Tetra Laval

2010/2011

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Driving sustainable innovation

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Tetra Pak

PROTECTS WHAT'S GOOD

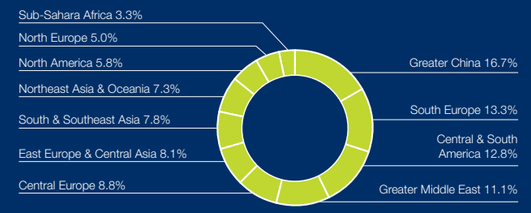
Tetra Pak is the world leader in liquid food processing and packaging. The business of the company includes much more than the packaging of liquid food products. We also provide a range of processing and packaging equipment for use with a broad array of products, from ice cream and cheese to dry foods,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

TETRA PAK IN THE WORLD

Machine assembly plants	11
Production plants for packaging material and closures	43
Number of countries covered	>170
Market companies	40
Sales offices	79
R&D units	11
Technical Service centres	41
Technical Training centres	16

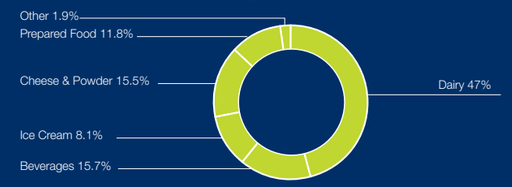
FILLING MACHINES INSTALLED

9,114 filling machines installed, January 2011



WELL PROVEN PROCESSING SYSTEMS

Total number of delivered processing units 2010: 2,364



DeLaval

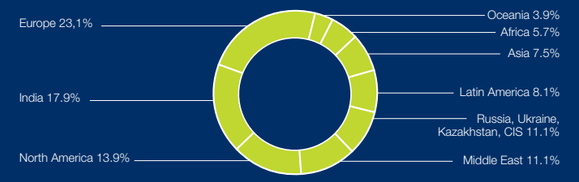
WE DRIVE PROGRESS IN MILK PRODUCTION

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. 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.

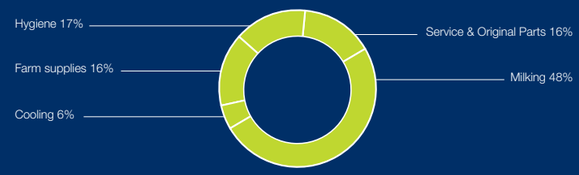
DELAVAL IN THE WORLD

Local sales organisations	37
Independent dealers	1,370
Markets covered	> 100
Manufacturing units	18
R&D units	3
Sales and Service Personnel	4,662
Installers	1,475
Delivery trucks and mobile shops	702

WORLD MILK PRODUCTION 2010



DELAVAL SALES SPLIT 2010



Sidel

PERFORMANCE AND INNOVATION. THE RESPONSIBLE WAY.

The Sidel Group is one of the world leaders in solutions for liquid food packaging. From its two fields of strength, blow moulding and filling, Sidel offers the equipment that is key to customers' decision-making in the purchase of complete bottling lines. Sidel has expanded its activities to cover three major categories of packaging: glass bottles (disposable and returnable), plastic bottles (PET, HDPE and PP) and metal cans.

SIDEL IN THE WORLD

Number of plants	26
R&D units	8
Service units	31
Number of countries covered	>190
Employees	5,079
Net sales in mio Euro	1,300

SIDEL 2010 SPLIT OF EQUIPMENT ORDER INTAKE BY MARKET SEGMENT

SIDEL 2010 SPLIT OF EQUIPMENT ORDER INTAKE BY MATERIAL

TETRA LAVAL INTERNATIONAL

Tetra Laval International is the financial support and control function for the Board. This organisation is responsible for financing the Tetra Laval Group, Group tax planning and managing the legal, financial and equity structures. Tetra Laval International proposes and ensures compliance with Group reporting processes, undertakes all Mergers & Acquisitions work and plays the lead role in corporate governance, internal audit and risk management.

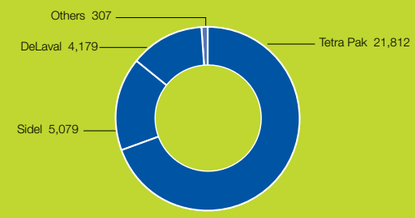
TETRA LAVAL

The head of each industry group has operational management responsibility for their own industry group and therefore reports directly to the Tetra Laval Group Board. The Group Board is responsible for the overall strategy of the Group and for controlling and supervising all of its business operations.

Larry Pillard is Chairman of the Board. 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.

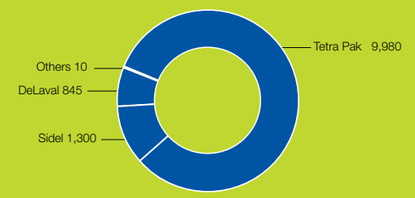
NUMBER OF EMPLOYEES, DECEMBER 2010

Total Tetra Laval Group 31,377



NET SALES 2010

Total Tetra Laval Group Mio Euro 12,125



An excellent year for the Group

2010 was an excellent year for the Tetra Laval Group. Revenues for the Group were at an all-time high and we managed to hold many costs steady despite some inflation. We continued to invest in the future with our industry groups spending 3 to 4 per cent of their revenues on developing new products and solutions, well above the industry average. All three industry groups performed well, with Tetra Pak having a record year in terms of both volumes and net sales. Sidel showed early signs of a turnaround after several difficult years and DeLaval saw their customers resume investment in capital equipment.

TETRA PAK EXCEEDED EXPECTATIONS

The growth of Tetra Pak exceeded budget. Looking back to the fourth quarter of 2009, customers were very cautious, and we were facing many uncertainties, leading to us taking a conservative view of the development in 2010. Nevertheless, the economic recovery has been steady, and in addition Tetra Pak was well positioned in markets with good growth, such as China and Brazil. Tetra Pak's sales and marketing teams underpinned the strong increase in sales. In addition, Tetra Pak has been successful in managing the different key financial categories such as return on capital, operating profit and cash flow. This is clearly the performance of a very professionally managed company.

IMPROVED PERFORMANCE OF SIDEL

During the past two to three years the management of Sidel has undertaken measures to turnaround the company. At the same time Sidel had challenging times in the early stages of the recession as its customers needed to reduce costs and would not make capital investments. Sidel took some severe measures, such as substantial cost cutting, restructuring and streamlining of the organisation. At the same time, Sidel continued to make investments in R&D and in the new production facility in China. Despite the difficult times Sidel invested more than 4 per cent of sales for the development of new high quality products. The company also reorganised its sales offices into more efficient clusters, using Tetra Pak as the role model. We could see these actions starting to pay off during 2010. For instance, the commitment to the Chinese market resulted in good orders, not least because of the new technology for aseptic filling receiving strong market acceptance.

SALES INCREASED FOR DELAVAL DURING SECOND HALF OF 2010

In 2009 DeLaval experienced a very difficult market, as customers pulled back on capital investments as a reaction to the economic downturn and low milk prices. DeLaval quickly responded to the changing market conditions and adapted its organisation to these changes.

In 2010, milk prices rose and there was generally more confidence in the market as milk consumption increased. During the second half of 2010, DeLaval saw a significant increase in sales. Investments in R&D continued, and in 2010 the company launched the first rotary robotic milking system for larger farms, which was very well received by customers. All in all, the restructuring programme implemented in 2009 paid off during 2010, with improved gross margin and return on sales.

A NUMBER OF INITIATIVES BY TETRA LAVAL INTERNATIONAL

Tetra Laval International (TLI) had another good year contributing to the overall development of the Group. TLI manages our corporate governance and during the year most of the charters were reviewed. The review will be finalised at the beginning of 2011. TLI also supported a number of important financial initiatives, such as improving cash management and return on capital. In addition, TLI launched a project to improve efficiency in our R&D spending and TLI played an important support role with financial issues in the Sidel turnaround.

GOOD GROWTH IN MANY MARKETS

From a geographical point of view the Group performed well in many markets. We enjoyed good growth in markets like China, Brazil, Middle East and Russia. In the U.S. the Group had an improved level of sales. At the same time, Tetra Pak has developed new products for mature markets, such as products by Tetra Recart for solid food.

CONTINUED ECONOMIC RECOVERY BUT PRICE INCREASES

During last year the global economy continued to recover, although slowly. The Group is well positioned to take advantage of growing markets. At the same time we are cautious about costs as there are signs of increasing inflation. We have started to see prices of raw materials such as petroleum, plastic and aluminium rise. This situation will challenge us to manage costs in the coming years, both from our own and our customers' perspective. In a similar way the increase of feed prices could affect DeLaval's customers' investment in capital equipment.

