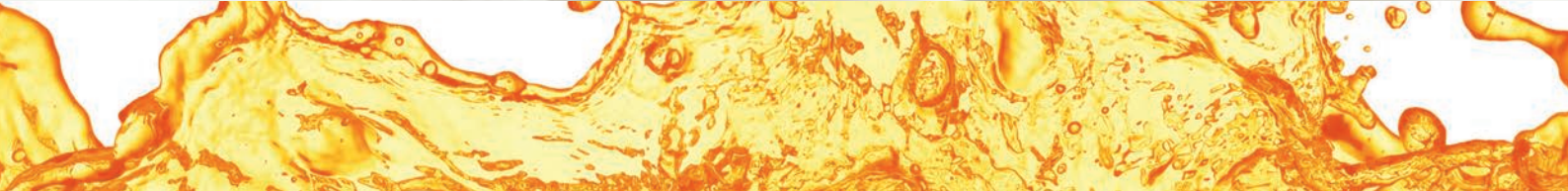
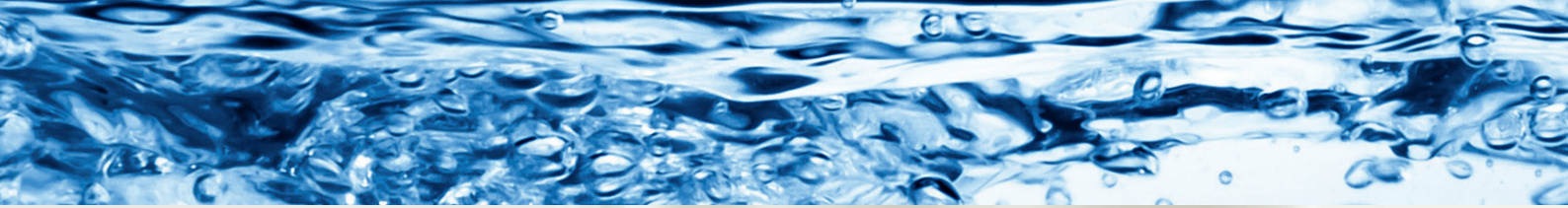


A high-speed photograph of a milk splash, creating a dynamic, flowing shape in the center of the frame. The milk is white and contrasts with the light blue background.

# **ENSURING FOOD PROTECTION**



# ENSURING FOOD PROTECTION

There is constant pressure to increase food production to feed our planet's growing population. At the same time, we know that more than one-third of food produced is wasted. Losses happen throughout the food chain: from production to transport, from storage to consumption.

An additional pressure is to make food safe and traceable throughout its journey from source to consumption. For these reasons companies and policy-makers are increasingly focusing on food protection.

At Tetra Pak, Sidel and DeLaval, we constantly strive to contribute to better ways of protecting food. Our world leading know-how in how to process and package milk aseptically is the starting point and one of the most efficient ways to protect food. But we go further: we look at how milk can be produced more efficiently, with minimum losses. Focus is also on how beverages and food can be packaged in a more sustainable way and distributed safely, but with less environmental impact. We have solutions on how food safety can be guaranteed along the entire chain, enabling customers to track the food along the food chain.

So 'Food Protection' is the guiding principle of this year's company brochure. We're very happy to welcome you, and hope you enjoy reading about our advances in this important area.

**TETRA LAVAL**

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**TETRA PAK**

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**FOOD PROTECTION** is the core of the Tetra Laval business. There are numerous challenges today in relation to nourishing the planet's growing population. Food waste is one of them. It is estimated that about one third of total food, or 1.3 billion tonnes food, is wasted annually. At the same time there are about 870 million undernourished people in the world. Other challenges are the quality of food and the need for improved traceability. Consumers must be able to trust the source of food as well as the whole food chain. Please find below examples of how the Tetra Laval Group contributes to Food Protection around the world.

#### TETRA PAK **DAIRY HUB PROJECTS UPDATE**

With the Dairy Hub concept, Tetra Pak is committed to support the increase of local milk production in developing countries. By linking small holder farmers to a dedicated dairy processor, we have helped customers in several countries, including Bangladesh and Nicaragua, to access more and better locally produced milk. The projects show very strong and positive results, proving the potential of the Dairy Hub concept in terms of reducing food losses and developing a food reserve.

#### DELAVAL **"HERD NAVIGATOR™" FARM FRANCE**

Enhancing animal health, and thus enhancing food quality. By keeping a close watch of heard health the farmer can detect early signs of illness in cows, such as mastitis or ketosis, illness that could cause poor milk quality. That close watch is made possible using the Herd Navigator solution. Herd Navigator detects illness up to three days before any clinical signs are visible, meaning before the human eye can see it.



#### TETRA PAK **ACQUISITION OF DSS PUTS TETRA PAK AHEAD IN FILTRATION SYSTEMS**

Tetra Pak has strengthened its leadership position in filtration systems for milk, cheese and whey applications with the acquisition of DSS, a company specialising in membrane filtration technology. The move follows the acquisition of US-based Filtration Engineering in late 2012, and further expands the range of processing solutions available to customers.



#### SIDEL **HOTFILL COMBIS ENSURE FOOD SAFETY**

Juice drinks demand extremely high standards of hygiene to ensure food safety. The solution for Mexico's leading juice bottler Jugos del Valle was to invest in two Sidel hotfill Combis. An integrated system combines blow moulding, filling and capping in a single line, which also brings savings in energy costs, labour and raw materials.



#### SIDEL **A MAJOR SWITCH TO ASEPTIC**

Sidel guided Aujan Industries, the leading supplier of fruit beverages in the Middle East, through the entire process of switching from hotfill technology to a new aseptic PET line. As a result, Aujan is meeting increasing consumer demand for drinks with more natural ingredients and fewer preservatives, and such products now have longer shelf lives.



#### SIDEL **BREAKTHROUGH TECHNOLOGY MEETS A NEED**

Consumers' health awareness is increasing the market for bottled juices containing fruit pieces in Central Asia. To meet this demand, JSC GALANZ Bottlers in Kazakhstan chose Sidel Matrix hot filler with Integrated Slurry Dosing for a new greenfield plant. This breakthrough technology increases product safety and improves equipment hygiene, which is vital for this type of drink.

#### TETRA PAK **STATE-OF-THE-ART FACTORY OPENS IN INDIA**

Tetra Pak's latest world-class factory was inaugurated at Chakan, India, in May. The plant is designed to meet the growing demand for Tetra Pak's processing and packaging solutions across South & Southeast Asia, and the Middle East. The opening will further increase Tetra Pak's presence in the Indian subcontinent, where the company has been working since 1997.



#### DELAVAL **TRULY ECOLOGICAL IN CROATIA**

Osatina, including its milking cow farms Ivankovo and Tomasanci, is a truly ecological company. The farm is almost self sufficient, recycling silage manure and plant waste to create bio gas.

#### DELAVAL **INCREASED MILK PRODUCTION IN UKRAINE**

Terezine dairy farm in Ukraine has been committed to the environment for many years. In 2008 the Lipp biogas plant was installed, which produces gas for heating and generates electricity from manure coming from the dairy farm. More recently, in 2012, the farm decided to opt for automatic milking systems for their 1,000 cows. The result has been impressive: milk production has increased. In addition, bacterial seeding milk indicators and the amount of somatic cells has decreased as well as the number of cases of mastitis.



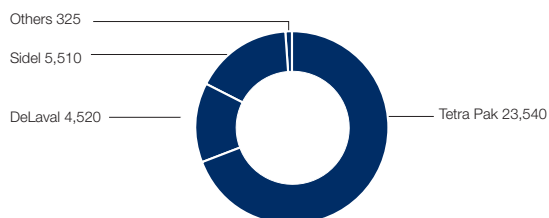
The Tetra Laval Group consists of three industry groups, Tetra Pak, Sidel and DeLaval, all focused on technologies for the efficient production, packaging and distribution of food.

The head of each industry group has operational management and operational capital responsibility for their respective industry group and reports directly to the Tetra Laval Group Board. Tetra Laval International manages the financial capital of the Group. 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 strategy and policy for the Group. The Chairman monitors the implementation of Group Board decisions by the industry groups and Tetra Laval International.

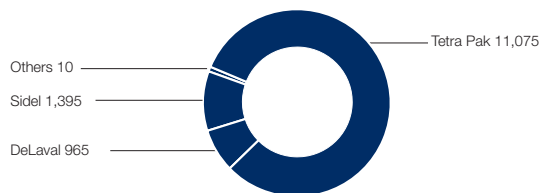
#### NUMBER OF EMPLOYEES, DECEMBER 2013

Tetra Laval Group 33,895



#### NET SALES 2013, IN MIO EURO

Tetra Laval Group 13,445



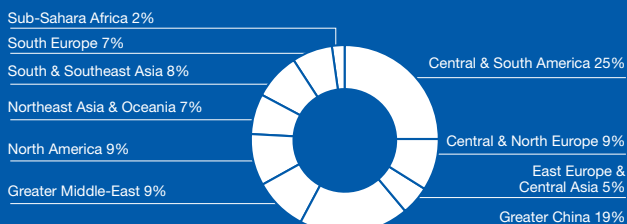


## PROTECTS WHAT'S GOOD

Tetra Pak is the world leader in liquid food processing and packaging. The business of the company includes much more than the packaging of liquid food products. We also provide a range of processing and packaging equipment for use with a broad array of products, from ice cream and cheese to dry foods, fruit, vegetables and pet food. By developing ambient packaging, which preserves the nutritional value and the taste of products, the distribution of such food products to consumers has been greatly facilitated.

### TETRA PAK ORDER INTAKE BY GEOGRAPHY, 2013

Packaging machines and Distribution equipment



### TETRA PAK SALES SPLIT BY MARKET SEGMENT, 2013

Of 77,975 million litres of products:





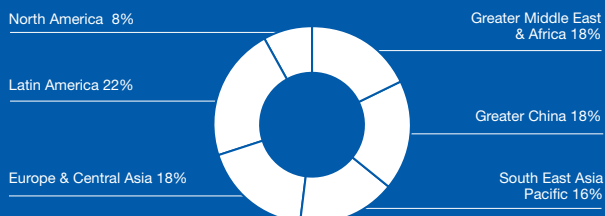


## A BETTER MATCH

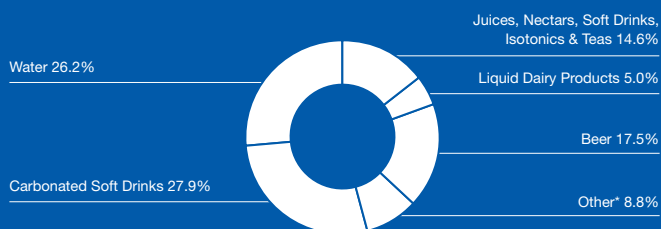
Sidel is a leading global provider of PET solutions for liquid packaging. We are also a supplier for glass and can solutions. We are committed to being the most innovative, responsive and reliable partner, providing sustainable solutions for the beverage industry. Headquartered in Switzerland, we have production sites in 13 countries and 30,000 equipment installed in more than 190 nations worldwide. With over 5,500 employees, we provide optimal PET, glass and can packaging solutions for water, soft drinks, milk, juices, edible oils and alcoholic beverages including beer.

We aim to create value for our customers by giving them A Better Match. This is the tailored solution that caters for their needs exactly. We do this by offering flexible and reliable production systems that are easily adaptable to market developments and future technology, supported by value-added services.

SIDEL SPLIT OF EQUIPMENT ORDER INTAKE BY GEOGRAPHY, 2013



SIDEL SPLIT OF EQUIPMENT ORDER INTAKE BY MARKET SEGMENT, 2013



\* Including FHPC (Food, Home and Personal Care) and other alcohol.

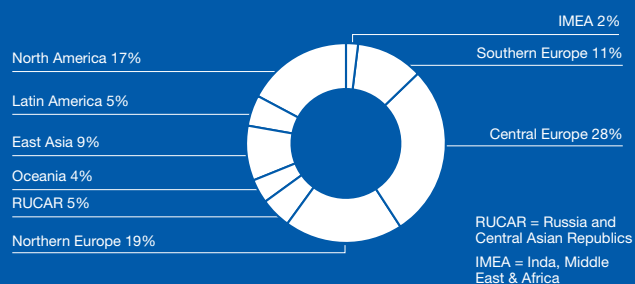




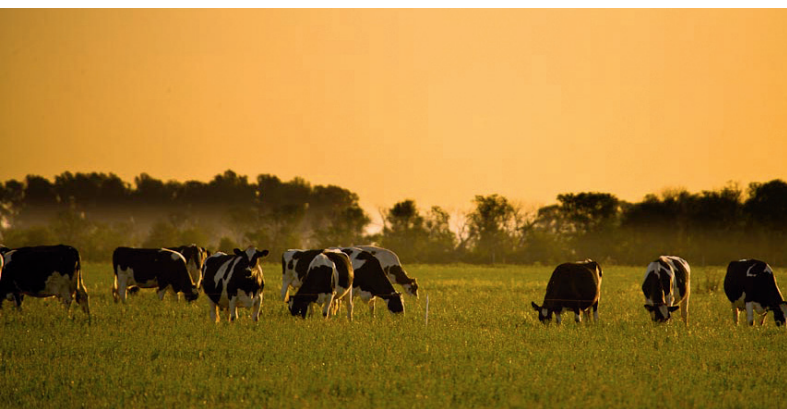
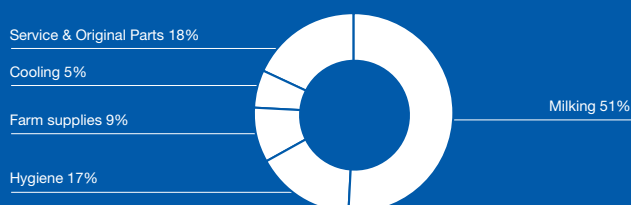
# WE MAKE SUSTAINABLE FOOD PRODUCTION POSSIBLE

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

DELAVAL SALES SPLIT BY GEOGRAPHY, 2013



DELAVAL SALES SPLIT BY MARKET SEGMENT, 2013



# A solid year despite unprecedented competition

2013 was another solid year for the Tetra Laval Group despite unprecedented levels of competition in most markets. Revenues remained at similar levels to those of 2012: this was mainly due to foreign currency exchange effects and slower than expected market developments, especially in developing markets. All three industry groups made progress in their transformation programmes and therefore took necessary restructuring costs. The industry groups also continued to invest in R&D – in total about €500 million and a number of significant innovative products were launched.

From a market point of view, the global economy seems to be recovering from the recession more slowly than we had expected. Tetra Laval experienced lower growth in Russia and China than in the previous years of strong development, but there was strong growth in South East Asia. Tetra Laval also developed favourably in South America, and the Group benefited from the beginnings of a recovery in North America.

## **TETRA PAK INCREASED REVENUES DESPITE COMPETITION**

Tetra Pak faced a challenging year with intensified competition in many markets. Despite this, the company increased revenues at comparable rates by 3.5 per cent in 2013. Within Tetra Pak, Processing Solutions showed strong growth, particularly in the area of cheese processing. Sales grew by 16 per cent. After several years of uncertainty customers started investing in new capital equipment. Packaging Solutions launched

a number of new products during the year. Tetra Pak has continually invested in R&D and the product roadmap that the company put in place some years ago is bearing fruit: up-graded printing technology, new shapes, formats and closures, and other inventions have been rolled out during the past few years and are positively received by customers. Technical Services enjoyed another year of double-digit growth as customised solutions garnered much appreciation from customers. Technical Services grew at 11 per cent.

Tetra Pak also made progress with their competitiveness programme, particularly in accelerating the adjustment of production capacity to the needs of different local markets. For instance, new production facilities were opened in China and Russia during the year.

## **SIDEL – UNDERLYING MARKET GROWTH WILL BE BENEFICIAL**

Sidel was affected by the uncertainty of the global economy and revenue development was flat in 2013. Customers have delayed spending on capital equipment, a trend which began in the previous year. However, the underlying growth in the use of PET in the liquid packaging solutions market remains, meaning the variations we see are cyclical. During the latter part of the year customers in markets such as China started to build up capacity and increased demand for equipment: this offers promise for the years to come. The low activity in the capital equipment market was offset by the strong demand for Sidel's aftermarket products and services.

## **POSITIVE CUSTOMER REACTIONS TO NEW PRODUCTS**

Sidel continued to invest approximately five per cent of sales in R&D, and the group started to reap the commercial benefits of its efforts. During 2013, Sidel Matrix™ – the latest generation of PET bottling equipment based on modular platform architecture – was launched. There was early positive acceptance in the marketplace; Matrix offers some very strong customer benefits in terms of performance, costs and environmental effects. Sidel is in the process of applying the modular concept to its other products, including labellers, fillers and other equipment to enhance customers' competitiveness. Additional examples of Sidel's focus on technology and product development are the aseptic PET line Predis™, which has received very positive feedback in tests by customers. The lightweighting technology helps reduce the plastic content of a PET bottle, improving environmental performance and reducing costs and today Sidel produces PET blowers with 50 per cent more capacity in 1/3 of the time compared to a few years ago.

## **DELAVAL – THE DEMAND FOR CAPITAL EQUIPMENT STARTED TO INCREASE**

DeLaval also had a challenging year. Low demand for capital equipment, brought about by low milk prices and contrasting high feed prices, continued from 2012 throughout first part of 2013. However, during the second half of the year dairy farmers were much more positive in their market outlook and started to invest in milking equipment.



Demand for DeLaval's Automated Milking Rotary™ (AMR) increased from customers with large herds in Europe, among other markets. Favourable sales development of Voluntary Milking System™ (VMS) and AMR continued.

For the future, consumption of dairy products is growing faster than production, which indicates there will be an increase in the capital equipment market in the years ahead. The low demand for capital equipment during the first half of the year was partly compensated for by the strong demand for DeLaval's aftermarket products and services. DeLaval's revenues were flat due mainly to the impact of weaker currencies although there were gains in market share.

DeLaval is the undisputed leader in the dairy equipment industry. This position is well supported by its strong emphasis on R&D within such areas as automated milking systems, animal welfare and smart farming. During the year new products were introduced, for example the Clover™ liner for improved milking, and the Reduced Temperature Detergent™ (RTD), a patented technology used for cleaning milking systems and bulk tanks.

DeLaval also made progress in its competitiveness initiative. Manufacturing capacity has been adjusted to the development of local markets: for instance, the company invested €24 million in a Chinese plant which was inaugurated during the year.

#### **TETRA LAVAL INTERNATIONAL – SOLID PERFORMANCE**

Tetra Laval International (TLI) made important contributions to the Group in many areas. In 2013 for instance, TLI worked on the accuracy of its forecasting to better support the Board in decision-making; worked hard on cash management to mitigate currency fluctuations. In addition, TLI supported the industry groups in vital assistance for improved competitiveness.



#### **ENSURING FOOD PROTECTION – AT THE HEART OF THE GROUP**

The theme of this report – Ensuring Food Protection – reflects our essential mission. At least one-third of all food produced is wasted and the shortage of food in some parts of the world means the situation is becoming severe. Tetra Laval contributes to the reduction of food waste in many different ways, as well as ensuring food is safe and protected. For instance, Tetra Pak's cartons have been developed to preserve food in an efficient way; DeLaval supplies efficient milking systems and cooling tanks to avoid milk being spoiled; and Sidel has developed a unique aseptic PET technology to better preserve beverages.

#### **POSITIVE OUTLOOK**

We have a positive outlook for 2014 and the years to come. Even though

there are uncertainties in the market we seem to be slowly emerging from recession. We are in the food and beverage industry where there is strong underlying demand, driven by the world's growing population. Key issues for the Group in 2014 will be, among others, to continue to advance our transformation programmes to improve our competitiveness in the market; meeting the increasing demand for more milk production and handling currency fluctuations in a diligent manner. With the commitment of our skilful employees and our culture of delivering results there should be good opportunities for another solid performance by the Group in 2014. Allow me to express my gratitude for all our employees' achievements in 2013.

Larry Pillard

01.



02.



