra Pak® PlantMaster, the world's most advanced plant automation and information solution specifically designed for the food industry (see page 21). It enables manufacturers to programme and integrate the operations of an entire plant through a single data management system, from raw material coming in one door to finished products going out the other.



But even more importantly, it enables value chain integration, connecting processing and packaging, and securing tracking and full traceability – a key element of product safety and a major customer concern. With the new software, the time taken to produce traceability reports is cut from hours to seconds.

### BETTER QUALITY SAMPLING, BETTER PERFORMANCE

Picture the scene. A truck is being unloaded when a few drops of liquid are spotted under a pallet. That pallet is inspected, leading to the

discovery of two blown packages. As result, the whole truck – carrying some 25,000 packages – is loaded up again and returned. With better traceability and better recall management, such costly incidents needn't occur.

Machine-assisted quality sampling (MAQS) is a unique Tetra Pak toolkit for measuring aseptic performance, collecting sampling data and making it available for analysis and correlation by the customer and/or us. It helps customers by aiding continuous improvement and monitoring aseptic performance trends, as well as reducing waste. From Q2 2017, MAQS will be available with all new Tetra Pak filling machines.

### SERVICE DIGITALISATION BOOSTS EFFICIENCY

Embedding automation within our products is another effective way to improve operations and performance management. Machine-mounted sensors send data to our Performance Management Centre, where cloud-based algorithms analyse the machine's behaviour and predict when failure is likely to occur, and thus when parts need to be replaced (see page 25). Performance data is also accessible on mobile apps by our field service engineers, enabling remote support.

### MEETING HUMAN NEEDS

Digitalisation is not merely about enhancing production performance; there is a human side to it, too. For example, digitalisation – especially in the form of animation, visualisation and virtual reality – is increasingly being used to show customers what goes on inside our machines, making operator training faster and more effective.

Ultimately, digitalisation will also shape how consumers engage with packages. In the future, every package will become a carrier of information, enabling new interactions all the way along the value chain. Producers can already share data with consumers about specific packages; in future, greater producer-consumer interaction will allow our customers to change the way they are marketing their products, creating a dedicated channel to each end consumer.

Many of these advances in digitalisation will undergo trials in 2017.



We work with our customers in more than 190 countries around the globe, providing end-to-end solutions that encompass processing, packaging, distribution, automation, life cycle management and consumer marketing. And what's more, our customers say they want to work even more closely with us.

## Customer value at the centre

Tetra Pak puts the success of our customers at the heart of everything we do. We dedicate ourselves to understanding their needs, using our global resources and proven industry and market expertise to help them fulfil their ambitions.

Providing end-to-end solutions, we focus on ensuring that our customers deliver products of outstanding quality and consumer appeal, while maintaining the highest standards of food safety, operational performance and sustainability.

### CHALLENGING ENVIRONMENT FOR GROWTH

By 2050, the global population will have reached almost 9 billion. Resource scarcity will be an ever-more pressing concern, adding to the sustainable development challenges already facing companies, which will need to adapt sooner rather than later.

In these changing times, we are working to deliver solutions to our customers' challenges. To take one example, while the global population is rising, developed countries now have lower birth rates and fewer children. Combined with a proliferation of new beverage choices, this is affecting the overall consumption of white milk and juice.

Other factors are at work too, including changing consumer habits, such as on-the-go breakfasting and the rise in demand for plant-based beverages. As a result, growth in white milk consumption is expected to slow down and the category will show a global average growth rate of just 1.8% for 2016-2020. Juices are expected to decline slightly over the same period, also due to changing habits and other factors such as the sugar debate.

With milk prices at their lowest since the height of the global economic crisis, due to oversupply, dairy processing is, as a result, moving away from white milk and towards differentiated, higher-value products, such as lactose-free dairy, ambient yoghurt and high protein dairy products. The possibility

for redistribution between production and consumption via milk powder is another growing area.

### TETRA PAK OFFERS SOLUTIONS

Tetra Pak is always working to help our customers identify new areas for growth, such as by exploring new product categories or geographies, or upgrading or repositioning existing products. In addition, we provide expert operational support, helping our customers deliver consistent quality and high efficiency.

As many countries regulate to reduce environmental waste and emissions, our customers require their production lines to use less energy and water – which also meets their need to reduce operational costs – and to have a smaller carbon footprint. Tetra Pak is constantly striving to address these needs in our product development and deployment.

Technological innovation will continue to drive significant disruptive change in our industry over the coming years, affecting the way food is manufactured, sold, purchased and consumed. As we show on our Technology page, Tetra Pak is well equipped to anticipate and meet these challenges through our own innovation so that we can continue to support the business growth of our customers in the future.

### TOP TEN MARKETS IN PACKAGING

Based on billion packs sold

1. CHINA
2. BRAZIL
3. USA
4. VIETNAM
5. THAILAND
6. INDIA
7. MEXICO
8. PAKISTAN
9. RUSSIA
10. SPAIN

### TOP TEN MARKETS IN PROCESSING

Based on total processing solutions net sales

1. CHINA
2. USA
3. GERMANY
4. AUSTRALIA
5. FRANCE
6. UNITED KINGDOM
7. NEW ZEALAND
8. RUSSIA
9. INDIA
10. MEXICO





At Tetra Pak, our approach to sustainability is shaped by our brand promise – PROTECTS WHAT'S GOOD™. Clearly, that's about protecting food through the processing, packaging and servicing that have long been the core of our business. But it goes further. It is also about protecting people: our own employees, as well as the communities in which we work and society as a whole. And it is about protecting futures: by developing the products and services that will support the future business growth of our customers; by acting and operating in ways that protect our future environment; and by driving a sustainable growth agenda that ensures the future success of Tetra Pak.

## A track record of commitment and innovation

### SHAPING THE SUSTAINABILITY AGENDA

When Tetra Pak added its name to the Paris Pledge for Action at COP21 in December 2015, we reinforced our long-standing commitment to taking the initiative in helping tackle climate change. This pledge forms part of our climate goal to cap our emissions across the value chain at 2010 levels through to 2020, despite higher levels of production. In 2016, we also signed up to RE100, committing us to increasing our use of renewable electricity from 22% today to 100% across our global operations by 2030.

Other 2016 highlights include being cited as a global leader by the CDP (formerly the Carbon Disclosure Project), an independent non-profit organisation that provides the only disclosure system for companies, cities, states and regions to manage their environmental impacts. This, along with the award of a position on the CDP's Supplier Climate A-list, was in recognition of our actions and strategies in response to climate change. We were also recognised for a second consecutive year in CDP's Forests programme as a sector leader in timber-based products – one of only eight companies to receive this accolade.

We also committed to support and work to achieve the UN's new Sustainable Development Goals (SDGs), which aim to end poverty, protect the planet and ensure prosperity for all. And we became a corporate member of the Circular Economy 100 (CE100). This programme, set up by the Ellen MacArthur Foundation, supports the development of a circular economy; one that is restorative and regenerative by design.

### BUILDING IT RIGHT

Our technical innovations – and their specific contributions to reduced impact on the environment – are presented in the Technology section and Highlights. These include: extensive use of renewable materials; portion packages with openings suitable for on-the-go consumption that avoid waste; ice cream fillers with enhanced components that reduce product spills; carton products that are lighter, safer and easier to transport than cans; and extensive energy-saving automated features built into ever-smarter machines. Many of our product innovations are responses to consumer demand for products with lower environmental impact.

### DELIVERING SUSTAINABLE INFRASTRUCTURE

The people side of the sustainability story isn't just about consumers or employees. Sometimes it extends to production, too: for example, the Dairy Hub set up by Tetra Laval's Food for Development team in the Jaffna District of Sri Lanka, when the local economy was still in tatters following the country's long civil war. Working with local and international partners, the sustainable milk collection hub offers a robust network of collection points plus essential training in animal health and milk production – vital in an area that had no tradition of dairy farming and little expertise.

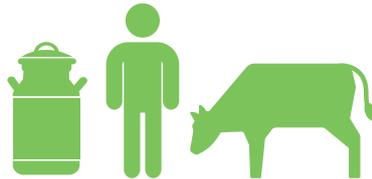


Working with local and international partners, the sustainable milk collection hub offers a robust network of collection points plus essential training in animal health and milk production

## FOOD



We keep food safe and minimise waste through our processing and packaging solutions.



We build sustainable food value chains, including our Dairy Hubs.



We support school feeding programmes and help improve children's health.

## PEOPLE



We engage and provide opportunities for all our employees.



We include and respect every individual, regardless of age, gender, ethnicity, nationality or sexual orientation.



We support communities wherever we operate.

## FUTURES



We support the long term success of our customers' business and invest in innovation.



We drive environmental excellence and address the most material social environmental aspects of our business.



We manage our environmental impact across the value chain including carbon emissions, responsible sourcing and recycling.

# Considerable progress in 2016

In summary, Sidel made considerable progress during 2016. For all of us in the Sidel Group the biggest highlight was the improved performance we can see coming out of the comprehensive and often tough change process we are taking ourselves through. Of course, a fundamental element in this process is the continued dialogue and success we have had with our customers worldwide. Understanding and delivering the performance they need every day in their operations has become a key focus in our organisation.

