**Tetra Laval** 

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TETRA LAVAL

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### **GROWTH IN CHALLENGING TIMES**

As for many other companies, 2015 was a challenging year for the Tetra Laval Group. Despite contractions in key markets such as China, Brazil and Russia, the Group delivered a strong performance. The Group found new ways to grow its business in non-traditional areas, while at the same time running its operations efficiently. The three industry groups - Tetra Pak, Sidel and DeLaval - are today leaders within their industries. Over the past year they managed to secure or strengthen their positions by launching many new innovative products as well as by helping their customers to be more efficient and successful. Customer focus has always been, and always will be, a hallmark of the Group.

In this year's annual report, you can In the **Sidel** section the new CEO read about **Tetra Pak's** deployment stakes out his vision for the future of new packaging formats, which have been well received by customers, and the introduction of the class equipment and services to Tetra Rex® Bio-based package - the customers. You will also be able to analysis, aligning with trends towards world's first fully renewable package, read about the continuous roll-out derived from sugar cane and FSC™ of the Sidel Matrix™ offering, includ- launch of DeLaval body condition paperboard. And not least, a revoluing Sidel Matrix eHR for hot-filling tionary new technology called eBeam applications and Sidel Matrix - providing a paradigm shift by using Predis<sup>™</sup> for aseptic applications electronic emissions to sterilise packaging materials.

even more agile in offering worldfor juices, dairy and sports drinks.

**DeLaval** has many exciting ideas and news about sustainable farming and how the company will become and how it can help farmers improve productivity. One example is new developments in data collection and precision farming. Another is the scoring BCS™ in 2015, providing the world's first commercially available system for automatic scoring of a cow's body condition, promoting animal health.

Welcome to an update on the Tetra Laval Group - what we have achieved in 2015 and what our ambitious are for the future.

## Tetra Laval in the world

Tetra Laval touches 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 processing and packaging.

#### TETRA PAK A FRESH START FOR OBRAM

Tetra Pak completed the acquisition of Obram S.A., a leading Polish provider of cheese technology solutions and equipment in Poland, Russia, Belarus and many other parts of Eastern Europe, Since it was established in 1976. Obram has built





### SIDEL THE LIGHTEST PET



### TETRA PAK **PEAS IN OUR TIME**

Argentina loves its peas; they account for close to 60% of total vegetable sales there. In 2015 Tetra Recart increased its share of this massive market to 8%. A major marketing campaign, spurred consumer interest in the modern-day alternative to metal cans. The recyclable carton, which is just one-third the weight of a can, is extremely sturdy and very easy to open. And retailers like it because it requires 30-40% less shelf space than a can or a glass jar, as well as being easier to handle.



## DELAVAL VMS™ SPECTRA INCLUDES

DeLaval VMS™ Spectra is a limited edition of DeLaval VMS™ that includes the new DeLaval body condition scoring BCS. This provides farmers with the accurate information they need to increase productivity and decrease costs through herd health management. A cow's body condition is analysed and scored automatically with a 3D imaging camera, while the cows move. Reliable, instantaneous data allows farmers to spot DeLaval BCS deviations and change feed conditions, for example, so cows turn feed into milk and not into body fat.

### SIDEL COMBI PREDIS FMA IMPROVES CAPACITY AND **EFFICIENCY IN TAIWANESE ASEPTIC PET BOTTLING**

In choosing to install the first Sidel Combi Predis™ FMa Capdis™ on the island, Taiwan Hon Chuan Enterprise has gained further advantages in the fiercely competitive Taiwanese/Chinese marketplace. It is an aseptic blow-fill-cap solution with dry decontamination of both preforms and caps. The introduction of the new line has created the capacity required to provide flexible aseptic production to meet the fast-changing tastes and demands from consumers for sensitive products. It is used for the bottling of a range of low acid to high acid beverages, such as ready-to-drink tea, milk tea and coffee.



### for conventional milking systems – are now available for DeLaval VMS™ - systems that permit voluntary milking. The unique clover-shaped liner barrel gently grips cow teats throughout the milking cycle, helping it stay in the proper milking position and providing excellent massage, offering the cows maximum comfort. Effects on performance are stunning: fewer incomplete milkings, higher milk production and shorter milking times. One test farm milked 290 cows a day instead of 270 – adding up to 720 litres of extra milk a day.

### TETRA PAK CRYSTAL NECTAR

DELAVAL CLOVER™ LINERS BOOST

**MILKING PRODUCTIVITY** DeLaval Clover™ liners – long available

Takdaneh, a privately owned company in Iran, is securing its reputation as an innovative, quality-conscious and proenvironment brand. The company is now delivering orange juice and nectar with pulp in a

modern package aimed at Iranian families and youngsters -Tetra Gemina® Aseptic Crystal with Helicap™ opening. As well as being the first company to deploy this innovative and attractive product in the Iranian market, Takdaneh also became the first Iranian producer to stamp its products with the Forest Stewardship Council™ logo.



### SIDEL FIRST SIDEL DRY ASEPTIC **PET LINE IN INDONESIA**

PT.Hokkan has installed the first Sidel dry aseptic line in Indonesia and in doing so has expanded its production capacity as a co-packer of non-carbonated healthy soft drinks for the growing Indonesian beverage market. Sidel supplied its customer with Predis™ dry preform decontamination system which replaces wet bottle sterilisation. Sidel Predis provides 100 per cent decontamination of all preforms using hydrogen peroxide mist, removing the need for water and requiring only small amounts of chemicals.

The investment follows the success of the first Sidel line installed at the company - a wet aseptic Combi line - with the two lines now working alongside each other to offer the company increased flexibility in production. PT.Hokkan Indonesia is part of the Japanese Hokkan Group and is a co-packer for

the beverage industry, specialising in PET bottles of up to 500ml The company's bottle manufacturing facility is located in Bogor in the West Java Province of Indonesia some 50 kilometres south of Jakarta.



a strong reputation for delivering high-quality production solutions for fresh cheeses, cottage cheese and semi-hard cheese applications. Its addition broadens our capability in the rapidly-expanding cheese sector.







Rio Bucovina, the Romanian producer and distributor of natural mineral waters and soft drinks, recently reduced energy usage by up to 47 per cent by installing a new Sidel SBO10 Universal 2eco blow moulder at its production facility in Vatra Dornei, At the same time, it also collaborated with the Sidel Services<sup>™</sup> packaging team on a stylish new PET bottle design for its still water. Through developing the new modern and elegant design the weight of the PET bottles was reduced by up to 45 per cent. Rio Bucovina is now producing the lightest bottles in the Romanian market

**HEALTH WITHOUT IODINE** 



DeLaval pioneered another advancement in animal health and welfare with our innovative OceanBlu™ Pre and Post Dip and OceanBlu™ Barrier, OceanBlu™ increases the effectiveness of germicidal action through our patent-pending GlyTec™ technology, based on glycolic acid, a natural milk component. This proprietary non-iodine formulation im-

DELAVAL **OCEANBLU™ ADVANCES TEAT** 

proves udder hygiene and milk quality. OceanBlu™ antibacterial agents combine with skin conditioners to provide a reliable and powerful means of mastitis control. The barrier provides continued disinfection between milkings, an additional protection which can reduce veterinary costs.



**AUTOMATIC BODY CONDITION SCORING** 

The Tetra Laval Group consists of three industry groups, Tetra Pak, Sidel and DeLaval, all focused on technologies for the efficient production, processing and packaging of food.

The head of each industry group has operational management and operational capital responsibility for their 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 decisions and the implementation of strategy and policy for the group.

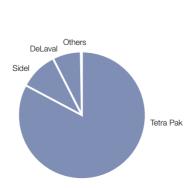
## **NUMBER OF EMPLOYEES. DECEMBER 2015** TETRA LAVAL GROUP 33,860 Tetra Pak

### **NET SALES 2015. IN MIO EURO**

TETRA LAVAL GROUP

DELAVAL

**OTHERS** 



## **⚠** Tetra Pak

### PROTECTS WHAT'S GOOD

Tetra Pak is the world leader in food processing and packaging solutions. For more than 60 years. the company has worked with customers across the globe to help make food safe and available. Continually building on its heritage of innovation, its understanding of market dynamics and its commitment to the principles of sustainable development, Tetra Pak delivers complete and customised solutions that create value for its customers; helping to meet the needs of hundreds of millions of people in more than 175 countries every day.

### CUSTOMER VALUE GOES BACK TO ITS ROOTS

Creating customer value goes back to the very roots of our company, Ruben Rausing, who founded Tetra Pak more than 60 years ago, held the view that a package should save more than it costs ... that higher sales, more efficient distribution and lower food waste should more than offset what our customers pay for their packaging. Today, that policy continues to guide our global business, with a portfolio of processing and packaging solutions that deliver outstanding performance and quality at lower comparable cost, and higher value, than anyone else in the industry. More than that, just as importantly, we now apply the same principles when it comes to the environment ... finding ways to reduce our total impact across the value chain, whilst continuing to grow our business worldwide.

### **PRODUCTS**

At Tetra Pak we specialise in providing complete solutions for the processing, packaging and distribution of food products. Our products are designed specifically to be as economical with resources as possible. Dairy products, juices and nectars, ice cream, cheese, fruits, wine, vegetables and pet food are examples of products that can be processed or packaged using Tetra Pak lines. We focus on keeping the consumption of all raw materials and energy to a minimum during both the manufacturing process and distribution.

Our products are divided into several categories:

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

#### **MARKETS & CUSTOMERS**

Tetra Pak operates in more than 175 countries around the globe, employing almost 23,600 people. Our customers come from different parts of the food industry, such as the dairy, cheese, ice cream, beverage and prepared food sectors.

### **ENVIRONMENTAL SUSTAINABILITY**

We are committed to running our business in an environmentally sound and sustainable way. We set goals for continuous improvement in our development, sourcing, logistics, manufacturing and product portfolio. As part of that commitment, we take a longterm and lifecycle view, continually improving environmental performance, communicating with our stakeholders and reporting regularly on our performance. One of our environmental ambitions is to continuously increase the use of renewable materials in our packages – materials from natural resources that grow back when properly managed, such as wood and sugarcane. In 2015, we achieved one of our renewability goals, sourcing 100% of our paperboard from FSC<sup>™</sup> certified and controlled sources.

COUNTRIES SERVED

NET SALES 2015

**MILLION EURO** 

NUMBER OF EMPLOYEES DECEMBER 2015

23,580

TECHNICAL TRAINING CENTRES

**DEDICATED R&D UNITS** 

**OWNED & OPERATED** PRODUCTION PLANTS

### TETRA PAK GROUP NET SALES BY GEOGRAPHY, 2015



### TETRA PAK PACKAGING SALES SPLIT BY MARKET SEGMENT, 2015

Of 78,200 million litres of products



Juices and nectars 16%



### **SOLUTIONS FOR SUSTAINABLE** LIQUID PACKAGING

Sidel Group supplies solutions to package beverages in PET, can and glass enjoyed by consumers all around the world. Our purpose is to help brands protect the product inside, preserve the planet outside and touch the lives of millions of people every day. We do this by offering complete and modular packaging solutions, including people, services and equipment. Sidel has offices worldwide, including eight production sites and eight training centres. All our experts are committed to creating the optimum liquid packaging solution.

### CREATING VALUE AT EVERY STEP OF THE SUPPLY CHAIN

At Sidel Group, we direct all our efforts to add value to our customers' liquid products, packaging, production and business – throughout their entire supply chains. With over 165 years of industrial experience. Sidel Group understands the unique needs of beverage producers and is able to help meet them. We assist our customers by protecting the safety and quality of their beverages. We optimise the design and function of the bottles. We provide flexibility and reliability in our customers' production. We support them in reducing energy consumption to improve sustainability and to reduce costs. With complete solutions for liquid packaging, Sidel Group can help beverage producers adapt to the changing and increasing demands of the industry, by creating a true value combination.

### SOLUTIONS

Faced with numerous challenges, future success for beverage producers will depend on the ability of production facilities to address and meet pressing challenges quickly and flexibly at the same time. Sidel Group helps beverage producers adapt to rapidly changing and increasingly competitive markets by creating value in five key areas: product quality, flexibility, reliability, brand impact and cost optimisation. A changing world needs a flexible solutions. PET in all its forms provides the flexibility to meet the demands of today and tomorrow. It has all the qualities necessary to meet the diverse needs arising from global and consumer trends. Sidel has the equipment, services and people to create sustainable PET liquid packaging solutions for beverage products around the globe. We do so using a modular approach that enables our solutions to be easily adapted to market developments and future technology.

#### R&D

Sidel Group is a pioneer in solutions for liquid packaging. Our innovations include the Combi, facilitating PET bottle blowing, filling and capping in a single machine; Predis<sup>™</sup>, a revolutionary dry preform decontamination solution to enhance hygiene, using no water and very few chemicals; and the new Sidel Matrix™ system, with which we challenge the conventions of PET production in order to meet the requirements of liquid producers everywhere - even better than before.

NET SALES 2015

MILLION EURO

NUMBER OF EMPLOYEES

5,395

TRAINING CENTRES

**RESEARCH CENTRES** 

### COUNTRIES SERVED

DECEMBER 2015

**OFFICES** 

## **♣** 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 worldwide. Service and sales of a wide range of accessories are also key aspects of DeLava'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.

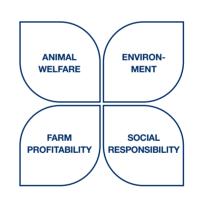
### RESEARCH AND INNOVATION

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** 

NET SALES 2015

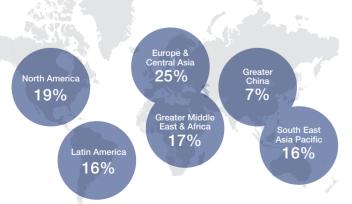
NUMBER OF EMPLOYEES DECEMBER 2015

**R&D UNITS** 

NUMBER OF FACTORIES

SALES OFFICES

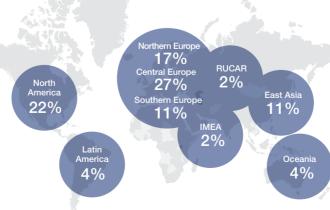
### SIDEL GROUP EQUIPMENT ORDER INTAKE IN 2015 BY GEOGRAPHY:



### SIDEL GROUP EQUIPMENT ORDER INTAKE IN 2015 BY MARKET SEGMENT:

Water <b>36%</b>	Carbonated Soft Drinks
Beer & Alcohol 24%	Food, Home and Personal Care
Juices, Nectars, Soft Drinks, Isotonics & Teas	Liquid Dairy Products

### **INVOICING BY REGION, 2015**



### **INVOICING BY PRODUCT SECTOR, 2015**



## TETRA LAVAL COMMENTS BY THE CHAIRMAN OF THE BOARD

## Creative ways to grow in an uncertain world

The Tetra Laval Group delivered a solid overall performance in 2015 despite contractions in markets, for instance in China, Russia and Brazil. The Group found new ways to grow such as new product formats and technical services for improved customer productivity. Net sales increased by 6 per cent compared to 2014 to € 14,305 million. The weaker Euro relative to other currencies, for example the US dollar, impacted our sales positively. The operating profit improved but on comparable rates was at a similar level to last year due to currency effects. Cash flow was also stable compared to 2014.