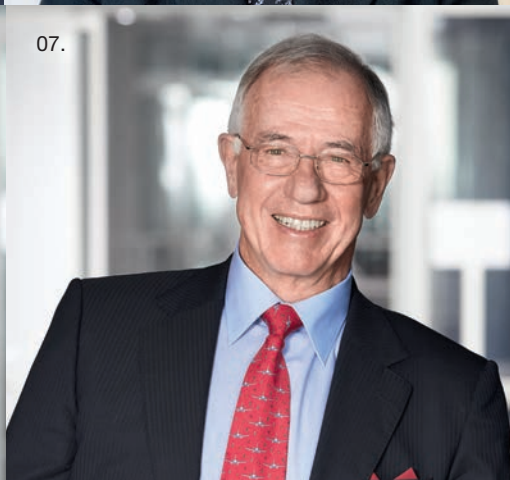
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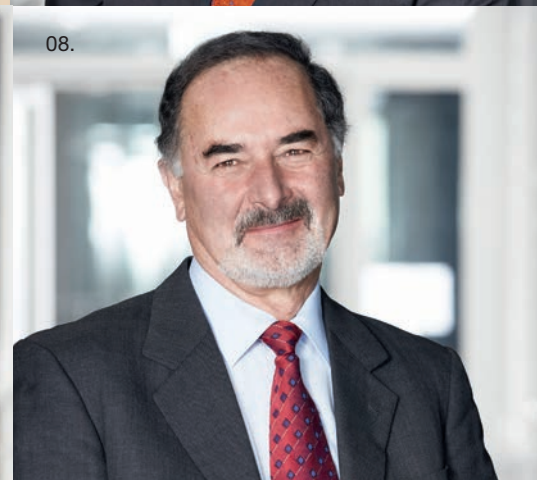
06.



07.



08.



### 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.

### 06. Paul Skinner

A non-executive Board Member since 2005. Paul Skinner was previously a Group Managing Director of Royal Dutch Shell plc and Chairman of Rio Tinto plc. He was later Chairman of Infrastructure UK, a division of HM Treasury. He is also a non-executive Director of Standard Chartered plc and Air Liquide S.A. and a Member of the Public Interest Body of PricewaterhouseCoopers LLP.

### 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. She is a former Trustee of the Animal Health Trust and former Director of the British National Stud and Jockey Club Estates Ltd. In addition, Ms. Rausing is the past Chairman of the European Federation of Thoroughbred Breeders' Associations (Paris) and of the E.F.T.B.A. Veterinary Commission, 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 will handle the proceeds of the British Government's sale of the Totalisator Board.

### 07. Dr. Jürgen Weber

A non-executive Board Member since 2003. Dr. Jürgen Weber became Chairman of the Supervisory Board of Deutsche Lufthansa AG in June 2003 after having served the company as Chairman of the Board of Management for twelve years. He is Chairman of the Supervisory Board of Willy Bogner GmbH & Co. KGaA, Loyalty Partner GmbH and Hapag Lloyd AG and Member of the Supervisory board of Lufthansa Technik, all based in Germany.

### 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 Rausing, who is the Chairman of the Audit Committee of the Tetra Laval Group Board, is also a Board Member of Alfa Laval AB, EQT Holdings AB, DeLaval Holding AB and Swede Ship Marine AB.

### 08. Dr. Bernd Pischetsrieder

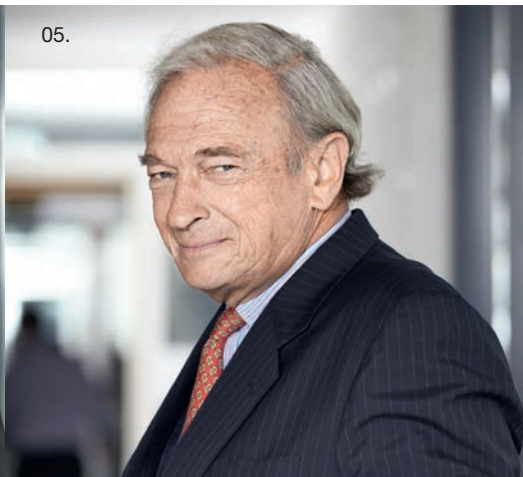
A non-executive Board Member since 1999. Dr. Bernd Pischetsrieder has been Chairman of the Board of Management of Volkswagen AG from 2002 to 2006. He has been Chairman of the Board of Directors of Scania AB, Sweden from 2002 to 2007. He is Chairman of the Supervisory Board of Münchener Rückversicherungs-Gesellschaft, Aktiengesellschaft in München.



04.



05.



09.



10.



#### 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.

#### 09. Jorma Ollila

A non-executive Board Member since January 2013. Jorma Ollila is Chairman of Royal Dutch Shell plc since 2006 and Chairman of Outokumpu since 2013. He was Chairman of the Board of Directors 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.

#### 05. Sir Keith Whitson

A non-executive Board Member since 2005. Sir Keith Whitson is retired Group Chief Executive of HSBC Holdings plc. He also served as a non-executive Director of the Financial Services Authority in London from 1998 to 2003. During his career with HSBC he worked in Hong Kong, USA, Germany, Malaysia, Indonesia and the United Kingdom.

#### 10. Lars Renström

A non-executive Board Member since June 2013. Lars Renström is President and CEO of the Alfa Laval Group since 2004. 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.

## A supervisory board to all Tetra Laval units

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

- Development and definition of overall strategies and policies.
- The appointment and succession planning of senior management.
- Corporate governance.
- Financial and operational control. An Audit Committee and a Remuneration Committee support the Board in these functions.
- The Board also takes a direct role in defining 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.

# Tetra Laval relief effort in the Philippines

When the Philippines was hit by a typhoon on November 8, 2013, the effects were devastating: 6,190 people reported killed and 1,785 thought to be missing. The Board of Tetra Laval decided to make a contribution of USD 5 million to be used by the Red Cross in its relief efforts and to secure supply and distribution of milk and water to those affected.



Typhoon Haiyan, known locally as Yolanda, had far-reaching effects on the country. For instance, along the north-west trajectory of the typhoon more than 14 million people across nine of the poorest provinces were affected. More than 1.1 million houses were destroyed.

The UN, national government, local governments, NGOs and relief teams from more than 20 countries launched a large humanitarian aid programme. Despite this effort and local communities' recovery support, the disaster was so severe that it will take several years for the devastated communities to recover. At first, it was difficult to get aid to many affected areas due to the destruction of the infrastructure. But gradually the situation has improved.

The Tetra Laval donation was used by the Red Cross for its relief work in

the affected areas, with allocations to Tetra Pak and Sidel. Tetra Pak supplied and distributed UHT milk, and Sidel did the same for water packaged in PET bottles.

"Working with the Philippine Red Cross and Children's Hour, 11 areas in Visayas were identified for UHT milk distribution. The first batch was distributed in December, to a tent city housing a number of evacuated typhoon victims in Manila, says Gaine Clarke, Managing Director for Tetra Pak Malaysia, Singapore and Philippines.

"We expect all 1.2 million packs to have been distributed by the end of March. The milk packs are estimated to reach almost 46,000 families in the affected areas," Gaine Clarke concludes.

## FACTS

### OTHER DONATIONS BY TETRA LAVAL

In 2013 Tetra Laval contributed to other relief projects as well. 250,000 euro was donated to Hand-in-Hand, the international non-profit organization that aims to reduce poverty through job creation. Hand-in-Hand originates from projects in India, and includes social mobilization and business training with access to micro-credits with the purpose of creating new jobs. Tetra Laval also donated 150,000 euro

to Caritas for a project in Kenya. Caritas has a heartfelt commitment to analyse and fight poverty and social exclusion as well as to promote true integral human development, social justice and sustainable social systems.

Tetra Laval is also a partner to Mentor, the leading international NGO voice of drug use and substance abuse prevention. The orga-

nization undertakes and delivers effective drug prevention programmes throughout the world. In addition, Tetra Pak is partner to FoodBank in Australia – a non-profit organization which acts as a pantry to the charities and community groups who feed the hungry. Foodbank is a conduit between the food industry's surplus food and the welfare sector's need.

## **TETRA PAK**

Tetra Pak enables producers all over the world to achieve high standards of food safety thanks to its unique knowledge and experience in processing and packaging. Our company offers food manufacturers packaging and distribution options that ensure beverage and foodstuffs remain intact and safe throughout the journey from producer to table. High-quality packaging, transport and storage mean much potential waste can be avoided.



## PRODUCTS

At Tetra Pak we specialise in providing complete solutions for the processing, packaging and distribution of food products. Our products are specifically designed to be as economical with resources as possible. Dairy products, juices and nectars, ice cream, cheese, dry foods, fruits, 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

## R&D

Our customers need faster, better and cheaper developments to reduce their operational costs and to increase performance in order to remain competitive. We invest in technology and new products in response to customer needs, consumer preference and market dynamics.

COUNTRIES SERVED

>175

NET SALES 2013

11,075  
MILLION EURO

NUMBER OF PLANTS

40

R&D UNITS

11



## FOOD FOR DEVELOPMENT

For more than 50 years, we have worked with customers, governments, international and community-based organisations and farmers to provide milk and other nutritious drinks in schools around the world. In 2013, the Tetra Laval Food for Development network supported the delivery of 8.3 billion Tetra Pak packages of milk and other nutritious drinks to 64 million children in schools in more than 60 countries.

School feeding programmes can 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.

In 2013, Tetra Pak expanded its support for school feeding programmes in a number of different countries, including Ecuador, Latvia, Myanmar, Russia, Turkey and Uganda.

School feeding programmes play an important part in our business model and our commitment to dairy customers around the world to make food safe and available everywhere. We expect to see a further expansion of these programmes in the coming years.



## MARKETS & CUSTOMERS

Tetra Pak operates in more than 170 countries around the globe, employing almost 23,500 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, manufacturing, and transportation activities. As part of that commitment, we take a long-term and lifecycle view, continually improving environmental performance, communicating openly with our stakeholders and reporting regularly on our performance.



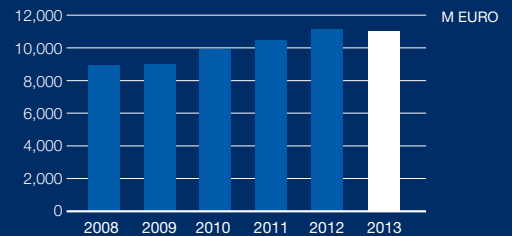
TRAINING CENTRES

# 16

NUMBER OF EMPLOYEES DECEMBER 2013

# 23,540

TETRA PAK SALES 2008 – 2013



## GLOBAL COMPACT

We are a member 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 on forestry and climate change issues, and GAIN, Global Alliance for Improved Nutrition.



## OUR BRAND

Since operation 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 motto, PROTECTS WHAT'S GOOD, reflects the principles upon which we built our business and underpins our Vision, our Mission and our Core Values. It is a commitment that goes beyond the contents of the package, recognising that we also play a role in shaping better futures for our customers, our company, our employees, our suppliers and the communities which we serve.





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# 2013/2014

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## **01. MILK WITH QUINOA IN ECUADOR**

During 2013, Tetra Pak Ecuador and the Food for Development Office supported the Government of Ecuador to develop an innovative nutritious drink – Milk with Quinoa. The fortified beverage is based on the popular and highly nutritious local cereal, quinoa, together with milk. Milk with Quinoa is now being used in a school milk programme in Ecuador and has been received very well by the children and parents. It is also available in a variety of flavours for the children to enjoy.

## **02. BEANS TO TASTE: UNDERSTANDING BRAZILIAN CONSUMERS**

Brazilian consumers enjoy beans, but they are time-consuming to prepare. Tetra Pak has provided a solution: high-quality beans, cooked and packed only in water in Tetra Recart® packages. Sold under the brand name 'Beans Ready to Season', the product has been highly successful, saving consumers time but allowing them to prepare the beans to their family's own special taste.

## **03. TETRA PAK HONOURED WITH DUPONT AWARD**

In May last year, Tetra Pak received the DuPont Continuing Innovation Award, in recognition of the company's consistent leadership in advancing the design, functionality and efficiency of packaging during the past 25 years.

## **04. UHT LINES HELP FONTERRA DOUBLE CAPACITY**

Fonterra, one of the global leaders in dairy foods, has chosen state-of-the-art Tetra Pak processing and packaging equipment for its UHT greenfield plant in Waitoa, New Zealand. The new plant will contain five UHT lines to produce a range of products including UHT white milk and

UHT cream for the foodservice sector, doubling Fonterra's UHT production capacity. The lines should be operational by mid-2014.

## **05. NEW WHEY FILTRATION SYSTEM TURNS WASTE INTO INCOME**

The Tetra Alcross® RO Lite filtration system helps small and medium-sized dairies extract value from whey. A common by-product of cheese-making, whey is often dumped as waste. It is only valuable when concentrated, but the filtration technology needed to achieve this has traditionally been highly customised and too expensive for most small and medium-sized dairies. Tetra Alcross RO Lite provides a standardised filtration solution available in five different sizes, which are easy to install, and cost significantly less than customised alternatives.

## **06. MEIJI'S BULGARIA DRINK YOGURT LINE TAKES ON A NEW SHAPE**

Tetra Pak Japan's customer Meiji has re-launched its yogurt brand Bulgaria in Tetra Top® family-size cartons. The drink yogurt was previously packed in gable top packages. With a convenient cap and eye-catching design, the Tetra Top carton brings a breath of fresh air to the Japanese chilled market for family-size packages.

## **07. ENGAGING CAMPAIGN HIGHLIGHTS RENEWABLE MATERIALS**

In June, Tetra Pak launched a global information campaign to put the spotlight on renewable materials and the role they can play in helping to protect the planet. The 'Pack that Grows Back' campaign took an interactive approach to highlighting why renewable materials are so important for the environment – raising awareness of a topic that is often misunderstood by consumers and media.

## **08. FSC™ LABEL ON TETRA PAK PACKAGES IN 53 COUNTRIES**

In 2013, the number of countries selling products in Tetra Pak packages bearing the FSC label increased significantly, up by almost 40 per cent to more than 50. FSC certification is aimed at achieving environmentally appropriate, socially beneficial and economically viable forest management while bringing added-value to customers and retailers.

## **09. TETRA BRIK® ASEPTIC 1000 EDGE WINS A WORLDSTAR AWARD**

Tetra Brik Aseptic 1000 Edge with Light-Cap™ 30 picked up a prestigious World-Star Award, with judges praising its ease of handling, pouring, opening and reclosing. In addition, the environmental credentials, graphic design potential and the ingenuity of construction were all cited by the awards panel as major benefits of the package.

## **10. SCHOOL MILK IN CHINA**

Through 2013, every day in China almost 14 million school children received milk in Tetra Pak packages. Government commitment and support is the main driver behind the growth of the country's school milk programme. Aseptic packaging was chosen as the preferred solution for milk and other nutritious drinks in schools due to its convenience and safety advantages.

# Solid performance with growth in all areas of our business

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Once again in 2013, the combination of strong competition and soft economies in many markets around the globe created a tough business environment for Tetra Pak®.

But like in previous years, our employees responded to the challenge, helping us to exceed overall expectations, both in terms of sales growth and underlying profitability.

The group achieved a 3.5 per cent increase compared with 2012, reflecting growth in all areas of our business. Although year-on-year sales fell marginally when based on prevailing rates, on a like-for-like basis. From a geographic perspective, with the exception of Europe, where industry fundamentals remain weak, net sales were up year-on-year in all clusters, with particular strength in South & Southeast Asia, which reported double-digit growth.

## **ANOTHER GOOD YEAR FOR CAPITAL EQUIPMENT**

In Packaging, our capital equipment business had another good year, with net sales climbing 15 per cent from

2012 on the back of 580 new filling machines deliveries, equivalent to a 20 billion pack capacity installed.

## **SOLID GAINS BY TECHNICAL SERVICE**

Technical Service also reported solid gains, with net sales up 11 per cent year-on-year, exceeding the growth rate achieved in 2012 and beating the 2013 target. Service contracts accounted for almost 25 per cent of the total business in this area, up from 20 per cent in 2012, as a growing number of our customers recognised the value to be derived in terms of lower operating costs and improved operational performance. Operational cost guarantees, which the company launched in 2012, also gathered momentum, with seven new companies signing contracts during the year, including some of our largest customers.

## **TOUGHER CONDITIONS FOR PACKAGING MATERIAL**

By contrast, although packaging material volumes increased by around 3 per cent compared with 2012, to

more than 178 billion packs, this was lower than expectations, with only one of our 10 clusters, Greater China, beating its target volumes. Solid demand at the start of the year fell away dramatically during summer and into autumn, as a string of unrelated events, including major currency declines in several key emerging economies, and a raw milk shortage in China, hit sales in a number of our growth markets. On a positive note, the year finished strongly, with monthly volumes in December topping 16 billion packs for the first time in the company's history.

## **STRONG DEVELOPMENT BY PROCESSING SOLUTIONS**

Our processing solutions business had a particularly strong 12 months, with net sales climbing 16 per cent to touch €1.5 billion. Excluding acquisitions, growth in Processing was 13 per cent, reflecting healthy increases in technical sales & service, which climbed 15 per cent year-on-year, and solid gains in new equipment sales within the beverage and prepared food categories, up 19 per cent and

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From a geographic perspective, with the exception of Europe, where industry fundamentals remain weak, net sales were up year-on-year in all clusters, with particular strength in South & Southeast Asia, which reported double-digit growth.

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15 per cent respectively. And that strength looks set to continue, with order intake at the end of 2013 standing at around €1.1 billion, 10 per cent higher than at the end of 2012.

The year also saw our processing business consolidate its position as market leader in filtration systems for milk, cheese and whey applications, with September's acquisition of DSS Silkeborg, a specialist membrane filtration technology company based in Denmark. This follows the 2012 acquisition of Filtration Engineering, and provides Tetra Pak with important in-house expertise in areas such as reverse osmosis, nano-filtration, ultra-filtration and micro-filtration. The business is now focused on applying and developing these technologies across a range of different Processing-related applications.

### **MORE INTENSE COMPETITION**

On the competitive front, the challenge to our packaging material business intensified during 2013. Plastics manufacturers made further improvements in the efficiency and performance of their packaging systems, with the introduction of a number of new technologies designed to deliver greater product flexibility and enhance differentiation, whilst also reducing cost.

Non-system suppliers (NSS) of carton packaging firmed their toe-hold in a few key geographies, most notably Europe and China, where NSS total capacity was estimated to have reached 7.4 billion and 11 billion standard packs respectively at year end. Furthermore, a number of these companies are now diversifying into new

areas of our portfolio, looking beyond Tetra Brik® to other package formats.

### **SHARPENED OUR COMPETITIVE EDGE**

In response, we continued to sharpen our competitive edge, and towards the end of the year launched a company-wide programme aimed at helping customers properly compare the full monetary value of Tetra Pak's products and services against offers from our competitors. At the same time, we also took significant steps to cut costs by improving the efficiency of our operations.

Overall, the company's non-allocated costs for the year were down almost

5 per cent, falling from 16.6 per cent of net sales in 2012 to 15.4 per cent in 2013. This tremendous achievement was made possible by the focused effort, discipline and professionalism of employees across the entire organisation. And that drive will continue, as we seek new ways to strengthen the company's competitiveness, while continuing to deliver the best possible service to customers.

### **PACKAGING: ADVANCED THE PRODUCT FORMAT PORTFOLIO**

On the other side of the competitiveness coin, within our Packaging business we saw further success in the development and deployment of our



advanced format portfolio. This range of shapes, formats and openings, which have been designed specifically to meet our customers' needs for functionality and differentiation, accounted for around 25 per cent of total package volumes in 2013; up from 21 per cent in 2012.

The year saw particular traction in sales of Tetra Prisma® Aseptic portion packs, where volumes climbed 35 per cent compared with 2012 to reach 5.6 billion packs worldwide, and of Tetra Brik® Aseptic Edge 1 litre, which were up 75 per cent to 2.4 billion. Sales of HeliCap™ 27, the new large-format opening which we launched in 2012, had a particularly strong year, with annual volumes now above 2 billion caps and more than 200 production units delivered to customers worldwide.

#### **PROCESSING: NEW SUCCESSFUL PRODUCT LAUNCHES**

In Processing, our strategy of developing scaled-down versions of our market-leading technologies saw further success, with the launch of Tetra Alcross® RO Lite, Tetra Therm® Aseptic Flex 1 and Tetra Therm Aseptic Drink 1. These products have proved particularly popular with customers in emerging markets, and with fledgling businesses seeking robust and reliable processing solutions at relatively low investment cost.

#### **MORE THAN 24 PER CENT RECYCLED**

On the environmental front, our global effort to increase the quantity of used cartons being recycled made good progress, rising by 1.4 percentage points, to more than 24 per cent of Tetra Pak packages sold worldwide. We also advanced our renewability agenda, with 20 per cent more Tetra Pak packages now bearing the Forestry Stewardship Council label than at the end of 2012, and annual deployment of bio-based high-density polyethylene caps more than doubled.