SUSTAINABLE INNOVATIONS FROM ALL INDUSTRY GROUPS

From a Group point of view we do a lot in the field of sustainable innovation. Sidel has worked diligently together with their customers to make the PET bottles thinner and thinner, and the caps smaller and smaller, thus minimising the usage of plastics. In addition, Sidel developed new technologies to substantially reduce energy used in their systems. DeLaval has made significant contributions to sustainable farming by developing products and solutions to reduce costs and energy consumption for the dairy farmer. Finally Tetra Pak is integrating sustainability throughout its operations. For instance, sustainability is built into the innovation process – from selecting materials to recycling of packages.

Summing up 2010, the most important reason for our success was the spirit, talent and initiative that our workforce demonstrated. At the beginning of the recession our co-workers quickly identified the difficulties, took proper actions and delivered results. In all aspects, they have exceeded my expectations and I would like to express my gratitude for all the excellent achievements during the year.

OPTIMISTIC VIEW ON 2011

Looking ahead, I have an optimistic view of 2011, providing there are no unanticipated shocks. Sales should continue to improve supported by many new innovative products like Tetra Evero Aseptic – the new carton bottle for white milk that Tetra Pak has developed, the new rotary robotic system by DeLaval and the aseptic filler by Sidel, and we aim to continue to develop new products for our customers. There is a good opportunity to maintain our market leading positions as our customers become increasingly optimistic about the future.

Larry Pillard

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.

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.

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. He is a non-executive director of Bunge Ltd, USA.

PAUL SKINNER

A non-executive Board Member since 2005. Paul Skinner is Chairman of Infrastructure UK, a division of HM Treasury. He was previously a Group Managing Director of Royal Dutch Shell plc and Chairman of Rio Tinto plc. He is also a non-executive director of Standard Chartered plc and Air Liquide S.A., a member of the Public Interest Body of Pricewaterhouse Coopers LLP, and a member of the Board of INSEAD, the European/Asian business school.

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. She is the current Chairman of the Thoroughbred Breeders Association of Great Britain.

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 and Loyalty Partner GmbH and member of the Supervisory boards of Allianz Lebensversicherungs-AG, Bayer AG and Voith AG, all based in Germany.

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 Member of the Supervisory Boards at Metro AG and Münchener Rückversicherungs-Gesellschaft AG, all based in Germany.

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, DeLaval Holding AB, Swede Ship Marine AB and Nordkap Holding AG, as well as Chairman of R.R. Institute of Applied Economics AB.

TETRA LAVAL GROUP BOARD

A supervisory board to the Tetra Laval operational 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 expectations for the industry groups, and communicates governance guidelines throughout the organisation.

The Tetra Laval Group Board has six other areas of responsibility.

- Corporate governance seeks to promote compliance with regulations, transparency and accountability, and can be defined as the relationship of a company to its stakeholders. The Corporate Governance structure specifies the distribution of authorities and responsibilities between the Board, management and shareholders, and spells out the guidelines and procedures for making decisions with regard to corporate affairs.
- Financial and operational control is a second major responsibility for the Tetra Laval Group Board. To support the Board in these functions, an Audit Committee and a Remuneration Committee have been formed. The Remuneration Committee deals with the overall policies concerning remuneration within the Group and with salaries and other benefits for senior management. The Audit Committee deals with both internal and external issues and is responsible for the proper maintenance of an audit organisation, and of course review of the financial results.
- Development and definition of overall strategies and policies is a third area of responsibility. Although the industry groups have different business models, strategies, and operate independently from each other, there are a number of areas where common policies are beneficial to the Group.
- The appointment of senior management is a fourth major area of board responsibility. In addition to approving senior management appointments, the Tetra Laval Group board also ensures that the industry groups have appropriate succession planning for senior positions.
- The final two other issues in which the Board takes a direct role are 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 take place.

Tetra Laval Group

Support functions

THOMAS ANDERSSON
GROUP GENERAL COUNSEL
RESPONSIBLE FOR LEGAL & TAX

ANDREAS KARL
GROUP HUMAN RESOURCES OFFICER

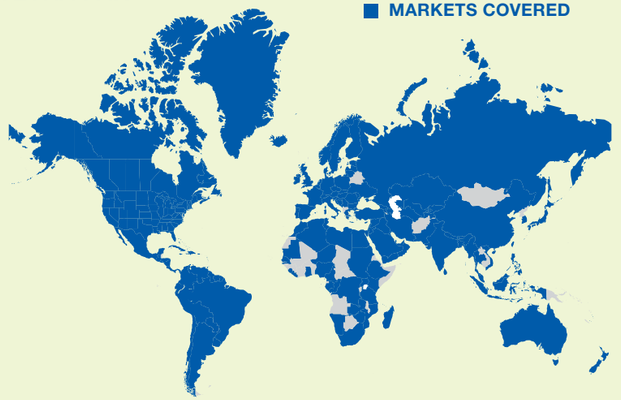
JÖRGEN HAGLIND
GROUP COMMUNICATIONS OFFICER

The roles and responsibilities of these functions encompass continuing support for the Tetra Laval Group Board, implementation of common Group standards and processes, coordination between and support to industry groups, and support for shareholder specific issues. They are also functionally responsible for their respective area throughout the Tetra Laval Group. They all report to the Chairman of the Tetra Laval Group Board.

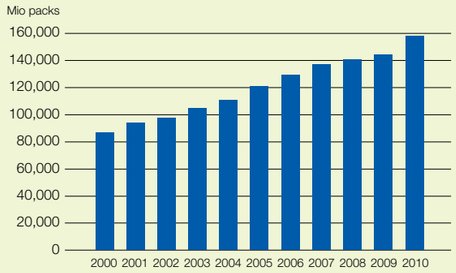
Tetra Laval Group

The three autonomous industry groups, Tetra Pak, DeLaval and Sidel, focus on systems for production and distribution of food.

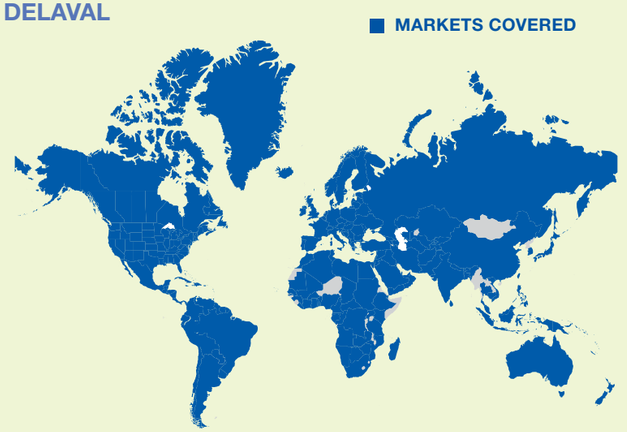
TETRA PAK



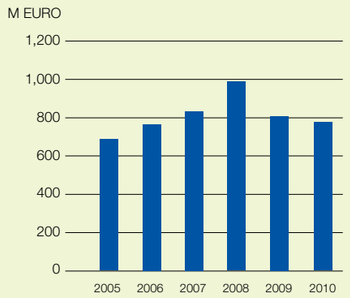
CARTON PACKAGES SOLD 2000 – 2010
158,001 mio packages sold in 2010



DELAVAL

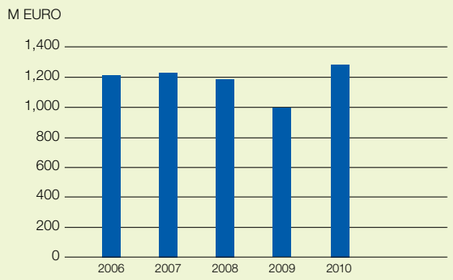


SALES DEVELOPMENT 2005 – 2010



SIDEL

SALES 2006 – 2010



Strong development with a focus on future growth

2010 was another good year for Tetra Pak. The global food and beverage sector recovered more quickly than we had expected, with most markets outside Europe showing strong growth. Overall, we increased our volumes by more than 8 per cent and sales by 5.2 per cent compared with the previous year. Operating income for Tetra Pak was also strong, primarily due to the increases in volume and the fact that we kept costs under control. In this respect, I would like to take this opportunity to warmly thank all Tetra Pak employees for their excellent efforts during the past year.

STRONG GROWTH IN MANY MARKETS

The geographic markets that showed particularly solid improvement were China, Southeast Asia, Eastern Europe and Central and South America.
The Chinese market grew strongly due to the country's solid economy and the continued rise in individual purchasing power, enabling us to increase sales despite fierce competition.

In Southeast Asia, the region's strengthening economy and, like China, rising individual purchasing power fueled consumption and, as a result, spurred demand for Tetra Pak products. The markets in Eastern Europe also recovered during 2010, as economies there bounced back, prompting several significant acquisitions of local companies by global players like Danone and PepsiCo.