For me personally, 2016 was my first year as CEO and President. In addition to my interactions with customers, a second highlight was meeting so many of my new colleagues. I remain consistently impressed by their expertise and passion. On all sites, in all teams, people have a very clear passion for what we do, and a passion for continued success. In this context, I would like to thank my colleagues throughout the organisation for all their hard work during the year.

“For all of us in the Sidel Group the biggest highlight was the improved performance we can see coming out of the comprehensive and often tough change process we are taking ourselves through.”



“By thoroughly understanding our customers’ products, markets and value chains, we can tailor our solutions through a combination of technology, services and expertise, ensuring long-term success. We call it Performance through Understanding”

#### **UPDATED STRATEGY**

Last year was important also because we updated our group strategy, aimed at delivering superior performance over the lifetime of our customers’ investments, leading to profitable growth for ourselves. We have captured this in a new commitment for our group, to deliver Performance through Understanding. By thoroughly understanding our customers’ products, markets and value chains, we can tailor our solutions through a combination of technology, services and expertise, ensuring long-term success.

#### **IMPROVED FINANCIAL DEVELOPMENT**

The financial development for 2016 is satisfactory, particularly in the context of the group being engaged in some significant organisational changes. Net sales increased by 1.7 per cent to €1.4 billion, achieved during a significant slowdown in the Chinese market.

Order intake increased by 3.6 per cent, compared to the previous year. We recorded order intake growth in Europe and Central Asia, Latin America and the Greater Middle East and Africa regions, while Greater China and Asia moved at a slower pace due to reduced market growth in our target businesses in those geographies. Profitability improved in our three business units – Sidel, Gebo Cermex and Novemba – mainly due to our efforts to lower costs.

#### **NOVEMBA STRENGTHENING ITS POSITION**

Novemba, offering a full range of caps and closures to the liquid packaging industry, continued its positive development during the year. In 2016, the opening of a new plant in Peoria, Arizona, U.S, added a third facility to Novemba’s production footprint, improving our logistics within the North American market.

#### **STABLE MARKET TRENDS**

Bottled water remains the most important beverage category for our business. We also saw a continued need for investments in the CSD category, even though consumption growth overall remains modest. However, consumption of juices, nectars, soft drinks, isotonic and teas is growing, giving us the opportunity to benefit from our aseptic and barrier technologies. Our technologies also gives opportunities in liquid dairy products (LDP), where our customers’ needs for innovation create new business. In addition, we increasingly give our attention to home and personal care categories, where PET in particular is more and more becoming an attractive option for the industry.

Another clear trend representing a common theme in all the market segments we serve is the digital revolution. Digital innovations are encouraging consumers to partly think and act outside traditional retailing formats. As a result, our customers are looking for ways to harness the power of digital experiences as well as data management, both for their products and their packaging lines. In production, robust reliable operations become supported by digital development, strengthening our focus on smart automation that simplifies the reality on our customers’ factory floors.

#### **STRONG DEMAND FOR COMPLETE LINE SOLUTIONS**

We have strengthened and optimised our complete line offerings, backed-up and complemented by our services portfolio, to deliver customers what they need most: lifetime competitive performance. There is a

“Our customers are looking for ways to harness the power of digital experiences as well as data management, both for their products and their packaging lines. In production, robust reliable operations become supported by digital development, strengthening our focus on smart automation that simplifies the reality on our customers’ factory floors.”

clear trend towards customers increasingly buying our offering of complete line solutions. It is a logical choice since it simplifies the customers' reality from purchasing, installation and commissioning and, most importantly, throughout the operational lifetime.

In the Sidel Group we can count on two brands globally renowned for their respective expertise in the packaging industry: Sidel and Gebo Cermex. Combining their strengths, our group is able to act as a full solution partner to help any customer choose the right solution for the specific needs of any liquid product.

#### **IMPORTANT LAUNCHES IN 2016**

Last year one of our major launches was the Sidel Matrix Predis™, in which Sidel's industry-leading Predis aseptic technology became available for the company's latest generation of modular Sidel Matrix™ Combi equipment. In addition, we also introduced two notable PET packaging design innovations in 2016, building on the benefits of our existing Star-Lite™ bottle base.

Just as importantly, we are helping our customers reap the benefits of digitalisation in services. With the introduction of the new Sidel Services Online web interface, higher line performance and maximum uptime are just one click away. This tool has been recently enriched with new features, such as line improvement options and upgrades.

#### **2017 – A YEAR OF OPPORTUNITIES FOR SIDEL**

Looking ahead, we don't foresee any major changes to the packaging market in 2017. It will continue to be highly competitive, where focus on innovation and costs will be key for success.

Our customers want the ability to produce their products as reliably and consistently as possible, with the lowest overall total cost and the right product quality. Our immediate goal will be to bring all the innovative technologies



“There is a clear trend towards customers increasingly buying our offering of complete line solutions. It is a logical choice since it simplifies the customers' reality from purchasing, installation and commissioning and, most importantly, throughout the operational lifetime.”

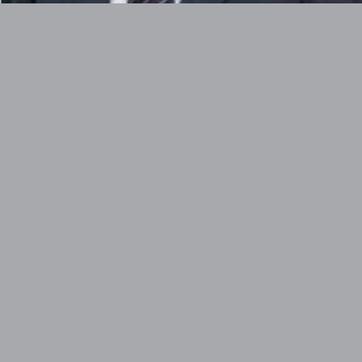
on which we are currently working to market, complete and on schedule, thus continuing the good work we have carried out so far.

One of the highlights for us in 2017 will be our appearance at the Drinktec exhibition in Munich in September. This is a tremendous opportunity to showcase our latest developments across the group. We are looking forward to meeting our customers there, and elsewhere globally throughout 2017, and start showing them the value of achieving Performance through Understanding.

Sam Strömerstén

## SIDEL GROUP MANAGEMENT TEAM

01. Sam Strömerstén - President & CEO
02. Juergen Voss - Finance & Strategic Planning
03. Clive Smith - Sales & Marketing
04. Andrea Forzenigo - Supply Chain
05. José Luis Yécora - Sourcing
06. Pavel Shevchuk - Services
07. Frédéric Saily - Product Management & Development
08. Roberto Bettini - Human Resources
09. Nicholas Bloch - Corporate Communications
10. Christer Carling - Legal Affairs
11. Marc Aury - Gebo Cermex President & Managing Director





## OUR STRATEGY

Population and urbanisation increase continue being the main drivers for beverage consumption. Nevertheless, beverage demand is becoming more complex and more diverse, as the need for customisation and the quest for healthier routines act as multipliers of possible combinations of tastes and ingredients.

At the Sidel Group, we help beverage, food, home and personal care producers adapt to fast-changing and increasingly competitive markets by enabling market development and cost optimisation.

This is why we deliver long-term superior performance for our customers and profitable growth for ourselves. Ultimately, it is about coping with a growing pressure to continually adapt and change, while still exploring ways to improve line performance overtime and keeping total cost of ownership (TCO) as low as possible.

In order to deal with these challenges and ensure long lasting relationships with our customers, our strategy is articulated around 3 pillars.

## OUR STRATEGIC PILLARS TO DELIVER PERFORMANCE THROUGH UNDERSTANDING



### Create Customer Success

Our long-term experience of beverage, food and other packaging sectors enables us to propose the best solution for a given business challenge, fitting the specific need of each market segment and each customer. We also make sure that these solutions are based on proven technologies, giving our customers peace of mind about reliability and cost effectiveness of their operations.

Via the right mix of local support and specialised advice, brought to the market by the three strong brands the Sidel Group is comprising – Sidel, Gebo Cermex, Novembal – we support our customers in making the right choice and maintaining performance over the line lifetime.



### Deliver Lifetime Solutions

Quality and reliability are for sure our first focus when looking at our equipment and service offering. At the same time, smart solutions enable us to continuously shape and adapt our development plans, while improving performance, so that our customers can strongly benefit from this. Additionally, working continuously on breakthrough innovation as well as on incremental improvement on functionalities or ergonomics we make the difference in sustaining line performance.



### Grow Together

By working together with our customers, while fostering diversity and collaboration across various expertise areas, we can bring producers the combination of competences and resources required to grow.

All along our journey, we will monitor progress by measuring customers' and employees' satisfaction, sales growth and profit growth.



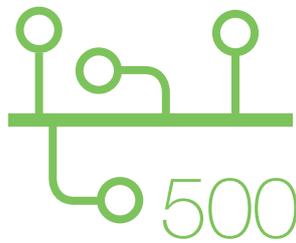
## Dedication to sustainable solutions and business performance

The Sidel Group is dedicated to helping its customers act in an environmentally responsible manner without compromising their economic performance. Eco-friendly equipment and services from the company allow producers to use fewer natural resources, generate less waste and at the same time, lower their total cost of ownership.