From a geographical point of view, the Tetra Laval Group had a positive sales development in North America across all industry groups, while markets like China, Russia and Brazil slowed down, affecting Group sales negatively. The Group developed favourably in India, while the Middle East, partly due to geopolitical reasons, developed less favourably. In this context I would like to take the opportunity to express my gratitude for all the outstanding achievements by our skilful co-workers during the year.

### TETRA PAK IMPROVED IN SEVERAL WAYS

Tetra Pak delivered a small growth - net sales increased by just over 7 per cent compared to previous year. Excluding currency effects, net sales grew by 1 per cent. The industry group made important progress in several aspects. They improved the carton business by 4.32 billion and reached 184 billion packages. A substantial part of this improvement was attributable to advanced formats, which are attractive features to customers. Technical services, both within Packaging Solutions and Processing Solutions, displayed an impressive growth of about 7 and 10 per cent, respectively. Sales of capital equipment in both areas fell slightly to a more normal level after the record year of 2014. Tetra Pak took important initiatives to refurbish and upgrade customer equipment, which contributed to improved sales.

### A TOUGH MARKET FOR SIDEL

Net sales at Sidel increased by 1 per cent, mainly due to the the lower demand for capital equipment. Excluding currency effects, net sales improved slightly by 3 per cent. Sidel has been very successful in establishing a strong market presence in China, with a substantial part of it's sales originating from Chinese operations, inspite of a downturn in the Chinese market. However, during the year Sidel's service business developed favourably in China, while sales of new equipment were more difficult.

Sidel continued to roll out the Sidel Matrix™ modular packaging system with positive reactions from their customers. It also devoted a lot of effort into product development with a new high-speed streamlined machine based on the modular Matrix platform. Prototypes have been set up and market launch is expected to take place within the coming year. Sidel also launched a restructuring programme

and a new and more functionally oriented organisation with fewer management levels and clearer accountabilities. These initiatives will enable very substantial cost savings over the coming few years. The new structure will also empower Sidel's employees worldwide and ensure that customers have faster access to Sidel's global PET expertise and unrivalled local market knowledge. At the beginning of 2016 Sam Strömerstén commenced as the new CEO succeeding Mart Tiismann who is leaving after eight years as head of Sidel. Sam and his colleagues in the management team are implementing the structural and organisational changes and at the same time improving the offer of complete line solutions for future growth.

### MIXED DEVELOPMENT FOR DELAVAL

DeLaval's net sales increased by less than 1 per cent compared to the previous year. This was mainly due to a lower demand for capital equipment fuelled by the uncertainty of the European CAP (Common Agricultural Policy) reform. Excluding currency effects, net sales decreased by 3 per cent. Since farmers do not know what to expect from future milk prices, many have postponed investments in dairy equipment. In addition, developments in Russia - which has prohibited import of certain goods - contributed to lower sales for DeLaval. But despite the economic downturn in China, Chinese customers continued to buy DeLaval equipment. They prioritise high-quality and durable equipment, possibly

as a result of the efforts to improve food safety in China. DeLaval also increased its market presence by building a new plant in Tianjin, which was inaugurated during the year.

### **CUSTOMER AND SALES FOCUS IN OUR ROOTS**

In times of economic uncertainty, the Group has managed to find new innovative ways to improve growth. Customer and sales focus is in the roots of the Group. The focus is helping customers to grow their businesses and be more productive. And there are many examples of this today. Tetra Pak's metallised coating on the outside of packages are attractive for many customers, and help them to sell more of their products. Sidel's Predis™, a revolutionary dry preform

decontamination solution to enhance hygiene is another good example of an attractive alternative for customers. A third example of our Group's focus on customer and sales is an infrared camera by DeLaval which monitors a cow's feed and health status and gives the farmer valuable information for operating the business more effectively.

### THE GROUP IS WELL-POSITIONED

It is difficult to form an opinion of the present macro-economic situation and widespread political instability. I think the uncertainty of GDP growth will persist at least in the short term. Our performance last year, however, demonstrates that our Group is well-positioned to deal with present market conditions. We have a product mix that makes us less

"Our performance last year demonstrates that our Group is well-positioned to deal with present market conditions. We have a product mix that makes us less vulnerable to cyclical shifts in the global economy."

vulnerable to cyclical shifts in the global economy. Regardless of whether it concerns companies or individuals, there is always a demand for food and beverages. If we, in addition, can help our customers to be more successful by offering innovative products and services, we have a bright future ahead of us.

### **FOCUS ON GROWTH, COST** AND SUSTAINABILITY

So the theme for 2016 will be to find innovative and creative growth. The only way is to deliver value to our customers, for instance by helping them to operate their plants more efficiently or supporting them in developing new products for the market. Another key issue in 2016 will be our own financial performance. We will continue to work on cost and efficiency. Competitiveness programmes including restructuring measures will be implemented in all three industry groups. Our focus will be to improve return on capital. Finally, we are going to continue to develop our sustainability performance in all aspects, from FSC™ to recycling and reducing carbon footprints. Sustainable business solutions will truly be a competitive edge for both our customers and Tetra Laval. With these initiatives I am convinced that the Group can deliver continued good results in 2016 despite a turbulent world.

Larry G. Pillard

















### TETRA LAVAL GROUP BOARD

### 01. Larry G. Pillard

Chairman of the Board since 1 January 2003. Larry Pillard joined the Board as non-executive Board Member in 2001. He was previously Chief Executive of the Tate & Lyle Group since November 1996. He joined the British based sugar, cereal sweetener and starch company in 1992 as President and Chief Executive Officer of A E Staley Manufacturing Company, the subsidiary responsible for all starch operations in North America. Prior to Tate & Lyle he was with Cargill Inc for 23 years.

### 02. Kirsten Rausing

An alternate Board Member since 1985 and a non-executive Board Member 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), as well as a past Chairman of Thoroughbred Breeders Association of Great Britain. She was appointed a Trustee of the newly formed Racing Foundation (UK) in 2012; this Foundation handles the proceeds of the British Government's sale of the Totalisator Board.

### 03. Finn Rausing

A non-executive Board Member of the Tetra Pak Group Board from 1985 to 1989 and of the Tetra Laval Group Board from 1995, Finn Bausing, who is the Chairman of the Audit Committee of the Tetra Laval Group Board, is also a Board Member of Alfa Laval AB, EQT AB, DeLaval Holding AB and Swede Ship Marine AB. Mr. Rausing is also Chairman of the Board for Stockholm Institute of Transition Economics

### 04. Jörn Rausing

A non-executive Board Member of the Tetra Laval Group Board since 1991 (an alternate Board Member of the Tetra Pak Group Board since 1985). Jörn Rausing is also a Board Member of Alfa Laval AB and DeLaval Holding AB and of Ocado Ltd. He is the Tetra Laval Group's head of Mergers and Acquisitions. He is also the Chairman of the Remuneration Committee of the Tetra Laval Group Board.

#### 05 Dr Bernd Pischetsrieder

A non-executive Board Member since 1999. 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. He is Chairman of the Supervisory Board of Münchener Rückversicherungs-Gesellschaft, Aktiengesellschaft in München. Dr. Pischetsrieder is a member of the Supervisory Board of Daimler AG since April 2014.

#### 06. Lars Renström

A non-executive Board Member since June 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.

#### 07 Jorma Ollila

A non-executive Board Member 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 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 also Chairman of Miltton as of 2015.

### 08. Paul Conway

A non-executive Board Member 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 external speaker on Food Security & Sustainability issues worldwide.

### **New Chairman appointed**

Lars Renström has been appointed Chairman of the Board as of 10 June, 2016. Larry Pillard will retire after 16 years on the Board, of which 14 years as the Chairman.

### 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
- · 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.

## COMMENTS BY THE CEO

## Strong results despite exceptional market conditions

Tetra Pak's revenues reached €11.9 billion in 2015, 7.5 per cent higher than in 2014. Although positive currency impacts accounted for 6.4 per cent of the gain, we saw underlying growth across all parts of our business, with particular strength in Services and Processing Solutions.

Within the context of the political, economic and competitive hurdles faced during the year, this was an outstanding achievement, once again reflecting the robustness of our strategy, the loyalty of our customers and the extraordinary commitment of our employees.

### **TOUGH TIMES IN KEY MARKETS**

The year saw slowdowns in three of our four most important markets. In China, the fall in annual GDP growth to less than 7 per cent was well-reported. More significant from Tetra Pak's perspective, however, was the continued slowdown in growth of China's fast moving consumer goods, which rose by only around 2 per cent in 2015, with the food sector increasing just 1 per cent. In Brazil, GDP shrank by 3.8 per cent in 2015 compared with 2014, with consumer confidence touching an all-time low; while Russia also reported that GDP fell by 3.8 per cent, with domestic consumption dropping even more sharply.

#### **TOUGH TIMES IN KEY CATEGORIES**

To compound the challenge, some of our key categories continued to perform weakly during 2015. Growth in demand for Juice, Nectar and Still Drinks (JNSD) and Liquid Dairy Products (LDP) have softened significantly during the past three years. JNSD has been hit by rising concerns surrounding sugar content, while the LDP sector has been relatively slow in providing innovative new products to meet shifting consumption habits and lifestyle choices, enabling other beverage formats to take ground.

### **SEVERAL IMPORTANT INITIATIVES**

Against this backdrop, and with competition in our packaging material business expanding further, the importance of our 2020 strategy once again became clear. Launched in 2011, the drive to accelerate growth in areas beyond packaging material, and to sharpen our focus on productivity and innovation, have unquestionably paid dividends; strengthening the top-line, securing margins and helping to ensure a bright, but different, future for the company.

### **PACKAGING SOLUTIONS**

Our packaging solutions business reported sales of €10.1 billion in 2015, a year-on-year increase of just 0.6 per cent, when the posi-

tive impact of favourable exchange rates is removed. In volume terms, sales climbed 2.4 per cent to 184 billion packages, taking us past the milestone threshold of 500 million packs sold every day.

The year saw the successful launch of several new products, particularly in the portion pack segment, plus a number of formats specifically designed to serve new categories where we see strong growth potential. Tetra Rex® Bio-based, our flagship carton made entirely from plant-based materials, gained significant traction following its launch at the start of the year, with strong demand from customers and consumers alike, particularly in north Europe.

During the year, we also launched our ground-breaking Tetra Pak® E3 filling machine platform, featuring a totally new package sterilisation technology that uses electron beams, rather than the traditional hydrogen peroxide. Compared with our existing A3 platform, the machine lowers operational costs, improves environmental performance and allows far faster production... with the potential to achieve filling speeds of up to 40,000 portion packages every hour.

The company's long-standing commitment to innovation continues to deliver results. Since the turn of the decade we have seen a significant increase in the overall vitality



"The year saw the successful launch of several new products, particularly in the portion pack segment, plus a number of formats specifically designed to serve new categories where we see strong growth potential."

index for our packaging portfolio. For packaging material and additional materials, the index, which measures the share of sales coming from products launched during the past five years, has risen from 2% to 17% since 2010, reflecting strong demand for new shapes, new closures and new materials. For our filling machines and distribution equipment, the index is also up, climbing from 8.5% to 12.5% through the same period.

### PROCESSING

Our Processing Solutions business had another solid year, with sales topping €1.7 billion in 2015, a year-on-year increase of 4.1 per cent, excluding the uplift from positive exchange rates and acquisitions.

During the year, the business took further steps beyond its traditional dairy and beverage core, particularly in the cheese, ice cream and prepared food categories. We completed the acquisition of Obram, a Poland-based company that has broadened our capability in the rapidly-expanding cheese sector, allowing us to be even more responsive to the needs of our customers. We continue to explore opportunities to expand this area of our business.

We also added a range of products to our processing equipment portfolio, addressing the needs of large and small customers alike.

Most notable among these were a new, highly-flexible pasteurizer for prepared food, that switches between ambient and hot filled products at the touch of a button, and the world's highest-capacity ice cream extrusion line, producing up to 43,200 ice cream sticks an hour, or 12 every second.

### **DRIVING COMPETITIVENESS**

Through the past few years, we have taken measured steps to enhance the effectiveness and efficiency of our operations. In 2012 we launched our competitiveness programme, targeting improvements in both direct and indirect costs to help fund the pricing actions needed as one part of our response to evermore aggressive competition, particularly within our packaging business.

The programme has been very successful. We have achieved significant savings through actions taken to streamline our industrial base, optimise our organisational structure and trim unnecessary expense. Perhaps most importantly of all, however, we have shifted the mind-set within the company when it comes to managing investments and expenses.

In 2015, non-allocated expenses as a percentage of sales was 14.7 per cent, down from 15.1 per cent in 2014. This compares with 17 per cent in 2010.

### RECOGNISED ENVIRONMENTAL LEADERSHIP

On the environmental front, in 2015 we changed the way in which we calculate the recycling rate for Tetra Pak carton packages,

to ensure we track what is most critical to enhancing the industry's performance in this area. We implemented new reporting guidelines across the whole company, to improve the data collection process, and also took the decision to exclude recycling reports from third party sources that we are unable to validate.

The effect of this change has been to reduce our recycling rate for 2015 to 23.6 per cent, or 43 billion packs, compared with 25.7 per cent, or 46 billion packs, in 2014. The underlying trend, however, remains positive.

The year saw further progress in our efforts to introduce Forest Stewardship Council™ (FSC™) labelled products to the market. All of the wood fibres used in our paperboard are now obtained from FSC-certified or controlled sources, and 29 per cent of the packages we sold in 2015 carried the FSC logo, up from 25 per cent in 2014, and from less than 6 per cent just five years ago. As momentum builds, particularly among our major customers, and consumer recognition increases, we expect this percentage to rise swiftly.

Trending in the opposite direction are the  $\mathrm{CO}_2\mathrm{e}$  emissions that we measure across the value chain, which in 2014 stood at index 84 compared with 2010, reflecting a reduction in total annual emissions of 2.2 million tonnes. During that same period, production from our factories increased 14 per cent. We expect to see similar progress when we receive the 2015 statistics later this year.

#### **FOCUS FOR 2016**

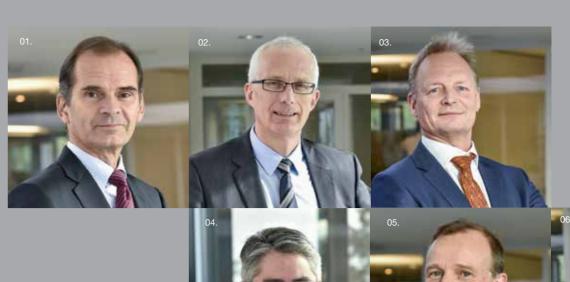
Looking ahead to the rest of 2016, we see no respite from the volatility, uncertainty, complexity and ambiguity that has characterised the business environment of the past few years.

Against such headwinds, we expect that growth will continue to be hard-won and modest. We will continue to explore "nearcore" opportunities, using our existing technologies and know-how in categories and markets that we have previously overlooked, or failed to develop to their full potential. We will focus even more effort on buildina our business in packaged food, through our Tetra Recart portfolio, and on expanding the range of products offered within our Technical Service businesses. And we will continue to grow our Processing operations, both organically and through acquisitions, with a sharper focus on harnessing opportunities to provide fully integrated solutions that deliver greater value to our customers, and more business for us.