Central and South America, led by Brazil, had another strong year, with continued economic stability across most of the region and on-going migration by consumers from powdered milk to packed liquid milk providing significant growth opportunities. Globally, the packaging industry remains highly competitive, both from plastics and carton suppliers. Alongside our traditional competitors in the processing and packaging sectors, we see the continued growth of non-system suppliers of carton packaging materials, as well as the continued introduction of new products from non-carton players in the industry.

At the same time, however, we see many positive trends for our businesses going forward, such as the urbanisation of developing countries and the continued rise in purchasing power of countries like China, India, Indonesia and Vietnam, among others.

GOOD INCREASE FOR PACKAGING SOLUTIONS

Packaging Solutions had a strong year, increasing sales by 5.9 per cent, primarily thanks to continued solid performance in developing markets. All our packaging systems performed well. During the year we piloted Tetra Evero Aseptic, our innovative new carton bottle, which met with a very positive reaction from consumers.

We will launch Tetra Evero Aseptic in Europe in 2011, with the goal that it will account for 20 per cent of our UHT milk packaging volumes by 2020.

INCREASED ORDERS FOR PROCESSING SOLUTIONS

Despite a forecast fall of 10 per cent, Processing Solutions' sales were largely unchanged in 2011 compared with 2010. At year end, orders for Processing Solutions were 50 per cent higher than at the lowest level during the previous year, ensuring a strong start to 2011. All categories developed well during the year, in particular the product segment for ice cream reported strong sales, with new product launches helping turn around a difficult 5–6 year period.

Our focus on one-step technology – a completely new system for dairy products – was positively received in the market. This type of UHT processing is performed in a single step, resulting in reduced costs and increased efficiency for our customers.

Looking to the future, besides growth in developing geographies we also see good opportunities in developed countries, where we will grow by developing and deploying new products. Examples include our packaging system for solid food, Tetra Recart, new products within Processing Solutions and our Service products portfolio, which responds to our customers' need for improved service and closer contact with their suppliers.

SUSTAINABLE INNOVATION

The theme of this brochure is sustainable innovation. If we are to stay ahead of our competitors, we must become even better at developing new products to meet the ever-more intricate needs of our customers, bringing them to market at a faster rate. Some of the success factors include developing complete product families and clarifying what technologies are required to facilitate the development of a new product. Our success requires a robust product development pipeline: in processing, packaging and technical service. It depends on us anticipating food and beverage industry trends, focusing beyond tomorrow in defining what our customers will need.

Tetra Evero Aseptic

Overall, we increased our volumes by over 8 per cent and our sales by 5.2 per cent compared with the previous year.

Another factor is the focus on sustainability throughout our operations, thus driving environmental excellence. This covers everything from selecting materials to recycling packaging. Our objective is to double the global recycling rate from today's 20 per cent by 2020.

And it demands an absolute commitment to delivering unrivalled value for money and outstanding quality – in all of our dealings with our customers.

In recent years Tetra Pak has sharpened its focus on quality, and we are now seeing the results of this work.

In 2010, claims from customers decreased by 15 per cent and the overall quality rating of our Customer Satisfaction survey increased from 66 to 70 per cent. Many different factors have contributed to this improvement, but at the end of the day it comes down to prioritising our activities with a clear understanding of what our customers value and ensuring we resolve their problems swiftly.

Clearly, our quality improvement journey is far from over, but while there may still be some way to go, we are most certainly heading in the right direction.

STRATEGY FOR GROWTH

As we look to the future, it is increasingly clear that we need to find new ways to build business success. With this in mind, at the start of 2011, we launched Strategy 2020, developed to ensure that our business thrives through the coming decade and beyond. It builds on the strategy that we established in 2006, defining steps that are better described as evolutionary rather than revolutionary, focused on four priority areas: Growth, Innovation, Environment and Performance.

Perhaps the most ambitious component is our goal to grow in all product segments and in all geographic areas, whether mature or developing.

We are also sharpening our focus on value-driven innovation, providing our customers with a range of products that offer lower system costs, improved functionality, greater differentiation and a stronger environmental profile.

On the environmental front itself, we are committed to driving excellence across every aspect of our business – both when it comes to operational performance and products. For example, we have set an internal target to double the global recycling rate of used beverage cartons from 20 per cent to 40 per cent by 2020. We will find ways to further reduce CO_2 emissions through the value chain. And we will continually increase the proportion of renewable materials in our carton packaging until we reach our ultimate goal of a 100 per cent renewable product.

Finally, the revised strategy demands that we strengthen our operational performance by adopting the right processes, the correct systems and appropriate cost structure.

Of course, the success of our 2020 strategy ultimately depends on the effectiveness, competence and commitment of Tetra Pak employees around the world. With that in mind, therefore, we will also focus a great deal of attention on ensuring we have the right people, with the right skills and the right attitude in every area of our business.

GOOD OPPORTUNITIES IN 2011

Our objectives for 2011 include a sales growth target of almost 5 per cent, and continued discipline when it comes to managing costs. We have targets related to the deployment of new products, quality, and increasing our service product business. And, of course, the roll-out of Strategy 2020 through the company will be a critical area of activity.

I am in no doubt that the food and beverage sector will continue to develop positively through the year ahead, despite some warnings of imbalance in parts of the global economy. For Tetra Pak, of course, a large part of our growth continues to be derived from developing countries, where the trends look positive for some years to come. I am confident, therefore, that 2011 will be another good year for the company.

Dennis Jönsson

Tetra Pak

Global Leadership Team

DENNIS JÖNSSON
PRESIDENT & CEO

NILS BJÖRKMAN
COMMERCIAL OPERATIONS

MICHAEL GROSSE
DEVELOPMENT, ENGINEERING & TECHNICAL SERVICE

SAM STRÖMERSTÉN
SUPPLY CHAIN OPERATIONS

TIM HIGH
PROCESSING SOLUTIONS

MARIA VARSELLONA
GENERAL COUNSEL

CHRIS HUNTLEY
CORPORATE COMMUNICATIONS

ALISTAIR DAVIDSON
FINANCE & BUSINESS TRANSFORMATION

ANDREAS KARL
HUMAN RESOURCES

ALEX ANAVI
SUPPLY CHAIN OPERATIONS
RETIRING 2011

Strenuous efforts successful in recovering market

Our ambition in sustainable development is to support the efforts of our customers to reduce the environmental footprints of their farms, while improving milk production, farm profitability and the well-being of the people and animals involved.

At DeLaval we are convinced that business has an important role to play in making the development of our society more sustainable. Our ambition in sustainable development is to support the efforts of our customers to reduce the environmental footprints of their farms, while improving milk production, farm profitability and the well-being of the people and animals involved.

In 2008 we launched the Sustainable Dairy Farming initiative based on an increased awareness of the environmental challenges facing our customers and us as a company. We believe that Sustainable Dairy Farming should be used as a model for continuous improvement in the management of four pillars of modern dairy farming: Farm Profitability, Environment, Social Responsibility and Animal Welfare. In our view 'sustainable' is not an absolute term, or a point you can reach and then stop, but something that is constantly ongoing.

Through our products and services we can make a significant difference in terms of the environment and society. We believe this goal can be achieved by supporting dairy farmers with smart technology and services that progressively increase resource efficiency on the farm. Or – put another way – supporting our customers to do more with less.

2010 REFLECTIONS

There is no doubt that 2010 was characterised by the 2009 recession that continued to impact the investment climate during the year.

The first half of the year remained uncertain as some markets began to show tentative signs of recovery and others continued in a downturn. In contrast, the second half of 2010 showed order intake stabilising and volumes growing in a number of regions. Strenuous efforts were made throughout the year to increase volumes and gain new market share; we could see the results of these efforts as we approached the middle of the year. From a Group perspective we have been extremely focused on making sure we balance capacity in a recovering market environment. I am confident that our employees have paved the way for capturing growing opportunities with their ability to navigate uncertainty in a world coming out of recession.

CHANGING MARKET CONDITIONS

Feed costs are a critical parameter for farmers. With low global stocks we can expect higher prices, and with indications that investors willing to speculate in both dairy and grain are returning to commodity markets, we can also expect more volatility. The conditions created by La Niña are further increasing the uncertainty of feed supply development. Dairy producers improved their financial situation during 2010 but the losses of 2009, in combination with the uncertainty caused by price volatility, are still affecting willingness to invest.

Capital goods sales in most of the European regions improved significantly in the second half of 2010 as was the case in Australia; the biggest challenges remain in Northern Europe and New Zealand. The focus on aftermarket and services has generated visible results and we are successfully converting our installed base into sales of services and original parts.

2010 showed improved but still very challenging conditions for the US dairy industry. Farmers were still recovering from losses in 2009 and the market for capital goods was challenging; despite fierce competition on existing volumes we experienced an upturn in the second half of the year in sales of investment equipment.

Market demand for milk continued to be strong in all East Asian countries, with milk prices at an all-time high resulting in solid growth throughout the region. Aftermarket sales have developed strongly in all markets, even Japan, despite a devastating foot-and-mouth disease outbreak.