2013 also marked an important renewability first when Tetra Pak signed an agreement with Braskem, the largest thermoplastic resins producer in the Americas, to supply low-density polyethylene (LDPE) made from sugar cane to its packaging material factories in Brazil. The bio-based LDPE will be used for all Tetra Pak packages produced in Brazil, lifting renewable content to as much as 82 per cent. If successful, this trial project will be extended to other geographies.

#### **2014 – CONTINUOUS IMPLEMENTATION OF STRATEGY 2020**

As we move through 2014, we will further accelerate implementation of Strategy 2020, with continued emphasis on improving operational efficiency, prioritising investments, reducing

costs and strengthening our value proposition to customers.

#### **PROTECT WHAT'S GOOD**

Our company brand is founded on a promise: PROTECT WHAT'S GOOD. At its core, that's about protecting food ... which has long lain at the very heart of our business agenda. But it goes further: it is also about protecting people: our employees, the communities that we serve, 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 planet; and by delivering outstanding performance at lower comparable cost than anyone else in the industry, to ensure the future success of Tetra Pak

Dennis Jönsson

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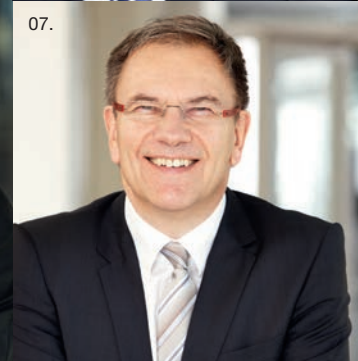
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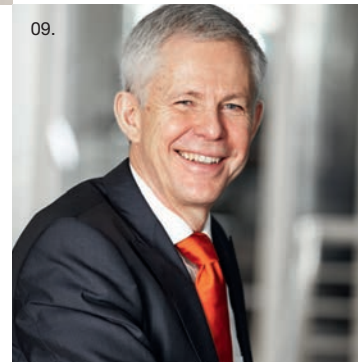
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- 01. **Dennis Jönsson**  
President & CEO
- 02. **Nils Björkman**  
Commercial Operations
- 03. **Bruce Burrows**  
Finance & Business Transformation
- 04. **Michael Grosse**  
Development & Service Operations
- 05. **Tim High**  
Processing Solutions
- 06. **Chris Huntley**  
Corporate Communications
- 07. **Andreas Karl**  
Human Resources
- 08. **Pål Lunning**  
General Counsel
- 09. **Sam Strömerstén**  
Supply Chain Operations

## 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.



## CORE VALUES

There are four values that guide the company's 23,000-plus employees in their day-to-day business:

- Customer Focus & Long-Term View
- Quality & Innovation
- Freedom & Responsibility
- Partnership & Fun

### **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**

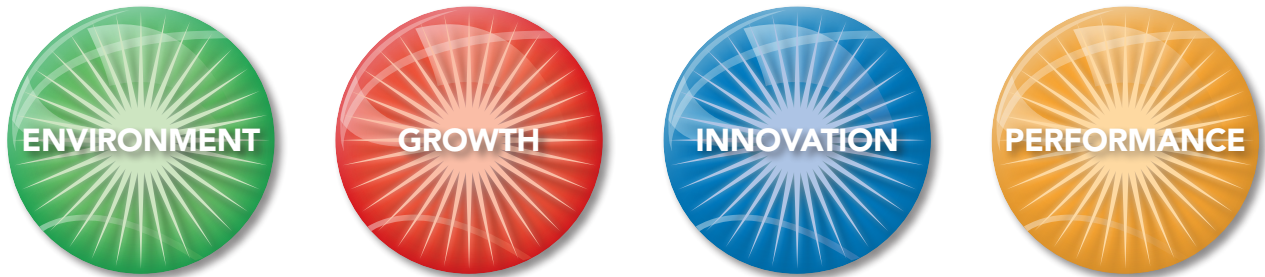
We have the freedom to take the initiative and act decisively in the best

interests of Tetra Pak and our customers. We take responsibility for our actions and contribute to the communities in which we operate.

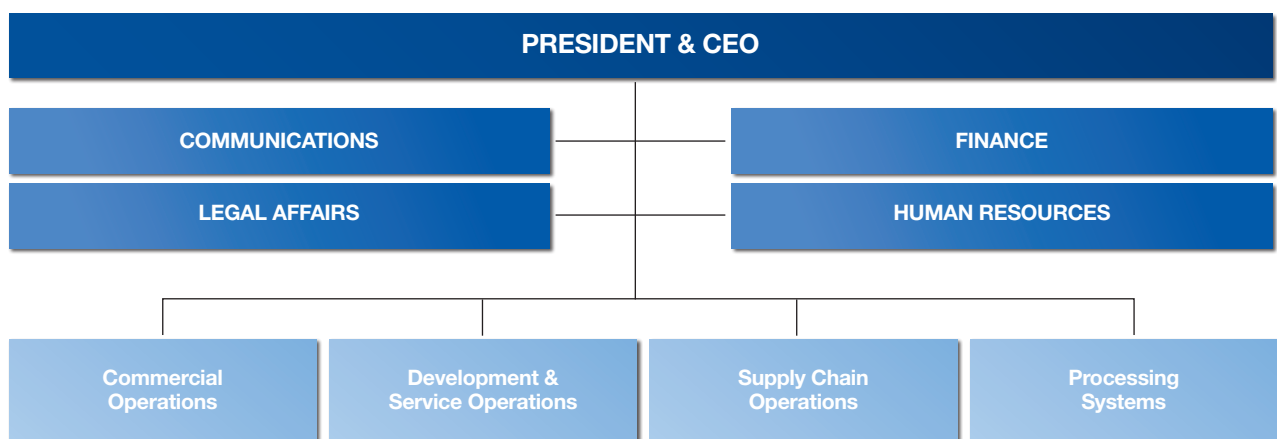
### **Partnership & Fun**

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

## STRATEGIC PRIORITIES



## ORGANISATION





# The Tetra Pak market

## THE PACKAGING MARKET

Last year, consumers across the world purchased around 1,200 billion litres of packaged liquid food, an increase of approximately 3.5 per cent compared with 2012. Of the total volume sold, water accounted for around 26 per cent, carbonated soft drinks for 18 per cent, and liquid dairy products for around 18 per cent.

Tetra Pak's own packaging material sales last year totalled slightly more than 178 billion cartons, or 78 billion litres equivalent, up 3 per cent and 1 per cent respectively on 2012. Today, Tetra Pak cartons account for around 7 per cent of the global packaged liquid food market.

Tetra Pak's packaging customers are involved in many different sectors of the food industry, including dairy, soft drinks, soy products, wine, juices and prepared food. They are made up of a variety of international, regional and local companies.

Among the largest geographical markets for Packaging Solutions at Tetra Pak are China, Brazil, Russia, Iberia, the USA and Mexico.

## THE PROCESSING MARKET

The processing market for Tetra Pak's equipment and solutions consists of the following categories; dairy, beverage, cheese, ice cream, prepared food and cosmetics. Within these categories Tetra Pak provides processing lines including equipment, engineering, design, installation, project management and services.

Tetra Pak deals with multinational and local food producers of various sizes, supplying many of them with integrated processing and packaging solutions. The company's largest geographical markets for Processing Solutions are China, the USA, Brazil, Russia and Germany.

## KEY MARKET DRIVERS

The key drivers of change in the packaging and processing markets are:

- Demographics
- Economy
- Environment/sustainability.

## CHANGING DEMOGRAPHICS

- Continuous population growth: by 2030, the global population will be 8.4 billion people.

- Extensive urbanisation: by 2030 60 per cent of all people will live in cities and 54 per cent of the population will live in Asia.
- Thirty somethings: 34 years old will be the average age of a person living in 2030, and there will be 480 million single person households.

## CHANGING ECONOMY

- Developing markets are rapidly becoming more sophisticated, which brings new challenges and opportunities
- By 2021 there will be 2.7 billion middle class consumers, 30–40 per cent will come from China.
- Globalisation and the redistribution of economic power will continue.

## CHANGING ENVIRONMENT

- Important natural resources are under threat, including a scarcity of water and depletion of forests.
- Stricter legislation and taxes related to protecting the environment are being introduced across the globe.

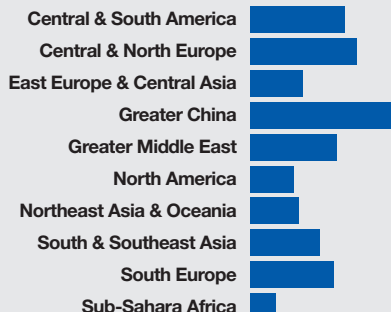
### TOP TEN MARKETS IN PACKAGING

Based on 178 billion packages sold in 2013

1. CHINA
2. BRAZIL
3. USA
4. RUSSIAN FEDERATION
5. MEXICO
6. THAILAND
7. JAPAN
8. SPAIN
9. PAKISTAN
10. VIETNAM

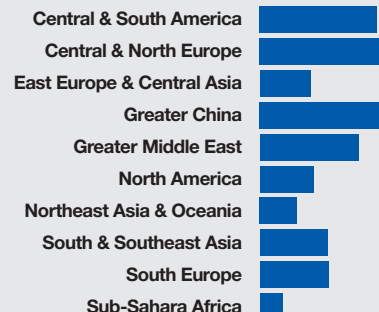
### FILLING MACHINES IN PRODUCTION BY GEOGRAPHY, 2013

Total 8,825



### DISTRIBUTION EQUIPMENT IN PRODUCTION BY GEOGRAPHY, 2013

Total 18,331



- Environmental innovations continue, with a focus on reducing the environmental footprint.

## PACKAGING INDUSTRY MEGATRENDS

These changes have direct implications for the food packaging and processing value chain. Tetra Pak has identified six megatrends which will affect the business environment for the packaging industry during the next decade:

- The opening up of the packaging industry market; with new business models and more packaging solutions.
- The increasing scarcity of usable natural resources and land, coupled with the rising demand for food packaging; bringing higher costs and a sharper focus on waste reduction.
- The acceleration of environmental innovations for the purpose of positioning and differentiation.
- The increasing importance of product differentiation (formulations, textures, ingredients, etc.), package differentiation (sizes, shapes, materials, etc.) and complete product information, driven by consumer demand.
- The ever-greater strength of the modern retailers and the continued consolidation of food manufacturers.

- The rising demand for food safety, product quality and nutritional value, driven by authenticity and health concerns.

## CONSUMER TRENDS

Analyzing consumer attitudes, behaviour and demands is critical for the success of the packaging industry. Some of the key consumer trends that we see in markets across the globe today are:

### FOOD FOR HEALTH

Consumers are increasingly health conscious and focus more on prevention. They understand the importance of a healthy diet on overall wellbeing and they are either planning to or trying to keep fit.

Consumers read more nutritional information on product packaging to help make food and drink choices.

### SAFE CHOICE

Consumers seek reassurance through trusted brands, especially in developing countries, but also through key product information related to the safety of the product, such as origin and how it was made.

### GREEN WORRIERS

Consumers worry about the environment, and increasingly feel guilty

when they do something that is not environmentally friendly; yet they are reluctant to pay more or compromise on quality. Overwhelmingly, they expect companies and institutions to take the initiative to help them be more 'green'.

## 24/7 LIFESTYLE

Consumers are constantly connected with instant access to everyone, and everything. They increasingly expect easy, simple, and convenient solutions to simplify their life and provide instant gratification.

Food & drink consumption on-the-go is very much a feature of this way of life.

## CONSCIOUS SPENDING

The post-recessionary mindset of consumers is value-driven and pragmatic; risk-averse consumers are looking to "buy smart," reading labels more to make informed decisions, and increasingly opting for trusted, established brands that offer them necessary reassurance.

Sources: Global Consumer Trends 2014; Tetra Pak.

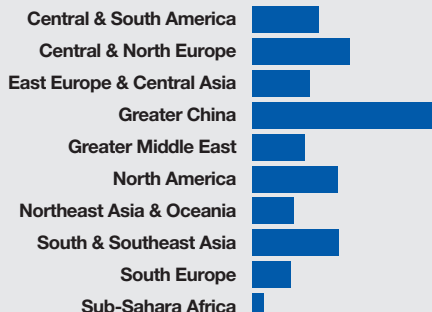
## TOP TEN MARKETS IN PROCESSING

Total Processing net sales 1.446 million €

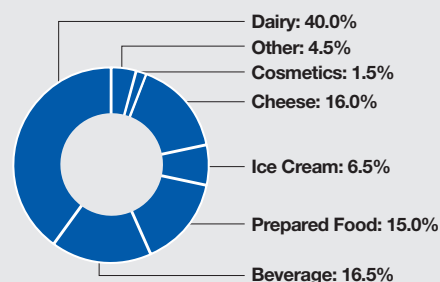
1. USA
2. CHINA
3. BRAZIL
4. NEW ZEALAND
5. RUSSIA
6. NETHERLANDS
7. GERMANY
8. FRANCE
9. ARGENTINA
10. SPAIN

## BRANDED PROCESSING UNITS DELIVERED BY GEOGRAPHY, 2013

of 2.053 units



## TETRA PAK PROCESSING SOLUTIONS ORDER INTAKE BY CATEGORY, 2013





# Tetra Pak helps build the world's most advanced dairy plant in Vietnam

Tetra Pak Vietnam and Vinamilk, the country's leading dairy manufacturer, have inaugurated the world's most innovative liquid dairy plant. The Vietnam Milk Factory crosses new frontiers in automation and integration.

To meet the rapidly growing demand for dairy products, Vinamilk has invested some \$110 million in a new factory on a 20 hectare site in Binh Duong Province. With an annual capacity of 400 million litres of milk in its first phase, the factory features some of Tetra Pak's most advanced technologies, bringing significant benefits in terms of both environmental performance and cost.

## CLOSE COLLABORATION FOR OPTIMAL SOLUTIONS

"From our first meeting, Vinamilk made clear they wanted outstanding service, premium quality and the very latest in processing and packaging technology," said John Koch, Project Sales Manager with Global Projects at Tetra Pak.

The company also wanted to ensure that the new plant met Vinamilk's strong environmental standards, with a sharp focus on minimising the consumption of energy and water, while ensuring the most efficient use possible of raw materials in order to eliminate waste.

"Achieving those expectations meant working closely with the Vinamilk team every step of the way, jointly designing a state-of-the-art facility that will meet their business needs long into the future."

## SOLID FOUNDATION TO BE A WORLD-CLASS DAIRY

The focal point of the new facility, indeed the very heart of its operations, is Tetra PlantMaster, a customised solution for plant integration and automation that controls the entire production from processing to packaging and logistics. This includes functionalities for quality control, production reporting and recipe management, all integrated with Vinamilk's own Enterprise Resource Planning software systems, providing efficient, safe production with full traceability through the entire value chain.

After the inauguration, Mai Kiều Liên, Vinamilk's Chairwoman and General Director, praised the facility, saying: "Vinamilk's mission is to provide world-class quality milk products at an affordable price. This new plant has laid a solid foundation for Vinamilk to achieve our goals and become one of the world's top 50 dairies with over \$3billion in revenues by 2017."

Bert Jan Post, Managing Director of Tetra Pak Vietnam, added: "Thanks to Tetra Pak's automation solutions, all of the individual machines are working together 'as one' to deliver optimal performance, with factory-wide integration ensuring high levels of efficiency and uncompromising food safety."



# A major relaunch success in the Chinese market

The relaunch by Chinese dairy, Bright, of its premium yoghurt Mosili'an\* in a Tetra Prisma® Aseptic package in 2010 is one of the company's greater-ever commercial success stories. Just three years after the first packs appeared on shelves, Mosili'an accounts for ten per cent of China's total yoghurt market, and it is the first product in Bright's portfolio to achieve annual sales of more than 1 billion yuan (120 million euro).

Bright, one of China's top three dairy producers, is a long-time partner of Tetra Pak. So when the company's newly launched yoghurt brand, Mosili'an, failed to gain meaningful traction with consumers, they turned to Tetra Pak to help revive the fledgling brand.

Mosili'an was initially launched in 2009 in a traditional plastic cup. And like all yoghurt sold in China at that time, it was chilled.

What Tetra Pak proposed, and Bright quickly bought in to, was not just to change the packaging, but to change the entire Chinese yoghurt industry.

## HUGE UNTAPPED MARKET

The two companies realised that the traditional chilled distribution of yoghurt worked well for urban markets and at-home users, but left a huge untapped market, most notably in on-the-go consumption. So they switched the brand to ambient – extending the shelf life to five months and opening up a whole new category of consumers.

Tetra Pak and Bright experimented with various packaging alternatives,



and finally decided on Tetra Prisma Aseptic 200 ml, incorporating a metalised film. The subsequent development, involving both local and global teams at Tetra Pak, had to overcome a number of challenges, not least related to ensuring on-the-go functionality for a high viscosity product. The yoghurt proved extremely difficult to drink through standard size straws, so a larger diameter was needed – requiring a larger-sized hole in the package, and a great deal of package re-design and re-engineering.

## INNOVATIVE BOTH IN PRODUCT AND PACKAGING

After the launch it quickly became apparent that the choice of package was spot on in terms of size, appearance and ease of use.

Indeed, the combination of the exceptional yoghurt drink and innovative packaging design enabled Bright to position Mosili'an as a premium product and price it accordingly, delivering much better margins than had previously been achieved. By the end of 2013, Bright had more than 30 lines packing Mosili'an in Tetra Prisma Aseptic 200 ml.

"The product has taken off beyond any of our expectations - it is a remarkable success story," says Betty Zi, the Bright Key Account Manager with Tetra Pak China.

"It's created a brand new category strongly linked to Tetra Prisma Aseptic. Bright's success is attracting more players to this market and we're looking forward to more growth in the future," concludes Betty Zi.

\* Mosili'an is named after the Bulgarian 'longevity village' – the origin of its healthy probiotics.



# Long experience in all aspects of food safety

Tetra Pak has extensive experience in working on food safety and has developed many capabilities in this area. From its broad range of cutting-edge processing and packaging technologies, to its state-of-the-art food safety laboratories in Stuttgart, Germany, the company continues to drive an agenda that is sharply focused on its vision: to make food safe and available everywhere.

In 1961, Tetra Pak unveiled the first ever aseptic filling machine. It was a technology that would revolutionise the food production industry, and establish the company as a leading player in the on-going quest for technologies that would help safeguard food.

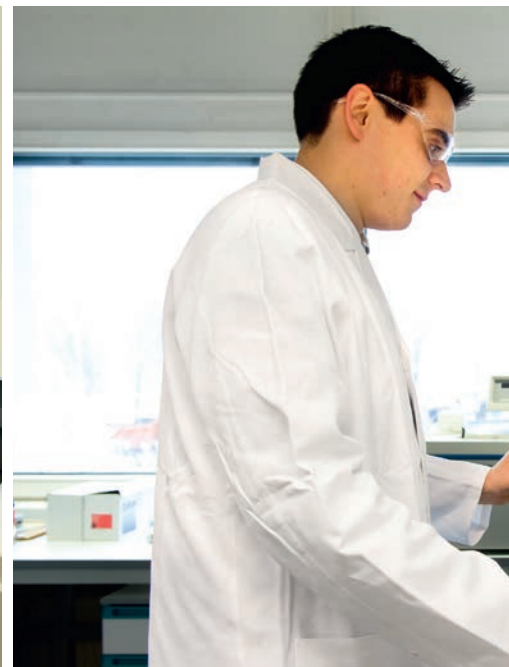
Half a century later, the company can look back on many more food safety milestones and innovations. And the technology that first set them apart, aseptic food production, con-

tinues to lie at the very core of their business, and remains the focus of much development and improvement.

“For example, we have developed an entire range of special aseptic components – as well as barriers of steam, nitrogen or sterile air – to ensure integrity, product quality and product safety,” says Yvonne Andreasson, Director Portfolio management Processing Solutions. “It is also important to guarantee safe service

media such as water, air and steam by, among other measures, making sure that these systems are designed in cleanable way.”

Of course, every piece of processing and packaging equipment is designed with safety in mind, with all components and materials food contact certified. Indeed, in the case of highly sensitive products such as baby foods, production solutions are close to pharmaceutical standards, with barriers and



controlled hygienic zones to guarantee process integrity.