The foundations on which we are building our business are strong, as is our determination to deliver sustainable, profitable growth through the years to come.

Dennis Jönsson

"The company's long-standing commitment to innovation continues to deliver results. Since the turn of the decade we have seen a significant increase in the overall vitality index for our packaging portfolio. For packaging material and additional materials, the index, which measures the share of sales coming from products launched during the past five years, has risen from 2% to 17% since 2010, reflecting strong demand for new shapes, new closures and new materials. For our filling machines and distribution equipment, the index is also up, climbing from 8.5% to 12.5% through the same period."





### TETRA PAK GLOBAL LEADERSHIP TEAM

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



## STRATEGIC DIRECTIONS

### VISION

## We commit to making food safe and available, everywhere

### **MISSION**

We work for and with our customers to provide preferred processing and packaging solutions for food. We apply our commitment to innovation, our understanding of consumer needs and our relationships with suppliers to deliver these solutions, wherever and whenever food is consumed.

We believe in responsible industry leadership, creating profitable growth in harmony with environmental sustainability and good corporate citizenship.

### STRATEGIC PRIORITIES

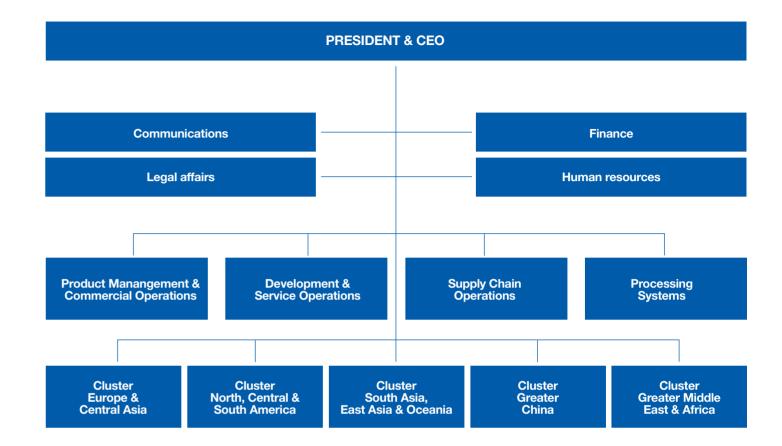








### **ORGANISATION**



### **OUR BRAND**

Since operations began in 1952, the Tetra Pak brand has grown to become a powerful global asset, delivering solid value to both our company and our customers.

Our brand is founded on a promise: PROTECT WHAT'S GOOD. At its core, that's about protecting food ... which has long been the very heart of our business agenda. But it goes further; it is also about protecting people: our employees, the communities in which we operate, and society as a whole. And it is about protecting futures; by developing the products and services that will support the future growth of our customers; by acting and operating in ways that best protect the future of our planet; and by delivering outstanding performance at lower comparable cost than anyone else in the industry, to ensure the future success of Tetra Pak.

### **CORE VALUES**

There are four values that guide the company's 23,500-plus employees in their day-to-day business:

### **CUSTOMER FOCUS & LONG TERM VIEW**

We ensure we add value and inspire our customers because we recognise that they come to us by choice. We dare to lead with a focus beyond tomorrow and take opportunities to learn and grow.

### **QUALITY & INNOVATION**

We do not compromise on quality. We relentlessly drive for better, fit-for-purpose solutions and breakthrough innovations.

### FREEDOM & RESPONSIBILITY

We have the freedom to take the initiative and act decisively in the best interests of Tetra Pak and our customers. We take responsibility for our actions and contribute to the communities in which we operate.

### PARTNERSHIP & FUN

We respect and rely on one another and all our stakeholders for exceptional results. We enjoy working together and celebrating our achievements.

### FOOD FOR DEVELOPMENT

Tetra Laval Food for Development drives development of the entire dairy and food value chain through cooperation with customers, governments, development agencies, funding organisations and NGOs all over the world. In specific, we help governments world-wide to implement school milk and school feeding programmes to ensure that children get access to safe food and education.

We also work with dairy farming development, helping local dairy processors to access more and better locally produced milk while helping small holder farmers to move from subsistence farming to running milk production as a profitable business.

In 2015, more than 70 million children in almost 60 countries have regularly received milk or other nutritious drinks in Tetra Pak packages while at school. And this number continues to grow, as countries across the globe start or expand their school-feeding programmes.

Such programmes have a considerable impact on the local community and economy. Not only do they improve the health and learning capabilities of children, they often act as a catalyst for agricultural and economic development.

### **GLOBAL COMPACT**

We are a signatory of the UN Global Compact, which brings together companies, UN agencies, labour and civil society to support ten principles in the areas of human rights, labour, the environment and anti-corruption. We also cooperate with NGOs such as WWF and FSC, and the Global Alliance for Improved Nutrition (GAIN). In 2015, we signed the Paris Pledge for Action at COP21, reinforcing the company's long-standing commitment to take the initiative in finding ways to help tackle climate change.

### TETRA PAK

## HIGHLIGHTS 2015/2016



## Bio-based raking in the awards

In late 2014, when we introduced the world's first fully renewable package – the Tetra Rex® Bio-based package – we knew it would attract attention, and it did. Manufactured solely from a combination of bio-based plastics, derived from sugarcane, and FSC™-certified paperboard, the product has picked up an array of prizes and distinctions during its first year on the market:

- First place in the Sustainable Innovation category at the Ethical Corporation Responsible Business Awards.
- The Special Environment Prize for 2015 from the Italian Packaging Institute, in partnership with the Polytechnic University of Milan.
- A Gold award at the inaugural Pro2Pac Excellence Awards in March.
- The prize for "most environmentally friendly product of the year" from the Green Star Packaging Awards in May.

Finally, the package was awarded the highest category of bio-based certification from internationally recognized assessment body, Vincotte.

Even more importantly, customer feedback has been very positive, with early adopters looking to expand the use of Tetra Rex Bio-based to other products, and strong demand from new customers. The company expects to deliver more than 100 million packs during 2016.





## Tetra Pak Processing

### - competence-based innovation

Tetra Pak Processing has set up four strategic competence areas to drive innovation: cleaning technology; mixing, blending and dosing: food safety; and heat treatment technologies. Each area has a network of technology specialists who share knowledge within our organisation and with customers.

One example of how our focus on key competencies has spurred innovation comes from our Dairy category, where our expertise in mixing, blending and dosing led to the creation of OneStep™ processing technology. Since its launch in 2010, the technology has transformed UHT milk production, providing an effective single-step process that eliminates the need for pasteurisation pre-treatment and intermediate storage.

Last year, the company extended the application of OneStep technology to milk production from powder, allowing producers, for the first time ever, to prepare UHT milk from powder in one continuous step. The main benefit is an unbeatably low operational cost, partly due to energy savings (tests showed -31%), and partly to reducing the number and size of storage tanks, which incur less cleaning and maintenance. Product changeovers become much easier, as well.

In another example, our heat treatment experts ran extensive experiments on foods containing particles, such as chunks of fruit, vegetables, meat or nuts. Results showed that heat treatment system designs can be optimized to new heat transfer models. We estimate potential savings of 20% in operational cost, in addition to savings in capital expenditures.

Findings and recommendations from many of our competence areas are available on our website in the form of downloadable white papers.

## Tetra Pak Services

### - improving performance

In 2015 we launched a new portfolio structure for all of our service offerings, under the simple title: Tetra Pak® Services. This restructuring and redefinition reflects stronger collaboration between our packaging and processing businesses, and reconfirms our commitment to a single common service portfolio across Tetra Pak.

The new structure incorporates the mix of services that customers expect from Tetra Pak, and showcases a range of innovative offerings that leverage the knowledge and experience unique to the company. Beside core service offerings such as Maintenance and Parts, we also now provide greater visibility to areas where we are expanding into new services, such as Consumables and Plant Components.

As part of the new structure, the company also launched Tetra Pak Plant Care, an umbrella name for its service agreements. These solutions deliver more value to customers in the form of either increased performance or cost savings – delivering predictability, risk-sharing and long-term partnerships.

With 2200 field service engineers and about 1200 other technical specialists active in more than 170 countries, Tetra Pak Services is able to provide value and cover every aspect of food production,



from daily routines to business insights. These tailored service solutions improve performance, optimise costs and ensure food safety throughout operational lifecycles.

Tetra Pak Services is based on the triple principle of "people, portfolio and presence". We operate 11 training facilities worldwide, and deliver 22 million parts a year around the globe to service 95,000 pieces of equipment.



## Sustainability includes the community

As a global company with many local operations, we are well placed to act as a catalyst in bringing together various stakeholders to drive projects and initiatives that make a positive difference.

Our expertise in food protection and our strong relationships with a broad range of organisations in many markets have helped us develop practical solutions to local problems.

In communities around the world, Tetra Pak leads initiatives to educate consumers about milk safety and nutrition. For example, in South Africa, Morocco, Turkey, and the Caucasus, we are promoting the benefits of UHT milk while raising awareness of the risks of loose milk.

Our Food for Development scheme supports school feeding programmes in Bangladesh and elsewhere, and our Dairy Hubs model helps secure sustainable supplies of locally produced quality milk in Bangladesh and Nicaragua.

We play an active role at the local level, helping people develop themselves and their communities. Schools and students are key to these efforts. For example, in India, we partner with Coca-Cola to support expanding access to rural education. Our LEADearthSHIP initiative in Pune and Delhi is mentoring college students committed to sustainable development. And in Portugal, Spain and Turkey, we support schoolchildren as they explore fun ways to recycle.

## Integration, control and efficiency at new DAFSA plant

Sourcing beverages and prepared foods to Mercadona, Spain's largest and most innovative retail chain, is a tall order. As a key supplier, DAFSA wanted to ensure control, competitiveness and flexibility for its future production. To achieve this, they embarked on the largest joint Packaging/Processing project of its kind in Europe, investing more than €38 million to create a facility with eight processing lines and nine packaging lines with a daily capacity of 4.3 million packages of beverages and prepared foods.

Tetra Pak was contracted to design and build every aspect of the greenfield factory in Segorbe, Spain, from raw material reception to warehouse. At its heart is Tetra PlantMaster™, which manages every aspect of the fully automated plant, from processing to shipping, while seamlessly connecting to enterprise resource planning and other programs. Key information is available everywhere in real time. This enables DAFSA to comply with Mercadona's efficiency and flexibility requirements while providing full control and excellence in food safety.

The new facility improves DAFSA's competitiveness by replacing three production sites with a single, fully flexible mega-plant, enabling future growth through capacity expansion and product innovation. The plant is multiproduct and multiformat, able to handle more than 80 products and 300 recipes – from juices and smoothies to gazpacho and dairy alternatives.

According to DAFSA, Tetra Pak exceeded expectations on every score: project planning, scheduling and execution, providing a unique value and service. "Offering a single source of responsibility with a profile expertise in integrated solutions was a wise move," said José Luis Campillos, the company's owner and CEO.

The project took 18 months from the initial top meeting in July 2012 to signing the contract. Then just nine months from project orders to equipment installation. The first packages came off the lines in January 2015, and full operations and automation integration went live in September 2015.

In addition to delivering the new facility, Tetra Pak has also established an integrated maintenance contract with DAFSA, guaranteeing to meet performance targets agreed between the two companies.



## Coupling total cost of ownership to sustainability

By providing solutions that reduce energy and water consumption, and limit product losses, Tetra Pak Processing is helping customers advance their environmental ambitions, while simultaneously reducing their operational costs.

The company has developed a modelling tool that it uses with customers to calculate the total life cycle costs of a processing module or line, taking into consideration machine performance, maintenance needs and environmental performance. We provide a full picture of the total cost of ownership (TCO) of a production solution, not just the capital investment. Customers can then make meaningful comparisons and informed choices.

Moreover, we provide performance guarantees on parameters such as product loss, as well as energy and water consumption, to ensure desired cost savings and reduced environmental impact. In addition, our Tetra PlantMaster™ customized automation solutions facilitate monitoring and control of production, supporting more efficient use of raw material and utilities.





Tetra Pak operates in more than 175 countries, providing complete solutions for the processing, packaging and distribution of food products. Customers come from different parts of the food industry, such as the dairy, cheese, ice cream, beverage and prepared food sectors.

## Supporting our customers on their journey

Visit our website, and you'll see a broad portfolio of packages, processing equipment, filling machines, distribution equipment and service products on offer. But our offer to customers often goes much further, with a range of support activities available that will help them to achieve their business goals, and us to achieve ours, as the following two stories illustrate.

### **FRUITS OF OUR LABOUR**

Meysu, a diversified food group in Turkey, has been producing and exporting fruit juices, nectars, still drinks and carbonated drinks since 2002.

Seeing the potential for significant expansion for 330ml packages in the juice, nectar and still drinks segment, they were consider-

ing moving to metal cans, but we suggested instead that they could meet their goals more efficiently with our Tetra Prisma® Aseptic 330 Square packages.

The comparison with cans showed significant advantages to our solution, considering the cost-efficiency of supply management and the image lift.

After contract signing in February 2015, things went quickly. We put together a team from different departments to work with Meysu in exploring potential extensions of their existing juice and nectars range. In three months we created a whole new fruit drink concept – Frutbox, including product formulation, package design and sub-brands – as well as assisting with Meysu's marketing plans. As for imple-

mentation, when we focused our technical resources, the new Tetra Pak® A3/Compact Flex line came into commercial production within five weeks. Meysu's five-flavour Frutbox range was launched in July 2015, and both the package and product were very well received by the market. Meysu is preparing to ramp up market communications this year and is also considering expanding to other still drinks, to continue revitalizing and broadening its consumer appeal



## Modern Farming goes to market

Modern Farming, founded in 2007, is now China's largest raw milk supplier and a very important customer of Tetra Pak's sister company – DeLaval.

In 2010 the firm was laying plans to launch its products on the consumer market, but as they had not built up any experience in the consumer end of marketing or business, this proved to be difficult.

They had no marketing arm in their organisation and had no budget for online communication. The result was that their best product was not a sales success, and machine utilization was less than 10%.

Tetra Pak then started to work with them on systematically extending their product to the consumer market. We organized a marketing team with top people from our marketing service and communications department to collaborate with Modern Farming. We initiated their application to an international food forum called Monde Selection, where they won the prestigious gold award in both 2014 and 2015. Since this was the first time a Chinese company had won such an award, the Chinese government commissioned Modern Farming to hold a mega press conference that was attended by senior government officials and

more than 50 media representatives. The award was then widely publicised, particularly within the retail environment, boosting their sales significantly.

"The Tetra Pak team provided us with a lot of excellent ideas and support for packaging design, consumer understanding and brand communication," says Ms. Gao Lina, President, Modern Farming.

With our combined efforts, we achieved a delivery of 660 million packs in 2015 and our projection is 800 million packs in 2016. Now, Modern Farming is an important customer for both DeLaval and Tetra Pak.

### **NET SALES BY BUSINESS SEGMENT**



PACKAGING MATERIAL

71%

CAPITAL EQUIPMENT

**S**=

10%

**7** 

1%

## TECHNOLOGY



Our customers are continually looking for packaging and processing solutions that will help lower their costs and reduce their impact on the environment. Our long-range investments in developing new technologies and new products helps them achieve those goals.