In Latin America, milk prices maintained good levels across all geographies and the sales of investment goods showed a positive trend in both Argentina and Brazil with recovery also evident in Chile; this despite substantial volatility on feed grain prices. The aftermarket business is also growing consistently in the region.

2010 ACHIEVEMENTS

This was a significant year for DeLaval in terms of bringing new innovation to the industry. We unveiled the automatic milking rotary, DeLaval AMR™ for the first time, creating substantial interest amongst customers and media worldwide. This is an industry first automatic milking rotary solution that allows

When a farmer asks us "What does sustainable dairy farming do for me?" we have the answer: DeLaval has sustainable dairy farming solutions that quickly pay for themselves by increasing herd and resource efficiency.

large-scale farm owners and their employees to save valuable manual milking time to focus on other important farm work. Farmers with herd sizes of 300-800 cows have been waiting for a solution that leaves them with more time, more flexibility, more profitability and healthier animals. The DeLaval AMR™ is an important cornerstone of our Sustainable Dairy Farming initiative and nothing short of a paradigm shift in dairy technology.

Bringing AMR™ to market is the result of close collaboration with the FutureDairy Project in Australia which brought together four key stake holders: Dairy Australia, the University of Sydney, the New South Wales Industry and Investment Group and DeLaval.

We can now claim to be the only supplier in the dairy industry able to offer complete automatic installations/systems for farmers with large herds – through DeLaval's voluntary milking system, VMS and automatic milking rotary, DeLaval AMR™. We look at each farmer's needs and situation to provide a solution that meets those needs.

Our Optifeeding offering shows continued positive sales development. The roll-out of the InService™ programme is driving further development within the area of services together with increasing sales volumes of VMS-related parts, also expected to drive positive sales development.

2011 A YEAR OF OPPORTUNITY

The outlook for 2011 is positive in many European countries where order intake looks promising in many markets. That said, the business environment created by the disturbances on the financial market is still affecting many of our customers. The major inhibitor to new investments is the overall financial situation for many farmers, even if the trend now appears positive.

In the US milk prices are expected to decrease and, in combination with an expected increase in feed costs, will impact the dairy producer's income and consequently investment capital. The focus is on expanding and increasing herd size using automatic milking. The focus on upgrades, services and selected aftermarket products will continue to deliver revenue. In Latin American markets we expect growth in early 2011.

We expect the demand for milk to continue to rise in all East Asian countries with increased consumption predicted for both China and India. To meet the strong market demand, we will increase focus on supporting the dairy industry to improve quality. Biosecurity is a growing issue where the need for secure modern dairy practices is crucial.

So, looking ahead to this year, I think we should be optimistic that many markets will continue to show signs of economic recovery and growth. The main challenge for us moving into 2011 is to continue to adapt capacity as the market requires it; this is a key focus for all parts of the organisation, moving forward.

ORGANISATION AND PEOPLE

The main focus for 2010 was to balance the end of the recession and the new expectations of our key competences. A shortage of qualified engineers, economists and skilled factory workers is beginning to become apparent, especially in the western hemisphere.

Bringing new talent into the Group and retaining key competences is vital in order to ensure that we are well equipped to meet the growth targets we have set for the company; at the same time we need to stay alert, agile and flexible enough to swiftly adapt should the market turn again.

SUSTAINABILITY REMAINS IN FOCUS

At DeLaval we see farming and the environment as inextricably linked. We are putting over 125 years of milking knowledge behind creating tangible solutions that meet customer needs in all areas. We strive to help dairy farmers balance the financial growth of their operations with the needs of society, animal welfare and the environment.

The environmental issues facing farmers are both global and local; we take a leading role in helping dairy farmers earn more money by reducing costs, through solutions enabling the efficient management of water, energy, feed and animal health and welfare.

We want to help farmers make meaningful, continuous on-the-ground improvements so their businesses stay viable and sustainably responsible. When a farmer asks us "What does sustainable dairy farming do for me?" We have the answer: DeLaval has sustainable dairy farming solutions that quickly pay for themselves by increasing herd and resource efficiency.

Joakim Rosengren

DeLaval

Group Management Team

JOAKIM ROSENGREN
PRESIDENT & CEO

LESZEK JAROSZ
REGION NORTH AMERICA

JAN OVE NILSSON
REGION EUROPE, MIDDLE EAST, AFRICA, AUSTRALIA AND NEW ZEALAND

FABIANO AMARO
REGION LATIN AMERICA

MARKKU VAUHKONEN
REGION EAST ASIA

ANDREW TURNER
BUSINESS AREA CAPITAL GOODS

TIM NICOLAÏ
BUSINESS AREA AFTERMARKET & SERVICES

MAGNUS BERG
SUPPLY CHAIN MANAGEMENT

STEFAN LIDSTRÖM
FINANCE & IS

HENRIK SUNDELL
GENERAL COUNSEL

BENOÎT PASSARD
MARKETING & COMMUNICATIONS

OLOF GERTZ
HUMAN RESOURCES

A steady course in a volatile market

After an extraordinarily difficult 2009, we entered 2010 cautiously optimistic that business conditions would normalise and quietly confident that our ambitious transformation of Sidel would begin yielding visible results on the bottom line. We can now conclude that the year turned out to be better than anyone expected both in terms of volumes and profitability as Sidel outgrew the general market recovery. This confirms that the long-term strategy we set out in 2008 is more valid than ever. Despite operating in a highly volatile market, we have been able to hold a steady course and we will continue to execute this strategy towards our ultimate goal of gaining undisputed leadership in PET beverage packaging solutions.

LARGE VARIATIONS IN THE MARKET

China and Brazil were the two outstanding markets for us in 2010, both being good examples of how demand for packaged beverages develops as a result of urbanisation and a growing middle class. To meet this growing demand our customers increasingly look for high-end equipment with low operating costs. Particularly in China, our customers are shifting from hot fill to aseptic PET technology and demanding absolute top-end technology in terms of performance and quality.

North America remains an important market despite a relatively low level of new equipment investment. Instead, customers are increasingly seeking service solutions to optimise the performance of their installed base. This is also the case in Western Europe, although this region exceeded expectations in terms of new equipment investment. Africa is a growing region, especially in the beer segment. The Eastern and Central European region is recovering, but still far from reaching its full potential. In India we anticipate increased demand for high speed filling lines, as internal barriers to trade and distribution are removed.

The strong trend from stand-alone equipment towards complete line solutions that we experienced over many years has now slowed significantly as new demand patterns are stabilising. In high growth markets such as China complete lines remain the main focus, whereas orders in mature markets are more about re-engineering existing lines and replacement of individual machines. Over the last few years, bottlers have increasingly integrated blowers into their filling lines, rather than buying ready blown bottles from converters. This was a painful transition for Sidel as it tended to result in lower specifications for the blower, but the shift has now almost run its course.

LEADERSHIP IN ASEPTIC

On the products side, we have made some real breakthroughs. Sidel is once again a technology leader in aseptic filling, with the Sensofill FMa filler and the Predis dry preform sterilisation system being two cutting-edge solutions. The Predis technology is unique to Sidel and offers dramatically lower water and chemicals consumption than traditional wet rinsing systems. With close to 50 Predis systems now sold, more and more customers are recognising that this technology gives them a real edge in terms of sustainability and lower operating costs.

Over the last few years we have almost doubled our R&D spending and

Sidel is once again a technology leader in aseptic filling, with the Sensofill FMa filler and the Predis dry preform sterilisation system being two cutting-edge solutions.

The Sensofill FMa filler.

We are building stronger capabilities in areas such as efficient spare parts distribution, innovative options and upgrades, field services, maintenance programmes, moulds, bottle design, line auditing and line re-engineering.

we will continue this high level of investment for the foreseeable future. In 2010 some 25 per cent of our order intake was for newly launched or recently improved equipment and we expect to accelerate the rate of new product launches over the coming years. Strong interest in sustainability opens up a great frontier of innovation as we seek new solutions to cut the consumption of energy, water and chemicals. PET is inherently an attractive packaging solution from a sustainability perspective since PET bottles are 100 per cent recyclable into commercially useful raw material for fabric fibres, injection moulded items and even new PET bottles.

CONTINUED OPERATIONAL IMPROVEMENTS

In 2010, we continued driving improvements along each of the three strategic axes of operational excellence, customer proximity and product innovation. Our new empowered zone organisation is maturing, which is paying off in excellent coverage of local and regional customers. Shifting our industrial footprint toward the Asian growth markets also brings us closer to our customers and our new factory in Beijing is establishing a superb record in terms of quality and delivery reliability. We have dramatically improved our global order fulfilment process by building strong quality gateways at every handover point and by employing Lean methodology to cut lead times and waste. Finally, our drastically reduced structural costs are feeding through to the bottom line as volumes recover. Overall, we are now over 20 per cent more productive than we were in 2007.