Sidel's and Gebo Cermex' tested and proven eco-responsible equipment further improves cost-efficiency and reduce carbon footprint by requiring less energy, air, chemicals and water throughout all stages of production. This focus on sustainability is just as relevant for services as it is for equipment. Once a line is up and running, Gebo Cermex and Sidel Services™ offers a tailored portfolio to maintain, regain and even improve performance throughout the equipment's lifetime, with a clear commitment to help producers improve their environmental footprint.



Save up to 70 per cent energy consumption on your blower with Sidel ECO Booster™ service.



Over 500 Sidel options and upgrades for every step of the production process can reduce the need for energy, water and raw materials, lowering total costs and improving your environmental footprint.



50 per cent reduction of CO<sub>2</sub> consumed with Sidel Blendfill configuration, integrating Mixing and Filling machines.



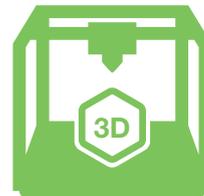
The Sidel aseptic Combi Predis™ ensures 100 per cent decontamination of bottles and caps with no water and almost no use of chemicals (H<sub>2</sub>O<sub>2</sub> < 0.7 litres per hour).



The Sidel Matrix™ Roll-fed labeller cuts operating costs by processing thinner roll-fed labels, handling extremely lightweight bottles, and using less glue, with an average of 5 grams per thousand bottles.



Gebo Cermex SWING® pasteurisers save 25 per cent on water and steam consumption.



3D printing technology, in combination with the use of innovative materials (carbon + aluminum honeycomb structure) allows for 30 per cent lighter gripping tooling on Gebo Cermex case packers.



40 per cent energy saving with Eco tunnel kit on Gebo Cermex VersaFilm® shrink-wrapper.



## Sidel helps Nestlé Waters achieve worldwide energy savings

**Nestlé Waters has carried out a worldwide energy saving programme at its production sites. Sidel has supported the world's leading producer of bottled water in this programme and the result is overwhelming: the customer has reduced energy consumption by 20 per cent, meaning a saving of more than 1 million euros per year, which is equivalent to turning off 20 preform ovens.**

Nestlé Waters first undertook its conservation programme in 2010, when it challenged its long-term supplier Sidel to rationalise the energy consumption of all its production equipment. With over 90 production facilities in 33 producing countries, Nestlé Waters places a high priority on improving the environmental performance of its processes, as well as keeping its operating costs to an absolute minimum.

An important factor in the energy saving programme was that blow moulding machines generally account for as much as 70 per cent of the total energy consumption of a complete beverage bottling line.

After monitoring and measuring the electrical consumption of the blowers, Sidel identified corrective energy-saving solutions to Nestlé Waters. One such solution was to install oven-top reflector lamps to maintain energy in the ovens of the blow moulding machines. This reduced the electrical power required for the preform heating process by 20 per cent, equivalent to turning off 20 preform ovens. Despite the significant energy savings, optimal performance was maintained.

As the customer was greatly satisfied with the energy savings obtained via the upgrades to the first two blowers, the energy conservation programme was then deployed in all Nestlé Waters' plants worldwide. Sidel provided service and technical support, and by the end of 2015, nearly 130 Sidel blow moulding machines were successfully converted with the oven-top reflector lamps. All of them provided a return on investment (ROI) in less than 6 months.

## Long lasting partnership between Gebo Cermex and Unilever materialises in a 30 per cent line capacity increase

After a thorough evaluation of different suppliers, Unilever Durban in South Africa decided to acquire a new SF39 bottom-loading vertical case packer from Gebo Cermex, part of Sidel Group. Installed at the Maydon Wharf factory, the equipment is enabling the plant to better respond to market growth, by significantly increasing its production capacity.

With eight other Gebo Cermex case packers operating at the plant, the choice of case packer supplier may have appeared obvious, but it was not that clear cut, explains the plant's project delivery engineer, Roy Naidoo: "Since the factory was built in 1996, the business has tried to standardise on the case packers supplied by Gebo Cermex, which is one of the three global machine suppliers to Unilever. However, this is not set in stone – after sales support, machine quality and reliability, OEM flexibility and cost are all important deciding factors."

Two key drivers helped Unilever in selecting the Gebo Cermex proposal: the supplier was able to showcase ongoing technology and engineering improvements based on operational learnings, as well as to design a solution that was perfectly fulfilling the customer's requirements. Eventually, the value of an enduring partnership, built on trust, listening and understanding, made the equation work.

Part of a new packaging line, delivering Vaseline petroleum jelly in different formats and fragrances, the SF39 case packer provides case forming, loading and sealing on a single machine with a more efficient design than previous models, with operator zones visible and accessible.



## Gebo Cermex secures Cambrew's leadership position in the Cambodian beer market

The new high-speed can complete line – incorporating the latest equipment from Gebo Cermex – is delivering 120,000 cans per hour, allowing Cambrew, Cambodia's biggest brewery and home of the iconic Angkor Beer, to support its market growth.

Cambrew is the largest brewery in Cambodia and produces Angkor Beer - the country's most popular brand, widely acknowledged as Cambodia's national beer. Their business has steadily expanded over the years, with a bottling and distribution agreement with PepsiCo, followed by a strategic partnership with global beer giant Carlsberg in 2006.

At Cambrew's plant in Sihanoukville, Gebo Cermex's engineers studied customer's operations in depth in order to design and deliver a comprehensive line system, which embeds a selection of state-of-the-art solutions including: can de-palletiser, can conveyors, accumulation tables, filler and seamer, pasteuriser, case conveyors and case erecting, packing and sealing units. Alongside the plant's previous can lines – still running on site at 72,000 cans/hour – this new high-speed complete line turns out 120,000 cans an hour, thereby supporting opportunity for production capacity increase and offering Cambrew the capability to keep developing for years to come.



## Sidel collaborates with Brazilian producer on “world’s lightest PET bottle for edible oil”

Sidel worked together with Algar Agro, a large, privately-held food company, active in the Brazilian market, to produce the world’s lightest 900 ml PET bottle for edible oil. By reducing the total weight of the finished container by 22 per cent, the customer has also achieved significant cost savings – to deliver, package and transport the finished product, while lowering the total cost of ownership (TCO) of the production equipment itself.

Additionally, the bottle was redesigned without changing its well-established look and feel, a key requirement to win consumers’ preference.

Edny Valente Lima Filho, project manager at Algar Agro comments: “The success of Sidel was assured by the know-how demonstrated during the negotiations to propose and ensure the new bottle for vegetable oil – the lightest in the world, according to our market studies.”



## In China, Nongfu Spring invests in a second Sidel line

Following the success of the fastest-ever Sidel PET Combi line for 4 litre water bottles supplied to Nongfu Spring in 2014, the major Chinese bottled water producer has invested in a second Sidel bottling line to extend its production capacity even further.

In 2014 Nongfu Spring switched its 4-litre family size bottle from High Density Polyethylene (HDPE) to PET. The company was looking to create a bottle able to stand out on the supermarket shelf, while increasing its production capacity and efficiency to meet growing market demand and ensuring a more cost-effective and sustainable production process. By investing in the fastest-ever Sidel PET Combi line for 4-litre water bottles - running at 14,000 bottles per hour – Nongfu Spring achieved its targets, while strengthening its position in this market segment significantly. Based on this success, recently the company renewed its confidence in Sidel by acquiring a second line, enlarging production capabilities while achieving a great level of performance.



## A new version of EIT with built-in-intelligence

Gebo Cermex – part of the Sidel Group - has launched a new version of its data acquisition system, EIT™ v6.0. Evolving and adapting to latest industry's demands, this modular and responsive solution incorporates a new web-based interface design and two user-oriented modules: EIT AQ-Clock, offering real-time measurement of accumulation, and EIT Audio, designed to send voice messages to plant operators.

EIT™ stands for Efficiency Improvement Tool, a system developed by the company in 1996 and currently installed in more than 60 countries. Over the past 20 years, the tool has been helping producers to optimise efficiency and improve productivity, by giving all packaging line staff real-time access to relevant and actionable information on performance, quality, product losses and other related production issues.

Recording production data and events 24/7, EIT™ provides a wide array of metrics to help users boost line performance. The new version maximises operators’ awareness, responsiveness and effectiveness.

## Italian bottler achieves 95 per cent efficiency by investing in Sidel's aseptic combined blow fill cap solution

Fonti Di Posina has become the first bottling company in Italy to invest in Sidel's aseptic and environmentally-friendly combined blow fill cap solution with dry preform decontamination – Combi Predis™ FMa. The introduction of the technology, which removes the need for any bottle rinsing, has enabled lightweighting of the company's 1.5 litre bottles, with PET material savings of 20 per cent. The aseptic PET Combi achieves 95 per cent efficiency while doubling the aseptic production capacity. Fitted with an ECO Oven, the solution has created energy savings of 43 per cent at the blowing stage.

Based in one of the most beautiful and unspoilt areas of the Italian Alps, Fonti Di Posina has been bottling mineral water for over 30 years, first moving into bottling it in PET in 1986. While consumer demand for more sophisticated beverages has been steadily increasing in recent years, the company has been working to expand its offering based on its experience of production and water purity.