### **WORLD-CLASS LABS IN GERMANY**

Underpinning Tetra Pak's food safety agenda is a small, world-class food science laboratory in Stuttgart, Germany.

"At these labs, exhaustive tests are performed on the many materials used in various types of packaging to ensure safe and suitable packages for the very broad range of foods they might be used for," says Dr Gabi Pieper, Director, Food Packaging Safety and Interaction. The findings can help food producers avoid unsuitable combinations.

The lab also carries out extensive food testing, for example, as part of the analysis offered to Tetra Pak's customers in the event of a food safety issue.

Tetra Pak goes beyond providing fast and reliable support. After the analysis, the company makes suggestions and recommendations for modifications to the food producer's quality control and quality assurance

programmes. This advice, along with a competence development programme to improve staff awareness, helps minimise or eliminate the risk of future such issues.

### **COLLABORATION WITH UNIVERSITIES AND AUTHORITIES**

To stay at the forefront of food safety development, the laboratories collaborate and exchange knowledge with leading universities, gaining insight into the very latest academic research. The labs also collaborate with various

European and global health organizations and authorities, including the Food and Drug Administration in the USA. This is not merely to keep up with legislation, but to present findings from practical experience to the authorities, which can influence how that legislation is formulated and implemented.

"By staying on top of what's happening today, we can help our customers meet the demands of tomorrow," concludes Gabi Pieper.

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"By staying on top of what's happening today, we can help our customers meet the demands of tomorrow"

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# Food safety – the number one priority

For consumers, food safety is simply about being able to trust what you eat. For food producers, meeting that seemingly simple requirement involves all manner of checks, controls and containments. Today, food safety is the industry's number one priority and an area where Tetra Pak's insight and proven track record are bringing very real benefits to our customers.

For Tetra Pak, the starting point for safe food production is hygienic design; ensuring, for example, that everything that comes into contact with food is manufactured from appropriate materials and, in the case of machines and equipment, is able to be cleaned with relative ease. It's a concept the company has long applied to every new product it creates.

Now, thanks to advances in technology, the opportunity to safeguard food goes a great deal further, with integration, automation and data utilisation lifting safety and protection to a whole new level.

## INTEGRATED PLANT SOLUTIONS

Within any food production line, one of the key ways to reduce food safety risk is to ensure comprehensive monitoring and control across all stages of

the operation. Automation and integration are essential in this regard; and not only help to ensure food safety, but can also drive up production efficiency and lower costs.

"In recent years, we have made significant advances in automation technology and now, with our latest generation Tetra PlantMaster, have a solution that enables the many interdependent parts of a customer's processing and packaging operation to work seamlessly together," says Mats Melander, Director Automation Solutions. "Customers can achieve total control of a process, a complete line, or an entire processing and packaging plant – controlling and reporting at every step from raw material intake to product ready for distribution."

Using Tetra PlantMaster, incoming materials are registered through product

sampling. From that point forward, the system controls the entire production operation, while measuring, monitoring and logging all manner of process parameters along the way.

At any stage of the food manufacturing process, reports can be generated with precise information regarding all aspects of the food processing and packaging operation: from recipes and temperatures to flow rates and other operational parameters. Production best practices can now be replicated each and every time to meet retailer and consumer demands for consistency and food safety.

## EFFECTIVE TRACEABILITY

But there is another significant benefit to having such comprehensive information: traceability.

More and more, the food industry is being called on to provide complete transparency regarding ingredients, sourcing, manufacturing and more. For consumers, particularly in developed economies, such information is used to help them understand the origins of what they eat. For the food industry, on the other hand, traceability can play an absolutely key role in quality and issues management.

In addition to providing precise data related to every stage of the food production process, Tetra PlantMaster can





also collect information concerning the incoming raw materials. A unique code, printed onto the finished package or distribution unit can then be used to access the complete story of the product inside, via an internet portal.

For food producers, it allows them to collect and analyse all manner of data to improve production planning, monitor environmental performance, optimise throughput, secure reliability,

track back quality issues and more. For consumers, it offers reassurance, enabling them to trace the food they feed their families right the way back to the farm.

"Through Tetra PlantMaster, intelligent automation, integration and data utilisation are providing food manufacturers with a wealth of valuable information to help drive efficiency, improve quality, underpin food safety and enhance

consumer perceptions of their brand," says Mats Melander. "It is technology we continue to develop, introducing new and innovative functionalities, and improving existing ones, to deliver even greater benefits to our customers."

# Successful launches of new DiP products

The Deeper in the Pyramid (DiP\*) segment of low-income consumers represents a big growth opportunity for the international food industry. Within Tetra Pak, the company has established a business unit focused exclusively on supporting customers with packaging solutions that meet the specific needs of this newly-defined market segment. Since the unit was formed in 2011 it has made good progress, helping customers deliver safe, nutritious liquid food products to low-income consumers in a number of different countries. Recent examples include the launch of the Tetra Fino® Aseptic 100 ml package with KMP in India, and Premier Food's launch of jelly in Tetra Classic® Aseptic 65 ml cartons in Sudan.

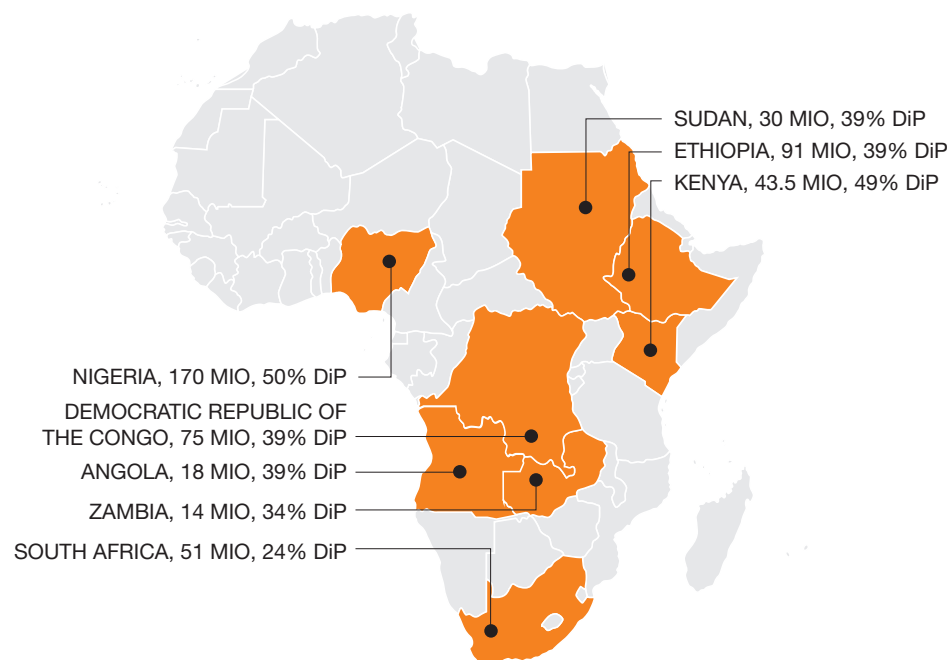
It is estimated that the low-income household segment today accounts for about 40 per cent of the world's population, or around 2.8 billion people (Euromonitor International 2013). Based mainly in developing countries within Asia, Africa and the Middle East, these households, which currently live on incomes of between \$ 2 and \$ 8 a day, are widely predicted to become tomorrow's middle class.

On that premise, DiP consumers are, not surprisingly, seen to represent a major opportunity for the liquid food industry - both when it comes to meeting their needs for safe and nutritious products today, and also in terms of growth potential for the future. The key to tomorrow's success, however, lies in reaching them with the products they need right now.

For dairy producers in particular, there is a major opportunity to supply this segment with healthy and nutritious products using alternatives to whole milk, such as whey or lactic acid, offering smaller packages at affordable cost. Two recent Tetra Pak examples, from India and Africa, show what is possible.

## LAUNCH OF TETRA FINO® ASEPTIC 100 IN INDIA

Tetra Pak India launched the Tetra Fino® Aseptic 100 ml with the country's



Source: Euromonitor and CIA worldbook

second largest dairy co-operative, Karnataka Milk Federation (KMF). This made KMF the first market company to introduce Ambient White Milk in the package. It was launched at an affordable consumer price of 8 cents (\$) and primarily sold in traditional neighbourhood retail outlets. Research shows that the Tetra Fino Aseptic 100 ml

has played a significant role in attracting new consumers to the UHT category. "The Tetra Fino Aseptic 100 ml offers all the benefits of aseptic carton packaging at an affordable price. Consumers in the DiP segment increasingly demand affordable solutions without having to compromise on safety and quality," says Tetra Pak South Asia Markets





Managing Director, Kandarp Singh.

"We have seen strong growth in demand for this package in Ambient White Milk, especially in areas where the reach of loose or pasteurised milk is limited due to distribution challenges. This is evidence of the huge opportunity that exists with such formats."

### **SUCCESSFUL LAUNCHES IN SUDAN**

Other examples relate to Tetra Pak's support to customers in Sudan, where 46 per cent of the population exists below the food poverty line on an income of less than \$1.25 per day. There are approximately 10 million consumers in the DiP segment in the country.

Customers in Sudan have successfully addressed the DiP segment by launching a variety of different still drinks and liquid dairy products in a range of Tetra Pak packages, including Tetra Fino® Aseptic 200 ml, Tetra Classic® Aseptic 150 ml and Tetra Classic Aseptic 65 ml.

"One recent example is the launch of our Tetra Classic Aseptic 65 ml package for jelly with our customer Premier Food, which was received very positively by consumers," says Mikhail Kamyschny, Tetra Pak Cluster Leader Marketing and Product Management for Sub-Saharan Africa.

"Reducing the pack size helps customers maintain the power price point without eroding their margin. It is all about affordability and availability."

*\* Tetra Pak was inspired by the business guru, the late C.K. Prahalad, and his book The Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits.*

## **Successful long-life product training in Shanghai**

Who better to pass on knowledge about the production of long-life\* drinks than a team of quality assurance experts from Tetra Pak? The group, from the Quality Assurance Management Division, set up and delivered a tailor-made, 10-day training programme for Chinese customer Yili in August 2013. And it seems that more training could be on the horizon.

The programme, covering the entire aseptic production process for UHT milk, took place at the Shanghai factory operated by Yili, one of Tetra Pak's biggest Chinese customers. The feedback: it was highly appreciated, leading Yili to consider extending training to local production sites across the country.

The 'students' – comprising 16 QA (Quality Assurance) managers from different Chinese sites and including the quality director for the entire Group – studied the processes behind long-life UHT milk products, which can often remain on the shop shelf for more than three months in ambient conditions.

The training sessions covered production of UHT milk from reception to quality control, including processing, filling, packaging, and assurance.

"We also covered the microbiology related to UHT milk and the systematic trouble-shooting of UHT milk production, including food safety and quality issues," says Jiri Korinek, Director QAM at Tetra Pak.

Feedback comments showed how well the programme had gone: among them were 'theory could be linked to practice in routine work', and 'a clear understanding of the principle of equipment operation and related critical control points'.

"Yili was very satisfied with the seminar and its content. They are now evaluating the possibility of extending the programme to their local production sites during next year," concludes Jiri Korinek.

Yili Group is one of Tetra Pak's longest-standing (since 1996) and largest customers in China and has purchased many types of processing and packaging equipment. The Chinese group has extensive operations in the country, including 308 filling machines with a capacity of 28 billion packages a year.

*\* At Tetra Pak Long Life Products are described as products that have longer shelf life than normal conditions. For UHT milk the lifetime is often more than three months. These are products targeted for the ambient distribution chain, and typical examples would be UHT milk and juices.*



## Driving Environmental Excellence

# Double the recycle rate by 2020

In 2011 Tetra Pak set a target to double the global recycling rate of used Tetra Pak cartons from 20 per cent in 2010 to 40 per cent by 2020. And with research continuing to show that recycling remains as high as ever on the consumers' agenda, step-change improvement in this area continues to be recognized as fundamentally important to Tetra Pak's long-term business success.

Consumers around the world describe the recycling of used packaging as their most important environmental activity. According to Tetra Pak's latest environmental research, 87 per cent of consumers set aside their used bottles, bags and boxes for recycling at least occasionally\*.

Consumers are not the only people who care about recycling – in fact, the demand for recycling comes from many different directions: governments, local authorities, community groups, NGOs, retailers and many others. Not surprisingly, Tetra Pak's own customers also have a sharp focus on recycling, and many now consider it a deal-breaker when assessing the merit of a potential new product or service\*.

"The fact that Tetra Pak packages can be recycled is a good starting point, but alone, it is not enough," says Claes Du Rietz, Vice President Environment. "We also need to ensure that they are being recycled – because by increasing the recycling rate of used Tetra Pak cartons, we help to ensure the competitiveness of our portfolio."

### RE-USING VALUABLE MATERIAL

Tetra Pak beverage cartons are made primarily from wood fibre that has been refined into paperboard, laminated with protective layers of plastic and aluminium. The market for recycled cartons is steadily increasing, and Tetra Pak is making progress towards its 40 per

cent goal. In 2013 the recycling of used Tetra Pak cartons increased to 623,000 tonnes compared to 581,000 tonnes in 2012, or 43 billion cartons (39 billion in 2012), creating a useful resource for the production of new materials.

### INCREASING RECYCLING REQUIRES COLLABORATION

Successful recycling depends on many different elements working together, such as the creation of an effective collection infrastructure, legislative frameworks, financial resources, and collaboration between industry and government stakeholders. Plus, it requires a willingness on the part of consumers to take action. Indeed, Tetra Pak cannot achieve its 40 per cent global recycling target alone, so the company partners with many different stakeholders, including governments, municipalities, NGOs and recyclers, to work towards achieving this goal.

### REMOVING BARRIERS TO INCREASE RECYCLING

Tetra Pak effectively acts as a catalyst in the recycling value chain. The company doesn't own or operate collection infrastructure and recycling plants, but cooperates with all key stakeholders including recyclers, waste management companies, public institutions and others.

One of its most important tasks is to identify and remove barriers to in-

crease recycling and, in that regard, the company has identified four key actions to help reach its recycling ambitions:

1. Increase consumer awareness
2. Support collection and sorting infrastructure
3. Boost business opportunities for recycling entrepreneurs
4. Expand market opportunities for recycled materials

In each of these areas, Tetra Pak takes an active role – from leading recycling awareness programmes in schools to supporting technology development projects that will make the recycling process more efficient.

"Recycling is not our business, but it is our business to make recycling work," says Claes Du Rietz.

*\* Tetra Pak environmental research, Millward Brown, 2013*

FACTS		
	2013	2012
Recycling of used Tetra Pak cartons in 2013, total no of packs	43 billion	39 billion
Total recycled volume (tonnes)	623 000	581 000
% of Tetra Pak cartons sold	24,5%	22,9%

## **SIDEL**

When Sidel develops new PET packaging solutions for liquid foods, safety is at the heart of the process. Sidel offers flexible and reliable production systems that can easily be adapted to market developments and future technology. And the focus is always on protecting the final product of the customer.



## WORK WITH US AND GET A BETTER MATCH

The Sidel Group is one of the world leaders in solutions for liquid food packaging. Sidel offers equipment and services that are key to customers' decision-making in the purchase of complete bottling lines. Its activities cover the three major categories of packaging: glass bottles (disposable & returnable), plastic bottles (PET, HDPE, and PP) and metal cans.

## R&D

Sidel is a pioneer in beverage packaging solutions, especially for PET bottles. Some innovations are: the Combi system, facilitating bottle making, filling and capping for PET bottles; Predis™, a revolutionary sustainable solution to enhance aseptic hygiene and Sidel Matrix™, a revolutionary system to optimise liquid packaging production. Food safety and sustainability are Sidel's frontiers for innovation.

COUNTRIES SERVED

&gt;190

NET SALES 2013

1,395

MILLION EURO

OFFICES

50

RESEARCH CENTRES

8

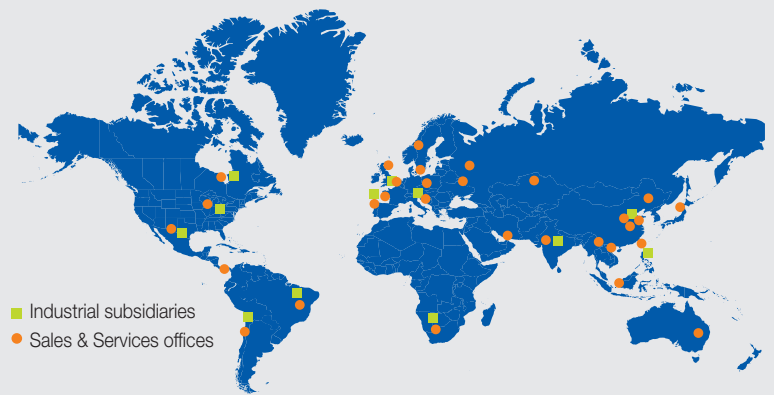
## SOLUTIONS

From concept to consumer, we can help make an innovative product idea for a new beverage an industrial reality with a fast time to market. Sidel can support starting with the industrial bottle design process, through to complete line needs, from preliminary design to developing an investment budget, drafting plans for line layout or building the bottling line on-site. The solution encompasses blow moulding machines, barrier treatment, fillers, and end-of-line operations. The result is to ensure beverages stand out from the competition as well as withstand the various pressures along the supply chain, protecting the quality of the beverages in-side.



## MARKETS & CUSTOMERS

Sidel has installed more than 30,000 machines in 190 countries: from China to Brazil, taking in the United States, Germany, Japan, South Africa and Russia on the way. Sidel is making its mark today as a multicultural group, employing around sixty different nationalities, totalling some 5,500 employees.



## CUSTOMERS

Our customers come from all parts of the beverage industry; from juice and dairy products to mineral water and soft drinks. In addition, we offer solutions for alcoholic beverages including beer and other liquid food categories.

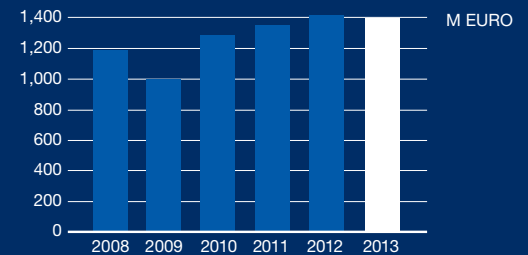
### TRAINING CENTRES

7

### NUMBER OF EMPLOYEES DECEMBER 2013

5,510

SIDEL SALES 2008 – 2013



## OUR BRAND – A BETTER MATCH

Sidel is the leading global provider of PET solutions for liquid packaging. We are also a driving force for glass and can solutions. We are committed to being the most innovative, responsive and reliable partner, providing sustainable solutions for the beverage industry.

Headquartered in Switzerland, we have production sites in 13 countries and 30,000 machines installed in more than 190 nations worldwide. With over 5,500 employees worldwide, we provide optimal PET, glass and can packaging solutions

for water, soft drinks, milk, sensitive products, edible oils and alcoholic beverages including beer.

We aim to create value for our customers by giving them A Better Match. This is the tailored solution that caters for their needs exactly. We do this by offering flexible and reliable production solutions that are easily adaptable to market developments and future technology, supported by value-added services.





02.



03.



01.



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07.



05.



# 2013/2014

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## **01. 15 YEARS IN SAFE ASEPTIC PRODUCTION WITH PREFORM DECONTAMINATION**

15 years ago Sidel revolutionised the beverage industry by developing the world's first preform decontamination solution to produce aseptic beverages. Due to its extensive packaging, blowing and aseptic filling experience, Sidel was the first to understand why it is simpler and safer to decontaminate the preform rather than the bottle. Even if the new technology was strongly criticised in a market dominated by traditional solutions such as wet-bottle decontamination. Predis™, the dry-preform decontamination solution, became an industry benchmark, with an adaption for the caps with Capdis™. Part of an integrated blow-fill-cap solution, the aseptic Combi Predis FMa Capdis is designed to ensure food safety. While being simple to operate and maintain, it has already been successfully implemented and proven by major names in the beverage industry throughout the world. With more than 11 billion bottles produced worldwide at this point and more than 60 production lines equipped with the Predis system, this is a great indicator of the reliability of the technology.

## **02. TRIANGULAR BOTTLE DOUBLES UP ON DESIGN AWARDS**

It's triangular in shape and engraved by laser instead of carrying a traditional label: the bottle designed by Sidel for the French company Société des Eaux d'Aix-les-bains is both eye-catching and also has an exclusive look and feel. The design scooped 'Best bottle in PET' at Drinktec, the leading trade exhibition, in Munich, and a Bronze medal in the beverages category at the Pentawards, the worldwide design awards, in Barcelona.