In addition to driving improvements along the three strategic axes, we are also transforming ourselves into a more service-centric company. We are building stronger capabilities in areas such as efficient spare parts distribution, innovative options and upgrades, field services, maintenance programmes, moulds, bottle design, line auditing and line re-engineering. Although our sales of these aftermarket services grew strongly in 2010, there is still plenty of untapped demand.

Our decision to create a new division called Engineering & Material Handling to better exploit our engineering and integration capabilities for non-PET applications is paying off as we continue to grow our can and glass filling line business and regain non-beverage customers.

In 2011, we will also launch our new vision and mission. Vision 2015 sets out our strategic priorities up to 2015, again in the context of the three strategic axes. An important backdrop to this was the need to develop a visual representation of our mission and vision in the form of a new corporate identity. Our ‘A Better Match’ logo and tagline neatly encapsulates our point of difference in the market, while representing our ability to combine our expertise, knowledge and global reach to develop solutions that match our customers’ diverse, yet very specific, needs and challenges.

TOWARDS OUR FULL POTENTIAL IN 2011

Obviously we are satisfied with the fact that we are ahead of our original business plan in terms of bottom line results. Even more gratifying, however, is that we have regained the confidence of our customers and that they are now rewarding us with a bigger share of their business. Still, it is far too early to celebrate. In 2011, we will continue the hard work of building our future. By the end of this year we will have taken another big step toward realising Sidel’s full potential.

Mart Tiismann

Sidel

Group Leadership Team

MART TIISMANN
PRESIDENT & CEO

ALFRED ZOPF
CHIEF OPERATING OFFICER

SID JOHARI
INDUSTRIAL OPERATIONS

MICHEL PICANDET
LIFE CYCLE MANAGEMENT

PETER LOGAN
MARKET OPERATIONS

MARC AURY
ENGINEERING & MATERIAL HANDLING

RICCARDO ROSSELLI
FINANCE

FRANÇOISE RAOUL-DUVAL
STRATEGY & DEVELOPMENT

ROBERTO BETTINI
HUMAN RESOURCES

NICHOLAS BLOCH
COMMUNICATION

CAROLINE FELLENIUS-OMNELL
GENERAL COUNSEL

Comments by the President, Tetra Laval International

Bringing added value in another turbulent year for the financial markets

2010 was an unusual and surprising year in several ways. Overall business conditions for our Group improved more quickly than expected, while the financial environment remained very volatile, with sharp fluctuations in foreign exchange and market perceptions of risk. Tetra Laval International (TLI) continued to support the Tetra Laval Board in areas such as risk management, corporate governance and internal controls, increased transparency and focus on cost control. In this context I would like to thank all employees for their continued strong commitment and excellent performance.

RISK TRANSFER – SUCCESSFULLY MANAGING VOLATILITY

A key issue was to manage fluctuating foreign exchange and interest rates to give increased certainty to the business and the Board. Building on our long-term experience, we took a conservative, non-speculative approach, reducing our net risk exposure. We successfully used options strategies to manage the exposures generated by the upside in growth. We also included selective commodity hedging in our risk management approach, resulting in effective mitigation of increasing Aluminium costs for the business.

TLI also reviewed the insurance programme of the Group leading to significant efficiencies and extensions of coverage that have been rolled out in 2011. Further innovation in this area is under consideration, reflecting the increased complexity of insurable risks faced by the Group.

PLANNING AND REPORTING – MONITORING AND DRIVING GROUP PERFORMANCE

TLI worked with the Chairman and the management of the three industry groups on a joint initiative to improve Group Return on Capital (ROC). This focused on the Group's potential to increase profitability, whilst closely managing capital expenditure and working capital levels. All three industry groups delivered above the stretch targets set by the Board, with the high level of performance reflected in improved ROC and strong cash flows.

In addition to the ROC initiative, increased transparency and improved forecasting, TLI delivered additional analysis to the Board relating to key areas of costs in the Group, such as SG&A, promotional costs, employee benefits and R&D.

Finally, we also supported Sidel in its efforts to turn around its business, focusing on setting long-term targets and plans for financial performance, while management also devoted its efforts to operational issues and growth.

FINANCIAL MANAGEMENT – OPTIMISING CENTRAL AND LOCAL FINANCING

The Group's financing situation is stable and secure despite the volatility in the financial markets. During 2010, we extended the cash pooling structure to all major markets to improve short-term cash flow and liquidity. In addition, the Group financed projects in local currency related to expansion in Brazil and Pakistan.

CORPORATE GOVERNANCE - STRENGTHENING CONTROL AND RISK MANAGEMENT

Working with the Board and in consultation with the industry groups, TLI has reviewed the overall corporate

governance and internal control framework for the Group, combining more closely corporate governance with risk management. Controls are now embedded in our risk management model, with high business risks requiring a high level of control and monitoring. The updated framework will be rolled out to the Group during 2011.

Internal Audit has continued to refocus its work in line with the evolution of risks faced by the Group with additional emphasis on the growing markets of Asia. We also drove faster resolution of internal audit issues, assisted by clear direction from the Audit Committee. The aim continues to be to ensure that the vast majority of issues are resolved in a timely manner.

CHALLENGES FOR 2011 – MANAGING RISKS AND CAPTURING OPPORTUNITIES

As we enter the second quarter of 2011, despite the disaster in Japan and turmoil in North Africa and the Middle East, there are more positive signs emerging with the global economic growth rate projected to be 4.5 per cent for 2011, boosted by continued strong growth in key markets of the Group such as China (9.6 per cent), India (8.4 per cent), ASEAN (5.5 per cent), Brazil (4.6 per cent) and Mexico (4.1 per cent). At the same time fiscal deficits, sovereign debt, inflation and unemployment remain major concerns. It is clear that financial security, flexibility and responsiveness will continue to be highly valued going forward.

Looking at lead indicators for the Group's businesses, we see stronger order books in capital equipment in all three industry groups and positive evolution in the Tetra Pak packaging business. At the same time, increasing raw material prices and staff costs will negatively impact margins. The Group is well placed to develop positively in the present environment but it remains clear that both risks and the resulting level of vigilance required of us continue to be heightened. In relation to this, we developed in 2010 a comprehensive financial risk report integrating Group, economic and reporting perspective on risk and risk mitigation.

FOCUS AREAS FOR 2011 – LOOKING TO THE FUTURE

TLI will continue to drive a number of important initiatives in 2011. We will fine-tune our approach for generating consolidated forward-looking information, maintain the focus on ROC, develop further analysis of the evolving cost environment faced by the Group and launch the updated version of the corporate governance framework. We will increase focus on longer term planning and benefits realisation in terms of capital investment and financing.

We will also be focused on enhancing Board oversight of strategy, budgets, risk management and performance, including a specific project relating to R&D.

I am convinced that TLI will continue to deliver strong performance and play its part in the overall success of the Group.

Martyn Zedgitt

Our challenge is to manage our business properly at a time when economic pressures, geopolitical developments and regulatory demands are increasing as a response to the transformation of global business and the financial markets.

Tetra Laval International

Management

MARTYN ZEDGITT
PRESIDENT

EMILIO RUIZ-BERDEJO
FINANCE

JÖRN RAUSING
MERGERS & ACQUISITIONS

ROBERT SWAN
AUDIT

ROBERT NORRIS
GROUP FINANCIAL PLANNING & REPORTING

MARC HÄFLIGER
OPERATIONS & ADMINISTRATION

IAIN MACLEAN
LEGAL & TAX

PART 2

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Driving sustainable innovation

There is more to inventing a product or solution than the technical breakthrough. Taking a sparkling idea all the way into a sustainable customer or consumer solution calls for a deep understanding of the everyday life of consumers all over the world.

At Tetra Pak, Sidel and DeLaval thousands of people spend their days on the road from the sparkling idea to the final solution. Of course there are bumps and hurdles, but more importantly the road is paved with consumer insights, first-class technical improvements and a genuine concern about environmental impact.

That is how we drive sustainable innovation.

Dairy hubs increase milk production and contribute to poverty alleviation

Tetra Laval has extensive experience in the dairy business, which can be of support to developing countries in order to achieve a sustainable dairy value chain. For instance, Tetra Pak and its customers have set up dairy hubs in Pakistan in order to improve milk production and support smallholder dairy farmers' access to the commercial market. The concept has also been duplicated in Bangladesh, where Tetra Pak and DeLaval have a close collaboration. Besides supporting developing countries to achieve increased employment and income for their dairy farmers, Tetra Laval's expertise can contribute to the supply of sufficient milk for domestic consumption that is important for the development of any country.