Since the company wanted to invest in the latest innovative and sustainable aseptic technology in the market, Fonti Di Posina chose Sidel's packaging solution. Equipped with a low-output, aseptic integrated blow fill cap solution, with dry decontamination for both preforms and caps, the line produces more than 40 different recipes for retailers and private labels. This includes teas, fruit juices and energy drinks, with both standard caps and sport caps in a variety of bottle formats.



## Sidel Services Online to improve line performance through e-business interface

Launched early 2016, the e-tool allows customers to order and search online original spare parts and to easily view Options & Upgrades for their installed base. With Sidel Services Online higher line performance and maximum uptime are just one click away.

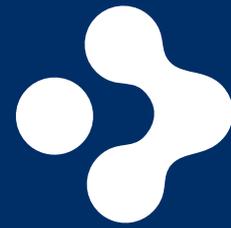
The user-friendly web interface, available in six languages, provides customers with a personalised overview of their equipment, real-time information on parts pricing and availability, besides a quick access to relevant Options & Upgrades. It offers beverage producers one-stop shopping for Sidel original spare parts, together with faster delivery times on offers and increased flexibility. The online availability ensured by the interface is key to line maintenance and continuous performance.

## New Sidel StarLite Nitro base for increased bottle resistance and stability

Production lines for still beverages utilising nitrogen dosing can now also take advantage of the Sidel StarLite™ PET bottle base with the launch of the Sidel StarLite Nitro version.

Building on the benefits of the previously launched Sidel StarLite base, the new non-petaloid StarLite Nitro base utilises a unique shape that increases PET bottle rigidity and stability, by enhancing resistance to the internal pressure created by nitrogen dosing. In this way, the bottle performs better throughout the whole supply chain, even in harsh conditions, while allowing producers to lower package weight and reduce energy consumption.





## Agility 4.0: The vehicle to help producers achieve all the benefits of Industry 4.0

Industry 4.0 – the trend for an increasing use of automation, cyber-physical equipment and computerised systems for the acquisition and processing of data – offers multiple opportunities to let customers stay ahead of the competition. In this interview Ludovic Tanchou, Vice President of Strategy, Products and Innovation of Gebo Cermex – a brand of the Sidel Group - explains how the company's Agility 4.0™ programme can help customers embrace these opportunities, to improve their productivity.

### What are the key requirements of your customers on efficient packaging systems and the "smart factory"?

Today's consumer is becoming more selective - demanding goods with greater individuality, variety and convenience. At the same time, distribution is looking for more customised delivery methods and increased responsiveness, largely driven by different purchasing behaviours and new retail models. Faced with this growing pressure to continually adapt and change, customers need to monitor equipment

efficiency and control system performance to maximise uptime across the line. They also need to implement sustainability measures to lower the consumption of energy, raw materials and other resources, whilst minimising costs. Ultimately, it is about achieving increased line performance, whatever the product, while optimising total cost of ownership (TCO).

### What is driving the transition to Industry 4.0?

The packaging industry needs to find new ways to improve line operations in terms of speed, efficiency, flexibility and versatility. This is driving a transition from mass production to mass customisation, yet without compromises on performance criteria. To facilitate this transition, Industry 4.0 offers multiple opportunities.

### What is the uniqueness of Gebo Cermex' Agility 4.0™ programme?

By increasing the productivity of packaging manufacturing plants, Agility 4.0™ makes them

more connected, flexible and responsive – in a word, agile. This programme plays a major role in making the factory of tomorrow a reality today. Driven by five pillars (Virtual Factory; Smart Factory; Connected Factory; Eco-friendly Factory and Extended Factory), it brings Smart Factories to life to create a world of greater choice and unique consumer experience driven by packaging mass customisation and product diversity.

### Has the programme achieved any industry recognition?

Gebo Cermex recently received the official mark "Vitrine industrie du futur" (Industry of the future), awarded by the Alliance Industrie Du Futur (AIF) in recognition of our efforts to introduce, develop and implement Industry 4.0 initiatives. One of the main benefits we can deliver to producers via our Agility 4.0 programme, indeed, is to protect their competitiveness in a global, fast-changing market.

## Making a complete line a complete solution

Producers need to respond to the ever-changing consumer market while at the same time improving efficiency and cost-effectiveness. This constant pursuit of greater productivity and reduced total cost of ownership (TCO), has prompted innovative challenges within the liquid packaging industry, asking for production lines that are increasingly technologically advanced. The Sidel Group's offer of complete line solutions meets these requirements and helps customers stay at the forefront of competition.

The industry is now taking a more holistic approach when installing new beverage production lines, because finding the optimum solution goes beyond a simple choice of equipment. It requires a flexible approach to the setup of complete line solutions.

By collaborating with a full solution partner that is expert in liquid packaging when considering a complete new line, beverage producers gain access to a thorough understanding of the entire supply chain.

"With the correct packaging development, flexible and reliable equipment, tailored line design, efficient line supply and ramp-up, smart data and prompt after-sales support and service, we are able to ensure that a producer's investment has the versatility that is needed - both at the time of installation and also in the future," says Frédéric Saily, Executive Vice President of Product Management and Development at Sidel.



60,000

Sidel contactless hot filling solution delivers up to 60,000 bottles per hour.

+37,000

Machines installed.



99.5%

Overall efficiency delivered by the new Gebo Cermex OptiFeed™ cap feeding platform.



# Offering market-tailored packaging solutions

## Packaging market & categories

The Sidel Group is a leading provider of equipment and services for packaging liquids, foods, and personal and home care products in polyethylene terephthalate (PET), can, glass and other materials.

In 2016, over 3,000 billion (Bn) units of consumer packaged goods were sold, including beverage, food, home and personal care products. Analysts from Euromonitor International forecast that approximately 300 Bn additional units will be sold by 2019, which corresponds to a 3 per cent compound annual growth rate (CAGR) from 2016 to 2019.

Within consumer packaged goods, beverages account for 54 per cent of the packaged units sold. Food is the second largest market, representing 40 per cent, the remaining 6 per cent are home and personal care products.

Fast moving consumer goods (FMCG) are packaged using a large range of materials. The four most common packaging materials for beverages remain PET – 19 per cent share of total consumer packaged goods, glass – 16 per cent, can – 13 per cent and carton – 12 per cent.

## Non-alcoholic drinks

The soft drinks and liquid dairy market accounts for 1,185 Bn units in 2016 according to Euromonitor, with a growth expected at 3.7 per cent CAGR in the next 3 years. The market is dominated by China – 26 per cent and USA – 16 per cent.

The packaging material which is most widely adopted in these markets is PET, accounting for 44 per cent of the packaging units. PET is the packaging material of choice for carbonated soft drinks and mineral water. PET has a strong position within the bottled water segment, but there are interesting growth opportunities within tea and dairy segments. However, falling consumption of carbonated soft drinks in developed markets has reduced the growth pace, with increasing demand for bottled water to largely balancing this trend.

## Alcoholic drinks

The world's population consumed about 253 Bn liters of alcoholic beverages in 2015. Most of this category is beer – 80 per cent, with wine – 10 per cent and spirits – 10 per cent making up the rest. The beer, wine & spirits market is valued at 950 Bn euros.

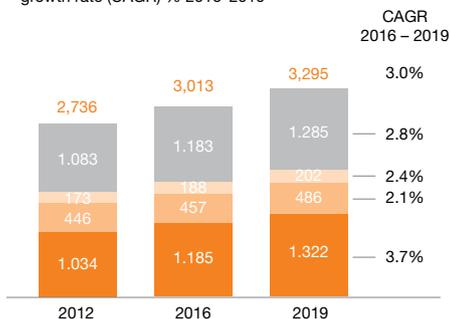
While wine and spirits represent smaller segments, they remain dynamic in terms of packaging line investments, due to the high technology requirements of spirits. The beer market presents a mixed picture: the developed regions show higher maturity, balanced by multiple investment opportunities in developing markets.



### PACKAGING MARKET & CATEGORIES

#### CONTAINER DEMAND BY PRODUCT CATEGORY

Billion units, compound annual growth rate (CAGR) % 2016-2019



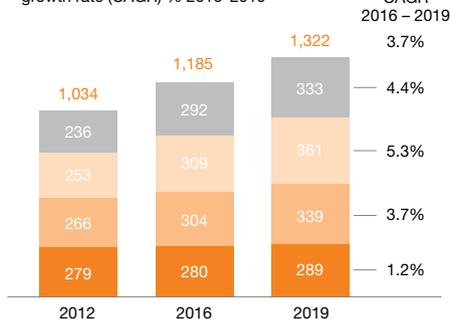
■ Beverages Non Alcoholic & Liquid Dairy  
■ Alcohol Beverages  
■ Food & Non-Liquid Dairy  
■ Home & Persona Care

Source: Euromonitor

### NON-ALCOHOLIC DRINKS

#### CONTAINER DEMAND BY PRODUCT CATEGORY

Billion units, compound annual growth rate (CAGR) % 2016-2019



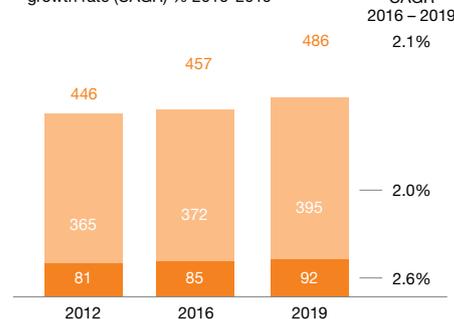
■ CSD  
■ JNSDIT  
■ LDP  
■ Water

Source: Euromonitor

### ALCOHOLIC DRINKS

#### CONTAINER DEMAND BY PRODUCT CATEGORY

Billion units, compound annual growth rate (CAGR) % 2016-2019



■ Wine & Spirits  
■ Beer

Source: Euromonitor

# Increased market share in a turbulent year

The entire dairy value chain has been through a very difficult year beset by market and political uncertainty as well as volatile prices. While we knew 2016 would be challenging, it was difficult to foresee the scale of the difficulties our customers have endured due to the unstable situation.