## **03. INLINE MAGAZINE WINS INTERNATIONAL AWARDS**

Sidel's customer magazine Inline received two international awards during the year. In May, the magazine received Silver in the 'Corporate Publishing' category of the 2013 Astrid Awards in New York City, United States. And in October the publication picked up the Silver Award for 'Best Marketing or Sales Brochure or Kit – Print' at the 2013 Stevie International Business Awards, presented in Barcelona, Spain.

## **04. WHEN ONE SIDEL MATRIX BLOWER IS NOT ENOUGH**

The Sidel Matrix range of blowers continues to challenge conventional packaging of liquids with its multitude of cutting-edge technical solutions. Global bottler Alpa were so impressed when they replaced a previous generation Sidel blower with a Sidel Matrix unit at their Coca-Cola Femsa plant in Mexico that they decided to invest in a second one. The new flexible blowers help Alpa to successfully handle all preform types – virgin PET or PCR PET, recently injected or coming from storage – without compromising bottle quality or output. The blowers have also reduced both energy consumption and maintenance costs, meeting Alpa's highest expectations.

## **05. GIVING THE ICONIC PEPSI BOTTLE A NEW LOOK**

For the first time since 1996, PepsiCo redesigned their classic Pepsi bottle in March. Sidel was a key contributor to the new design, featuring a shorter wrap-around and a contoured bottom half. The new shape was first deployed in North America, and will be rolled out to the rest of the world during 2014.

## **06. ECO LAMPS SAVE ENERGY AND MONEY**

How to save energy and money, without investing in new equipment? Replace existing preform heating lamps with Sidel's ECO lamps. For PepsiCo in Germany, this simple switch reduced energy use by 19 per cent and energy costs by 16 per cent. This was the latest step taken by PepsiCo, working with the Sidel Options and Upgrades team, which has been leading the way in environmentally friendly beverage production for a decade.

## **07. GEARING UP FOR TOP SPORTS EVENTS IN BRAZIL**

It's not just stars of sport who are preparing for two of the world's greatest sporting events in Brazil in the near future. Sidel is helping the leading Coca-Cola franchisee Spaipa get ready to meet a huge increase in demand during the FIFA World Cup in 2014, and the Olympic Games in Rio in 2016 by equipping the company's plant in Bauru with the revolutionary Sidel Matrix system.

## **08. A NEW LOW CAPACITY SOLUTION FOR ASEPTIC PRODUCTION**

Beverage manufacturers can now benefit from aseptic technology for smaller production runs following the launch of a new low-capacity integrated aseptic blow-fill-cap solution from Sidel. Introduced in response to market demand, this new Sidel low-capacity aseptic Combi Predis™/Capdis™ FMa is based on the dry-preform and cap decontamination technology already successfully implemented and proven by major names in beverage manufacture throughout the world.

# Positive outlook from Sidel after a challenging year

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2013 proved a challenging year for Sidel, with the impact felt from customers holding back on investments in capital equipment, a trend that began in 2012. However, it is important to recognise that this is primarily cyclical variation rather than fundamental structural change: the underlying growth in the use of PET in the liquid packaging solutions market remains, as do the opportunities this represents for us as a business. The reduction in equipment sales was offset by strong sales of aftermarket equipment and services. This translates into flat development of net sales for the Sidel Group for 2013.

A highlight of the year was the launch of Sidel Matrix™ – our latest generation of PET bottling equipment based on modular platform architecture. We have received very positive feedback from our customers who are recognising the significant contributions Sidel Matrix can make to their businesses in terms of performance, flexibility,

TCO (total cost of ownership) and an improved environmental footprint as we all look to develop more sustainable methods of production.

## **CHINA MARKET DECLINING BUT STRONG SOUTH EAST ASIA**

From a geographical point of view, the market in China continued to shrink after several years of extraordinary growth. However, Sidel made significant progress in identifying and working with new customers in the country, broadening our customer base and increasing market share. We also celebrated the five year anniversary of our main manufacturing plant in Beijing.

In contrast to China, South East Asian countries like the Philippines, Indonesia, Malaysia, Vietnam and Myanmar enjoyed strong growth, and Sidel increased its presence accordingly to meet customer demand. The Middle East and Africa also showed good growth while the European market was relatively flat. However, Europe remains

an important focus for Sidel given the large installed base of our equipment. South America and other countries slowed due to the slower development of the Brazilian market while North America was very sluggish and is contracting. Nevertheless, as with Europe, North America is important for our aftermarket sales due to the large installed base.

## **GOOD EXECUTION OF THE TRANSFORMATION PROGRAMME**

During the year we continued to execute our transformation programme, which has three strategic priorities: Customer Proximity, Technology Leadership and Operational Excellence.

From a customer viewpoint, the integration of our service business to the line organisation will be of real benefit. Sidel is gradually becoming more of a solutions company, focused on supporting our customers and helping them to solve their problems. Moreover, the completion of our zone

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We have received very positive feedback from our customers who are recognising the significant contributions Sidel Matrix™ can make to their businesses in terms of performance, flexibility, TCO (total cost of ownership) and an improved environmental footprint as we all look to develop more sustainable methods of production.

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structure, with the increased focus on sales and aftermarket services, is a good example of transformation in practice, moving from a simple equipment focus to one which recognises the importance of customer proximity in providing global experience at a local level.

Technology remains at the heart of Sidel. For instance, our packaging and bottle design capabilities continue to be recognised as outstanding in the market, with 2013 bringing several international awards, from 'Best Bottle in PET' to 'Best Environmental Sustainability Initiative'. The launch of the Sidel Matrix system for PET bottling lines also demonstrates this commitment to technical excellence and is the result of many years of intensive research and development.

Another example of our reputation for technological innovation is the release of roll sleeve labellers which are able to apply the thinnest label material onto PET bottles. This has a positive impact in environmental terms, as well as reducing the total cost of labelling for our customers. Our new RightWeight bottle initiative is making a significant contribution to the market, offering substantial bottle weight savings without compromising on product quality or the consumer experience. The new base and shape format for PET bottles optimises the total performance of the bottle throughout the entire supply chain.

Operational Excellence is a pre-requisite for Sidel in order to stay competitive in the market. The development and implementation of Sidel Matrix allows us to build a more rational supply chain. The roll-out of this new technological



platform has contributed to further cost reductions in our organisation, offsetting the price erosions which currently characterise the PET bottling equipment market. With this and the organisational changes already mentioned, we have been able to increase operational efficiency.

#### **IMPORTANT CHANGES IN OUR ORGANISATION**

During the year Sidel executed some important organisational changes. We

merged Gebo, a respected brand in conveying and material handling, with Cermex, an expert in secondary packaging and end-of-line equipment. The newly formed Gebo Cermex will focus on glass and can, offering world-class line integration and engineering services including standalone equipment for tasks such as conveying, bottle washing, pasteurising, overwrapping, packing and palletising for the beverage and other markets.

Another important development was



the reorganisation and creation of two new geographical zones with increased market focus: Europe and Central Asia, headquartered in Frankfurt, and Africa and Middle East with headquarters in Dubai. We also reorganised our after-market operations – LCM (Life Cycle Management) – including spare parts, upgrades and service. They have now been integrated into the market and industrial organisations, which will bring increased customer focus and operational efficiencies.

### **SUCCESSFUL LEADERSHIP INITIATIVES**

Within the area of personnel and leadership Sidel undertook a number of important initiatives last year. We identified and trained high potentials throughout the organisation. Around 100 co-workers participated in this programme of assessment, training and coaching at our headquarters in Switzerland. It is an important step in providing opportunities for individual careers, as well as creating the platform to ensure future leadership of the company. Another essential action is the creation of Technical Career Path Options, a programme tailored specifically for our engineers and giving them opportunities to grow within their speciality area.

### **FOOD PROTECTION PERMEATES THE ORGANISATION**

The theme of this report is Ensuring Food Protection. This concept is becoming increasingly important to us as a supplier of liquid packaging solutions, with beverages being a vital element of the food processing market. Providing the whole equipment line means

that our machines are often in direct contact with the product and therefore for us, as for our customers, there is never a compromise on food safety. 'Beverage Safety in a Changing World' was one of the central themes at KNOWLEDGEshare 2013, a two-day forum, presented in association with Sidel, which saw more than 120 participants gather to discuss the big issues and challenges that our industry faces. This clearly demonstrates that food protection and product safety are fundamental to our company culture and must continue to be developed and improved. Sidel has further strengthened its knowledge and competence in this respect by a fruitful collaboration with the processing division of Tetra Pak, the world leader in food safety.

### **POSITIVE OUTLOOK FOR 2014**

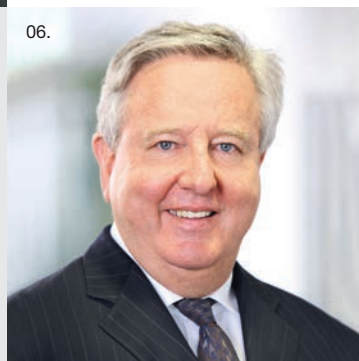
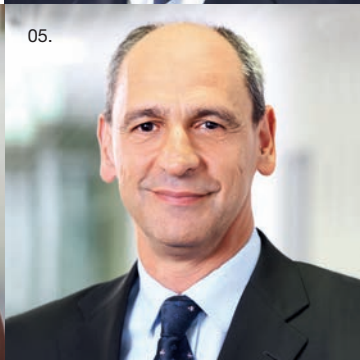
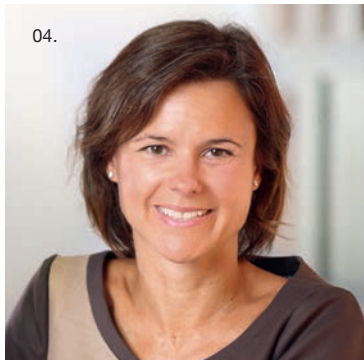
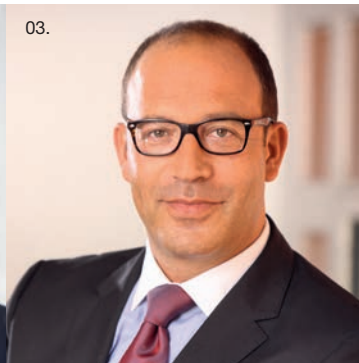
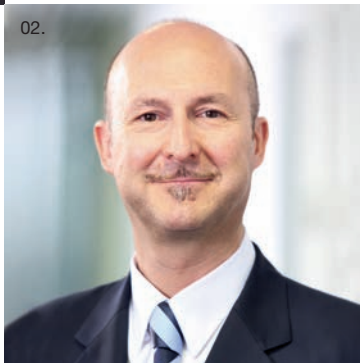
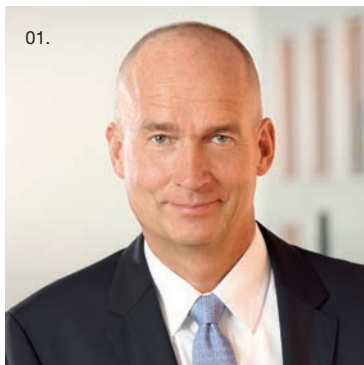
Looking to the future, it is difficult to assess the business cycle for 2014. After a couple of years of no growth in our equipment business I am cautiously optimistic. There is underlying growth in beverage consumption, with signs indicating that demand should increase over the coming years. However, we will continue to develop our aftermarket service, recognising that this transition to a service and solutions based company that works increasingly closely with our customers is vital.

Other focus areas for next year will be the ongoing introduction of Sidel Matrix to the market – offering a configurable equipment platform for our customers, future proofing their production lines, as well as enabling us to exploit the equipment architecture for leaner manufacturing. In addition,

we have to successfully manage and develop the new glass and can company, Gebo Cermex, reinforcing its position in existing markets as well as developing opportunities in new ones.

A more holistic and longer-term view is also central to the development of Sidel. We need to ensure that we are in a position to meet the challenges of tomorrow, as well as those of today. Thanks to our skilful and devoted co-workers, new equipment and service launches and leading market position, 2014 should be a good year for Sidel and one that helps to strengthen our capability to meet those challenges.

Mart Tiismann



- 01. **Mart Tiismann**  
President & CEO
- 02. **Roberto Bettini**  
Human Resources
- 03. **Nicholas Bloch**  
Corporate Communications
- 04. **Caroline Fellenius-Omnell**  
Legal Affairs
- 05. **Sid Johari**  
Industrial Operations
- 06. **Peter Logan**  
Market Operations
- 07. **Anders Wester**  
Finance & Strategy

**VISION**

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

**MISSION**

We are the driving force in liquid packaging, providing optimal solutions in PET, can and glass. We constantly challenge the limits of technology and services in order to offer our customers the means to a more sustainable business.

**STRATEGIC PRIORITIES**

To always be able to deliver on our promise to be A Better Match, Sidel's strategy is to transform Sidel along the strategic axes of Customer Proximity, Technology Leadership and Operational Excellence.

**SIDEL IS A BETTER MATCH**

A Better Match is about delivering on more things than one. More than an equipment supplier, Sidel is and aspires to be a full service provider.

In everything we do at Sidel, we strive to be a Better Match. A Better Match for the products our customers make. A Better Match for the diverse and fast-changing markets. A Better Match for their business as a whole. Our way of being that better match

is by providing our customers with value.

When Sidel talks value, we mean value everywhere. From the design of individual moulds, to the equipment customers deploy and maintain, to customers' production lines as a whole, and beyond – to our customers' logistics infrastructure.

To give our customers more value across their business, it takes more

than just Sidel equipment. It also takes customers' expertise and decades of service – which we combine with our equipment into complete solutions that envelop our customers' packaging solutions with value-adding care.

We are Sidel – We are A Better Match.

## ORGANISATION

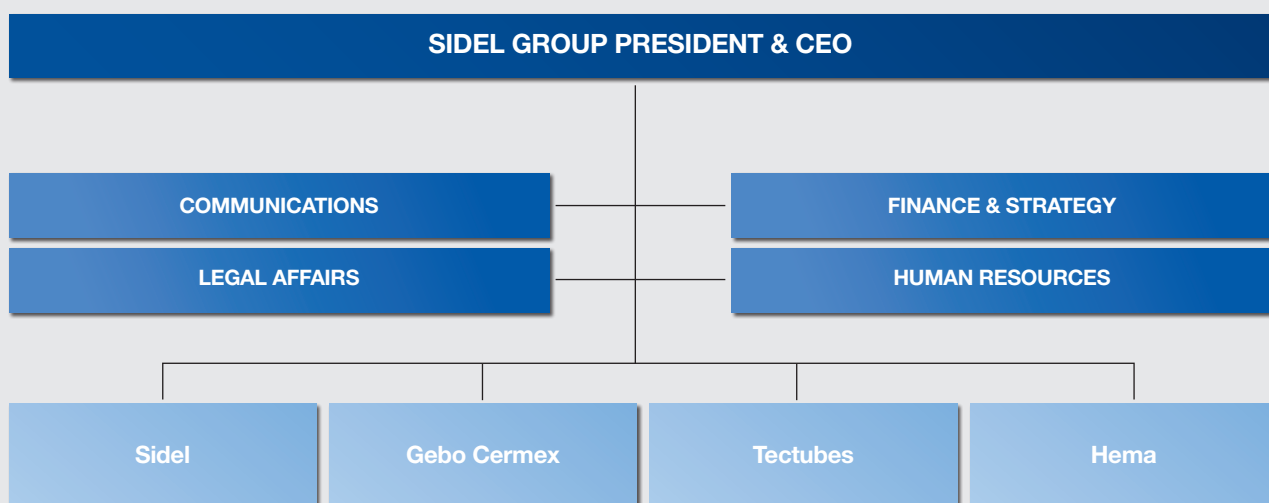
Sidel's organisational structure and geographic presence is designed with its customers in mind. Through this market approach, Sidel combines global competences with local proximity around the world, enabling highly reliable and responsive customer service and support. To meet and even anticipate customers' needs

and demands, Sidel's industrial organisation ensures that they are continually focused on product development and expanding their product portfolio.

Today, there are 8 research centres dedicated to developing new packaging technologies, 50 offices across the globe, production sites in 13 countries and 6

packaging centres dedicated to designing new bottles or optimising existing designs, across the world.

The Sidel Group has more than 5,500 employees over 5 continents and more than 30,000 machines installed in more than 190 countries.



## 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 products to the respect we have for our colleagues, our workplace and the environment.

### **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 cooperate 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, 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.



# Growth on the horizon: beverage market overview

China leads increasing demand for packaged beverages, as Asian markets follow the trend for healthier drinks.

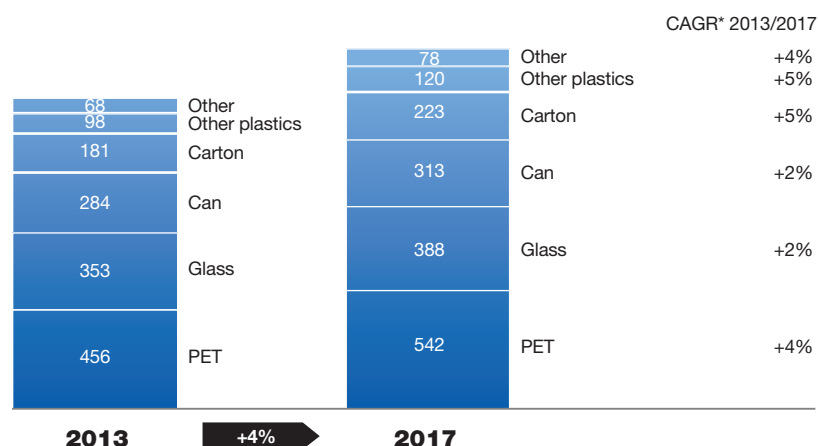
Sidel's core business is to serve the global market for beverage packaging and their equipment solutions exist for three primary material categories: PET, metal can and glass, covering all main categories such as water, carbonated soft drinks (CSD), beer, juices, nectars, soft drinks, isotonic and teas (JNSDIT), and liquid dairy products (LDP). Sidel's addressable equipment market is over 4 billion Euros of sales. The market has now fully recovered from a major slump in 2009, and long-term growth is expected to be between 4 – 5 per cent per year, driven by capacity

additions (70 per cent), largely triggered by increases in consumption of packaged beverages, and old equipment replacement sales (30 per cent). The growth in packages is itself driven by positive macroeconomic trends including population growth, expansion of the middle class in emerging markets, and increasing global prosperity. Three main suppliers, including Sidel, lead the industry and capture approximately two thirds of the equipment market. Sidel is present in all major geographical markets, and main product categories, enjoying a particularly strong position

in PET. Based on positive long-term macroeconomic conditions, the consumption of packaged beverages is expected to continue to grow at a healthy rate. Today, the average growth rate for packaging units is expected to be four per cent for PET and two per cent for metal can and glass.

Approximately 70 per cent of the increase in consumption of packaged beverages in the next four years is expected to come from Asia, with a projected CAGR 2013-2017 for packaging units of six per cent. Greater China will drive most of this growth.

## WORLDWIDE PACKAGING MATERIALS TRENDS 2013 – 2017



Total in bn units | Source: Euromonitor 2013

\* Compound Annual Growth Rate



The category with the highest increase in sales of packages will be JNSDIT, followed by LDP and water. JNSDIT and LDP are becoming increasingly popular, with significant trends towards healthy products, driving demand for high-technology aseptic or hotfill solutions. Water usually presents different challenges, requiring ever-lighter PET containers and high-speed lines. All those drivers give Sidel the opportunity to differentiate itself by proposing advanced solutions.

## WORLDWIDE CATEGORIES TRENDS 2013 – 2017

CAGR\* 2013/2017

241	Water	291	Water	+5%
259	Liquid Dairy Products	316	Liquid Dairy Products	+5%
284	Carbonated Soft Drinks	303	Carbonated Soft Drinks	+2%
296	Juices, Nectars, Soft Drinks, Isotonics & Teas	355	Juices, Nectars, Soft Drinks, Isotonics & Teas	+5%
360	Beer	399	Beer	+3%
<b>2013</b>	<b>+4%</b>	<b>2017</b>		

Total in bn units | Source: Euromonitor 2013

\* Compound Annual Growth Rate

# A vote of confidence from Alpla Mexico

Alpla, an innovative provider of plastic packaging specialising in blow-moulded bottles, chose Sidel solutions as a sound investment when it needed to optimise its PET-blowing capacities in Mexico. The company purchased two Sidel Matrix™ blowers in two years and is now producing bottles for the full range of Coca-Cola branded products for Coca-Cola FEMSA.