The world's third largest milk producer with 50 million animals, Pakistan produces almost 36 billion litres of milk annually, giving an 11 per cent contribution to Pakistan's GDP. But the yield is low – 1,300 litres per animal per year compared to yearly 9,000 litres per animal in many markets in the West. Dairy farming in Pakistan is fragmented – normally there are two animals per farm. There is a lack of farming knowledge among smallholders and insufficient links to the market.

In order to bring about a positive long-term change to support both dairy farmers and the country as a whole Tetra Pak, in collaboration with its customers (dairy processors), launched a Community Dairy Development Programme.

Tetra Pak developed the concept and the dairy processing companies Engro Foods Limited, Nestlé Pakistan and Haleeb Foods Limited implemented the programme.

"Through dairy hubs we can help organise and improve smallholder farmer milk production and at the same time contribute to poverty alleviation", says Umer Ghumman, Marketing Manager Tetra Pak Pakistan.

WELL-ORGANISED SUPPORT TO MILK FARMERS

The dairy hub is a one-herd concept with about 800 smallholder farmers from 20 villages. Village Milk Collection points (VMCs) are organised by milk processing companies, where milk farmers supply their milk. Mechanised milking machines are provided for improved animal productivity and field service staff give support through frequent on-farm visits. In addition, a one-stop-shop with farm supplies for animal welfare and feed has been set up for the dairy farmers.

The first hub was launched in November 2009 (Engro Foods Limited) with office, veterinary medicine shop, software to monitor milk development, veterinary hospital and community training hall.

"Since then four more hubs have been established in collaboration with Nestlé Pakistan and Haleeb Foods", says Umer Ghumman. Tetra Pak's support includes TV training for farmers, dairy hub staff training and development of a milk monitoring software.

The results are very encouraging. 350 training courses have been conducted among 35,000 farmers, including female farmers. The yield per animal has increased by 20 per cent, 4,600 animals have been vaccinated against various diseases, 13,300 animals have been dewormed and 1,200 disease cases treated.

RIGHT FEED IMPROVES MILK PRODUCTION IN BANGLADESH

The programme has been duplicated in Bangladesh. In the project "Strengthening the Dairy Value Chain in Bangladesh" the purpose is to improve milk production and smallholders' access to markets.

"With the right feeding milk production can increase up to 100 per cent. Good feed must be seen as an investment, not as a cost", says Stefan Bergstrand, DeLaval milk production expert and part of the Tetra Laval Food for Development Office.

Dairy farming is a major source of employment and income for Bangladesh's poor, but most farmers do not have the knowledge and resources to grow their business. Around 90 per cent of the milk produced is never processed in a dairy, so there is huge potential.

"Through a dairy hub small herds of just a few cows can be brought together and enjoy the benefits big herds can", says Sayef Nasir, Country Director, Tetra Pak Bangladesh, and continues:

"The dairy hub project in Bangladesh has moved very quickly since it was first initiated and in just six months the first hub is up and running successfully with an aggressive roll-out plan for the upcoming years. The goal is to have in total 60 hubs operating by 2020."

With the right feeding milk production can increase up to 100 per cent. Good feed must be seen as an investment, not as a cost

"What is impressive is the speed and determination amongst the local farmers and the PRAN dairy. These projects normally need a lot of push and support but in Bangladesh it's the opposite, where the farmers and the processor themselves address the issues and turn to us for support", says Olof Oscarsson, Regional Sales & Marketing Manager at DeLaval Pakistan, Iran & Bangladesh.

The result so far has been very positive with increased yields, lower costs and most of all a unified strategy for how to improve the local dairy production.

The Food for Development Office can help share best practices between markets.

"Pakistan and Bangladesh are both good examples of how the Tetra Laval industry groups, Tetra Pak and DeLaval, work together with the whole dairy value chain", concludes Björn Wille, Food for Development Coordinator in Asia.

Aid to victims of natural disasters part of our business responsibility

In 2010, Tetra Laval approved several donations to victims of natural disasters. On Tuesday the 12th of January 2010 an earthquake struck Haiti, devastating a country that was already facing significant challenges due to severe poverty, a limited economy and malnutrition. Tetra Laval made a significant in-kind donation to help the disaster relief initiative. Flavoured milk was donated by Tetra Pak C&C, and packaged and delivered to the NGO warehouses by our customer VIVA S.A. working together with the distribution network of Brasserie d'Haiti.

In the Voronezh region in Russia, massive forest fires destroyed at least 2,000 homes and more than 7,000 sq km of land. Tetra Laval approved a donation to victims of the fires, and the employees of Tetra Pak in Russia also sent aid to support those who were affected in central Russia.

Another country hit by natural catastrophes was Pakistan, which experienced some of the worst floods in 80 years affecting about 14 million people. The Group donated 100,000 euro in kind to the flood victims. Many areas in the Khyber Pakhtunkhwa, Punjab and Sindh provinces were inaccessible and some of Tetra Pak's customers were affected in terms of milk collection and product distribution.

The Tetra Laval Group also made a donation of 6 million euro to support immediate disaster relief efforts in Japan after the country was severely hit by an earthquake and the tsunami that followed in early 2011. The purpose was to help address some of the more acute issues related to the supply of milk, water and foodstuffs to the people affected. The Tetra Laval Group is committed to increasing its funding for disaster relief in accordance with the company's business philosophy of taking a responsible and active part in the societies in which we operate.

NUMBER OF EMPLOYEES 2011

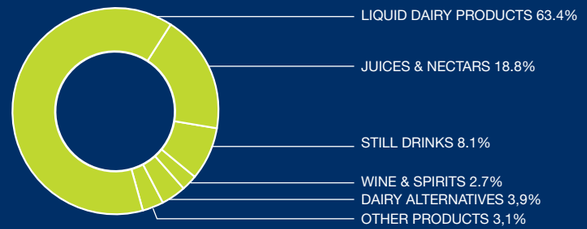
21,812

NET SALES 2010

9,980

MILLION EURO

PRODUCTS DELIVERED IN TETRA PAK PACKAGES IN 2010:
Of 74,000 million litres of products:



VISION

We commit to making food safe and available, everywhere

PRODUCTS

At Tetra Pak we are specialists in complete solutions for the processing, packaging and distribution of food products. Our solutions 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 in Tetra Pak processing and packaging lines. We focus on keeping the consumption of all raw materials and energy to a minimum during both the manufacturing process and distribution. The processing solutions are also designed to treat the products gently.

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 customers, consumer and market dynamics.

CORE VALUES

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 AND 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 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.

OUR STRATEGIC PRIORITIES

We are developing our capabilities, collaboration and employee engagement to drive long-term profitable growth and we act upon our four key strategic priorities.

GROWTH
Growth in all markets
Strengthen the core business
Deploy products and services effectively

INNOVATION
Accelerate value-driven innovation
Deliver value for money to customers
Innovate faster, better and cheaper

ENVIRONMENT
Drive environmental excellence
Reduce environmental footprint across the value chain
Develop sustainable products
Increase recycling

PERFORMANCE
Strengthen operational performance
Achieve undisputed quality leadership
Improve productivity and customer service

OUR BRAND

It is our goal to create a well-known and respected brand name – Tetra Pak – and to enhance the image of our company across all stakeholder audiences in a way that will support both our near-term priorities and our long-term strategic growth ambitions. We take an active role in shaping a better future, building on our four Brand Pillars – Food Safety, Customers, Environment and Well-Being.

Our motto, PROTECTS WHAT'S GOOD, reflects the philosophy upon which we conduct our business. It provides a consistent worldwide positioning of Tetra Pak across the value chain supporting our Vision, Mission and Core Values.

MARKETS & CUSTOMERS

Tetra Pak operates with 21,812 employees in over 170 countries around the globe. 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.

FOOD FOR DEVELOPMENT

For more than 45 years, we have helped customers, governments, international and community-based organisations and farmers to provide milk and other nutritious drinks in schools around the world.

In 2010, the Tetra Laval Food for Development network supported delivery of 6.3 billion packages of milk and other nutritious drinks to 49 million children in schools in more than 50 countries all over the world. 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 2010, Tetra Pak expanded its support for school milk programmes in Pakistan, Senegal, Ukraine, Bosnia and Herzegovina, Gaza and the West Bank. School milk programmes play a vital part in our business strategy 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.

GLOBAL COMPACT

We are a member of the UN Global compact, which brings together companies, UN agencies, labour and civil society to support the principles in the areas of human rights, labour, the environment and anti-corruption. We also cooperate with NGOs such as WWF on forestry and climate change issues.

A long-term commitment to school feeding

Markus Huet is the school milk implementation specialist in the Tetra Laval Food for Development Office (FfDO). During six very intensive years with Tetra Pak, he has provided support to school feeding programmes in 25 countries.

"I support the start-up of new feeding programmes around the world, where Tetra Pak packages are used. I also evaluate existing programmes and provide recommendations for improvements", says Markus.