At the very start of 2016 the market enjoyed significant growth in Europe only to witness an even bigger decline towards the end of the year. As a consequence, milk prices varied more dramatically than ever over a twelve-month period.

This has also affected DeLaval, resulting in a single-digit decline in sales on the previous year, leaving 2016 with net sales of €935 million in prevailing currencies. The market decline in 2016 resulted in DeLaval responding quickly to the existing conditions. The company went through an organisational transformation, including a restructuring of the

market organisation from 8 regions into three clusters, in order to move even closer to customers.

I'm personally proud of how our employees managed to embrace the change and re-organise to meet these new market demands. Approximately 10 per cent of our employees have been affected by the transformation we have undergone and at the same time our existing staff have shown resilience and strength despite the challenges.

Despite the transformation and the unusually difficult market situation, we have increased our market share. It puts us in a strong position to meet our customers' needs today and in the future. Our transformation took place to create a more agile organisation with increased customer focus. We believe that the swift transformation has given us an edge over our competitors, as we can focus fully on our customers in 2017.

## **VOLATILE MARKETS**

The farming community prefers stability in order to make long-term investments and ensure professional and sustainable food production. The political and market uncertainties of 2016 have postponed many of our customers' investments. Most customers feel compelled to wait, given the extent of the investment needed when transforming a dairy farm operation. This kind of market volatility makes it extremely difficult for our customers to make long-term investment decisions.

## **POSITIVE DEVELOPMENTS**

Despite the challenges, there were a number of growth areas. The Russian, Chinese and Japanese markets all grew in 2016. Sales of our aftermarket products were stable in all markets and grew in some, indicating brand loyalty to DeLaval as well as a highly

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competitive, competent and forward-leaning DeLaval sales force.

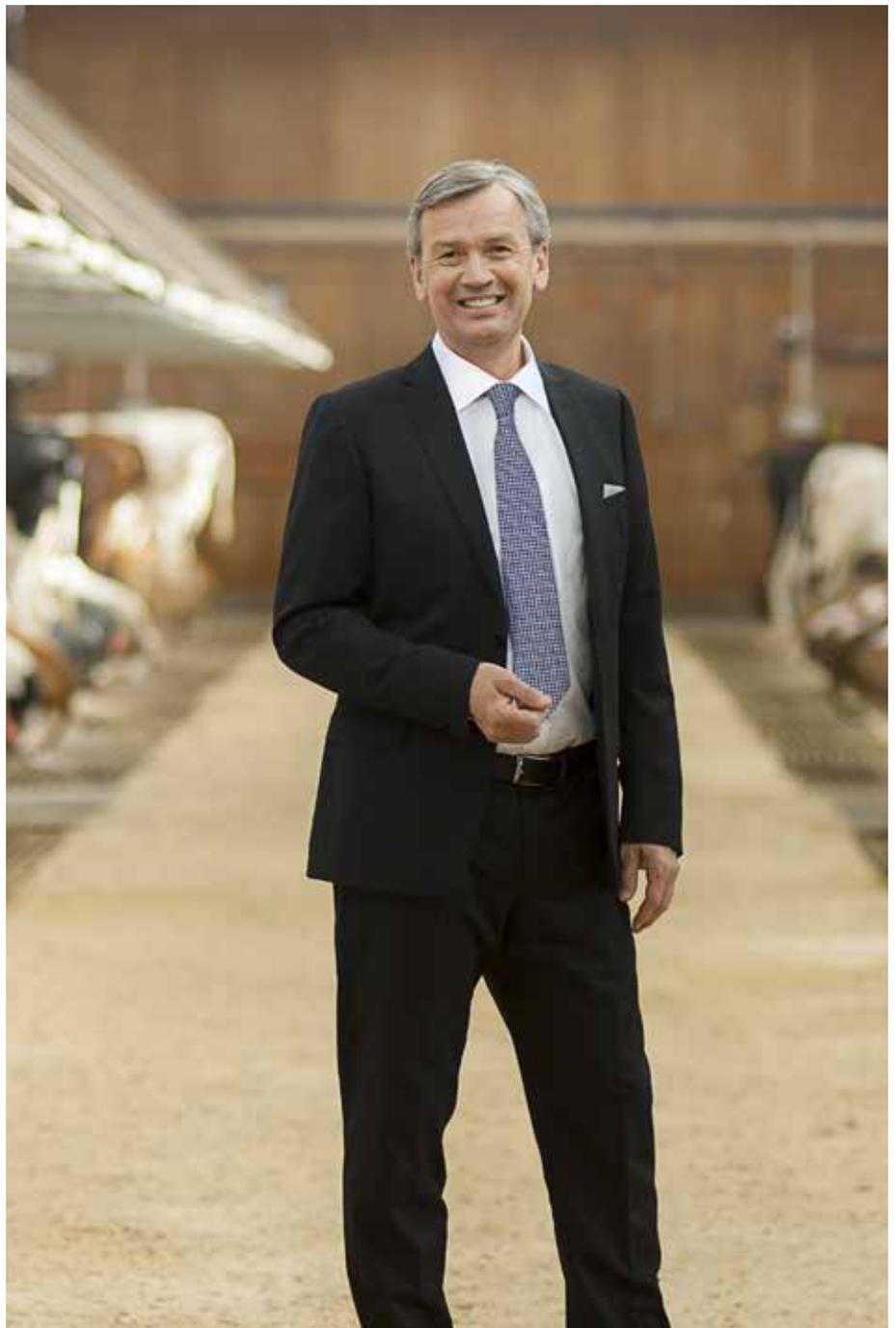
We are investing more than ever before in the R&D pipeline that will result in a range of new innovations. These are not just in the area of capital goods, but we also see many opportunities in improving milk quality and animal health with new aftermarket products, as well as new ways of working with preventive maintenance.

The interest in robotic farming has also spread to new arenas. While the DeLaval voluntary milking system VMS™ was originally designed to meet the needs of smaller family farms in Europe, it has been transformed to fit the farm practices of megafarms all over the globe. We are very proud to have installed the largest operating voluntary milking facility in the world in 2016 with the Ancali family in Chile. This highly professional farm is one of the best-performing DeLaval VMS™ farms in the world, in terms of milk quality and milk yield per cow.

Another example of megafarms choosing our voluntary milking system is the decision by Select Dairies and Fair Oaks farm in the USA to choose DeLaval VMS™ as they move over to robotic farming. The owners of Fair Oaks megafarm have been long-time advocates of sustainable dairy farming and have chosen DeLaval for that reason.

#### **INNOVATION FOCUS CONTINUES**

We introduced a range of new innovations in 2016, including organically approved teat dips, the award-winning DeLaval Cleaning Analysis DCA as well as a Stanchion barn app and a new cleaning control unit.



“We introduced a range of new innovations in 2016, including organically approved teat dips, the award-winning DeLaval Cleaning Analysis DCA as well as a Stanchion barn app and a new cleaning control unit.”

“We believe that part of the reason for our increasing market share has been our deliberate and sustained customer focus. We are in constant dialogue with our customers and learning all the time from their challenges, so that we can better meet their needs with innovative solutions.”

In the past 20 years, we have accrued some 250 patents and that commitment to R&D continues. 2017 will be no exception with several new innovations coming to the market from DeLaval.

As always, we embrace new technology when it comes to servicing our customers. Our continued commitment to making big data work for our customers has become increasingly relevant as digital technologies occupy a larger part of all our lives.

#### **NEW BUSINESS**

We have used our technology lead to develop into new markets. Our Dairy Data Warehouse has partnered with Cargill, a global leader in advanced nutrition and productivity solutions for dairy cattle, providing them with data

services for the animal nutrition industry. The data collected can now be used to improve technologies in related businesses and help farmers improve operational efficiency, sustainability and profitability.

We also see that larger industrial players are moving into the dairy sector with significantly larger operations than what the industry is used to. They have the potential to drive the industry and challenge us as a market leader. We are looking closely at these segments with positive interest.