After field-testing the new SBO 24 Sidel Matrix in February 2012, Alpla quickly ordered a second, installed in February 2013. Both blowers are now in production at the Toluca plant of Coca-Cola FEMSA, one of the largest Coca-Cola bottlers in the world by sales volume.

The orders were placed after Alpla carefully assessed the different solutions available. Martin Stark, Technical and Purchasing Director at Alpla, explains: "We wanted an optimal solution offering reduced energy consumption and maintenance costs. These are the two main reasons we chose the new generation of Sidel Matrix

blowers – along with the fact that Sidel performs better on-site service compared to other suppliers."

Installed in a wall-to-wall configuration, the two machines are in production 24/7, producing 2,200 bottles per hour per mould; one blower is mainly used for 400 ml bottles and the second for 600 ml.

## CONSISTENT BOTTLE QUALITY

The latest innovations, including Ecoven, an energy-saving oven with a large process window, improved ventilation in the oven, and electrical stretching, allow the Sidel Matrix blower to successfully handle preforms made of virgin

# Aseptic technology introduced to Indonesia

In Indonesia, the young urban population is driving an increasing demand for new healthy soft drinks and new types of packaging. When Japanese Hokkan Group entered the market to launch a wide range of non-carbonated, sensitive beverages to these demanding consumers, they turned to aseptic technology which puts food safety first.

Japanese Hokkan Group is one of Asia's strongest beverage businesses, operating in Japan, Vietnam, Malaysia and most recently Indonesia. In 2011, Hokkan entered into a joint venture with one of the world's largest trading companies, Toyota Tsusho Corporation, to create a new player in the Indonesian market, PT Hokkan Indonesia.

## SHARED AMBITIONS

The Group knew many of the benefits of aseptic filling from its operations in Japan and was keen to take this technology to its new Indonesian plant. PT Hokkan Indonesia needed a supplier who could meet its requirements for high quality, speed and food safety. Management quickly realised that

Sidel shared its ambitions.

"From our experience, we knew that aseptic technology could achieve lightweight bottles, a flexible bottle design, and long product shelf life. Sidel understood our needs and had the right equipment portfolio for aseptic technology," says Masaaki Ikezawa, President of PT Hokkan Indonesia.

The manufacturing plant was set up in Ciawi, Bogor, in September 2012. With an annual production capacity of 150 million bottles, it makes PET bottles for 'sensitive' products, such as drinks based on coffee, tea and milk, fruit and sports drinks, as well as carrying out contract filling. The answer was a



PET or post-consumer-recycled (PCR) PET.

The Sidel Matrix blower allows good repetition from one station to another. It also ensures a stable and consistent distribution of materials. The short neck used in all Coca-Cola bottles is well protected due to the configuration of the equipment.

### **25 PER CENT LIGHTER PET BOTTLES WITH IMPROVED PRESSURE RESISTANCE**

The considerable expertise of Sidel in such areas as the definition of the heating and blowing process, measures to avoid stress cracking, and burst testing contributed to achieving the performance demanded by Coca-Cola. A new base shape designed by Sidel improved the bottles' resistance to internal pressure, preventing stress cracking. Alpha was also able to reduce the weight of the 400 ml bottle from 20.5 g to 15.5 g while still respecting Coca-Cola's specifications.

### **HIGH PERFORMANCE BUILT ON SIDEL EXPERTISE**

After some months of running at the overall performance of the blowers fully meets Alpha's expectations.

In terms of changeover, Alpha's objective was to optimise uptime of the line: "We have to handle a format change every day on 24 blowing cavities, so we need flexibility and easy operation. That's why Alpha chose Sidel's Bottle Switch™," says Mr Stark. By eliminating any need for manual intervention, the electrical stretching also contributed to reducing changeover time.

Those easier operations are supported by the blower's new user-friendly Human Machine Interface (HMI). As well, the hygienic design helps ensure food safety throughout processing, due to air filtration in the oven and its point of lubrication (with food-grade lubricant) above the container in the blowing station.

### **A LONG AND TRUSTING PARTNERSHIP**

Throughout the project, Sidel provided Alpha with support, advice and recommendations for production management. Martin Stark summed up: "During the



project, communication between Alpha and Sidel teams was very good, and the Sidel team was always responsive. Sidel's local presence and proximity was also vital. It was one of the key factors in deciding to buy the second Sidel Matrix blower. The collaboration between Alpha and Sidel is a long and trusting partnership."

Sidel PET aseptic line equipped with a wet aseptic Combi Sensofill FMa.

### **READY FOR CHANGE**

Since the end of 2012, the Combi wet aseptic line has been running continuously. It has reduced the need for manpower at the early stage of distribution, and has consumed less electricity than expected. Looking ahead, the company will be able to further develop the line to meet changing requirements. "With the Combi, we can develop and plan more lightweight bottles in future production. In our view, Sidel is a company that leads the field of innovation, bottle design, flexibility and services", says Masaaki Ikezawa.

As well as working on the design of the new line, Sidel was also involved in creating a new bottle suitable for aseptic production.

### **NEXT STEP: AN ASEPTIC LINE WITH DRY-PREFORM DECONTAMINATION**

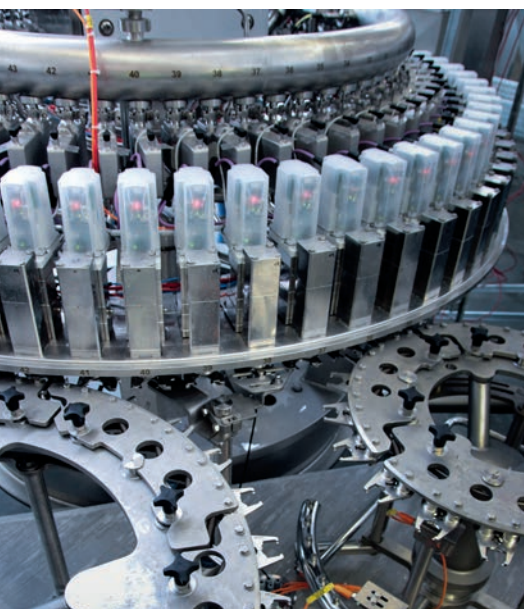
The company is now considering a second line, Combi Predis™ FMa. Using no water and very few chemicals, Predis technology dry decontaminates preforms to ensure complete food safety and a longer shelf life without using preservatives. Any shape or size of bottle can be produced, using fewer materials and resulting in lighter packaging.





# Safety first with the new Sidel Matrix™ Hot Filler

Food safety is non-negotiable and the paramount objective for Sidel. To meet the high production standards needed for beverages such as juices, nectars, soft drinks, isotonic and teas, Sidel has released a highly customisable, modular hot-filling solution – the Sidel Matrix Hot Filler.



Natural and fresh beverages such as juices are part of the fastest growing drinks segment. Fulfilling this rising demand also means achieving the highest quality to ensure food safety, a need the Sidel Matrix Hot Filler is designed to meet.

The filler can be configured for any kind of beverage packaged in PET, for both still and carbonated products, with high or low acidity, and with or without particles such as pulps or fruit pieces, sacs or fibres. It can also handle any bottle size from 200 to 2,000 ml, at speeds ranging from 6,000 to 60,000 bottles per hour. All filling solutions can be part of a fully integrated blow-fill-cap solution.

## HYGIENIC BY DESIGN

Fresh ingredients must be treated with the highest care when it comes to hygiene. With its hygienic design and contactless filling valve, the Sidel Matrix Hot Filler meets all food safety requirements. The filling environment can be adapted according to the level of hygiene needed for a specific liquid: open enclosure with the option of a roof, reduced enclosure with a volume reduced by 72 per cent compared with the standard configuration.

The liquid is pumped from an external tank to the distribution ring always full of liquid, ensuring there is no contact with the air. The bottle never comes into contact with the filling valve, avoiding cross-contamination.

## ACCURATE FILLING

The flow of the liquid from the tank to the filling valve can be controlled, without stressing it during filling. As turbulence remains in the tank, the pressure on the filling valve is constant ensuring a highly accurate process. In addition, dual-speed filling avoids foam generation. During this filling phase, the bottle and filling valve are fixed to avoid any splash-out or liquid waste.

During slurry dosing, filling is in two steps: first, the slurry is dosed in the bottle, and, second, the liquid juice is added. The filling process is completely hygienic: the slurry dosing turret is equipped with contactless valves, meaning no parts penetrate inside the bottle.

The dual-stream process is managed

with pistons to ensure an accurate and steady dosage of pulp or slurry into the filled liquid. The filler also ensures beverage quality: the integrity of the particles is maintained with less than 10 per cent being damaged during processing or filling.

## LONG LIFE CYCLE

Based on a consolidated proven filling technology, the Sidel Matrix Hot Filler is an advanced modular solution. Several Sidel Matrix Hot Fillers are already operating successfully in Asia and Latin America, delivering solutions to fit individual customers' needs.

The equipment can easily be adapted to meet customers' future production needs. Its upgradeable platform allows customers to benefit from the advantages of Sidel's future technical developments. All components are made from stainless steel and correctly sized for a robust design that fits with beverage industry standards and ensures a long equipment life cycle.





# Simplicity sets the standard

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Make it simple, keep it simple: this is the mantra guiding Sidel's engineers in developing new packaging solutions for customers. Simplicity is the best assurance of food safety. With this in mind, Sidel has pioneered innovative solutions for many years that have become a standard for beverage packaging worldwide. Dry preform decontamination is the most recent prime example.

Experience counts when food safety cannot be compromised. With 40 years' experience in aseptic dairy bottling, 30 years' experience in PET packaging, and 50 years' experience in blowing, Sidel understands the importance of hygiene and food safety. Innovations such as the first industrial PET rotating blow moulder and the Combi integrated blow-fill-cap solution have created new benchmarks for the industry.

## **FOOD SAFETY BREAKTHROUGH**

In 1998, Sidel was the first to understand that it is simpler and safer to decontaminate the preform than the bottle. This insight paved the way for the first preform decontamination technology, Predis™, which allowed to create a full aseptic Combi Predis FMa of today.

When this technology replaces wet bottle sterilisation and blowing-filling-capping are combined in a single integrated system, the highest standards of hygiene are achieved for production of juices, nectars and dairy drinks. Packaging is protected from micro-

organisms, the integrity of sensitive products is ensured, and shelf life is lengthened.

## **GOOD FOR COST AND THE ENVIRONMENT**

Today, Sidel's fully dry decontamination systems Predis and Capdis™ enable the sterilisation of all types of preforms and caps within an integrated blow-fill-cap solution. They are cost-effective and offer significant environmental benefits through using fewer chemicals than alternatives. No water is needed, as hydrogen peroxide mist is used to decontaminate the preforms before heating them – a safer solution.

The completely aseptic filling environment of the Combi Predis FMa allows up to 120 hours continuous production without cleaning. When cleaning and sterilisation are required between 'bottle-to-bottle' production, they can easily be carried out in only three hours.

## **'FULL SHAPE FREEDOM'**

As the decontamination is applied on preforms, there is no thermal stress

on the blown bottle – which brings complete freedom in bottle design, with intricate bottle shapes able to be produced. Sidel calls this 'full shape freedom'.

Beverage producers can also customise bottles with a large range of caps, both flat and sports style. Dry decontamination of caps means there is no longer a need for aluminium foil. As a result, flexibility of production is complemented by lower costs and greater sustainability.

## **BEST RECOMMENDATION**

With more than 11 billion bottles produced worldwide to date, and more than 60 production lines equipped with the Predis system, Sidel has achieved a high level of customer satisfaction and experiences numerous repeat orders, which is ultimately the best recommendation for the technology.

By drawing on Sidel's long history of innovation, customers can enjoy food safety, product integrity and brand protection – with no compromises.

# Food safety is non-negotiable



A loss of consumer trust in a product is one of the most feared scenarios for any food or beverage manufacturer. Sid Johari, Executive Vice President, Industrial Operations, talks about the driving forces behind food safety.

## **Q. HAVE FOOD SAFETY SCANDALS SHAKEN CONSUMER CONFIDENCE?**

A: Consumers are more aware of where food and drink comes from and what it contains. They question what's on the label and hold a brand responsible if the contents deviate from what is stated. Using powerful social channels such as Twitter and Facebook, they can drive major change and insist on transparency.

## **Q. HOW DO MANUFACTURERS AND EQUIPMENT SUPPLIERS MAINTAIN FOOD SAFETY?**

A: Food safety is a prerequisite for responsible business. Most manufacturers work with all stakeholders across the supply chain to ensure quality and traceability – from sourcing of raw ingredients to manufacturing, filling and packing to distribution.

At Sidel, we have in-house expert scientists, engineers and technicians devoted to the safety and integrity of our customers' products. We collaborate with Tetra Pak Processing Systems to give customers a reliable global

solution for their beverages, from hygienic design to assembly, installation and maintenance support.

## **Q. WHY ARE TRACEABILITY PRACTICES SO IMPORTANT?**

A: Traceability gives access to factory information, which is crucial if contamination occurs. With Sidel's Efficiency Improvement Tools (EIT™), tracking solutions can be implemented on any production line. The line can be monitored and users helped to improve efficiency and traceability.

## **Q. HOW BIG A ROLE DOES PACKAGING PLAY IN PROTECTING FOOD?**

A: Packaging is in direct contact with the product. Whether it's PET, glass or can, it needs to meet the strictest safety, hygiene and legislative requirements. So does production equipment: every part has to be carefully designed to meet high standards.

## **Q. HOW DOES PET LIVE UP TO FOOD SAFETY STANDARDS? CAN MANUFACTURERS BE SURE THE PET RESIN THEY USE IS SAFE?**

A: PET has been thoroughly reviewed and approved as safe for contact with foods and drinks by, among others, the

US Food and Drug Administration (FDA).

Regulations on resin are very strict: suppliers must deliver two certificates approving their material for direct food contact: the Material Safety Data Sheet (MSDS), giving information about the PET resin and its compliance with food; and the Technical Data Sheet (TDS), related to the resin's performance.

## **Q. DOES PET LIGHTWEIGHTING AFFECT PRODUCT INTEGRITY?**

A: It does not affect food safety but, as it decreases PET barrier performance, it requires accurate testing of material permeability to ensure the expected shelf life of the beverage and to avoid contamination risk. Manufacturers need to consider other potential risks, such as ink jet for bottle marking or label glue, which could go through the thin PET barrier.

## **Q. HOW DOES HYGIENIC DESIGN HELP MAINTAIN FOOD SAFETY?**

A: It is a MUST. Hygienic design means surfaces that are in contact with food – the surface finish, construction and fabrication, installation, operation and maintenance – must be made from smooth, non-toxic, non-absorbent and corrosion-resistant materials.

## **Q. ONCE EQUIPMENT HAS BEEN INSTALLED, IS SIDEL INVOLVED IN MAINTAINING FOOD SAFETY?**

A: First class service is our top priority. We provide maintenance manuals and procedures; customised training; HACCP (hazard analysis and critical control points) plans and methods, and much more.



# Light, strong and cost effective

A holistic approach to product design is behind Sidel's next generation of PET bottles for still water and drinks. Combining the RightWeight™ design concept with the StarLite™ base bottle, the new Sidel PET bottle weighs less, remains rigid all along the supply chain, and requires less energy to produce. And all without compromising on product quality or customer experience.

Sidel RightWeight is a design concept aiming to create the perfect package for still water and drinks. Each product has its own RightWeight. Identifying it requires an analysis of brand goals, supply chain conditions, industrial production capabilities and consumer expectations. When this approach is combined with the unique, prize winning bottle base StarLite, the dream of a PET bottle with increased resistance, low package weight and less energy consumption comes true.

"Beverage producers are increasingly striving to unlock the value of a PET bottle across their entire supply chain from concept to consumer," explains Christophe Bunel, Head of Packaging Care & Development at Sidel. "To achieve this, a bottle must be lighter, of course, but also stay attractive, protect the beverage and ensure high consumer satisfaction. At Sidel we call this 'rightweighting'."

## INCREASED RESISTANCE

To increase rigidity in the base and reduce the amount of plastic used, Sidel's StarLite bottle base uses two proprietary PET design innovations: the Edge Beam™ and the Smart Disc™. These improve stiffness of the base and reinforce it to prevent deformation.

The RightWeight bottle weighs just 7.95 grams, compared with an average of 12 grams for commercial 0.5 litre water bottles available today. Yet it offers a top-load performance of 33 kilograms without nitrogen dosing, using standard 26/22 caps, resulting in large raw-material cost savings. The

blowing pressure for the bottle is just 20 bars. In many cases the bottles can match the top-load performance of nitrogen-assisted ultra-lightweight bottles but without the use of nitrogen, leading to further cost and energy savings.

"Typically the goal is to reach 30 kg or more top-load performance to ensure a bottle can withstand the rigours of the supply chain," adds Bunel. "At this weight most ultra-lightweight bottles in the market have to achieve this by using nitrogen. The RightWeight bottles can achieve even more without doing so."

## NO SPILLING

The increased resistance of the RightWeight bottle helps eliminate unintentional spilling through 'over-squeezing', which is often experienced by consumers when ultra-light bottles are used. Increased resistance also makes it easier to unscrew the cap. Stronger resistance also means the RightWeight bottle is more likely to keep its attractive appearance right along the supply chain to the supermarket shelf.

## CAN BE ADAPTED TO EXISTING LINES

A major factor in the development of the RightWeight bottle design was the complete redesign and optimisation of the preform by Sidel's packaging experts. Part of the new preform design was an evolution of the standard

26/22 neck finish. This step reduces bottle weight by 15 per cent of weight while keeping the bottle compatible with existing standard 26/22 caps.

Both the StarLite base and the RightWeight bottle can be easily adapted to existing production lines, including the new Sidel Matrix™ system for liquid packaging.

## FACTS

**STARLITE WINS AWARD** The Sidel StarLite bottle base design scooped the Best Environmental Sustainability Initiative at the 2013 Global Bottled Water Awards. Using less raw material, the StarLite base design makes it possible to reduce the bottle weight and hence the consumption of energy in the production process.

More benefits of StarLite base design:

- Increases top-load dent resistance of up to 30 per cent when the bottle is on a pallet, and up to 55 per cent in side-load resistance when the bottle is on a conveyor or in a vending machine
- Increases overall pallet integrity by up to 50 per cent during transportation
- Improves bottles resistance in extreme temperatures, hot or cold, making it especially useful for storage in harsh conditions.





# Debunking the myths

Packaging in PET, which has been safely used for many years and which contributes to a more sustainable use of our planet's resources, is sometimes portrayed as a danger to food. Below, Luc Desoutter, Sustainability Officer at Sidel, answers questions on how PET is completely safe.



**Q. IN RECENT YEARS, CONSUMERS HAVE RECEIVED LOTS OF INCONSISTENT INFORMATION REGARDING THE SAFETY OF PET. WHAT'S THE REAL STORY?**

A. The evidence shows that PET is completely safe. It's been in use for over 30 years with no side effects. Its safety has been confirmed by all the official food safety organisations.

**Q. WHY DID THE PUBLIC HEAR A DIFFERENT STORY?**

A. The problems arose because incomplete scientific research was published and reported in the media, causing public fear. For example, PET was linked to Bisphenol A (BPA), when it quite clearly isn't. All the official agencies have made this clear. Unfortunately some NGOs got involved in pseudo-scientific debates, which only served to strengthen this link in the minds of

the general public and cause concern about a material that is completely safe.

**Q. WASN'T THERE ALSO A FALSE ACCUSATION ABOUT PET BEING CARCINOGENIC?**

A. Yes, there was a doctor who claimed that PET bottles became carcinogenic when exposed to summer heat inside cars. This was later proven to be a hoax. Getting the correct information out to the average consumer remains a challenge. There are a number of advantages of PET that go largely unreported. Significant advances have been made in lightweighting, reducing the amount of PET used in producing a bottle, which has environmental benefits in terms of less material required, as well as reducing the environmental impact of transportation through lowering the weight of the end product. PET is tough, shatterproof, versatile,

fully recyclable, light and gas-resistant, and protects beverages across the supply chain. The recycling benefits of PET are also being taken beyond the beverage industry, with PET being recycled to create a wide range of different products, from sportswear to furniture.