Markus recently spoke at an international school milk conference in Vung Tau, Vietnam hosted by Tetra Pak Vietnam and the Vung Tau authorities. The Vung Tau school milk programme had previously adopted all of Markus's recommendations after his assessments.

Markus Huet's experience with school milk dates back to 2000 when he joined Land O'Lakes Indonesia where he implemented a donor funded school milk programme. During these years he gained considerable experience and collaborated closely with Tetra Pak.

In 2004, Markus joined FfDO with the assignment to start up a school-feeding programme in Nasarawa State, Nigeria. During this time he also created a school-feeding manual in collaboration with FfDO colleagues. This manual is implemented by governments and other partners under his supervision.

BIENESTARINA – READY TO DRINK NUTRITION

In 2007, Markus evaluated a pre-school feeding programme implemented by the Instituto Colombiano de Bienestar Familiar in Colombia (ICBF). The next year he was requested to evaluate the distribution of "Bienestarina", a nutrition enriched powder drink distributed in a school-feeding programme in schools and as take home rations.

Initial problems, including bad taste and difficulties in mixing it properly, which could mean improper nutrition, led to the recommendation of developing a liquid ready-to-drink version, to guarantee a safe nutritious product.

The liquid Bienestarina was flavoured with vanilla and strawberry and safely packed in portion UHT packages. Successful acceptability tests were made along with Rafael Fabrega, FfDO coordinator in Central and South America, and Juan Carlos Moya, Tetra Pak Colombia Environment & Social Feeding Programme Manager. Two-and-a-half years later, the ready-to-drink Bienestarina is now launched and distributed by ICBF.

"Government funded feeding programmes require long-term commitment and quick results cannot be expected. I am very proud to work for a company that makes long-term investments to develop school feeding programmes all over the world", says Markus and concludes "It is a team effort and everyone in the FfDO has a role to play."

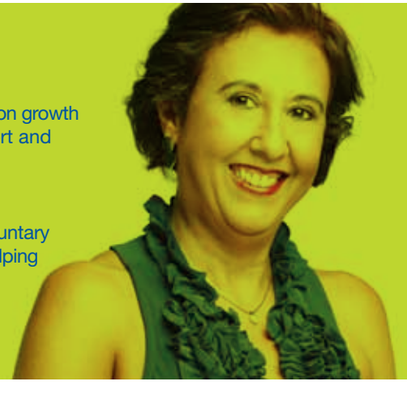
Volunteer for charity

Since 1983, Catarina Palhares has worked her way up at Tetra Pak, with a steady focus on growth and development. At her current position as Shipping Coordinator in Brazil for export and domestic markets she is responsible for distribution to 36 countries.

"Being a part of Tetra Pak's growth makes me feel proud, since we can 'PROTECT WHAT'S GOOD' through commitment and dedication", says Catarina.

Like many of her colleagues around the world, Catarina is very active in initiating voluntary work for charity within Tetra Pak. She and her co-workers at the Monte Mor office are helping many families throughout the year while organising campaigns for community benefit.

One of Catarina's initiatives, the introduction of the Junine Party for charity, is now a tradition and a permanent part of Tetra Pak's activity calendar.



Awards for innovation and customer care

Tetra Pak's Excellence Awards Programme acknowledges teams and individuals who make a real difference to the business and the customers. In 2010, the Innovation Excellence Award honoured the team behind the Tetra Brik Edge package. The jury pointed out how the team has made an important innovation based on a simple idea, taking a chilled package to new heights. The Customer Excellence Award honoured the Nestlé Key Account team in Brazil for listening to customers and their demands, and for demonstrating true customer understanding by means of their approach and action.

First ambient still drink in a non-ambient package

Diversifying and growing the juice, nectar and still drink market has been key in Central America & the Caribbean. A big step is an orange still drink, by Alimentos Maravilla in Honduras, in the Tetra Top package using the HAAD (High Acid Ambient Distribution) technology. The product is filled in a TT/3 HAAD filling machine. This filling machine enables manufacturers to package high acid still drinks such as ice tea, fruit drinks and sports drinks without using the chilled chain and this provides producers with new growth opportunities.

The new TBA 1000 Mid

– making a best-selling milk package even better

Like other Tetra Brik Aseptic packages, the new Tetra Brik Aseptic 1000 Mid, first being launched with FlexiCap, is simply smart. It has been developed in particular for existing Tetra Brik Aseptic 1000 Base customers who want to add closures at a similar cost profile.

Consumers used to buying their favourite milk in TBA 1000 Base packages probably won't notice much of a visual difference with Mid. What they will notice is the FlexiCap closure and its excellent opening and pouring properties.

FlexiCap is applied using DIMC (Direct Injection Moulding Concept) technology which uses minimal materials to achieve a very low-cost, functional flipcap. Furthermore, customers investing in TBA 1000 Mid FlexiCap today will be able to upgrade to LightCap, the screwcap version, in the future.

In distribution, TBA 1000 Mid customers can continue stacking 6-layers high and a perfect fit on pallets makes it resistant to damage during transport.

Efficient distribution, combined with DIMC, also contribute to this package's excellent environmental profile.

FSC™-labelled carton packages gain ground

Tetra Pak launched the first FSC-labelled carton package, Tetra Recart, in 2007. The following year, 2008, we sold around 200 million FSC-labelled packages worldwide, and in 2009 we reached more than 2.3 billion. The ambitious deployment has continued during 2010 with roll-out of FSC-labelled packages with customers in several new countries such as France, China, Germany, Switzerland and Spain. More than 8.5 billion FSC-labelled Tetra Pak packages reached consumers in 2010.

World Expo 2010

A variety of products recycled from post-consumption cartons made their debut at the World Expo 2010 in Shanghai, which attracted visitors from all over the world. 2000 green benches, each of which was made from 856 used cartons, were the result of a milk carton recycling campaign called "Green Expo Takes Pride in Me". This was a joint project by Shanghai World Expo Coordination Bureau, Xinmin Evening News and Tetra Pak China. In addition, visitors could trace the footprints of milk and beverage cartons in the Expo Park, including plastic wood for waste bins, chip-tec board for pavilion construction and recycled fibre in printer paper and roll paper. The recycling campaign attracted 728,400 participants in Shanghai and recycled a total of 113 tonnes of cartons, which is equivalent to over 10 million 250 ml milk cartons.

Tetra Pak solution reduces cost in new drying plant

Fonterra in New Zealand wanted higher capacity with lower energy consumption for its new Edendale Dryer 4 plant. The company required top efficiency to keep manufacturing costs to a minimum. Fonterra has a long-term adherence to environment protection practices. Its goal was to reduce air pollutants and to make efficient use of non-renewable energy resources for its new plant. Tetra Pak offered a complete powder plant solution with revolutionary cost and energy savings complemented with top efficiency throughout the entire process.

New school milk programmes supported by Tetra Pak

In 2010, we expanded our support for school milk programmes in Pakistan, Senegal, Ukraine, Bosnia and Herzegovina, Gaza and the West Bank. School milk programmes play a vital part in our business strategy 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.

Tetra Pak Eastern Africa donates desks to local community schools

In 2010, more than 500 wooden desks were donated by Tetra Pak to three community schools in Kenya. The desks, which were made using unused pallets from the Tetra Pak Eastern Africa factory in Nairobi, now provide much-needed learning support to more than 1,500 primary school children. Children in community schools in Kenya often sit as many as eight to a desk designed for three pupils, while many others can only attend class by sitting on the floor.

Climate award to Tetra Pak

In 2010, Tetra Pak received the Climate Award from the Swedish Forest Industries Federation for its work with renewable resources, ensuring that the supply meets the highest standards in forest management, and minimising the company's net impact on the climate. Part of the motivation for the prize, which Finn Rausing received from H.R.H. Prince Carl Philip, was: "Tetra Pak also takes a responsibility for the forests the raw material originates from. Few organisations in the world have the same drive and reach to be able to effectively support the work for a better environment and reduced impact on the climate".

Carrefour Argentina tells consumers Tetra Pak packages are "eco-friends"

Tetra Pak in Argentina became the first partner with Carrefour in its Social Responsibility Programme "Adding up wills". Carrefour secured supply of products that could carry the FSC label, then all shelves displaying Tetra Pak products in the categories in which we participate; milk, juices, tomato and wine stand out with a graphic identity that communicates with consumers about the renewability, food protection and recyclability of our packages. Good visibility generates awareness among consumers.

We are also training Carrefour's staff in a "Zero Waste" programme aimed at reducing waste by using drop-off containers for packages and communicating the environmental profile of our packages.

Carrefour plans to gradually incorporate this in other shops. Packages are donated to local recycling cooperatives.

New Tetra Pak Technology Centre in Pudong

In April, 2010, Tetra Pak China inaugurated the new Tetra Pak Technology Centre in Pudong, Shanghai. By bringing together resources from product development and engineering, technical service, training, sourcing and distribution, the technology centre enables Tetra Pak to provide Chinese customers with a one-stop service in food processing and packaging solutions.