#### **WE LIVE MILK**

We believe that part of the reason for our increasing market share has been our deliberate and sustained customer focus. We are in constant dialogue with our customers and

learning all the time from their challenges, so that we can better meet their needs with innovative solutions.

‘We live milk’ is the phrase that guides our brand and affects the way we work and think. We will continue to work closely with our customers and listen to their needs in 2017.

#### **OUTLOOK**

The outlook for 2017 looks to be improving, but we still expect a challenging year. We estimate that our customers will start to generate positive cash and improve their businesses by mid-2017, barring further surprises.

Joakim Rosengren



01.



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09.



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11.

## DELAVAL MANAGEMENT TEAM

- 01. Joakim Rosengren - President & CEO
- 02. Magnus Berg - Cluster Americas
- 03. Jonas Hällman - BA Milking System
- 04. Lars Johansson - Corporate Communications
- 05. Mikael Landberg - Human Resources
- 06. Johan Ledel - Group Finance & IS
- 07. Paul Löfgren - Cluster EMEA
- 08. Tim Nicolai - BA Aftermarket, Services, Barn Environment
- 09. Johan Swahn - Legal Affairs
- 10. Sören Lundin - Cluster Asia & Pacific
- 11. John Erik Hermanson - Supply Chain



## VISION

We make sustainable food production possible

### MISSION

We team up with customers for results that last. From our leading position in dairy farming, we innovate and expand in new segments and new geographies. We provide integrated solutions and ensure that everywhere we do business, we lead. We exist for the customer, around the clock.

### STRATEGIC PRIORITIES

- Profitable growth in geographies
- Number one in farm management
- Aggressively growing consumables and service businesses
- Operational excellence driving cost and quality leadership

### OUR BRAND

DeLaval is a world leader in the dairy farming industry, providing integrated milking solutions designed to improve dairy farmers' production, animal welfare and overall quality of life.

### FOOD FOR DEVELOPMENT

We provide expertise and experience to enable Tetra Pak and DeLaval customers, as well as governments and community-based organisations, to provide milk to children and communities in developing countries around the world. We initiate long-term business development projects to encourage demand for locally produced dairy products and transform subsistence smallholders into commercially viable farmers.





## Dedicated to sustainability, for us and our stakeholders

DeLaval is dedicated to making dairy farming sustainable, which means that we are constantly on the lookout for ways to help our customers create sustainable operations, and are constantly improving the sustainability of our own. Our commitment to these was evidenced in several ways throughout 2016; through the approval of several teat dips and detergents for organic farming; through our milk filter factory in Finland receiving two ISO certifications; and through our embracing of sustainability goals and reporting standards.

The Organic Materials Review Institute (OMRI) added five DeLaval teat dips – not only pre/post and barrier dips, but also iodine and non-iodine ones – and six clean-in-place detergents to their list of products approved for use in certified organic food production. The listing is significant because the OMRI – a voluntary program that reviews products

to assure compliance with the USDA National Organic Program standards – is a trusted source for rapidly identifying products approved for use. All products meeting the USDA organic regulations are listed here and allowed to display the OMRI Listed® seal, both of which farmers rely on to help protect the integrity of their organic production systems.

We also received affirmation of our commitment to sustainability via the granting of the ISO 9001:2015 Quality Management Certificate and the ISO 14001:2015 Environmental Management Certificate to our GMU milk filter factory in Pelma, Finland. The certificates are outcomes of continuous process optimization and hard work over the past three years. The first one certifies that the quality management system ensures excellent filter quality, which is especially important for such food grade-approved products, while the

second supports the fulfillment of the DeLaval sustainability targets.

Furthermore, DeLaval has stepped up its commitment to the United Nations Sustainable Development Goals (UN SDGs), as well as GRI G4 Sustainability Reporting Guidelines and Sector Disclosures (GRI G4) reporting. DeLaval is focusing on supporting the following three UN SDGs as they specifically pertain to what we do: zero hunger, climate action, and responsible consumption and production. In 2016, we decided that we – DeLaval International and our subsidiaries – will annually report on the progress we are making. This also encourages a healthy dialogue with our stakeholders so that we can work on making food production sustainable together.

Our first report was released in 2016 and focused on our 2015 activities. Our next report is expected to be released in 2017.





## Innovating for continuous customer success

We relentlessly innovate to help ensure our customers' success. In fact, we have accrued more than 600 patent families over the last 20 years alone; patents for solutions that help our customers improve productivity and profitability by addressing animal welfare, work efficiency, and food safety. In addition to our DeLaval cleaning analysis DCA and other products we describe on other pages, there are many other innovations helping our customers day-in and day-out.

One is our DeLaval cleaning control unit T300. This cost-effective unit controls cooling and cleaning processes in milk storage tanks, both of which are essential to milk quality. In addition to its many unique technical features, it uses an average of 30 per cent less water than conventional circulation cleaning systems.

It's only natural that our innovations also focus on cow comfort and longevity. After all, happy cows are productive cows. That's why we invented the DeLaval dairy fan DDF1200, a very quiet, low-energy fan with a unique design that delivers more focused air to prevent heat stress. It's also why we're proud of our patented DeLaval cow LED CL6000 and CL9000 barn illumination. This lighting uses 75 per cent less energy than today's HID lamps and is based on cows' – not humans' – light wave detection characteristics to ensure their comfort.

Another innovation is the smartphone app DeLaval milk24, a cloud-based cow management tool for users of stanchion barns. This tool uploads and analyses data directly from DeLaval's stanchion/tie stall milking units, and because the data is stored both on the phone and in the cloud, partners, veterinarians, feed advisors, and other authorised users can access the data.



## DeLaval receives quality certificates for two products at EuroTier

At EuroTier 2016 in Hannover, Germany, DeLaval received quality certificates for the DeLaval cow mattress M45R and the DeLaval rubber mat RM21 BS. These products allow cows to move freely and rest properly, promoting good utilisation of feed and blood flow, which in turn promote good milk yields. The M45R is a cow-friendly seamless mattress that prevents hoof diseases and prevents dirt from getting under the cover, making it easier to maintain a more hygienic environment. The RM21 BS mat is made of high quality, shock-absorbing rubber with a patent-protected top surface and built-in slope to facilitate urine drainage.



## We Live Milk, for the benefit of everyone

Our vision is to make sustainable food production possible. And we are committed to helping dairy farmers do the same. “We Live Milk” is a DeLaval pledge that showcases our innovations and this year, we added a customer focus to inspire and continue driving change in four important areas where dairy farmers face challenges: farm profitability, food safety, work efficiency and animal welfare. To inspire and drive change, we showcased use of our integrated solutions for these challenges by farmers who “live milk”. Here’s a brief look at how our products are helping.

### FARM PROFITABILITY

Mr Seifried in Austria needed to improve profitability to leave the farm to the next generation. So he expanded the herd from 15 to 54 cows and invested in a new barn with DeLaval equipment. The manure scraper, swinging cow brush, water troughs and rubber mats resulted in 10% higher milk yield, thanks to improved cow well-being.

### ANIMAL WELFARE

Mr Sedlmair runs Sedlmair farm in Schwabhausen, Germany with his brother and parents. Income had to be increased for three families to be able to live off the farm, so the herd was doubled from 150 to 300 cows and a DeLaval robot scraper RS420S was installed. This not only saves the family time, it has also reduced the problem of hoof infections from 40% to 15%.

### FOOD SAFETY

Thanks to the true quarter milking made possible through use of the DeLaval AMR™ (Automatic Milking Rotary), Mr Espig at Bauernland AG farm in Waldkirchen, Germany can follow up and analyse milk from each individual teat. This makes it easy for him to quickly discover milk-out performance deviations, flow speed, blood presence and udder conductivity levels, and thus key changes in milk quality early.

### WORK EFFICIENCY

An increase in herd size doesn't mean increased time in the barn. When Mr Baldauf increased his herd from 40 to 70 cows in 2014, he also installed the DeLaval VMS™. This voluntary milking system is why, despite the larger herd, he reduced milking time by two-thirds. Where milking used to take him two hours, it now takes him 45 minutes, giving him and his family the opportunity to do other things.

## Helping to control digital dermatitis

We advocate use of the Five-Point Plan for Control of Digital Dermatitis in young stock, dry cows and milking cows. The plan – the result of a joint effort between DeLaval and agricultural science experts in seven European countries and the US – addresses various internal and external biosecurity measures that farmers should put in place. DeLaval developed and launched EasyStride™ to help them fulfil point four – frequent foot disinfection to reduce new cases. This patent-pending biocidal solution to control bacteria that cause hoof infections was formulated using organic acids, and is free from heavy metals, formaldehyde and quaternary ammonium compounds.

### THE 5-POINT PLAN TO CONTROL DIGITAL DERMATITIS

- 1 External biosecurity to keep disease out of farm.
- 2 Internal biosecurity to minimise infection pressure on cows.
- 3 Early identification, recording and treatment of clinical cases, in association with hoof care.
- 4 Frequent foot disinfection to reduce new cases.
- 5 Define and monitor hoof health targets.