**Q. DO YOU THINK THERE'S REASON TO BE CONCERNED ABOUT THE FUTURE OF PET?**

A. Despite the confusion and fear that we've observed, we don't see a measurable impact on the PET business – in fact, it keeps growing. PET is now the one of the main packaging formats of choice for sensitive beverages, such as juices, sports drinks, drinkable teas and coffees, and is the leading packaging format for water. It is also the most flexible packaging format, via innovative and attractive commercial bottle designs, providing a great and safe consumer experience.



## **DELAVAL**

DeLaval has created a sustainable dairy farming concept that aims to reduce farms' environmental footprint while improving milk production, farm profitability and the well-being of the people and animals involved. DeLaval products, systems and services ensure food safety and efficiency are the focus at every step in milk production.



## 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.



COUNTRIES SERVED

&gt;100

NET SALES 2013

965

MILLION EURO

NUMBER OF FACTORIES

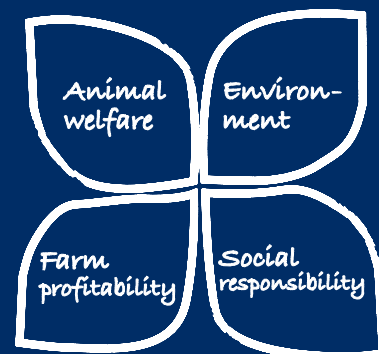
18

R&amp;D UNITS

7

## 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 farm. To put it another way, we support them to do more with less.



## 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.

## 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.

## 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.

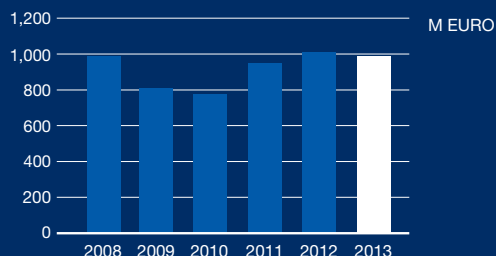
SALES OFFICES

**35**

NUMBER OF EMPLOYEES DECEMBER 2013

**4,520**

DELAVAL SALES 2008 – 2013



## 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.





07



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08.



# 2013/2014

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## **01. LONG-LIVED ANIMALS BOOST PROFITABILITY**

In 2013, renowned scientists, animal health experts, farmers and journalists from around the globe joined DeLaval for the Cow Longevity Conference at Hamra Farm in Sweden. The goal was to discuss how the animals' lifespan can support farmers in becoming more sustainable and profitable. One main conclusion was that barns designed around cows' needs improve quality of life for the animals and farm workers.

## **02. 15 YEARS OF GIVING GREAT VALUE**

One of the first DeLaval automated milking systems, the upgradeable DeLaval voluntary milking system VMS™ was installed on January 20, 1999 on the Andersson family farm in Isby, Sweden. Now, 15 years later, it is still creating great value. "If we continue with maintenance, the VMS™ will work for another 15 years without any problems. DeLaval has good products, good quality, and good service," says Lars Andersson.

## **03. AMR™ BOOST FARMS SUSTAINABILITY**

One of the first commercial installations of DeLaval automatic milking rotary AMR™ in Europe went into operation in early 2013. Laproma Farm in Germany is now making the transition from milking management to total farm management, bringing greater efficiency, productivity and business sustainability. Further AMR™s will be installed by summer 2014: up to 750 cows will be milked automatically, reducing work hours per cow and year by more than 50 per cent.

## **04. DETERGENT OFFERS SUPERIOR CLEANING AND ENERGY SAVINGS**

More and more dairy farms are switching to DeLaval reduced temperature detergent RTD™. RTD™ brings the benefits of superior

cleaning, reduced energy consumption, and less negative impact on the environment. Unlike conventional detergent that has to be used with water at a temperature of 75°C, RTD™ is effective at 45°C.

## **05. VMS PROVIDES ACCURATE COW HEALTH MONITORING**

From 2013, VMS™ became available in several configurations. DeLaval VMS™ Supra includes the DeLaval online cell counter OCC, which monitors somatic cells in a milk sample. OCC provides consistent and accurate information on a cow's health at every milking. The top of the range VMS™ Supra + works with Herd Navigator, an advanced animal health tool that detects which cows need attention and recommends a course of action.

## **06. NEW ZEALAND FARM GOES LARGE-SCALE**

In New Zealand DeLaval has installed 24 VMS™ units in a traditional European-style barn, along with Herd Navigator™. The Van Leeuwen family, from Makihiki in the South Island, chose DeLaval because of proven VMS performance and the leading technology of Herd Navigator™.

## **07. CLOVER IS A SUCCESS IN THE US MARKET**

DeLaval Clover™ liner is now milking an estimated 200,000 cows in the US after its official launch in September 2013. The liner's thin, concave side walls and smooth, rounded corners offer a firm yet gentle grip of the teat. This design helps ensure the liner stays in the correct milking position and provides excellent massage, offering the cows maximum milking comfort. Customer satisfaction is unprecedented, with 95 per cent of new users repurchasing and reporting improved teat health, faster milking, more milk per cow, lower somatic cell counts and fewer liner slips.

## **08. 22,000 COWS MONITORED BY HERD NAVIGATOR™**

The demand for Herd Navigator™ is increasing, demonstrating the high value that advanced herd management solutions can add to today's dairy operations. The technology is designed to help producers improve reproduction and animal welfare, increase milk production and ensure milk quality, and is used in combination with VMS.

## **09. 10,000 VMS SALES SHOW THE WAY AHEAD**

Automated milking systems are quickly becoming the norm as dairy producers around the globe look for greater flexibility, reliable controls and better milking. DeLaval recently sold its 10,000th VMS™ to Glenirvine Farms in Fergus, Ontario. "With a DeLaval milking robot, we feel we can spend our time in the barn more efficiently and on the management details that will help us develop and improve our herd," said Amanda Den Haan.

## **10. TEN YEARS OF SWINGING COW BRUSHES**

To celebrate the tenth anniversary of the DeLaval swinging cow brush SCB and more than 50,000 sales, DeLaval created a limited edition brush. It has a premium look, an eccentric cylinder and a time counter which shows how many hours the cows have used the brush and allows more accurate follow-up, so that worn parts can be replaced without disrupting operation.

# Encouraging development for the future

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The year ended on a high with the trend continuing well into 2014. The first half of 2013 was challenging though, with our customers experiencing great volatility which negatively affected our business. The 2012 trend of low milk prices and high feed prices continued to prevail in the market. During the second half of the year, investment in capital goods equipment started increasing due to more favourable market conditions. As a result, the autumn saw double-digit sales growth.

Due to the ongoing consolidation the overall market for capital goods and aftermarket products and services decreased in 2013, but DeLaval managed to gain market shares. For the full year DeLaval net sales amounted to 964,5 million in prevailing currencies.

## **STRONG DEMAND IN KEY MARKETS**

The growth trend for automated milking systems continued in 2013. DeLaval's Automated Milking Rotary™ and Voluntary Milking Systems™ showed a positive trend. We won large contracts from, not only European customers, but also those in New Zealand, Australia and North America. Our customers growing interest for collecting and analysing data from their herds is reflected in the increased demand for automated smart solutions, such as our Herd Navigator, which allows you to analyse milk quality and productivity. Our offer of conventional milking systems also enjoyed good growth, particularly in North America and

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China. South East Asian countries, including Vietnam and Thailand, started to rebuild their dairy sectors; DeLaval captured several prestigious contracts there and as a result experienced good growth in these markets.

#### **EFFICIENCY IMPROVEMENTS**

In order to continue to meet customer demands across the globe as well as managing market volatility with our foot print, we opened five new productions sites in: China, Poland and Brazil. In conclusion, through efficiency improvements and increased local presence, DeLaval is now better equipped to handle the shifting demands in the markets.

#### **LAUNCH OF SEVERAL NEW INNOVATIVE PRODUCTS AND CONTINUED COMMITMENT TO OFFERING A FULL RANGE**

During the year DeLaval launched several innovations such as the DeLaval Clover™ liner, low-temperature cleaning solutions, and PASS, the DeLaval Parlor Analysis and Simulation Service™. The innovative and gentle milking DeLaval Clover™ liner has been received well by our customers expecting excellent milking performance. The Reduced Temperature Detergent™ (RTD) with patented technology is used for cleaning milking systems and bulk tanks. Through this smart technology, the dairy farmer is able to reduce



energy consumption by up to 50 per cent, while safeguarding milk quality and therefore still qualifying for milk premiums. PASS was launched by our smart farming and advisory services: using this service we can help our customers to undertake a complete analysis of their milking routines and compare them to industry standards. With the support of DeLaval VPR200, our unique heavy-duty tablet, the service technician also can give advice on how to improve milking performance and farm profitability.

### **MAKING SUSTAINABLE FOOD PRODUCTION POSSIBLE**

The consumption of dairy products is increasing and the common needs of markets are: food safety, improving quality, and increasing productivity. These requirements serve DeLaval well. For instance, through DeLaval's herd management systems such as the DelPro™ Farm Manager, data about a farm's milk can be collected, processed and presented in a way that allows the farmer to make well-informed decisions. Our wide range of aftermarket products and services, including hygienic and animal welfare products, aim to meet the high expectations of our customers. The Cow Longevity Conference, arranged by DeLaval at the Hamra Farm in Sweden in August 2013, is another good example of our commitment to food quality and animal welfare. About 100 scientists, experts, farmers and journalists gathered to discuss

how cow longevity could support farmers in their efforts towards more sustainable and profitable production.

All in all, anchored in our vision, making sustainable food production possible, DeLaval will always be at the forefront of developing new processes and technologies to ensure food protection and animal health, while at the same time improving dairy farmers' operational efficiency.

### **POSITIVE OUTLOOK**

One of the strengths of being a privately owned company is the ability to have a truly long term perspective. As a supplier of quality milk production we are able to manage the ups and downs this sector typically brings with it and can be there for the customer. We have been doing so for over 130 years.

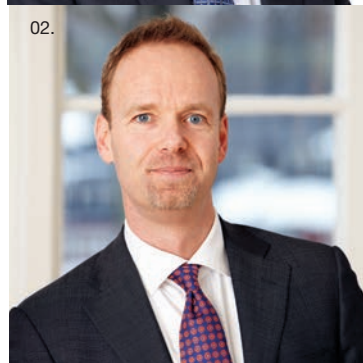
Our outlook for 2014 is positive, supported by double-digit growth in the autumn of last year. Now that milk prices are healthy, dairy farmers are investing again after some turbulent years characterised by uncertain market conditions. With the new Farm Bill in the US and EU's common agriculture policy (CAP) we see opportunities together with the growing demand for increased milk production.

With our devoted and skilful employees and the confidence of our customers, I am convinced that 2014 will be a year of growth for DeLaval.

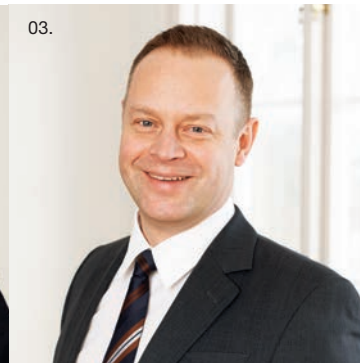
Joakim Rosengren



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09.

- 01. **Joakim Rosengren**  
President & CEO
- 02. **Magnus Berg**  
Supply Chain
- 03. **Jonas Hällman**  
BA 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 Nicolai**  
BA Aftermarket, Services  
& Barn Environment
- 09. **Henrik Sundell**  
Legal Affairs

**VISION**

# We make sustainable food production possible

**MISSION**

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

**STRATEGIC PRIORITIES**

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



## CORE VALUES

### 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, gender, sexual orientation, religions, experiences and personalities.
- We are part of a global network.

### PROFESSIONALS

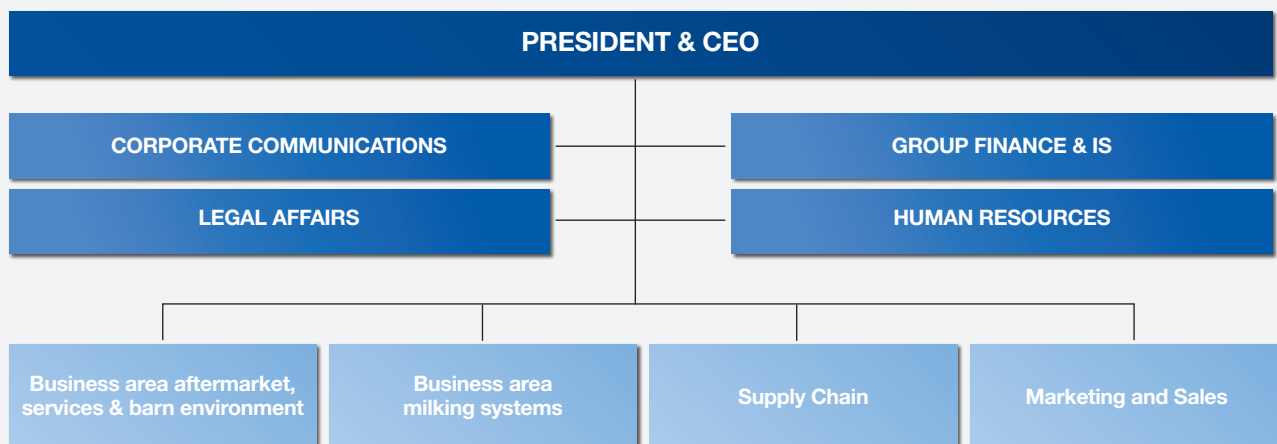
- We deliver quality in everything we do.
- We have clear responsibilities and fulfil our commitments.
- We listen, learn, innovate and constantly improve.

- We are proud of who we are and humbly reflect this through our attitude and behaviour.
- 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.

## ORGANISATION



# Market growth

World production of cow's milk grew between 1.0 and 1.5 per cent, which is lower than the average growth achieved in recent years. 2013 was in many ways a sharp contrast to 2012, with a slow start and a dynamic finish in terms of milk production. In the first half of 2013, many countries in the EU were still suffering from the consequences of high feed costs, low forage quality, and delayed spring weather. In New Zealand, a severe drought occurred from February 2013 onwards, which resulted in massive culling and a severe decline in milk production compared to the first half of 2012.

Lower feed prices, combined with high milk prices caused by limited supply, boosted milk delivery in the EU from the summer onwards. Year-on-year milk production levels in the region were 4.2 per cent higher than Q4 2012. Production in New Zealand for the full 2013/14 period was up between 6.0 per cent and 7.0 per cent but was still not enough to cover the growing demand in the country's main export market China. US milk production has so far failed to respond to favourable milk margins. In the last four months of 2013, production was up just 0.4 per cent from the previous year. Regardless, margins are positive and herd rebuilding is underway.

## KEY MARKET DRIVERS

The global demand for dairy products is expected to improve as 2014 progresses. Long-term demand is expected to increase 2.0 per cent per annum during the period 2012–2017. This is largely driven by increasing urbanisation, a growing middle class, and higher per capita consumption in developing countries. The continued demand for dairy products is driving both the interest in and investments to improve production capacity worldwide.

An increase in dairy trade is a consequence of the fast-growing demand in developing countries, which exceeds the development of local dairy production and processing. As an example, China has experienced two years of decline in its domestic dairy production despite efforts to restructure its farming industry. As a consequence, developing countries are expected to significantly increase their contribution to dairy trade over the next decade.

## MARKET DEVELOPMENT

Production shortfalls in China and Russia boosted the demand for imports in these markets. Meanwhile, price-sensitive markets such as Africa actually imported fewer products and turned instead to cheaper alternatives. Southeast Asia continued to show steady growth in terms of dairy demand during the year. Key consumer markets in the EU and the US largely recovered within the broader economy and modest growth is tipped for 2014.

The introduction of the new Common Agriculture Policy (CAP) and the abandoning of milk quotas in the EU are likely to spark intensification in production among EU countries. This is likely to be especially evident in countries with advantageous cost structures, such as Denmark, Germany, Ireland, the Netherlands and Poland. Varying degrees of uncertainty are expected in the EU in the first half of 2014 pending national clarity on the CAP implementation plans. In the US, the new Farm Bill will come into effect in September 2014 and features some important new sections. For example, farmers in US will have the opportunity to sign up for milk-over-feed margin insurance. This move is designed to significantly improve farmers' long-term financial stability.

DeLaval has the opportunity to grow

its business in the established EU and US markets as a result of these new agricultural policies along with continued farm consolidation and an increase in demand for automation, farm management, milk quality and animal health assurance systems. These markets will also benefit from higher dairy exports driven by strong underlying international demand for dairy products from key import regions.

## COMPETITION

The full-year total market sales decline of 3.9 per cent, along with a sharp drop in the first half and strong growth in the second, made calendar year 2013 one of the most volatile in recent history. Despite that, we increased our market share and we note particularly strong performance in the area of conventional milking systems. The strong presence of global competitors placed our market share and margins in the automatic milking systems market under pressure in North America.

The competitive environment has changed significantly over the past decade. Market consolidation continued – driven by a number of acquisitions. A number of companies have begun to invest in automated milking systems driven by customer demands for improved production efficiency and lower labour costs.

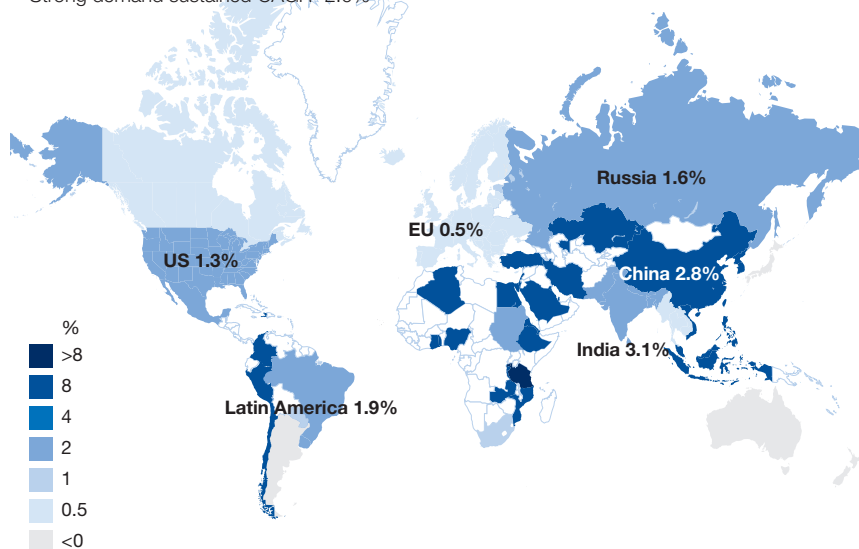
The major business growth among local competitors was achieved by specialised high-tech/innovative companies as well as full solution suppliers offering among other solutions farm advisory services and financing.

## OUTLOOK

The demand for raw milk demand is expected to grow substantially over the next decade. The demand is likely to be stronger in the parts of the world in which urban middle class

## LONG TERM – GLOBAL MILK DEMAND 2020

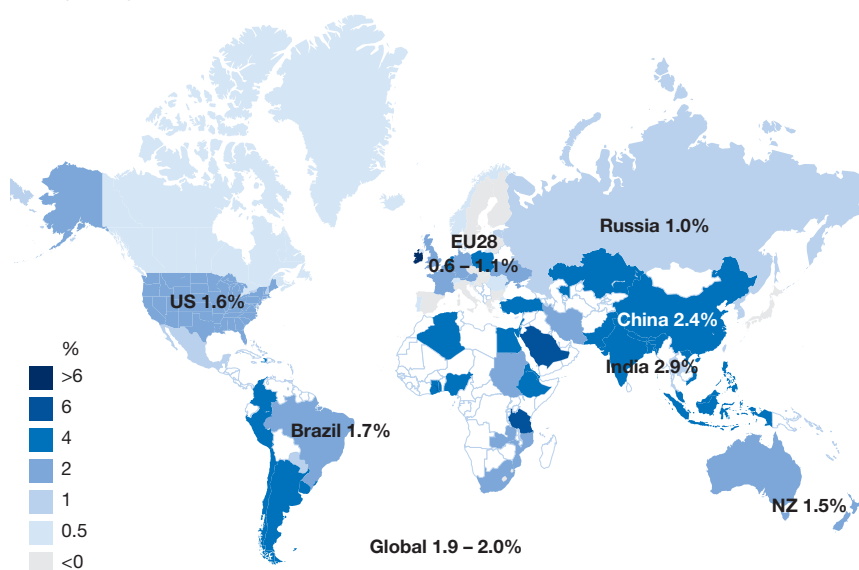
Strong demand sustained CAGR\* 2.0%



\*CAGR = Compound Annual Growth Rate

## GROWTH IN MILK PRODUCTION 2020

Long term growth in milk production CAGR\* 2.0%



\*CAGR = Compound Annual Growth Rate

consumers are increasing in number the quickest. This continued demand is in turn driving investments in production capacity.