## Innovative technologies help our customers stay ahead of competition

Our customers are continually looking for packaging and processing solutions that will help lower their costs and reduce their impact on the environment. Our long-range investments in developing new technologies and new products helps them achieve those goals.

### PARADIGM SHIFT IN PACKAGE STERILISATION

Our long-term and life cycle perspective on technology development is exemplified by a success story from 2015 – one that is expected to create sustainable added value for decades to come

A new technology from Tetra Pak based on electronic emissions – called eBeam – is providing a paradigm shift in sterilising packaging materials. For over 50 years, the dominant technology at Tetra Pak for sterilising packaging material for long-life ambient distribution was immersion in a liquid bath of hot hydrogen peroxide. This is a relatively simple process because it can be controlled by varying concentration, temperature and time of immersion.

But the technology can't keep up with demands for faster and faster machines; concentration and temperature are already at a realistic maximum, and prolonging immersion time would significantly increase the quantity of peroxide needed, making it difficult to remove peroxide residues after the bath, and limiting the maximum speed achievable.

Some years ago, therefore, the company started looking at alternative, non-chemical sterilisation technologies and in 2000 began exploring the use of electron beam emitters, which were already well-established in other industries, but had never been used in beverage carton applications. After several years of development, in June 2015 the company launched the Tetra Pak E3, the world's first filling machine that uses electron beams, not hydrogen peroxide, to sterilise the packaging material, delivering significant advantages in terms of speed, environmental profile and energy consumption.

### **FULLY INTEGRATED PROCESS**

With eBeam technology in a Tetra Pak® E3 machine, sterilisation can be controlled as a continuously adjustable process, by changing the eBeam dose – the number of electrons hitting the package – like turning up the brightness on a TV. And the machine speed can be

varied independently of the dose, allowing much higher speeds. At the same time, operating costs may be reduced by up to 20%.

We designed a common eBeam solution that could cover all possible applications, with minimal changes. Moreover, because products for chilled, chilled with extended shelf life (ESL) and ambient distribution require different degrees of sterilisation, with traditional hydrogen peroxide sterilisation, each required its own specific filling machine design. With eBeam, one machine design will cover all applications, allowing customers to run chilled or ESL chilled production on the same machine, with just minor modifications. In the future, it will also be available for ambient production.

To date, the company has placed more than a dozen Tetra Pak E3 machines with eBeam in field tests around the world, including some running fast (15,000 pieces/hour) and ultra-fast (40,000 pieces/hour).

Customer acceptance is high, with industry awards to match: the 2015 Gold Medal Sustainability Award from Packaging Europe and The World Beverage Innovation award 2015 from FoodBev for Best Manufacturing/Processing Innovation.

### REDUCED OPERATIONAL COSTS



Maximum capacity of up to

40 000

portion packs per hour

More than



increase in capacity compared to Tetra Pak®A3/Speed for Portion Packages



Opportunity to save as much as

in operational cost due to the improved efficiency

### INCREASED PRODUCTION FLEXIBILITY

Tetra Pak® E3 has taken a modular approach in it's design. This allows customers to move from pasteurised filling to extended shelf life production by simply installing an eBeam kit enabling customers to easily switch between pasteurised or ESL production orders on the same machine.



### BETTER ENVIRONMENTAL PERFORMANCE

Use of eBeam instead of H<sub>2</sub>O means



easier water recycling



electricity saving from H<sub>2</sub>O<sub>2</sub> preheating heating and drying can beas much as



33%

based on pilot tests at customer sites

acca on phot toolo at odolomor office



We work for and with our customers in more than 175 countries around the globe, providing preferred processing and packaging solutions for food. And our customers have said they want to work even closer with us.

## Serving markets with complete solutions based on global expertise

Tetra Pak serves international, regional and local companies, supplying many of them with integrated processing and packaging solutions. Packaging Solutions are active in food sectors such as dairy, soft drinks, soy products, wine, juices and prepared food.

Processing Solutions are divided into the following categories: dairy, beverage, cheese, ice cream, prepared food and cosmetics.

We provide complete machine lines, including equipment, engineering, design, installation, project management and services.

### SIGNIFICANT MARKET CHANGES UNDERWAY

Both packaging and processing markets will experience some significant changes in the run-up to 2030. The global population will climb to more than 8.4 billion, putting ever greater pressure on resources like water, energy and food. Of that total, close to 1.1 billion, or 13 per cent, will be aged above 65 years, refocussing and redefining health issues, and increasing the demand for products and formulations that meet the specific needs of this older generation.

We will be hearing more about the circular economy: doing more with less, innovating and recycling materials. Government and industry alike will focus on resource management and certifications. We can expect stricter requirements on recycling, traceability of recycled materials, and water management.

### BEING CREATIVE WITH CUSTOMERS IN A CHANGING MARKET

We enjoy working closely with customers on what really matters to them: new product development, brand and product differentiation, and getting products to market faster. Best of all, closer collaboration with Tetra Pak is what customers said they wanted in a 2015 satisfaction survey, with comments like "We should work jointly on the development of new products" echoed many times.

Our recently launched Marketing Services programme draws on our global expertise to support our customers' brands in a more collaborative way. Our industry experience and global presence enables us to help customers identify new growth opportunities and find unique solutions.

The new service is a one-stop shop covering all aspects of the innovation journey, starting by exploring unique challenges and opportunities. Next comes brand positioning, developing product formulations and package design. We also help customers plan and support product launches, and then analyse data and feedback to refine the product until it achieves market success.

The new process can be delivered anywhere but it is supported especially well by our global network of Customer Innovation Centres (CICs). The first two locations – Denton (USA) and Dubai – opened in 2015, and more will follow in 2016. Participant feedback is very positive: "We used to struggle with new ideas," said one. "This method helped us be creative and find new opportunities in a more scientific way."

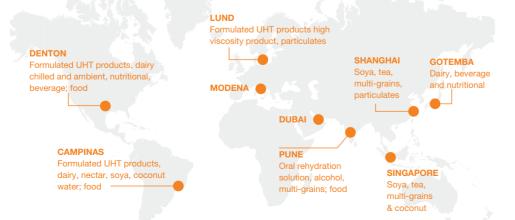
### TOP TEN MARKETS IN PACKAGING

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

### TOP TEN MARKETS IN PROCESSING

- 1. CHINA
- 2. US/
- 3. NEW ZEALAND
- 4. GERMANY
- 5. BRAZIL
- 6. INDIA 7. FRANCE
- 8. RUSSIA
- 9. MEXICO
- 10. INDONESIA

### **GLOBAL NETWORK OF CUSTOMER INNOVATION CENTRES**



### TETRA PAK SUSTAINABILITY



As a global company with offices, operations, customers and suppliers around the world, Tetra Pak recognises the need to take a broad view of sustainability, , shaped by our brand promise:, to PROTECTS WHAT'S GOOD<sup>TM</sup>. 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

## Sustainability: one part planet

We are working to minimise our environmental impact across the entire value chain, from sourcing to production to the use and disposal of our products, working in partnership with our suppliers and customers. We continually strive to develop innovative products that meet our customers' needs – including their requirement for a high standard of environmental performance.

On average, more than three-quarters of a Tetra Pak carton's weight is made up of paperboard. Securing a sustainable supply of wood-based products is therefore absolutely critical to our business. Forests are important for life on earth, for people and for business. We work to protect the forests by ensuring responsible forest management through traceability, certification and labelling of our products.

### PAPERBOARD THAT MEETS THE TEST

We have set minimum requirements – going beyond applicable legislation – for our suppliers. For example, Liquid Packaging Board (LPB) delivered to Tetra Pak may not include illegally harvested wood, wood harvested in violation of traditional or civil rights, or wood harvested from areas where high conservation values are threatened by management activities – among other limitations.

We believe the most credible certification system is the one run by the Forest Stewardship Council™, which was founded in 1994 by

a group of NGOs, timber users and traders to balance the economic, environmental and social aspects of forest management.

In 2007 we labelled our first packages with the FSC logo, indicating that they complied with FSC requirements. Since that time, that same label has appeared on more than 185 billion Tetra Pak packages... and the number continues to grow. More important than the labelling, however, we now secure 100% of our paperboard from FSC-certified or controlled sources!

Having already achieved FSC Chain of Custody certification for all our converting plants and market companies worldwide, we are now able to supply FSC-labelled packages from anywhere in the world.

### SOURCING RESPONSIBLY

To source responsibly means to evaluate how the supplier works with and respects human rights, labour rights, health and safety, the environment and business ethics. For Tetra Pak, this not only reduces risk, but it can also make our products more competitive. In our revised Code of Business Conduct for Suppliers, published in 2015, we define mandatory requirements for all suppliers to support our own responsible sourcing ambitions. The code is available in several language versions on our Purchasing & Supplier Management website.

### JUST™ WATER

The 2015 launch of JUST Water, which

debuted on the shelves of a Seattle

Whole Foods store and then expanded nationwide, was a major breakthrough for the Tetra Top® business in the U.S. It was the first time water had been sold in the elegant package format, helping it to stand out in a crowded market, overflowing with glass and plastic bottles. and presenting a convenient alternative for the growing numbers of environmentally conscious consumers. JUST Water also stands apart by virtue of carrying both the Forest Stewardship Council™ label – for FSC™ certified paperboard – and the Rainforest Alliance Certified<sup>™</sup> frog logo, recognising JUST's commitment to the sustainable management of the world's



### Real progress on climate goals

Our goal is that between now and 2020, CO2e emissions across all parts of the Tetra Pak value chain will be capped at 2010 levels, even though we expect to grow our business considerably during that period

In 2014, those emissions stood at index 84 compared with 2010. During that same period, production from our factories increased 14 per cent.

The illustration to the right shows the relative impact that each part of our value chain has on our total emissions



### 50% Customers

Use of sold products – life-time impact Processing equipment: 46% Packaging equipment: 4%



38% Supplies

Purchased materials

for packaging



6% Tetra Pak
Processing: 0.1%



6% End-of-life

## COMMENTS BY THE CEO

## Ready to strengthen our performance

After succeeding Mart Tiismann and becoming the CEO of the Sidel Group at the beginning of 2016 I have been immediately impressed by the strong expertise and passion of my new colleagues. On all sites, in all teams, everyone has a very clear passion for what we do, and a passion also to make the Sidel Group a successful one. Our people are engaged and ready to strengthen our group's performance.

### CUSTOMERS VIEW SIDEL AS A LONG-TERM PARTNER

I have also met with key customers. They are very aware of the current period of transition for Sidel, as we build and implement our new organisation to better serve them, while at the same time the whole packaging industry is adapting to new and tougher market conditions. It also became very clear to me that our customers view Sidel as an important partner for their future success, not the least for our long history and competence within the PET business.

### A VISION OF MARKET LEADER

My vision for the future is to build on our strengths and take the company to a leading position in the market. Our focus will be to offer complete line solutions, comprising world-class equipment and services, strengthened with leading packaging expertise. We have to strengthen our complete line packaging offering to enable the right output and the best productivity for customers at all times.

#### HANDLE THE CHALLENGES

An important part of the journey ahead of us is to mitigate our shortcomings and handle

the challenges to help better serve our customers. We are addressing this by implementing a new organisation with fewer management layers and clearer accountabilities. It will then be simpler to support lower total cost of ownership, TCO, which for our customers' operation is increasingly a determining factor for market competition. Finding the right balance between capital expenditures and operating expenditures will continue to be of key interest for our customers. We will keep focus on creating value for them with our solutions, helping ensure production is running in a reliable and at the same time flexible way, with top performance over the lifetime of the line.

### MARKET EXPECTATIONS

We are now facing markets with very different expectations and conditions. Although China will probably continue to report relatively strong GDP growth numbers, from our narrower industrial perspective, the situation there looks like a classical recession. This is likely to have knock-on effects and we believe the downturn we have already seen in 2015 could worsen to a more general global recession, at least in equipment demand, during 2016.

On the positive side, the market in South East Asia Pacific is growing with a steady demand from customers. There are also opportunities on the European market which we will focus on, in particular to serve a large installed base, beside new equipment order intake.

### 2016 - CONTINUE TO ROLL OUT INNOVATIONS

An important focus of 2016 will be to continue to roll out the Sidel Matrix™ offering, including Sidel Matrix eHR for hot filling applications and Sidel Matrix Predis for aseptic applications for juices, dairy and sports drinks. Other Sidel Matrix innovations to be introduced in 2016 include Sidel Matrix PH preferential heating for flat bottles used in home and personal care markets.

We will also improve our current equipment and services offering to enable customers to operate more efficiently and improve their productivity and performance. For example, our packaging offering will provide customers with the flexibility and brand differentiation they require. We will also see our web services evolve as we continue to innovate by using current services and making these online and easily available.



"My vision for the future is to build on our strengths and take the company to a leading position in the market. Our focus will be to offer complete line solutions, comprising world-class equipment and services, strengthened with leading packaging expertise."

Finally, the Gebo Cermex business for the glass and can markets are expected to grow, despite a general downturn, by continued cross-fertilisation of product strengths and market presence. We will be working more closely with Gebo Cermex to offer world-class complete line solutions. Novembal, with its North American focus, is likely to continue doing well and we hope to generate some new offerings to meet the expected growth of our major customers.

All in all, 2016 should be a successful year for the Sidel Group with a strong product offering, a new organisation, devoted employees and strong relationship with our customers. This is an incredibly strong platform for future success. The group has a long history, but history is always behind us. The future is different. It is ours to create. I am looking forward to working with my new colleagues in the Sidel Group and our customers worldwide to create a stronger future for us all.

Sam Strömerstén

## Strong progress in a challenging year

2015 was a year that brought many changes to Sidel, which is leading the group in a positive direction to meet our customers' needs. We improved many areas of our operations while facing challenging market conditions. Several key markets, especially in developing regions, weakened during the year. In China, where our market position is very strong, demand for new equipment dropped precipitously. As usual, when demand weakens, pricing pressure increases and this is exactly what we have seen in the last quarter of the year. However, the improvements that we have made to our business will enable us to adapt to this situation and react faster to market demands in the coming few years.



During year 2015 we continued to launch Sidel Matrix™, our latest generation of PET packaging equipment based on a modular platform, with a very positive reception from our customers.

The Gebo Cermex business, offering production lines and standalone equipment for the glass and can markets, continued to grow external order intake rapidly, due to improvements in its product offering and by addressing non-beverage market segments with its separate sales force. Another very positive development was the performance of the newest member of the Sidel Group, Novembal, which develops and manufactures plastic caps for the bottled liquid food market. By providing a consumable to our beverage customers, Novembal is a strategic complement to our equipment and services offerings. In addition, we continued to roll out our refreshed Sidel Services™ portfolio. A new spare parts delivery service, to choose just one example, aims to lower costs for beverage producers by encouraging them to take a more proactive approach to parts inventory management. The importance of services will continue to grow, driven both by customer demand and by our expanded offering.

### SLIGHTLY HIGHER SALES AND IMPROVED PROFITABILITY

From a financial point of view Sidel Group net sales were flat in 2015, reaching €1,410 million, which is a slight increase from €1,390 million the year before. Order intake for PET packaging equipment decreased compared to the previous year, as we were not able to completely offset the collapse of the Chinese market. Sidel continued to improve its competitiveness by driving cost-efficiency in structural costs, sourcing and project execution. Gebo Cermex has delivered solid growth for the last three years, increasing market share through enhanced business focus, especially in non-beverage markets, and it is hitting its profitability targets. Novembal also demonstrated solid growth in 2015 in line with its focus on the North American market for bottled water in PET.