## Danone contract with DeLaval Cleaning solutions (DCS)

In 2016, DeLaval Cleaning Solutions (DCS) implemented a program to supply dosing systems, hygiene chemicals and services to Danone's North American production facilities. This five-year agreement is valued at nearly €5 million annually and includes all seven of their dairy processing facilities in the US and Canada. It is significant because it enabled us to expand our value-based solutions beyond the service we have already provided to some of their plants throughout the past 20 years, and because so many DeLaval employees were instrumental in building our relationship and securing the more recent agreement, in the face of very strong competition. This team approach was also essential during the actual conversion of the Danone plants to DeLaval programmes, as we needed to successfully convert these facilities while ensuring no disruption to their operations.

Since this time, we've expanded our discussion with Danone, drafting an agreement to provide consumable supplies and services to its dairy farm partners in the US. One such supplier is McCarty Family Farms, an 8,000-cow facility that supplies milk to Danone, and which we will now supply all their farm hygiene services. Vertical integration partnerships are designed to help improve milk quality and production yields, ensuring Danone's manufacturing plants can retain an uninterrupted supply of quality raw material. And we will further leverage our team approach to work with Danone on providing DeLaval hygiene solutions to their other US milk suppliers, as well as extending our services to Danone's production facilities in Mexico and elsewhere.



## Chilean dairy farm set to become the largest robotic farm in the world

DeLaval signed an agreement to install 64 DeLaval VMS™ milking robots at Fundo El Risquillo, a large farm in Chile with 6500 dairy cows. This installation will make Fundo El Risquillo – owned by Agrícola Ancali and part of the Bethia Group – the world's largest robotic milking farm. The decision to install more milking robots came after the clear success of the 16 DeLaval VMS™ milking robots it already had installed, the first eight of which were installed in 2014. Their use resulted in a 10% increase in milk production. Of the 920 cows going through the system, the average yield was 45.2 litres. Animal welfare also improved, with the cows experiencing reduced stress. The farm plans to have their best 4,500 cows milked by DeLaval VMS™ when the installation is complete in 2017. The barns today also include a range of other cow comfort solutions from DeLaval such as ventilation systems, cow cooling, rubber flooring, swinging cow brushes, water troughs and illumination.

## Small changes, big results

It may seem simplistic, but milk yield can be increased by brushing cows. Data from a Swedish study at Uppsala University showed that for each additional time a cow used our patented DeLaval swinging cow brush SCB, there was a 0.75 kg higher daily yield of milk and a 0.32 kg higher daily roughage consumption. The brush, which rotates at an animal-friendly speed and swings freely in all directions, is now joined by similar brushes for calves and goats, and a stationary alternative.





## Reviving the dairy industry in the land of the rising sun

DeLaval is part of the robot-led dairy revival in Japan. These milking robots – the sale of which jumped 67 per cent after doubling in 2015 – are being increasingly introduced. Currently, only 2 per cent of all dairy farms in Japan use robotic systems, but this number is expected to reach 30 per cent. We also expect that the use of robots will spread faster in Japan than in other countries.

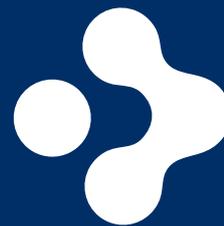
There's much potential here after years of industry decline. Bigger, more efficient, robotic dairies like that of DeLaval user, Jin Kawaguchiya, owner of Kalm Kakuyama and Asia's largest automated milking factory, are now emerging. This trend is driven by several factors, including the difficulty finding cheap labour and the

government's investment in information technology and subsidies for milking robots after signing the Trans-Pacific Partnership. Raw-milk output is recovering accordingly: according to the ministry of agriculture, production rose 1.1 per cent from a year earlier in the first half of 2016. Kawaguchiya's farm is also facing better prospects. After a 1.5 billion-yen investment in DeLaval dairy equipment and generators in 2015, his raw milk production quadrupled to 4,500 metric tons in 2016. If this growth curved continues, his output in 2017 will be almost 10 times the output of the average Japanese dairy farm. DeLaval stands ready to help other farmers do the same.

## Robots tuned to grazing herds

In Ireland, robotic milking on grassland is gaining in popularity. This is greatly due to DeLaval's development of an automated milking system that meets the specific needs of Ireland's grass-based milk production system, together with our ABC grazing system. Pastures are divided into three different areas (A, B, C), which are available to the cows at different periods throughout the day. The VMS is ideally located centrally and includes a collecting area into which cows can be segregated. Cows with milking permission can walk to the robot at any time. With our specially-designed VMS – based on extensive research in existing grassland markets in South America, Australia and New Zealand – farmers can now have the best of both worlds.





## DeLaval Cleaning Analysis DCA: a double winner at EuroTier 2016

A key factor to high quality milk is a clean milking machine. And a clean milking machine is dependent on effective, thorough cleaning procedures. This is why we developed the patent-pending DeLaval Cleaning Analysis DCA, winner of “Innovation of the Year 2017” in the milking technology category and winner of a silver medal for innovations at EuroTier 2016.

The only way to ensure that all internal milking pipeline surfaces contact cleaning solution is by propelling an appropriately dimensioned slug through the system at an appropriate speed. But this makes cleaning effectiveness difficult to monitor. The DeLaval

DCA is a systems engineering tool that allows the effectiveness and efficiency of the mechanical and thermal cleaning processes – crucial to unimpaired milk quality – to be monitored and measured during cleaning. It is innovative in that it uses a proprietary algorithm to automate the way slugs in the milk line are analysed. Characteristics of the slugs are determined by two wireless vacuum sensors; their number, volume and strength are analysed throughout all cleaning stages; and the result allows vacuum levels, water volumes and cleaning solution concentrations to be individually and optimised. The result is precise cleaning that helps prevent microbial counts from increasing in milk, thereby preserving consistent high quality and avoiding forced price reductions in case

of non-compliance with thresholds.

The DeLaval DCA, which builds on our proprietary front-line test system – DeLaval performance tester VPR200 – is clear evidence of our relentless innovation. Our aim at DeLaval is to provide novel solutions to help our customers achieve sustainable and profitable farms, and we are honoured to receive the “Innovation of the Year” award for the third time. It is a recognition that certainly encourages us to continue innovating, especially considering that DLG – the organiser of EuroTier – is an open network and expert voice speaking on behalf of the agricultural and food industries. Criteria for selection included significant characteristics such as optimising labour management, facilitating work safety and driving down energy costs.





## Sales growth and opportunity in the US, Germany and China

While the revival of the dairy industry in Japan presents DeLaval with the possibility of future success there, DeLaval is currently experiencing success in the US, German and Chinese markets. Since being launched in 2015, we've sold more than 30 DeLaval Teat Spray Robot TSR™ units worldwide, with growing interest in North America, Europe and China.

More specifically, sales of the DeLaval TSR™ continue to grow in the US and Germany. Winning a "Dairy Herd Management Innovation Award" at the World Dairy Expo in Madison, Wisconsin in 2015, as well as the success of the DeLaval TSR™ on US farms may be the key reasons for its continued growth in US sales. One of the main costs on a farm is labour, and farmers can save in this area without compromising performance by using the DeLaval TSR™. Traditionally, spraying or

dipping has been done manually, which is both time-consuming and labour-intensive. The robot, however, is one of the first fully automatic teat spray solutions for dairy farms with rotaries, and is particularly useful for large herds, as it can accurately spray up to 400 cows per hour, increasing labour efficiency to upward of 200 cows.

The Bauernland AG farm in Waldkirchen, Germany, is one happy user of the DeLaval TSR. After installing its new automatic milking rotary, the DeLaval AMR™, the occurrence of mastitis decreased and time has been saved on labour. The decrease in mastitis is attributed to each teat being individually and fully milked, and to the use and accuracy of the teat spray robot. The automation of spraying has also saved them time.

Meanwhile, China continues to invest in

robotic farming. The Chinese government is investing in farming in Heilongjiang province in the northeast China, an area regarded as one of the prime farming areas in the country, by subsidising medium-scale farms that have fewer than 100 cows to help them increase to 300–500 cows. Robotic farming is relatively new to this part of China, but is considered an important factor in developing large-scale farming in the region, as it can help improve production, reduce costs and reduce negative environmental impacts. To promote smart farming and to share best practices with larger herds, DeLaval continues to work with research institutes, universities and dairy farms. More than 60% of the large-scale dairy farms in this part of China are using milking equipment from DeLaval, and we expect to maintain our strong position in the future.



## Further progress for the financial support and control function of the Board

Tetra Laval International (TLI) is the financial support and control function for the Board. This includes responsibility for areas such as the corporate governance, Group financing and treasury, financial planning and reporting, M&A, tax, internal audit, insurance, leasing and holdings administration. TLI manages the internal control aspects of these responsibilities by means of Group policies applicable throughout the Group. A complete review and enhancement of these policies was completed in 2016 and training related to main areas will be delivered across the Group in 2017.

TLI manages Group financing, the foreign exchange and interest rate risks of the Group within a mandate approved by the Board. This continues to be important in the context of continued major market volatility impacting the global economy.