In regions where dairy farming is well established the trend is that farms are both fewer and larger. The shift to larger farms poses several types of challenges. These include the effective planning of the farm layout, choosing

reliable solutions for milking, animal management comfort and health, safe and secure manure handling, as well as choosing effective service partners and quality consumables – all areas in which DeLaval is a world leader.

One of the most important factors in successfully managing larger farms is the challenge of securing that milk is produced in a way that makes it safe

for consumption. The concentration and growth of farms facilitates the control of raw milk quality from the farm and increasingly professional farm management secures that the factors that influence food safety on the farm are better controlled.

Global milk production is projected to increase 1.9-2.0 per cent (CAGR) between 2012 and 2017, with a short-term peak in 2014/2015 driven by the EU and the US. The majority of the 75 million tonnes of additional milk produced during the period is anticipated to come from developing countries. The EU, the US and Oceania are all expected to intensify milk production through yield improvements and restructuring towards large-scale farms. Developing countries are likely to increase herd population and establish modern dairy value chains.

Feed prices in 2014 are likely to remain on lower levels than the recent peak year of 2013 but are dependent upon harvest volumes. Labour costs, however, are rising rapidly in many countries. Access to reliable skilled labourers can often prove difficult for dairy farmers. This is one of the factors expected to lead to a greater interest in automated solutions. With considerable volatility within both milk prices and production costs expected to continue, the ability to actually lower operational expenses during periods of abundant global supply will naturally be a distinct advantage for today's dairy farmers.

Global milk prices are likely to remain at high level in the first half of 2014 and stay at higher-than-average level than in previous years. A slight correction is anticipated during the second half of 2014 due to greater production response. Overall, an upward trend in dairy prices is expected in the long term.

*IFCN based on preliminary estimations of cow milk production and deliveries growth in 60 main milk producing countries*

*IDF, World Dairy Situation Report October 2013*

# DeLaval voluntary milking system VMS™ boosts milk yield and quality in the Netherlands

Jan Teade Kooistra is a man with a plan. A fourth-generation farmer in the Netherlands whose family has worked the land for 100 years, Kooistra has 160 cows and 125 calves. He wants to increase the number of cows by 50 per cent to 240 by 2020.

It's an ambitious goal. But Kooistra knows that the future of farming lies in increased and higher quality milk production, as well as in saving energy, automation and passing on experience to the next generation.

"Farming," he says, "is a real family thing."

## WORKING TO MAKE IT HAPPEN

To make his plan a reality, Kooistra turned to DeLaval. Initially, he thought parlour milking would be most suitable for his needs. But after looking at the benefits of DeLaval voluntary milking system VMS™, Kooistra decided that was the way to go.

"He didn't change his mind overnight," says Erik Pel, DeLaval Market Development Manager, LSO Benelux. "At first, he thought robotic milking was

too complicated."

But DeLaval encouraged Kooistra to visit other farms which were using its VMS equipment, convincing him that VMS™ was right for his farm. VMS™ will allow him to manage more cows with the same resources, a vital cost saving.

Kooistra says he chose DeLaval as his supplier because "DeLaval has a lot of experience in the dairy business and I believe in the company's innovation". He notes that DeLaval works closely with customers and provides a high level of support.

With DeLaval's help, he built a new barn to house the VMS equipment. Three units have been installed and robotic milking began in August 2013.

"The old barn was too small, costs were too high and work was too hard," Kooistra says.



## Chinese mega farms rely on DeLaval

To address concerns over food safety and productivity and to meet market demand, the dairy farming industry in China is quickly consolidating. In China there is a trend to build more mega farms, more often than not with over 1,000 milking cows. In some cases, with over 5,000 cows on one site.

DeLaval has been working with mega farms since 2004, supplying equipment in accordance with the Inner Mongolia Mengniu Austasia Model Dairy Farm standard. The guidelines for more productive farm techniques were established by China Mengniu Dairy Company Limited, Australia's AustAsia

company (part of the JAPFA Group) and Indonesian conglomerate Salim Group.

DeLaval provided the farm with all its milking equipment, a parallel parlour, a rotary and an automatic Voluntary Milking Systems™.

Today, AustAsia operates four mega





He also mentions that in 2015 the European Union milk quota system will be abolished and his farm needs to be positioned to produce more milk.

### MODERNISING PAYS OFF

To celebrate completion of the barn, DeLaval and Kooistra organised an open house to showcase the new equipment and 1,200 people turned out.

"We were surprised there were so many, but it was an exciting day and a good signal for the dairy sector," Kooistra says proudly.

Kooistra is already seeing the benefits of VMS™ and the new barn. The milk yield per cow at his farm has increased about 15 per cent, he says. In just the first three weeks of robotic milking, yield per cow was up to 30 kilos from 26 kilos per cow, per day.

In addition, somatic cell count dropped significantly, from 250,000 per millilitre of milk to 135,000. That means better quality milk and better food protection.

For Kooistra, that is a big advantage

for selling his products domestically and also in the export market.

"We make good and healthy dairy products in Holland, and the most important product right now is baby milk for export," he says.

An added benefit of VMS™ is more leisure time.

"With the old system, I was always stressing to be home by 4pm to start the milking," Kooistra recalls. "Now, the milking just starts."

But VMS™ provides much more than just extra free time, adds Pel.

"It's a management tool," he says.

Coupled with VMS™, Kooistra uses DelPro™ Farm Manager to gather and analyse data on his cows. DelPro helps him create reports on herd and milking systems as well as keep track of the timing for artificial insemination and calculate feed rations.

Kooistra now has much more data about each of his cows. DeLaval is working with him to help him find ways to make best use of that data.

"We feel this is part of our responsibility," Pel says. "We're sitting there with him and helping him get the most out of the data and the equipment."

Kooistra also has an DeLaval InService™ contract, which means regular, preventive maintenance for his equipment, leading to less downtime and higher, better-quality milk yield.

### PLANNING NEXT STEPS

Although pleased with what he's accomplished, Kooistra is already planning his next steps. He hopes to install a fourth VMS™ and is considering the DeLaval Herd Navigator™ system.

Herd Navigator™ works with VMS™ to analyse and report on milk samples, helping to determine the health of each cow and creating a complete system.

Even with modern technology, Kooistra knows farming can be tough: "There are many regulations, prices go up and down and it's 24 hours a day, seven days a week."

But despite the increasing challenges, he can't imagine doing anything else.

"You have to manage all the elements and when you get results, you get a real kick," he says.

"The future looks good," he adds. "The world is asking for more food and that's good for us. Feed the world and everybody is happy."

farms on its own in China and is considering a fifth. Each of the company's farms has about 7,000 cows and milking is a complicated process.

DeLaval delivered all parlor equipment for the farms. AustAsia is a leader in China when it comes to efficient operation of large-scale dairy farms and effective use of automated equipment.

"With AustAsia becoming more and

more successful, people are even keener to copy the way they manage the farms, and AustAsia has become a star in the industry," says John Yu, Solution Management Director of LSO China, "Their operations prove that our equipment and service supports successful farming."

In addition, AustAsia and DeLaval have signed InService™ and Consumables contracts for all AustAsia's farms.

AustAsia was one of the first users in China and the best practitioner gained the expected benefit from InService™.

"InService™ really lets farmers have peace of mind," says Lionel Li, National Service Director of LSO China.

# DeLaval remote farm connection RFC popularity grows rapidly

With more than 2,400 RFC, now installed, data clearly shows that remote connection means better control and efficiency in farm management.

The 2,000th RFC installation came just four months after the 1,500th installation. "That's a clear sign that farmers recognise just how useful the system is", says Shaul Tcherikover, at DeLaval Farm management support systems.

RFC works with a secure internet connection to allow farmers to check on their farms from a distance. It also lets experienced DeLaval engineers and technicians provide remote support from anywhere in the world, so problems can be solved much more quickly.

In addition, veterinarians, nutritionists and even financial advisors can access the system and also provide virtual support.

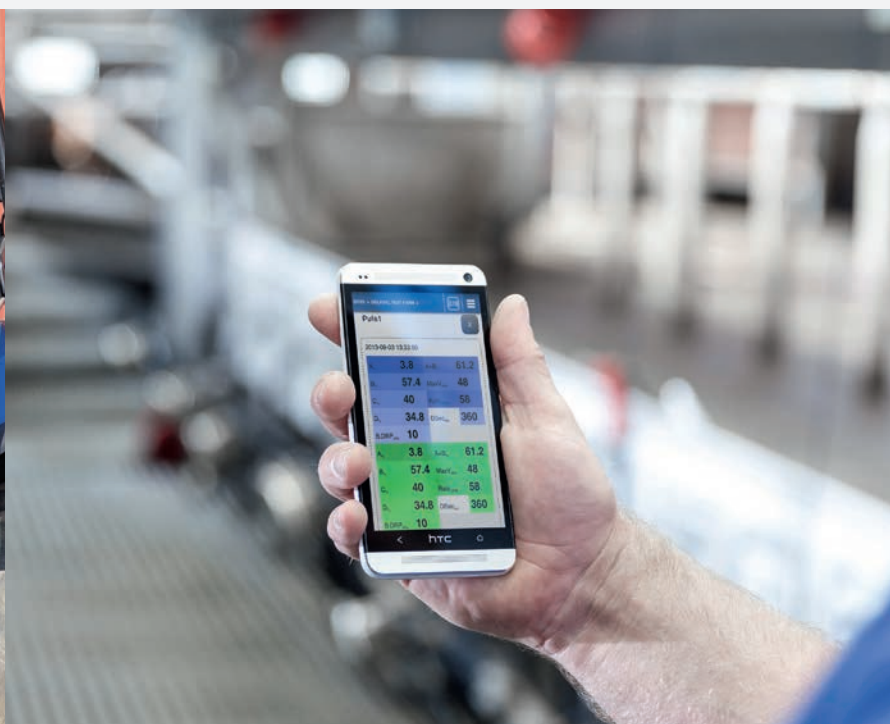
Remote help leads to major cost savings, since it often means advice can be given and problems solved without technicians and professionals having to travel long distances to farms. And it brings instant access to a wider group of knowledgeable DeLaval technicians and engineers.

"Remote farm connections enable

us to support our farmer customers to a much greater extent than before," says Shaul Tcherikover.

"We can support the farmer more rapidly and more accurately than before as we are no longer confined to actual visits if we require farm data to make a decision."

RFC is designed to work with DelPro™ Farm Manager, allowing data to be sent directly to technicians and others for analysis.







## VPR 200 means optimum operation

In order to maintain farm productivity, downtime should be avoided at all costs, as that leads to loss of income and the risk of poorer milk quality.

DeLaval VPR 200 is the key to preventive maintenance, which means fewer equipment failures. Coupled with the Parlor Analysis and Simulation Service tool, PASS, and the InService programme, DeLaval helps ensure that farms run optimally.

"It's one thing to milk 15 cows by hand if the equipment is on the blink, it's quite another undertaking when you have 400 or 4,000 cows that need to be milked," says Peter Jidesjö, Vice President Services & Original Parts at DeLaval.

"The same is true of manure handling, milk cooling, feeding etc. That's why a comprehensive preventive maintenance service programme is a good investment."

But VPR 200 means much more for farmers than just preventive main-

tenance. DeLaval research shows that VPR 200 and PASS can help farmers increase milk yields as much as 5.5 per cent and cut milking time as much as 30 per cent.

That also translates into better milk quality, better food protection and more sustainable farming.

"By taking care of machinery and preventing emergencies, a farmer can contribute to sustainability goals of doing more with less," Jidesjö says. "The need for emergency replacements is reduced and at the same time both yield and quality of the milk is increased."

VPR 200 helps farmers analyse every aspect of milking. When connected to PASS, the VPR 200 also measures work time, routines and cow flow and can provide detailed reports that help

optimise operations and monitor equipment to avoid problems.

The VPR 200 is robust and can withstand tough barn environments. It can be connected to the Internet, allowing farmers to watch instructional videos and share data with InService™ technicians' to get more detailed analysis of what's happening on their farms.

Launched at EuroTier 2012, Jidesjö says the VPR 200 improves on the VPR 100 and is "quicker and better than ever before."

# LactiFence teat dip triumphs over tropical climate

In Brazil, finding an effective teat dip is a challenge. With LactiFence™ barrier teat dip, DeLaval is helping Brazilian farmers overcome climate issues.

Pre-launched in Brazil in October 2013, LactiFence has proven to provide long-lasting barrier protection. Having also been launched in the USA, in August 2013, LactiFence will be fully introduced in Brazil in September 2014. Because of the country's climate, bacteria can be a problem for farmers, says Barend Jongman, DeLaval Milk quality and animal health Manager in region Latin America.

"LactiFence adds new possibilities of mastitis reduction at farms with a

bacteria challenge," Jongman says. "Barrier products are not new for the Brazilian market but a product with this level of barrier persistence is something new," he adds.

## **REDUCING MASTITIS KEY TO IMPROVED MILK QUALITY AND FOOD PROTECTION**

Carlos Eduardo Guedes, a farmer from São Paulo and DeLaval customer, was one of those testing LactiFence.

"We have been using teat dips from

DeLaval for several years now so we had high expectations for this product as well," he says. "The first thing we noticed was that the condition of the teats improved very fast on average."

LactiFence is a ready-to-use lactic acid barrier. It works by creating an elastic film that helps prevent bacteria from entering the teat canal and the germicidal effect lasts for up to six hours, providing prolonged protection.

In addition, because of the dark colour of the LactiFence solution, it is easy







for farmers to see that cows' teats have been dipped. That, says Jongman, is an important benefit.

Because LactiFence is quite viscous, DeLaval has introduced a special teat cup to help get the maximum effect from the product. The viscosity allows it to cling exceptionally well to teats, and emollients in LactiFence help hydrate and soften teat skin.

LactiFence can also be combined with DeLaval Biofoam as a pre-dip and teat cleaner, Jongman notes.

#### **MILK QUALITY SPECIALISTS SUPPORT FARMERS**

But DeLaval support for farmers doesn't stop with the sale of LactiFence. In Brazil, DeLaval has more than 20 milk quality specialists working with farmers to bring about improvements.

"They are highly and continuously trained," says Jongman. "LactiFence is part of a complete DeLaval system of products, farm training and milk quality management tools enabling farmers to produce milk with the best possible quality in a profitable way."

He adds: "Brazilian farmers show that with the right management and the help of the right products, milk with very high quality can be produced even in a tropical climate."

# Sustainability improvements pay off

When Dan DeGroot, owner of Skyridge Farms in the USA, decided to revamp his farm to save energy and water as well as improve cow comfort for better sustainability he turned to DeLaval for help.

DeGroot's efforts paid off. In 2013, he won the U.S. Dairy award for Outstanding Dairy Farm Sustainability. In announcing the award, U.S. Dairy called DeGroot a "pioneer."

## BETTER QUALITY WITH DELAVAL EQUIPMENT

DeLaval provided a Double 30 EnDurance Parallel milking parlour and a Double 20 EnDurance Parallel parlour to Skyridge. In addition, DeLaval provided a wide range of support equipment including Swing cow brush, Baseline Plate coolers, Yukon Snap Instant Cooling, Milk Storage Silos, MPC 150, LVP Vacuum suppliers, Transfer Vat MILK/WASH w/ smooth operators, DeLaval Pulsation, DeLaval Receiving

groups, DeLaval Top Outlet Claws, Clover Liners and C-125 wash controls. With the help of DeLaval equipment, small amounts of milk can be cooled quickly. That helps save energy, as well as ensure better quality and food protection.

Skyridge also has an InService™ contract for preventive maintenance. With InService, equipment is kept in the best shape, meaning equipment is offline less of the time and profitability is improved.

DeLaval also worked with the local utility company to upgrade the farm equipment to energy-saving Variable Speed Drive, installing 20-horsepower VSD vacuum pumps. That meant the capacity of the Skyridge parlour could

be expanded with pumps that were just half the size of those used previously.

## FOCUS ON COW COMFORT

Founded in 1997, in Washington state, Skyridge has 3,200 cows and DeGroot also grows corn, alfalfa, apples and cherries.

He focuses on cow comfort, which means healthier cows producing more milk. And, in turn, food protection is improved.

"We're trying to help feed the world in a responsible way and we do this primarily through cow comfort," DeGroot says.

More comfortable cows, he notes, are easier to handle, which improves working life for Skyridge employees and also means a safer working environment.



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# Tetra Laval International

Tetra Laval International (TLI) focuses on security, assurance, transparency and accountability in its role as the financial support and control function for the Board. This is evident whether financing the Group, ensuring secure cash management, mitigating the impact of financial market risks on business performance or delivering financial reports and rigorous assurance on internal controls to the Board.

## SOLID PROGRESS AND ACHIEVEMENTS IN 2013

During the year, we have reviewed the Group's corporate governance framework to ensure that it meet the needs of the Board.

We supported the Board in reviewing the long term financing strategy of the Group. In part this lead to another significant event in 2013, the successful refinancing of the Group's long term financing facility.

Risk has been reduced through more secure and efficient cash management by increased cash pooling and continuous linked settlement of transactions, with the support of our core banks.

We have also implemented a number of changes aimed at increasing transparency over costs, capital employed, restructuring initiatives, performance

and outlook of the different businesses in the Group.

TLI has continued to invest in technology and knowhow to reduce costs, enhance controls and ensure that its highly qualified and professional teams focus on value adding activities Group-wide. In practice, this has included:

- equipment financing solutions;
- manage and ensure transparency over commodity price risks;
- understanding of longer term effects of FX variations and the value of hedging in a year of major movements in key currencies for the Group;
- extended use of computer assisted audit techniques in internal audit.

## LOOKING FORWARD, 2014 WILL BE ANOTHER CHALLENGING YEAR

A key initiative will be to serve the needs of the Board, in shaping strategy and future performance, and scrutinising execution. This will involve greater synthesis and standardisation of the information presented, with more focus on challenges and future direction.

We will also work for the Board and Group management to monitor risks and maintain effective controls in strategic, operational, legal/regulatory and

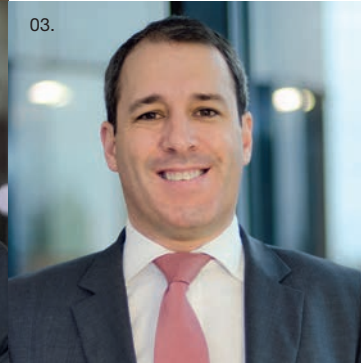
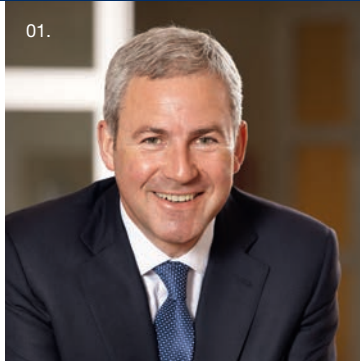
financial areas. We will continue to strengthen audit to ensure that risks are adequately controlled and reported.

In our treasury and financing activities, we will implement the necessary changes to comply with evolving regulatory requirements whilst maintaining an optimal balance of risk reduction, cost, flexibility and timely informed response to market developments and business needs.

As restructuring initiatives progress, we will work with industry group management to ensure traceability of costs and benefits, from business case generation through to execution and follow-up.

The TLI team are proud to be part of a Group that plays a leading role in food protection on a global basis. TLI will continue to drive security, assurance, transparency and accountability in its activities to support the sustained success of the Group.

Martyn Zedgitt



- 01. **Martyn Zedgitt**  
President
- 02. **Marc Häfliger**  
Operations & Administration
- 03. **Antoine Jomini**  
Audit
- 04. **Robert Norris**  
Group Financial Planning & Reporting
- 05. **Jörn Rausing**  
Mergers & Acquisitions
- 06. **Robert Swan**  
Finance



01.



**01. THOMAS ANDERSSON**

Group General Counsel

02.



**02. JÖRGEN HAGLIND**

Group Communications Officer

03.



**03. ANDREAS KARL**

Group Human Resources Officer

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



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