### MIXED DEVELOPMENT IN GEOGRAPHICAL MARKETS

The general slowdown in the developing economies, and especially China, has resulted in a severe cyclical downturn in equipment demand. However, the North American market improved in 2015, while the recession in South America continued. Particularly the Brazilian and Argentinian markets weakened during the year. The European market was quite stable as was Greater Middle East, although oil price volatility negatively affected demand. South East Asia Pacific displayed a steady demand from customers.

### **REDESIGNED ORGANISATION**

In the Sidel core PET business, we continued to make progress toward becoming a simpler, faster and more efficient company. With the



launch of Sidel Matrix now well under way, we redesigned our organisation to better exploit the modular architecture of the new product platforms. From previously having a sales process of "engineer to order", we now offer "configure to order" meaning that we will have predefined modules but still the flexibility to meet customer demand by adding different characteristics and features. This allows us to better standardise our processes and components and thereby simplifying operations and reducing costs.

The new and more functionally oriented organisation will have fewer management levels and clearer accountabilities, and it will enable substantial cost savings over the coming few years. The new structure will also empower Sidel's employees worldwide to ensure that customers have faster access to Sidel's PET packaging expertise and unrivalled local market knowledge around the world. As part of this planned reorganisation, Sidel also intends to move its headquarters from Zug in Switzerland to Parma in Italy. In 2015 we laid the groundwork for this new organisation, and in 2016 we will implement it.

After eight rewarding years as CEO I am now leaving Sidel. I would like to take the opportunity to thank all my colleagues past and present for their outstanding achievements and loyalty to the group, as well as customers and other partners for our fruitful collaborations. Sidel is positioned for great success in the years ahead, under the leadership of my successor Sam Strömerstén. I will now be looking at the Sidel Group from the outside, however I will continue to feel the passion and rejoice in the future success of this great company.

Mart Tiismann

### SIDEL GROUP MANAGEMENT TEAM

- 01 Sam Strömerstén President & CEO
- 02 Roberto Bettini Human Resources
- 03 Nicholas Bloch Corporate Communications
- 04 Christer Carling Legal Affairs
- 05 Jürgen Voss Finance & Strategic Planning
- 06 Clive Smith Sales & Marketing\*
- 07 Andrea Forzenigo Supply Chain\*
- 08 José Luis Yécora Sourcing\*
- 09 Frédéric Sailly Product Management & Development\*
- 10 Pavel Shevchuk Services\*
- \* Subject to consultation with relevant employee representatives

















### SIDE

## STRATEGIC DIRECTIONS

### **VISION**

We commit to being the most innovative, responsive and reliable partner, providing sustainable solutions for the beverage industry.

### STRATEGIC PRIORITIES

Populations are increasing. So too are natural resources restrictions and urbanisation. Such changes are placing unprecedented pressure on our planet and increasing the demand for safe, healthy and high-quality beverages. At Sidel Group we are thinking ahead and adapting our equipment and services so that they fit to the needs of beverage producers both now and in the future.

Sidel Group helps beverage producers adapt to fast-changing and increasingly competitive markets by creating value in five key areas: product quality, flexibility, reliability, brand impact and cost optimisation. Sidel Group has the equipment, services and people to create sustainable liquid packaging solutions that deliver this value combination for beverage producers, brand owners and bottlers around the globe. We call it A Better Match.

### THE POWER OF PET

PET is already the packaging material of choice for many beverage categories, and is increasingly becoming so for others. In addition, it has all the qualities necessary to meet the diverse needs arising from global and consumer trends.

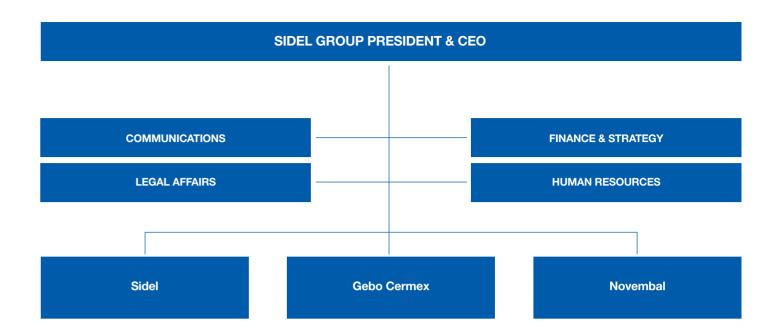
PET is tough, shatterproof and versatile. It allows beverage producers to create nearly any bottle shape or size using fewer raw materials with consistent results. Its design flexibility enables beverage producers to meet the needs and preferences of consumers with great brand recognition potential. It is also easy to store, carry, clean and re-seal.

PET also protects the safety and quality of beverages across the supply chain with excellent barrier material properties and extended shelf lives. As a sustainable liquid packaging solution, it is also 100 per cent recyclable and is evolving into even more environmentally-friendly forms, including recycled PET (R-PET) and plant-based PET (Bio-PET).

All of these great characteristics are why PET is increasingly becoming a packaging material of choice, and why Sidel is strategically focused to benefit from its growth within the beverage industry worldwide.







### **ORGANISATION**

Sidel Group's organisational structure and geographic presence is designed with its customers in mind. Through this market approach, Sidel Group combines global competences with local proximity around the world, enabling highly reliable and responsive customer service and support. To meet and even anticipate customers' needs and demands, Sidel Group's industrial organisation ensures that they are continually focused on product development and expanding their product portfolio.

### **CORE VALUES**

Passion lies at the core of our values and is applied to every aspect of our work – from our desire to create the best solutions to the respect we have for our colleagues, our workplace and the environment.

Listen & understand Challenge & innovate Deliver & optimise

### LISTEN & UNDERSTAND

We listen – to our customers, suppliers and colleagues so that we can understand and anticipate their unique needs. We allow for an open, transparent and flexible work environment where we are equally involved and passionate about our work, continuously developing our skills. We co-operate on all levels to ensure that we provide the quality of work that our customers can rely on and that we are proud of.

#### **CHALLENGE & INNOVATE**

We challenge the limits of technology in order to provide the best possible solutions. Together we have the creative mindset that sets us apart from our competitors – and gives us the flexibility and urgency to design innovative and adaptable solutions. At Sidel Group, there's room for everybody's input, but once a decision is made, we unite our efforts and move together in one common direction.

### **DELIVER & OPTIMISE**

We follow through on our commitments to our customers, to our suppliers and to our colleagues. We are consistent, straightforward and honest, and always act with the highest level of integrity in everything we do. We are passionate about learning at all times in order to optimise our processes and achieve excellence.

## HIGHLIGHTS 2015/2016

## Top CSR rating for Sidel

The commitment that Sidel is making to Corporate Social Responsibility (CSR) has been independently evaluated, placing the leading provider of production equipment and services for liquids in PET in the top 30 per cent of the 20,000 companies assessed in 2015.

Sidel received a Silver CSR rating from EcoVadis, a sustainability rating platform used to understand, track and improve environmental, ethical and social performance worldwide. Respect for the environment and a strong focus on CSR and Corporate Governance is fundamental to Sidel's operations.

"Sidel's purpose is to help brands protect the product inside and the planet outside. We continue to implement CSR in everything we do to help us achieve this and are pleased to see our EcoVadis rating this year is an improvement on last year," says Nicholas Bloch, Executive Vice President for Communications at Sidel

### SUPPLY CHAIN FOCUS

As a rating platform, EcoVadis focuses on the whole supply chain with a system that brings together buyers and suppliers to accelerate transparency and foster more sustainable business. For Sidel, this makes it a particularly relevant method of benchmarking CSR performance given the importance that Sidel attributes to the role of PET packaging throughout the whole supply chain - from raw material to recycling - and how it can help turn those supply chains into value chains.

EcoVadis monitors the sustainability performance of 20,000 companies across 150 sectors and 95 countries and is used by many global companies, including Nestlé and Coca-Cola.



## Brazilian Jussara buys first-ever PFT line for milk

The Brazilian company Jussara has become Latin America's first-ever dairy producer to adopt an aseptic blow-fill-cap solution equipped with dry preform decontamination. With this solution from Sidel, Jussara expands its portfolio with a new PET bottle to differentiate its brands on the shelves in a market dominated by cartons.

In 2013, the Brazilian market consumed 6.3 billion litres of UHT milk, a figure that makes Brazil the largest consumer of UHT milk in the world. In this very dynamic market, family-owned Jussara is the ninth-largest producer of dairy

products in Brazil, with continuously growing total sales and currently ranking fifth on the Brazilian UHT milk market.

In looking to extend its portfolio of products, Jussara wanted to meet consumer demands for innovative products with special formulation and function, through user-friendly packages that are easier to handle and to store, thereby offering greater practicality. The decision was taken to introduce innovative and different packaging - drawing on the flexible design possibilities that PET delivers as a material - to offer greater brand recognition for the consumer. The first milk to be aseptically bottled in PET using the Sidel integrated blow-fill-cap solution including dry preform decontamination technology is a long shelf life milk (UHT) enriched with added calcium and vitamins. Branded as "Jussara Max", the product has already received positive reactions from Brazilian consumers.





## Pioneering PET bottling solutions for 35 years

It was 35 years ago that Sidel produced its first SBO commercial solution for producing PET bottles for the beverage industry, and since then the company has been supplying innovative and often pioneering PET liquid packaging solutions. To meet growing and rapidly changing consumer demands. Sidel has been driving industry innovations through its extensive PET packaging and engineering expertise, supporting the growth in the use of PET as it continues to be recognised as the optimal solution for liquid packaging.

It was back in 1980 that Sidel introduced the world's first SBO commercial production solution to package beverages in PET - the SBO blower for carbonated soft drinks. The company has since driven many of the performance improvements in PET bottling technology that cover all beverage categories, achieving huge advances in the productivity of complete lines.

In 2014 a Sidel Matrix™ line produced 134,000 bottles per hour (bph) on the world's fastest production line for water; almost 40 times faster than the SBO blower of 1980, which offered 3,600 bph. Sidel has introduced numerous innovations in filling machines, leading to substantial improvements in filling accuracy and waste reduction. Labelling technology has also seen impressive advances, highlighted by a recent project - the Sidel Matrix Rollfed labeller with increased capacity.

Nicholas Bloch, Executive Vice President for Communications at Sidel, explains the key values that underpin these developments: "Through all of these advances in equipment, the underlying objectives remain: lowering total cost of ownership through production flexibility, efficiency, product integrity and reduction in consumption of energy and raw materials."

## Training in Myanmar for effective line start-up

A brand new beverage production facility built on a greenfield site in Myanmar has demonstrated the importance of training in achieving a fast and effective line start-up. Key to the project was an innovative Greenfield Competence Development Programme created by the Sidel Services™ business unit. The programme enabled the provision of training at each phase of the equipment installation, including the period prior to equipment delivery, to ensure the start-up could meet the challenging timeframe of the project in what is a rapidly developing country.



The new facility, created specifically for the production of soft drinks, features a complete production line from Sidel. Sidel delivered a training solution that met the customer's wide-ranging needs in project coordination, manufacturing and overall operation. The project demonstrated how the approach of Sidel's Greenfield Competence Development Audit can be customised to meet the individual demands of different beverage producers, with the audit being described as "...a benchmark in the industry". Assessing an operating team's skills with competence audits clearly reveals performance levels and any shortfalls in requirements.

Hari Purnomo, Regional Commercial Director for Thailand, Myanmar and Cambodia at Sidel, comments - "This was a challenging project which required an innovative approach to training. It was the first complete Greenfield Competence Development Audit delivered by the Sidel training team."

## Substantial energy savings at world's largest distillery

A line improvement programme undertaken by Sidel at Japan's Kirin Distillery has resulted in substantial saving in the use of electrical energy. Sidel carried out a modular upgrade of the production line and fitted its ECO lamps to the blow moulder on the water line, providing a balance of cost and sustainability benefits.

アルカリイオンの

The whisky distillery, which currently holds the record for being the world's largest, is located in the town of Gotemba at the foot of Japan's iconic Mount Fuji. The Kirin facility is one of 10 whisky distilleries in Japan and its production water is taken directly from underground streams flowing beneath the mountain. With the increasing environmental KIRIN consciousness of consumers, sustainable packaging and the renewability of water sources are important factors in the bottled

The Project Manager at the Kirin Distillery says: "Kirin selected Sidel's ECO lamps to be fitted to its existing PET water line in its continuous search for greater sustainability and cost-effectiveness. The lamps have generated substantial energy savings and have also brought the benefits of improved process stability and optimised production output."

water market.

## Effective labelling technology for Maltese soft drinks

A project for the General Soft Drinks Co Itd (GSD) of Malta, the country's sole licensed bottler of Coca-Cola products, has demonstrated the capacity to add new technology to an existing line with minimum disruption following the installation of a new Sidel rollfed labeller in only five days.

Producing up to 25,000 bottles per hour, the new Rollquattro Evolution is for rollfed labels. The decision to acquire a new Rollquattro Evolution labelling machine from Sidel was taken after GSD had considered the retrofitting of an existing rollfed labeller.

"With the high season about to start, we consulted Sidel – originally to have our existing Rollquattro rollfed labeller retrofitted with all the relevant upgrades," commented Brian Galea, Technical Manager at GSD.

"Sidel undertook a careful evaluation of the whole situation on our behalf. When they presented the results of this thorough analysis and the comparable improvements we would likely experience by investing in the new machine, we quickly saw the value and sense of the option that they were suggesting, particularly when we realised the potential for installing it in such a short timeframe."





## New range of PET packaging services from Sidel

Based on 35 years of PET packaging expertise, Sidel now offers new packaging development services to help beverage producers worldwide turn their supply chains into value chains. Although very important, attractiveness and consumer experience are not the only value that great packaging design can create. To unlock the value of a holistic approach to packaging, design needs to be applied at the beginning of any development project, taking into account brand goals, production capabilities, distribution and storage conditions, among other critical factors. Sidel has now launched a new range of packaging services to help beverage producers to achieve this, composed of four main expertise areas: packaging and preform design, packaging optimisation, liquid-package interaction analysis and packaging qualification.



## Introduction of a revolutionary PET blowing solution

Sidel has introduced a revolutionary PET blowing solution – the Sidel Matrix™ blower eHR – to produce hot fillable PET bottles of consistently high quality. By heating the mould via electrical heat resistance (eHR) instead of hot oil, the Sidel Matrix blower eHR achieves a number of benefits in bottle quality, performance, process flexibility, uptime, energy savings and operator safety. Sidel's eHR electrical heating is very responsive, creating a temperature increase three times quicker than oil heating, accurately providing the correct temperatures from the very first bottle.



## Dry preform decontamination with Sidel Matrix

The market for sensitive products is growing rapidly as consumers embrace healthier beverages, such as teas, juices, isotonics, nectars and liquid dairy products. Sidel continues to help producers stay at the forefront of this rapidly expanding market by aligning its innovative dry preform decontamination technology, Predis, with the latest generation of modular Sidel Matrix<sup>TM</sup> blowing equipment. This combines the high level of process flexibility producers need with reliable aseptic production operations. With the new Sidel Matrix Predis available in the Combi Predis FMa configuration, producers can aseptically produce high and low acid products in many different PET bottle shapes and sizes.