### **ACHIEVEMENTS IN 2016**

The Group has continued to demonstrate its sound risk management policies and resilience under the challenging conditions faced in a number of markets. In 2016, a detailed cyber security review was performed throughout the Group resulting in new procedures being adopted.

Standard financing solutions to support Group sales of capital equipment have been developed and are being expanded in co-operation with banking partners.

### **FOCUS AREAS FOR 2017**

Performance of the different businesses of the Group and return generated on capital employed continue to be monitored closely. Capital allocation remains an area of considerable Board attention, with initiatives

focusing on R&D, restructuring and productivity in 2017.

In 2017, TLI has launched projects to upgrade its financing platforms and to leverage the Group's risk management methodology and processes. 2017 sees continued focus on competence development to ensure TLI has the appropriate professional skills to support these evolving business and technical needs.

The team at TLI remains focused on delivering to a highly professional and effective level in each of its areas of expertise and its impact on the long term performance of the Group.

The Group has continued to demonstrate its sound risk management policies and resilience under the challenging conditions faced in a number of markets.



## TETRA LAVAL INTERNATIONAL MANAGEMENT

- 01. Martyn Zedgitt - President
- 02. Marc Häfliger - Holdings
- 03. Robert Norris - Group Financial Planning and Reporting
- 04. Jörn Rausing - Mergers and Aquisitions
- 05. Antoine Jomini - Audit
- 06. Robert Swan - Finance
- 07. Mark Masek - Operations
- 08. Tuomo Rautiainen - Tax



## TETRA LAVAL GROUP SUPPORT FUNCTIONS

- 01. Jörgen Haglind  
Group Communications Officer
- 02. Phil Read  
Group Human Resources Officer

These functions are responsible for their respective area throughout the Tetra Laval group.



## Support to Mentor and SOS Children's Villages

Tetra Laval is engaged in supporting Mentor, which is the leading international federation of not-for-profit organisations working to develop evidence-based youth development programs that focus on preventing drug abuse. Mentor International was founded by H.M. Queen Silvia of Sweden in 1994 in collaboration with the World Health Organisation. The goal of Mentor is to provide

support, best practice and evidence-based mentoring programs that offer young people inspiration, empowerment and motivation they need to make healthy life choices and view their futures more positively.

Tetra Laval supports SOS Children's Villages, which is the world's largest organisation for taking care of children who have lost their parents and gives them a home, family and

education. SOS Children's Villages was founded in Austria in 1949 and manages 500 villages for children in 134 countries. Besides the villages, the organisation also manages schools, youth centres, medical clinics, and programmes for parents to prevent children from being abandoned due to poverty, drug abuse or illness.



## Close collaboration with NGOs and multi-stakeholder initiatives

Tetra Pak works with non-government organisations (NGOs) and multi-stakeholder initiatives on a wide variety of issue-specific projects. Key partners and initiatives include the UN Global Compact, the Caring for Climate, the World Resources Institute (WRI), the Forest Stewardship Council™ (FSC™), the World Wildlife Fund (WWF), the UN World Food Programme (WFP), the Global Child Nutrition Foundation (GCNF) and more.

Tetra Pak provides data and information on its sustainability performance and goals in an annual Sustainability Update. These updates form the company's Communica-

tion on Progress to the UN Global Compact, showing how Tetra Pak is integrating its 10 principles on environmental performance, labour and human rights practices, and anti-corruption into business strategies and day-to-day operations.

In September 2015, the UN introduced a new set of goals aimed at ending poverty, protecting the planet and ensuring prosperity for all, the 17 Sustainable Development Goals (SDGs). Tetra Pak has communicated its support for the SDGs, just as the company did with the Millennium Development Goals (MDGs).

## Relief support after the earthquake in Ecuador

In recent years Tetra Laval has engaged in a number of disaster relief projects, including the Syrian refugee crisis, the Nepal earthquake, flooding in Serbia and Croatia, and a typhoon in the Philippines. In April, 2016 Ecuador was hit by a devastating earthquake. More than a million people were reportedly affected. Together with its customers the Group's goal was to secure distribution of milk, water and other beverages to those affected.



Caring for Climate





## Tetra Pak packages used in school feeding programmes reached more than 70 million children

Today, 368 million children in 169 countries receive food in their schools, mostly through government budgets. Milk is served in around 60 countries. Tetra Pak has been engaged for more than 50 years in the development of school feeding and nutrition programmes. It all started in Mexico in

1962 when Tetra Pak packages were used in a school feeding programme in collaboration with the National System for Integral Family Development – a programme that still covers millions of children. Today, more than 70 million children in 56 countries receive milk or other nutritious beverages in

Tetra Pak packages. We offer our partners practical support in implementing and evaluating school feeding programmes, including advice on food safety and quality controls in schools.



# Driving development of the entire dairy and food value chain

Tetra Laval Food for Development actively drives development of the entire dairy and food value chain through cooperation with customers, governments, development cooperation agencies and funding organisations and NGOs all over the world. The three industry groups of Tetra Laval all focus on technologies for the efficient production, packaging and distribution of food. Tetra Laval Food for Development believes that the most effective way to tackle the global challenges related to food security and nutrition is to build sustainable food value chains. Through our activities we add value to our customers while supporting development of emerging countries and increasing access to nutrition around the world.



795 million people go to bed hungry every night, and one out of six children in developing countries – roughly 100 million – is underweight.

Source: UN



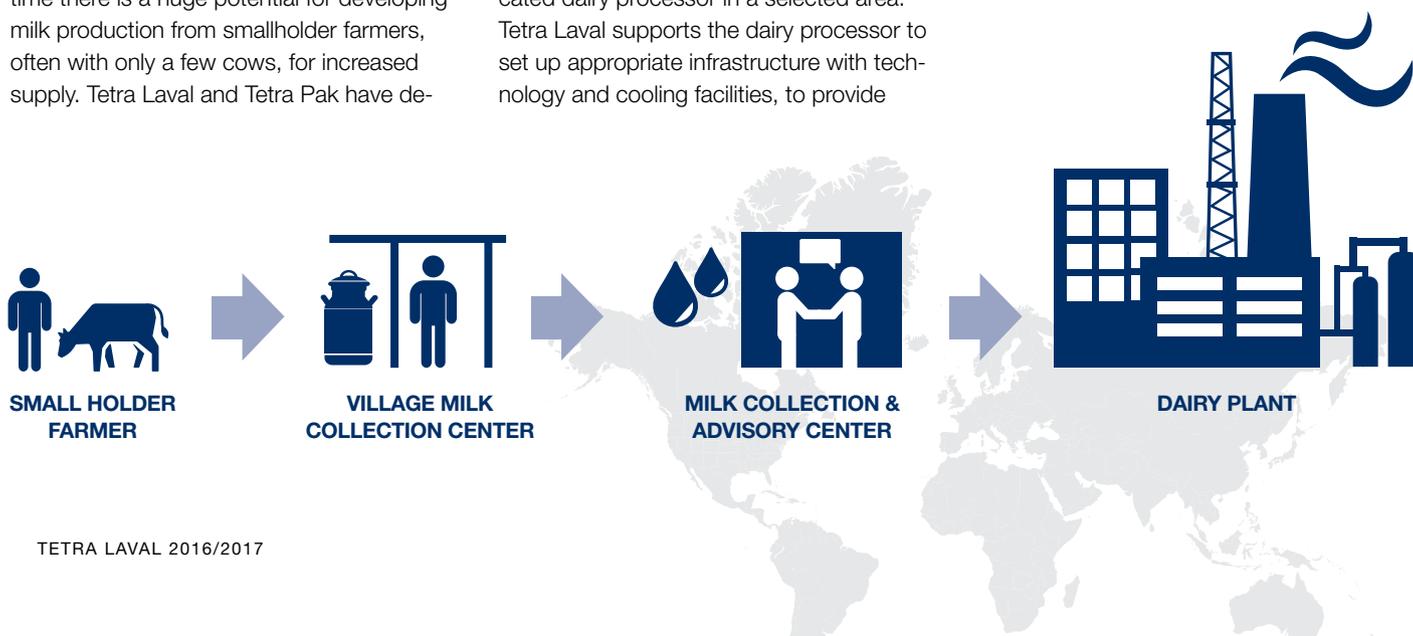
Source: WFP

## Dairy Hub model supports locally produced milk to meet growing demand

The global demand for milk is expected to overtake the available supply in the next decade – a supply deficit fuelled by population growth, rising prosperity and urbanisation in Africa, Latin America and Asia. At the same time there is a huge potential for developing milk production from smallholder farmers, often with only a few cows, for increased supply. Tetra Laval and Tetra Pak have de-

veloped the Dairy Hub model to secure a long-term supply of locally produced milk of high quality without increasing the collection costs in emerging countries. The Dairy Hub model links smallholder farmers to a dedicated dairy processor in a selected area. Tetra Laval supports the dairy processor to set up appropriate infrastructure with technology and cooling facilities, to provide

practical knowledge transfer and to offer the farmers advisory services. The positive results are that the supply of locally produced milk increases and the dairy processor can build up a more stable supply chain.



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