## New spare parts service for lower costs

Sidel's new spare parts service aims to lower costs for beverage producers and improve uptime. Realising the need for timely provision of original spare parts, whether for emergencies or normal wear and tear, Sidel is aiming to encourage a more proactive approach to inventory management of its high-quality original parts among its customers. "This is because spare parts have always been – and still remain – a critical part of beverage bottling line management. By being proactive in the handling of spare parts, customers are equipped to avoid long-term stoppages and unnecessary downtime," comments Sidel Spare Parts Director, Martin Lowinski.





## Innovative PET solutions to customers in over 190 countries

Sidel Group has over 165 years of industrial experience. With 30,000 machines installed in more than 190 countries, the company has been helping producers fill beverage bottles for over 85 years, blow them for more than 50 and label them for more than 40. Sidel has over 40 years of aseptic packaging expertise, and was one of the first companies to introduce PET bottles to the beverage industry over 35

No matter if it is water; carbonated soft drinks (CSD); juices, nectars, soft drinks, isotonics and teas (JNSDIT); liquid dairy products (LDP) or beer, Sidel provides innovative PET solutions that are designed to meet the changing needs of beverage producers, brand owners and bottlers worldwide, helping create value across their supply chains from concept to



## A modular approach to better meet the needs

Sidel Group offers complete lines, equipment, services and people to better match the needs of its customers. The company has chosen a modular approach that enables its solutions to be easily adapted to the various needs of the customers, to changing market developments and to evolving new technologies. Sidel Group works closely with its customers to fully understand the needs and propose the right solutions for their business.

### **COMPLETE LINE SOLUTIONS**

Sidel Group provides much more than just equipment – it is the right output and the best productivity at all times. The engineers of Sidel have a high level of know-how spanning the entire line, from overall project design, to

installation at the customers' facility, to on-going lifecycle management. The company also tailors end-of-line solutions to customer specifications for layout, output and flexibility for all beverage applications.

#### SIDEL SERVICES

With Sidel Services<sup>™</sup>, Sidel puts its customers' needs at the centre and add value to their installed equipment, products and bottom line. As a local partner with a global reach, Sidel aims to deliver more than beverage production and optimise the customers' performance. Sidel offers six service areas: maintenance, line improvement, training, spare parts and logistics, line conversions and moulds, and packaging.

### SIDEL MATRIX

With a history of driving innovation to meet fast-changing consumer demands, Sidel has developed a revolutionary modular system that aims to overcome many of the shortcomings of the industry. With Sidel Matrix™ the whole line as well as its individual parts. have been optimised. More specifically the company has optimised liquid packaging production in four areas: line flexibility, production efficiency, product integrity and reduction of consumption. It gives customers lower total cost of ownership and improved environmental footprint. The Sidel Matrix system includes blowers, fillers, Combis, labellers and complete line solutions.

### **GLOBAL MANUFACTURING CENTRES OF EXCELLENCE**









**EUROPE** 

Filling – Parma Labelling - Mantova

China Blowing, Filling, Labelling - Beijing

## Innovative packaging let customers stay ahead of competition

Isabelle Maillot. Vice President of Product Innovation at Sidel, explains how the company works with innovations, and how development of new solutions can let customers stay ahead of the competition.

### WHERE DOES YOUR TEAM GET **IDEAS FOR NEW INNOVATIONS AND DEVELOPMENTS?**

They come from everywhere, but mainly from what we hear from the front-line talks with our customers. We also have regular innovation days with our customers and suppliers. All of this input goes into our work and the brainstorming sessions we use to get new ideas. My team closely follows new market, packaging and technology trends.

### **HOW INVOLVED ARE BEVERAGE** PRODUCERS IN SIDEL'S INNOVATION PROCESS?

It varies greatly. Some are very involved in our work and want to influence the development process, which allows us to take more of a long-term view in developing solutions for their needs. This collaboration is not always about the big breakthroughs but often about incremental innovation. For example, they might want to improve the performance of installed equipment.

### FROM THE CUSTOMER POINT OF VIEW. WHAT DRIVES INNOVATION?

The packaging itself is the main driver. Any technology or innovation that helps manufacturers produce the packaging they want, in terms of performance, bottle weight, or product safety... and at the lowest cost, is what they are looking for. Reducing the total cost of ownership, or TCO, is without doubt a large part of this. This is a broad theme and covers the equipment, operating costs, maintenance, energy and resource consumption, and any labour needed. By focusing on TCO, we can also impact sustainability, which is high on the agenda for most of our customers.

### WHAT ARE THE IMPLICATIONS OF **MACHINE INTELLIGENCE?**

As part of reducing TCO, we're working a great deal with machine intelligence. This kind of artificial intelligence is a major theme right now. This is how the machine learns by itself from the data it receives. Over time this will lead to the machine making better choices than we humans can make – from adjustments of production processes to predictive maintenance, when the machine itself recognises and signals that it needs a part replaced.

### Sidel offers flexibility and reliability for customers' production

By offering modular packaging solutions Sidel can meet the customers' specific requirements for producing multiple products of varying shapes and sizes all on one line, or quickly delivering brand new products to market. Sidel's modular technology and in-depth packaging expertise ensure high flexibility and reliability in the production process.

### **MODULAR PROCESSES**

Processing multiple products on the same line traditionally required a great deal of downtime. But with modular functions, quick changeovers and versatile processes. Sidel can better accommodate unique customer needs in meeting changing demands. The modular system reduces complex assembly and drives performance through lean manufacturing, allowing customers to get the best possible solution at the lowest possible cost.

### **QUALITY ASSURED**

The goal of all Sidel solutions is optimum productivity and reduced maintenance. Intensively tested and embedded with machine intelligence, the company's equipment limits manual intervention, improves line process control and results in consistent packaging time and time again.

### **UPGRADE POTENTIAL**

With modular systems, modules can be changed as customers' need evolve or as innovations occur. Options, upgrades and line conversions are available for all machines to extend their life and ensure sustained overall equipment effectiveness (OEE) without a complete overhaul.

134,000 **FASTEST BOTTLE CHANGEOVER BOTTLES AN HOUR** WITH SIDEL MATRIX™ SYSTEM







COMBI'S INSTALLED WORLDWIDE

TETRA LAVAL 2015/2016

## MARKET



## SUSTAINABILITY



## PET packaging is becoming increasingly popular

### **GLOBAL MARKET FOR BEVERAGE PACKAGING**

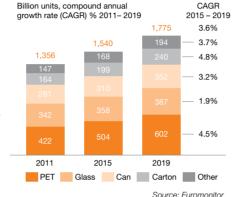
Sidel Group's core business is to serve the global market for beverage packaging, covering all main categories such as water, carbonated soft drinks (CSD), juices, nectars, soft drinks, isotonics and teas (JNSDIT), liquid dairy products (LDP) and beer. PET is increasingly becoming a packaging material of choice due to its inherent characteristics: it is light, strong, safe, hot-fillable, flexible, easily recyclable, re-sealable, transparent and low cost.

As a result. PET is gradually taking over from other traditional packaging materials such as metal cans and glass.

### **CONSUMER PREFERENCE FOR PET**

Consumers' preference for PET bottles over the other main packaging materials, metal and glass, is estimated to grow at above average rates of 4.5 per cent annually to 2019, while the overall market for beverage packaging is growing at 3.6 per cent annually according to Euromonitor.

### **CONTAINER DEMAND BY PACKAGING MATERIAL**



### **GROWTH TRENDS OF** THE PET MARKET

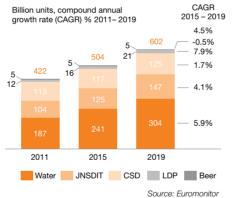
Sidel's addressable PET equipment market is estimated to reach over €2.1 billion, with important cycles linked to macroeconomic factors. The three main suppliers including Sidel account for nearly 80 per cent of the PET market.

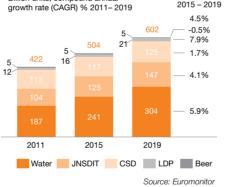
Growing technological advancements are stimulating the market, including high-barrier PET bottles, aseptic milk and ambient products. However, falling consumption of CSD in developed markets has restricted growth to some extent, although growing demand for bottled water has largely counteracted this trend.

Consumer demand in the water and JNS-DIT categories is expected to grow at above market growth rates of 4.5 per cent annually until 2019. This drives demand for PET bottles. as 86 per cent of water container units and 40 per cent of JNSDIT container units are filled in PET bottles. Growth in demand for CSD, on the other hand, is expected to be slower than in water and JNSDIT. These trends are a result of increasing consumer health awareness and a preference for changing to healthier beverages.

The largest markets for PET bottles are soft drinks, such as carbonated soft drinks and mineral water. PET bottles are also used for nonfood products, including personal care, household cleaning and healthcare products. PET has a strong position within the bottled water segment and there are particular growth opportunities within the tea, oil and dairy segments.

### PET CONTAINER DEMAND BY PRODUCT CATEGORY





### GLOBAL DEMAND FOR PET BOTTLES IN DEVELOPED VS. EMERGING MARKETS: 2004 - 2014



### **GROWTH OPPORTUNITIES IN** THE BEVERAGE MARKET

The key growth drivers in the beverage market are demographic growth, dynamics in consumer preferences and rising incomes in developing countries. These drivers are a source for sustainable growth in Sidel's underlying industry as the global population continues its long-term growth and per-capita consumption of packaged beverages continues to increase.

In emerging markets, population growth and currently low per capita consumption of packaged drinks provide substantial room to grow. This is especially the case in Asia-Pacific, in the Middle East and in Africa.

### 100 PER CENT COMPLIANCE BY SIDEL IN ATLANTA

Sidel's US site in Atlanta has now joined Sidel's four main manufacturing sites in successfully passing a Sedex audit, again with 100 per cent compliance in the key areas of labour standards, health & safety, the environment and business ethics. A non-profit organisation, Sedex - the Supplier Ethical Data Exchange – is the largest collaborative platform for sharing ethical supply chain data. The successful audit demonstrates Sidel's focus on continuous sustainability improvement and is part of its commitment to contributing to sustainable partnerships with transparent exchange of information throughout the supply chain. The Atlanta site was independently audited by Bureau Veritas. world leader in Testing, Inspection and Certification (TIC) services. The audit of the Atlanta site follows the successful result achieved in Parma, Italy along with Beijing, China in 2013, Octeville in France in 2014 and Mantova in Italy earlier in 2015.



### SIDEL'S CONCEPT OF **RIGHTWEIGHTING**

Sidel has introduced the concept of 'rightweighting', which builds on the idea of lightweighting but without compromising PET bottle performance. The RightWeight™ concept bottle weighs just 7.95 grams and can withstand the rigours of the supply chain and give consumers the experience they demand. Sidel has tested it to ensure there are no issues with storage, stacking or transportation. It delivers a great consumer experience, and contributes to a reduction in the beverage product's environmental footprint.

## Dedication to sustainable solutions and business performance

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

What's truly remarkable about PET packaging. besides being 100 per cent easily recyclable, is that it allows beverage companies to produce significantly lighter bottles that are still durable and offer a great consumer experience. As packaging may represent around 70 per cent of total costs, even the smallest changes can mean significantly reduced costs. In fact, Sidel's expert packaging designers can use lightweighting to help reduce PET consumption by up to 30 per cent without compromising product quality.

### **ECO-FRIENDLY EQUIPMENT**

Sidel's tested and proven eco-responsible equipment further improve cost-efficiency and reduce carbon footprint by requiring less energy, air, chemicals and water throughout all stages of production.

Saving resources is a driving force within Sidel when designing new equipment. For example, the Sidel Matrix™ modular system has optimised equipment resource consumption wherever possible. The Ecoven of the Sidel Matrix blower uses 45 per cent less power and 15 per cent less heating time in the

blowing process compared with the previous generation of blowers. In the filling process, the servomotors of the Sidel Matrix system use 30 per cent less energy compared with traditional drive systems, and the Sidel Matrix labelling

process uses 40 per cent less energy, as all

moving parts are now connected to the motor.

Another example is the innovative Predis<sup>™</sup> dry preform decontamination solution that has proven a success with manufacturers. It is an example of Sidel's aseptic technology for sensitive products, which allows producers to package beverages using no water and almost no chemicals. The Predis systems in use worldwide contribute to sustainability initiatives, with more than two billion litres of water already saved compared with traditional aseptic filling

### SERVICES ALSO CONTRIBUTE TO **IMPROVED SUSTAINABILITY**

This focus on sustainability is just as relevant for services as it is for equipment. The Sidel Services<sup>™</sup> business unit always has a focus on helping producers make their installed equipment more efficient and sustainable. For example, Sidel's Line Improvement team helps beverage producers take advantage of new technology on existing lines to improve their environmental footprint. One possible way to do this is to install the Ecoven on the blower on existing lines, an upgrade allowing producers to achieve energy savings up to 45 per cent, while ECO Lamps can save up to 19 per cent energy.



LESS OVEN ENERGY WITH SIDEL MATRIX™ **BLOWERS** 



OLIALITY

WITHOUT COMPROMISING



**OLYMPIC SWIMMING POOLS** OF WATER ALREADY SAVED WITH COMBI PREDIS™

Source: Furomonitor 40 TETRA LAVAL 2015/2016 TETRA LAVAL 2015/2016 41

## COMMENTS BY THE CEO

# Global presence an asset in a challenging climate

Despite difficult market conditions in many parts of the world, DeLaval was able to introduce new solutions in 2015, increase market shares and take the lead in many new developments in the dairy industry.

Net sales of €1,025 million in prevailing currencies were up somewhat on the previous year. We also have a positive view on the year in light of the particularly challenging conditions facing the dairy industry. Our global presence greatly benefitted us in 2015. We were able to excel in markets such as North America and Asia, counteracting the difficulties facing Europe and crisis-struck countries such as Brazil and Russia. Low milk prices and continued political tensions between the EU and Russia have had an impact on European dairy and agriculture vendors, including DeLaval. Additionally, we see that farmers are struggling with the new Common Agricultural Policy and coming to terms with the lifting of milk quotas. At the same time, we at DeLaval maintained market share in Europe and moved into the number one brand position in Germany during the year, according to the German DLG brand barometer.

### A YEAR OF INNOVATION

We launched several new innovations during the year to underscore our position as technology leader in the dairy industry. DeLaval body condition scoring BCS was launched early in the year, providing the world's first commercially available system for automatic body condition scoring.

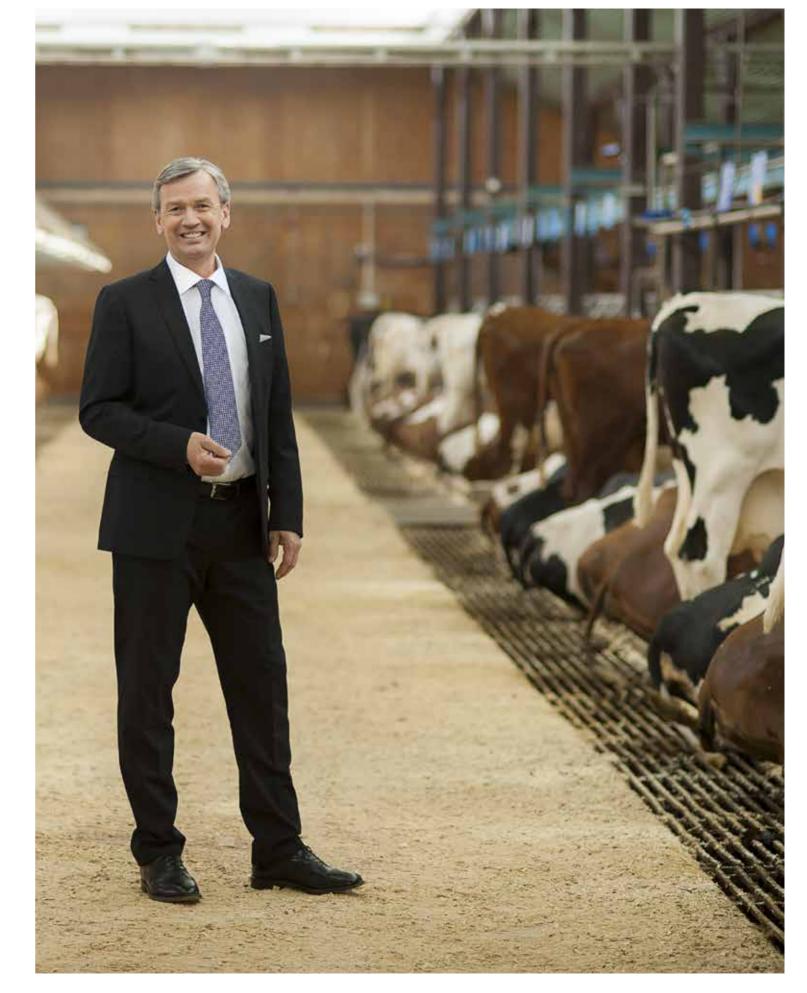
Farmers using the system can receive daily updates on the body condition score of every animal in their herd, providing a great deal of new data to help them manage and analyse the herd.

DeLaval BCS won several awards in 2015 including winning a 2015 World Ag Expo
Top 10 Product Award as well as a Dairy

"Our strategy has been to spend the considerable time necessary to achieve all the permits required to produce scientifically-based aftermarket products, and this strategy has helped accentuate our premium position in the market."

Herd Management Innovative Product Award. DeLaval teat spray robot TSR was also a winner at these awards and proof again that our innovative approach is paving the way for new technologies that help farmers.

All our innovations are aimed at making productivity and efficiency gains by improving the health, well-being and performance of the herd. 2015 also saw the introduction of sustainable innovations in the form of prepost and barrier teat dips such as Ocean-Blu™, a premium non-iodine dip for yearround use. It features GlyTec™ technology, which is based on glycolic acid, a natural milk component. Our strategy has been to spend the considerable time necessary to achieve all the permits required to produce scientifically-based aftermarket products, and this strategy has helped accentuate our premium position in the market.



"Our new developments in data collection and analysis show us that the future trends towards precision dairy farming will allow us to continue to find new breakthroughs in more sustainable farming methods. We are looking at the entire dairy process from milking and feeding to effluent management. We are collecting data on not just milking yields and somatic cell counts but cow behaviour and movement on a farm."

Our focus on Research and Development and innovation will continue in 2016. We will see the market launch of new innovative products such as the calf-care product Feedtech™ Carbogel and EasyStride™, an environmentally friendly hoof care solution that is free from both copper sulphate and formaldehyde, which reduces the chemical exposure for both the producer and the cows.

### SUSTAINABILITY AT THE CORE OF OUR OPERATIONS

Our vision of making sustainable food production possible continues to lead us as we develop new solutions for our customers. By providing new solutions that can help farmers do more with less, we are able to improve their productivity and help them practise more sustainable farming methods. Many of the examples above clearly indicate that our vision is the right one and is helping us shape the dairy industry.

Our new developments in data collection and analysis show us that the future trends towards precision dairy farming will allow us to continue to find new breakthroughs in more sustainable farming methods. We are looking at the entire dairy process from milking and feeding to effluent management. We are

collecting data on not just milking yields and somatic cell counts but cow behaviour and movement on a farm.

Internally, we continue to look at more sustainable operations. In 2015 we completed ISO14001 and ISO 9001 certification of all our factories in Europe and China. In the Americas and in Oceania we are considering different options for formalising the management systems already in place. We continue to work on reducing energy usage and phasing out our chemicals according to our Restricted Substances List.

### **CUSTOMER INTIMACY**

Our decision to stay close to the customer has also been a benefit to us in a year of turbulent markets. In China, we see that we are, by far, the market leader in the large farm segment. At the same time, our factories in Tianjin are delivering according to plan and our operations on the ground keep us close to the customer.

China is witnessing a significant transition from small herds and village milking centres to large mega farms. We have further cemented strong and positive relations in China with our participation in educational initiatives such as the five-year agreement we together

with Tetra Pak have signed with the Dairy Association of China. This educational programme has been ongoing since the mid 80s. We have committed ourselves to continue providing training to Chinese dairy farm managers and help them improve farming efficiency, increase product quality and enhance standards of animal welfare.

### THE YEAR AHEAD

The challenges that faced the dairy industry in 2015 are likely to continue into 2016. It is being hampered by introduction of new policies in the EU, sanctions between Russia and EU and lower imports into China. But the global demand for dairy products remains on the rise and we are proud to be working in an industry that provides foods rich in nutritional value that can benefit so many people around the globe. As the world population grows, we see dairy products playing an important role in the sustainablemix of nutritional foods available.

We are grateful that our staff and customers share this same commitment as we work towards a sustainable and prosperous future.

Joakim Rosengren







### **DELAVAL MANAGEMENT TEAM**

- 01. Joakim Rosengren President & CEO
- 02. Magnus Berg Supply Chain
- 03. Jonas Hällman Business area Milking Systems
- 04. Lars Johansson Corporate Communications
- 05. Mikael Landberg Human Resources
- 06. Johan Ledel Group Finance & IS
- 07. Paul Löfgren Group Marketing & Sales
- 08. Tim Nicolaï Business area Aftermarket, Services & Barn Environment
- 09. Johan Swahn Legal Affairs

## STRATEGIC DIRECTIONS

### **VISION**

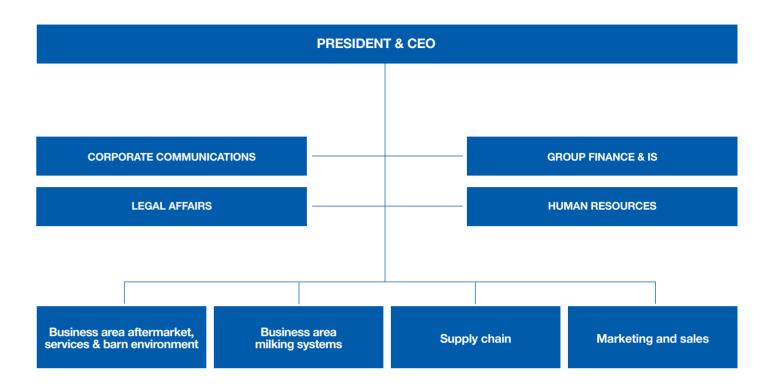
We make sustainable food production possible

### **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.

### **ORGANISATION**



### STRATEGIC PRIORITIES

- Profitable growth in geographies
- Number one in farm management
- Aggressively growing consumables and services 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.





### **CORE VALUES**

Passion
People
Professionals
Partnerships

### **PASSION**

- We share a passion for delivering customer value.
- We are proud of our heritage and our success.
- From our leading position in dairy farming, we expand our business with passion.
- This passion distinguishes us from other companies.

### **PEOPLE**

- We have the ability and are trusted to make decisions within our area of responsibility.
- We build our success on competence and constantly invest in personal development.
- We share our knowledge, support each other and enjoy being part of a team.
- We encourage diversity and appreciate the creativity that comes from a mix of cultures, genders, sexual orientation, religions, experiences and personalities.
- We are part of a global network.

### PROFESSIONALS

- We deliver quality in everything we do.
- We have clear responsibilities and fulfil our commitments.
- We listen, learn, innovate and constantly improve.
- We are proud of who we are and humbly reflect this through our attitudes and hehaviour.
- We stay true to our values.

### PARTNERSHIPS

- Our customers, their needs and expectations, are the starting point for everything we do.
- Our dealers are business partners with whom we jointly deliver customer values.
- DeLaval employees, our dealers and customers partner for long-term business results.

### DFI AV/AI HIGHLIGHTS 2015/2016





DeLaval pioneered another advancement in animal health and welfare with our innovative OceanBlu™ Pre and Post Dip and OceanBlu™ Barrier. OceanBlu™ increases the effectiveness of germicidal action through our patent-pending GlyTec<sup>™</sup> technology. based on glycolic acid, which is a natural milk component. This proprietary non-iodine formulation gives farmers a new tool to help improve udder hygiene and milk quality. OceanBlu™ anti-bacterial agents combine with skin conditioners to provide a reliable and powerful means of mastitis control.

The exciting new technology behind OceanBlu $^{\mathsf{TM}}$  has led to one of the most successful new product launches in the history of our animal health and welfare area, with sales in the first three months far ahead of expectations. Repeat orders and continually growing sales in early 2016 demonstrate the customers are happy with the control of mastitis the product delivers, and can also clearly see improvements in skin condition, especially in recent periods of extremely cold weather.

OceanBlu<sup>™</sup> has the potential to save time and money. Both the dip and barrier applications are ready to use, eliminating the need for mixing and special equipment. The dip is compatible with DeLaval VMS™ robot. The barrier provides continued disinfection between milkings, an additional protection which can reduce veterinary costs. With OceanBlu™, DeLaval continues to support farmers with safe, effective means of ensuring herd health and farm profitability.



## New liner boosts milking productivity

Until recently, DeLaval Clover™ liners were only available for conventional milking systems, but they are now available for DeLaval VMS<sup>™</sup> robots – systems that permit voluntary milking. The unique clover shaped liner barrel gently grips cow teats throughout the milking cycle, helping it stay in the proper milking position and providing excellent massage, offering the cows maximum comfort while being milked.

Their effects on performance have been stunning. In one case study, there were fewer incomplete milkings, producing more milk, and shorter milking times, allowing the farm to milk 290 cows a day as opposed to 270 - which by itself adds up to 720 litres of extra milk a day. DeLaval Clover™ liners have previously been shown to help reduce somatic cell count and reduce cases of subclinical mastitis, and now these benefits are also available to all VMS farms in Europe and other countries that follow the BfR regulation - with other regional versions to follow.

### EFFECT ON PERFORMANCE (CASE STUDY EXAMPLE)

additional cows a day litres of extra milk a day



### New hoof bath solution reduces chemical exposure

DeLaval Canada has introduced EasyStride™ cleansing solution, the latest innovation in hoof care. The phosphate-free, Organic Acid blend is in line with DeLaval's commitment to improving animal welfare. A dairy cow requires four healthy hooves to move, drink and feed freely. With EasyStride™, DeLaval contributes to infection prevention regimens, reducing the spread of disease and risk of lameness and their associated costs.



The commitment to operate our business in an ethical manner, in accordance with the Corporate Governance Framework, is closely linked to the sustainability objective of the DeLaval vision. To facilitate this commitment to ethical behaviour, we developed eLearning training to help DeLaval employees understand what corporate governance means and why it is relevant to everybody working at DeLaval. The mandatory training is available in eleven languages, and covers conflicts of interest, non-discrimination, confidentiality and asset protection. The training also explains how to report suspected non-compliance.



### Operational sustainability well established

DeLaval continues to bring innovation to bear on improving operational sustainability, as we also focus on bringing the same commitment to sustainability to our customers. DeLaval strives for continuous improvements within our own operations. Environmentally, we aim to reduce energy usage, phase out restricted chemicals, and reduce generated waste in our manufacturing. All factories in Europe and China are now certified for ISO14001 (Environmental Management Systems) and ISO 9001 (Quality Management Systems).



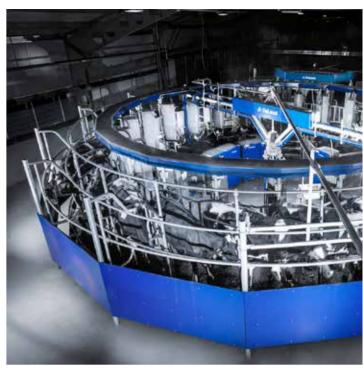
### Full rotation - full support

Our rotary milking solutions are found in 25 countries, covering farms with 100-7.000 cows. Our PR3100HD model, also very popular in the US, milks from 100-650 cows per hour. Because China actively supports large-scale farms and self-sufficiency in dairy products, they were our biggest rotary market globally in 2015, repeating the success from 2014, DL offer a complete local support that can leverage on our international competence from Europe and US.









## New milk meter calibration software saves hours of labour

New results from test farms in four European countries show that DeLaval's new software for calibrating milk meters in conventional milking systems provides significant time savings over traditional methods. In fact, more than 90% in some cases.

The new method combines data from DeLaval herd management software with receipt information from bulk tank volumes. The older system of collecting 15-25 kg of milk in a bucket for testing is slower, much more laborious, and less accurate.

Results came from eight farms in four countries: Sweden, the Netherlands, France and Germany. These ranged in size from an 80-cow operation to a herd of 1100. The number of milking meters on the farms varied from 16 to 60.

The big news was savings in labour costs. A Swedish double-12 parlour farm reported that labour costs over a five-year period, including initial calibration, installation test and routine checks, could be reduced by more than 90%.

In Germany, a rotary farm claimed labour savings for initial calibration and installation tests of four mandays, while Dutch and French farms in the survey reported saving between four and eight bucket milkings per milk meter.

With many thousands of milk meters in operation, the calibration problem can be huge. But with the DeLaval solution, the service technician knows from the herd management software which milk meter needs to be recalibrated, and that's it. Another plus: milking routines don't get interrupted, so farms can run at full capacity without disturbing the cows.

## DeLaval cell counter ICC saves testing time and costs

DeLaval has unveiled the DeLaval cell counter ICC, an optical somatic cell counting device designed to help save time and testing costs. Used in conjunction with an iPod touch, DeLaval ICC works with an app that stores and tracks individual cow results, and records the specific quarter of the udder being tested. Instead of taking days, results are available within 45 seconds, analysed by date, test results and cow tag number.

This is a first-of-its-kind tool that allows farmers to make fast decisions about herd management, as well as save time and money.

"DeLaval ICC provides rapid and accurate results in a portable and easy-to-use system", states Nik Sutter, Solution Manager for Conventional Milking Systems and Herd Management: "With immediate testing, DeLaval ICC contributes to a lower somatic cell count on the farm. The results are higher yields, better quality of milk and potentially a higher income for the dairy producer."

Powered by a 9-volt battery, DeLaval ICC is extremely portable. It illuminates milk samples with a specific frequency of LED light, causing somatic cells to fluoresce – and the image is captured with specialised optics.

It's also a great add-on to our DeLaval online cell counter OCC for DeLaval VMS™, which won the technological innovations prize at the GrandAgro Fair in Spain.

## Helping calves recover from diarrhoea much faster

Calf care is integral to our focus on animal welfare, and feed is a major factor – as well as a major cost component. Our Feedtech™ line includes dozens of stabilisers, supplements and treatments that improve feed quality and animal health. New to this line is Carbogel, a complementary feed based on natural oak charcoal that is treated with a unique thermostructuring process. This provides a particular pore structure that binds enterotoxins and mycotoxins, but not nutrients such as vitamins, minerals and amino acids. Feedtech™ Carbogel ensures a quick recovery for calves with diarrhoea by limiting water loss (the manure is rapidly firmer) and binding harmful toxins. Applying Carbogel helps limit the growth dip that always accompanies diarrhoea, setting the calves on their way towards a productive future.

"When a calf is infected, the toxins damage the gut lining causing malabsorption of water and nutrients," says Annelies De Spiegeleer, a veterinarian and product specialist in nutrition with DeLaval in Belgium. "As a consequence the calf gets dehydrated, weakens and will die if not treated promptly. It is very important to act quickly when a calf has diarrhoea." Experience from the field is that even if the product is black and doesn't appear appetising, It has won farmers over because it is effective and easy to use. Just two doses a day for 2-3 days helps calves recover.

## DeLaval AMR<sup>™</sup> installations increasing

DeLaval has continued to establish DeLaval AMR™ (automatic milking rotary) installations for large dairy herds. They are now present in Germany, Sweden, Finland and Australia – and other markets are waiting to be conquered.

The state-of-the-art machine was designed to help farmers transition from milking management to whole farm management. Farmers appreciate the flexibility and scalability of the system, adding components as their operations expand. Depending on management strategies, the DeLaval AMR™ milks between 500 and 700 cows a day. But over and above that, up to five robotic arms perform additional tasks: teat preparation, milk cup attachment, and teat spraying. Both commercial and large family farms have benefited from greater productivity and integrated farm management.

DeLaval AMR™ is managed with DeLaval DelPro™ Farm Manager. Farmers centrally monitor and control operations at all stages, using DeLaval DelPro™ data analyses in their decision-making and farm management strategies. AMR™ and DelPro™ together bring efficiencies to feeding, reproduction, milking, and herd health.

DeLaval expects AMR™ farms to steadily increase as the industry experiences consistent improvements in productivity, profitability, and overall farming quality of life, as a direct result of robotisation.



TECHNOLOGY



As modern dairy farmers increasingly turn to technology to optimise their milk production and cows' well-being, we at DeLaval add value by meeting and exceeding our customers' requirements on quality, productivity and safety. Our integrated milking solutions are designed and built to meet the needs of dairy farmers in more than 100 countries around the globe.

## Herd management reduces burdens on dairy customers around the world

The dairy business requires farmers to oversee animal care and health, daily milking operations, and commercial deliveries. Any tools that can help manage these challenges provide welcome relief. And added profits.

DeLaval Herd Navigator™ is an advanced herd management tool that analyses the milk of each cow and flags animals that may need attention. It detects mastitis up to three days before physical signs become visible, so that

sick animals can be treated earlier, limiting production losses and the intervention of veterinarians and antibiotics – which can cost up to 630 euros per case.

High performance dairy cows are also more prone to metabolic disorders. Herd Navigator helps identify cases of ketosis, where immediate treatment can prevent milk losses of up to 600 kg per cow, per lactation.

Finally, Herd Navigator identifies which

accuracy, making it possible to increase pregnancy rates after insemination up to 50%. This can improve the productivity of the animal and reduce the costs and labour related to insemination.

cows are in heat with an astonishing 95%

This multiple award-winning system is unique, and we confidently state that farmers can earn up to 250 euros extra per cow, per year, with Herd Navigator.

## Teat spray robot wins gold medal in Dairy Herd Management

DeLaval teat spray robot TSR won the Dairy Herd Management 2015 Innovative Product Award at World Dairy Expo in Wisconsin, USA. The stand-alone robots are designed for high-capacity operations, where cows are automatically sprayed during rotation, and mesh with DeLaval's external rotary parlours. Over thirty of these state-of-the-art systems are installed. DeLaval TSR™ was officially launched in 2015, and is now sold in Europe, North

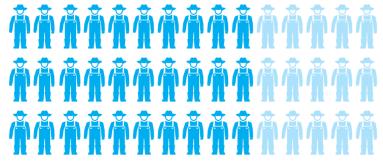
America, Asia, and Australia

Farmers worldwide are enjoying increased productivity and lower costs as a result of the efficiency of DeLaval TSR™. With its speed and accuracy, DeLaval TSR™ can pre- or post-teat dip up to 400 cows per hour, replacing the manual labour needed for this task. Uniformity of spray results in consistent application of teat disinfectants, leading to better cost controls.

DeLaval TSR™ improves profitability by improving animal welfare. The technology ensures cow health by optimising udder and teat condition, thereby minimising mastitis and its associated costs, including involuntary culling. With robotic precision, each teat is thoroughly and identically treated. Cows are kept calm by the consistency and predictability of the operations, adding to the predictable barn environment necessary for maximum productivity.

2/3

Nearly two thirds say that Herd Navigator has reduced their use of antibiotics





Our role as a global company is to team up with our customers to support them with world-class technology and knowledge they can use to improve the efficiency of their farms. One example of this is our robotic milking systems.

## DeLaval VMS<sup>™</sup> – Delivering value through integrated automation

It is well established that robotic milking provides a myriad of benefits, from reduced labour costs to more complete milking. But DeLaval voluntary milking system VMS™, goes beyond reliability and performance: this technology comes with standard features and optional add-ons that also promote cow health and productivity.

One is the award-winning DeLaval body condition scoring BCS, which provides farmers with the accurate information they need to increase productivity and decrease costs through herd health management. Now a cow's body condition is analysed and scored automatically with 3D imaging, while the cows move through a fixed point in the barn or through a DeLaval VMS<sup>TM</sup>. Reliable, instantaneous data allows farmers to spot body condition scoring

deviations and change feed conditions, for example, so cows turn feed into milk and not body fat. DeLaval BCS is particularly valuable when farmers can't observe the entire herd on a regular basis.

Other innovations focus on improved health and conception rates. Mastitis costs dairy farmers worldwide billions of dollars every year through lost milk production, discarded milk, treatment costs, reduced fertility and culled cows. In many countries the incidence of mastitis is about 30%.

Early detection and treatment of mastitis is a priority for every dairy farmer, which is why the DeLaval VMS™ comes with a mastitis detection index (MDi™) – a system that warns farmers if a cow is in danger of infection. MDi™

combines measurements of conductivity, blood, milk flow and milking intervals, all per quarter and generates an index score. The DeLaval index outcome has been shown to be much more reliable compared to individual data. Based on the faster result, a farmer could decide to monitor or treat the cow. This can be especially important in the summer, when mastitis incidence can double.

Finally, remember that cows are individuals. In conventional milking systems and most robot milking systems, pulsation is set according to the milking hardware. But in a DeLaval VMS™, pulsation is set according to each cow's optimal milking performance for her current lactation stage – so we call it Smart Pulsation™. The cow dictates the pulsation ratio, not the robot. The DeLaval VMS™ will automatically adapt pulsation ratios to ensure optimal flow rates. In a series of trials, milk flow increased by 5-8%. Research carried out by the Swedish University of Agricultural Sciences with different breeds at different lactation stages showed no significant effects on teat ends or somatic cell counts, regardless of which DeLaval VMS™ pulsation ratio was used. And cows enjoy a shorter milking time in which the robot increases the capacity.



### **RESEARCH AND INNOVATION**

Research and innovation are central to the continued success of DeLaval as we support our customers. Much of this takes place at our seven R&D centres across the globe, but our reach is even wider: we work closely with a worldwide network of farmers, academics, dedicated research facilities, scientists, sales teams and authorised dealers.





World demand for dairy products is expected to increase by 74 million tons, or about 2.3 per cent, between 2015 and 2018, roughly on par with developments in the past decade. The majority of this growth is expected in India, China, the Middle East, other Asian countries and Africa, as consumption patterns move towards a higher intake of dairy proteins. But one of these markets bears a closer look – China.

## Dairy infrastructure for today and tomorrow – a closer look at China

Volatility in milk demand and prices, combined with the uncertainty of the European and US subsidy programmes, have dampened demand among dairy farmers in some regions for capital equipment. Import restrictions in Russia have also fuelled market disruptions. But in China, DeLaval equipment continues to sell well, despite the economic downturn. This may be a result of state support for large-scale farms and self-sufficiency in dairy products – currently China is the world's largest importer of dairy products, about 20% of world imports.

It might also be due to recent food safety issues there, creating a preference for high-quality and durable equipment – as well as service contracts covering training, maintenance and consumables.

### GLOBAL EDUCATION FOCUSING ON COW LONGEVITY

Being dependent on importing thousands of cows from Australia, New Zealand and Uruguay,

**LONG TERM - GLOBAL MILK DEMAND 2020** 

Strong demand sustained CAGR\* 2.0%

0.5

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a key issue for China's dairy industry is improving cow longevity as well as milk production. DeLaval has sponsored dozens of educational events globally on best practices in these areas. Participating in four conferences in China, DeLaval experts and executives, as well as invited scientists from US universities, shared research results focused on preventing mastitis, lameness, and reproductive problems. Other topics have included liner types and their impact on teat health, milk yield and milking performance. Teat dipping products and techniques are being developed that recognise the trend towards dairy farm sustainability, as well as local conditions regarding operational scale.

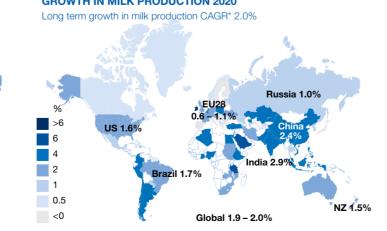
### SINO-SWEDISH COOPERATION

The special relationship between China and Sweden continues to bear fruit. In October, DeLaval signed a 10-year cooperative agreement with the Harbin Institute of Technology's Agricultural Robot Group.

The crowning touch occurred when DeLaval and its sister company Tetra Pak signed a five-year agreement in November with the Dairy Association of China to provide training to Chinese dairy farm managers. The signing ceremony was attended by both the Chinese and Swedish Ministers of Agriculture.

Under the agreement, 150 managers will be trained over five years, providing them with the skills to run larger-scale dairy farms. The training includes breeding, nutrition and disease prevention, delivered through lectures and internships at a model farm. The aim is to improve farming efficiency, increase product quality and enhance standards of animal welfare.

## GROWTH IN MILK PRODUCTION 2020



SUSTAINABILITY





## COWS DELIGHT... WHILE IMPROVING HEALTH AND PRODUCTIVITY

DeLaval swinging cow brush SCB stimulates the cows' blood circulation and milk production while helping them to keep clean, healthy and calm. The unique brush starts to rotate when it comes in contact with the cow and rotates at an animal-friendly speed, swinging freely in all directions to provide comfort all around. The energy-saving automatic on/off feature starts the brush rotating on demand and stops it within 10 seconds after use. As the use of the brush improves general herd health, it also reduces costs of treatment and involuntary culling. A smaller model, the DeLaval mini swinging brush MSB, was exclusively developed and designed for calves and goats.

To realize our vision of sustainable food production, we offer our products, consumables and services to over a million professional dairy farmers worldwide. DeLaval works towards the reduction of the environmental footprint of farms with emphasis on increased productivity, farm profitability and improving the well-being of people and animals involved.

## Dairy farming sustainability through better animal welfare

As most of our customers are dairy farmers, we started a Sustainable Dairy Farming Initiative in 2008, and improved animal welfare quickly emerged as an essential pillar. We support dairy farmers with smart technology and services to continuously increase resource efficiency and animal welfare. To put it another way, we support them to do more with less.

By enhancing welfare, the cow stays healthy and productive longer and for longer periods of her life. This strengthens not only the wellbeing of the cow herself but also farm profitability and environmental impact per kg of milk.

The controlled replacement of old but healthy cows who have ended lactation with young, healthy and productive first-time calvers is the motor of the dairy farmer's daily business struggle. We recommend measuring each cow's Lifetime Daily Yield (LDY) to monitor trends on a herd level. The measures that improve the LDY will result in higher farm profitability. The cost of feeding the animals, normally 50% or more of the running costs, makes it economically important to get as many productive days from each animal as possible over her lifetime.

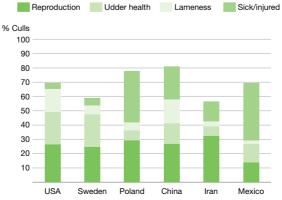
Another reason is that modern dairy cows have been bred for high yield, which has been associated with an increased need for excellent management and control. Even if the barns have been adjusted for larger animals and provide better welfare, there is still more to be done.

Many of our products aim to reduce the causes of involuntary culling, by early identification of such diseases as mastitis, or conditions such as lameness – as well as assuring comfortable handling, especially during milking. Ideally, a herd of healthy productive cows is maintained, and culling happens for economic reasons, not involuntary culling.

Poor calf management, calf illness and compromised welfare during this period also have a negative impact on the cow's later productivity. Improved ventilation, illumination and healthy housing – i.e. removing hurdles in the barn related to resting, walking, drinking, feeding, grooming and reduced competition – will result in improved health and longevity.

This will contribute to a decreased need for antibiotics, which of course is another strong societal benefit.

### MASTITIS IS NEXT TO FERTILITY THE MOST COMMON REASON FOR CULLING



Source: Jeffrey Ruschen, University of British Columbia



### OUR MODEL OF SUSTAINABLE DAIRY FARMING

Four aspects of farm operations determine their sustainability: environment, animal welfare, social responsibility and farm profitability. These have all been part of our guiding model since 2008.

\*CAGR = Compound Annual Growth Rate \*CAGR = Compound Annual Growth Rate \*CAGR = Compound Annual Growth Rate

## TETRA LAVAL INTERNATIONAL

# The financial support and control function for 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 framework, treasury, corporate finance, leasing, insurance, financial reporting, internal audit and holdings administration. Following a reorganisation of Group functions, the scope of TLI activities also includes Group Tax from 2016 onwards. TLI manages the internal control aspects of these responsibilities by means of finance and control policies applicable throughout the Group.

TLI manages Group financing and the foreign exchange and interest rate risks of the Group within a mandate approved by the Board. This has been particularly important in the past year as macro-economic issues and increased market volatility have continued

to impact the global economy. In this context, the Group has demonstrated its sound risk management policies and resilience under the challenging conditions faced in a number of markets.

During the year, TLI also completed the renegotiation with its core banks of the Group's principal borrowing facilities, ensuring continued liquidity, while providing for increased flexibility. The Group's relationships with its banking partners remain strong, with new opportunities for mutually beneficial business being developed in areas such as equipment finance and commodity hedging.

Performance of the different businesses of the Group is monitored closely and benefits from productivity improvements are tracked to ensure sustained improvements and progress against strategies approved by the Board. Comparison to relevant external benchmarks is a key part of this analysis and the support provided to the Board in setting performance expectations.

Looking forward, the overall low growth environment demands increased focus on the performance of the different businesses, markets and segments of the Group and particular attention to the return generated on capital employed. Capital allocation is already an area of considerable Board attention and this will be strengthened further in 2016.

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

"TLI manages Group financing and the foreign exchange and interest rate risks of the Group within a mandate approved by the Board. This has been particularly important in the past year as macro-economic issues and increased market volatility have continued to impact the global economy. In this context, the Group has demonstrated 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.

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