The shortcut to UHT milk

Tetra Pak has introduced a new answer to the price pressure on today's market: the OneStep technology for the dairy industry that produces white UHT milk in a single step.

Now included among the Tetra Lactenso Aseptic best-practice solutions for dairy production, the OneStep technology allows customers to maximise their production uptime and get more output from less input. All together this means reduced operating costs, increased product quality and reduced environmental impact through one single process – a shortcut to UHT milk.

"Compared to conventional solutions for white UHT milk processing, OneStep technology offers a shortcut to white UHT milk. It combines UHT treatment with separation and standardisation in a single, high-throughput process. Simply put, this means that processing is streamlined and the need for pasteurisation pre-treatment and intermediate storage has been eliminated", says Product Manager Bengt Eliasson.

HIGH PRODUCTION EFFICIENCY AND FLEXIBILITY

In one unbroken step, raw milk is separated, standardised and homogenised, before undergoing UHT treatment and being transferred to aseptic buffer tanks. The single heat treatment and processing shortcut minimise the risk of affecting product flavour, appearance, and nutrition, thereby maximising product quality.

Moreover, intelligent automation takes full control of the entire production process and enables traceability, reporting and analysis. This also reduces the risk of human error, boosting food safety, product quality and operational efficiency even further

"OneStep technology is an example of our innovative thinking 'outside the box' developed with our customers' needs in mind. This technology shortens the production time from raw milk to the final packaged product from as much as two days with conventional solutions, down to just a few hours. And it gives 100 per cent availability to the filling lines", says Bengt Eliasson.

Another significant advantage is that operating costs are reduced by up to 50 per cent compared to conventional solutions. And because less equipment and floor space are required, capital costs can also be reduced.

"OneStep technology is an example of our innovative thinking 'outside the box' developed with our customers' needs in mind."

ENVIRONMENTALLY EFFICIENT PRODUCTION

The OneStep technology reduces energy and water consumption by up to 35 per cent, waste and effluent load by up to 60 per cent. Together with 30 per cent less product waste, compared to conventional UHT solutions, all this in turn adds up to a 40 per cent reduction of the carbon footprint of white UHT milk production.

"This is a perfect example of how efficiency drives sustainability. Reduced product losses and cleaning volumes translate into reduced waste, simplifying waste handling and lowering environmental impact further. To us, product loss is more than loss of raw material; it is also the cost for waste handling and lost sales", says Bengt Eliasson.

LARGE QUANTITIES OF WHITE UHT MILK

The target groups for the OneStep technology are both existing and potential dairy customers who are producing large quantities of white UHT milk and need a new production line with high production capacity.

"With the launch of the OneStep technology, we take the next step in our development of Tetra Lactenso Aseptic solutions, a new generation of aseptic technology. And all this is backed up by performance guarantees which makes our offer unique", concludes Bengt Eliasson.

Best-practice solutions cut product loss

Tetra Vertenso is the name for our best-practice solutions for beverage production. Best-practice solutions (for units and lines) are based on our experience in the market and on our knowledge about general customer needs, such as efficient and safe food production. From these best-practice solutions we can customise individual units or entire line concepts to meet each customer's specific performance criteria on parameters like running time, food safety and quality, water usage and energy consumption.

Two of our best-practice units – the Tetra Therm Aseptic Drink pasteuriser and the new Tetra Alblend blender – can be combined in a Tetra Vertenso solution that drastically reduces product loss. In fact, in some cases product losses have been completely eliminated, cutting production costs and reducing environmental impact.

By recovering concentrate between the premix tanks and Tetra Alblend, product loss is reduced by at least 66 per cent. But even more impressive is the virtual elimination of product losses at the start of production, through reject recovery and when production for any reason is stopped.

Tetra Evero Aseptic

– the first aseptic carton bottle in the world

2011 sees the launch of the world's first aseptic carton bottle for ambient milk, Tetra Evero Aseptic from Tetra Pak. After four years of intensive product development and testing, Tetra Pak can present a package that combines the convenience of a bottle with all the benefits of carton packaging. The first market for the launch is Spain, which then will be followed by other European markets.

Tetra Evero Aseptic is designed to help everyone in the value chain – producers, retailers and consumers. Tetra Pak has carried out a number of consumer tests and the reaction among consumers is very positive.

"Consumers find it easy to grip and easy to pour. In addition it has a nice look", says Alexander Krivolapov, Product Director Tetra Evero Aseptic Marketing & Product Management.

HELPS TO BUILD CUSTOMERS' BRANDS

Not only the consumers will benefit from this new package. A truly innovative product, it helps producers to differentiate their products at a lower investment cost versus other bottles.

"Our customers will be able to brand most of the surface of Tetra Evero Aseptic and convey key messages to the consumers", says Alexander Krivolapov.

Tetra Pak has developed a filling machine that takes up 50 per cent less space in the production halls, compared to other bottling lines. Being less complex than other bottle systems, Tetra Evero Aseptic increases output while cutting investment, operating costs, manpower and utility consumption.

From a retailer's point of view the new package is easy to store, will stand out on the shelves and will be attractive to the consumers.

SOUND ENVIRONMENTAL PROFILE

Tetra Evero Aseptic is mainly made from FSC™ (Forest Stewardship Council) certified paperboard, showing consumers that the package is made from paperboard derived from responsibly managed forests.

Tetra Evero Aseptic is designed for non-oxygen sensitive ambient white milk products with fat content between 0 and 5 per cent. The products can be stored up to six months. Thanks to a smart one-step opening, it offers two-step safety with the membrane built into the cap. The distinct click sound it makes when being opened guarantees product freshness.

TRUE INNOVATIONS

More than 200 people at Tetra Pak have been involved in the development of Tetra Evero Aseptic, coming up with several true innovations.

Tetra Evero Aseptic is made from reel fed paper board that saves space in the producers' production halls. Inside the filling machine the paper is cut into blanks and the carton sleeve is integrated with an injection moulded top and cap. Another important invention is the aseptic chamber where the package is sterilised. In addition Tetra Pak has developed a system for distance filling by a four-step process where the package is gently filled and gives the benefit of less foaming of the milk.

"We are fully booked already this year, which means that we will deliver one machine every sixth week from now and onwards."

ROLL-OUT IN EUROPE

The reaction from customers has been extremely positive.

"We are fully booked already this year, which means that we will deliver one machine every sixth week from now and onwards. Our long-term goal is to capture a substantial market share for ambient white milk, and change the way people consume milk", concludes Alexander Krivolapov.

A leap forward for integration

Launched in 2008, Tetra Pak's iLine concept boosted horizontal integration along the packaging line, implementing a new automation platform and Ethernet connection. Now, iLine XT stretches this horizontal integration even further, reaching all floor level operations connected to the packaging line: palletising, pallet wrapping, logistics and printing.

But this is not just a leap forward, it is also a leap upward, because iLine XT also introduces vertical integration. In doing so, it meets the demand from many customers aiming to connect their packaging lines to higher levels of plant management, such as Manufacturing Execution Systems. Together with Tetra PlantMaster, iLine XT provides complete plant integration enabling the connection and management of processing, packaging, marking, logistic solutions and warehouse systems.

A COMPREHENSIVE PACKAGE

iLine XT products address logistic solutions, marking solutions and iLine extensions. The logistic solutions include an automated system comprising laser guides vehicles (LGV), LGV Controller and warehouse management software. The marking solutions offer printing solutions for a packaging line from individual package to pallet, including software and printers to enable package traceability. The iLine extensions focus on the pallet, offering automated palletising and pallet wrapping solutions.

ONE STEP FURTHER

iLine XT makes it possible to take production integration one step further. The benefits of enhanced plant automation are evident, with tracking and traceability as key items. In addition, production performance is optimised, reducing total system cost per unit and allowing for consistent quality and more flexible manufacturing.

New resealable screwcap

HeliCap 23 is a new one-step resealable screwcap closure for Tetra Brik Aseptic 1-litre Slimline, making one of the best-selling family packages even more competitive. HeliCap 23 is ideal where consumers are primarily looking for ease of opening. The new cap provides a good grip, has a very clear tamper evidence ring and has been designed to provide a level of opening force that consumers feel comfortable with.

Tetra Alcip takes full control

Cleaning is a must in all food and beverage industries and is essential to secure food safety and product quality. In addition, cleaning in place (CIP) has a major impact on the availability of equipment for production, which in turn affects efficiency and the consumption of energy, utilities and detergent.

For many years, Tetra Alcip has been one of Tetra Pak's high-volume products for meeting the food and beverage industry's CIP needs. With an installed base of more than 1,600 CIP units worldwide, one might wonder how that could be improved upon – and why anyone would want to try.

The answer lies in a mindset of continuous improvement, particularly when it comes to enabling customers to achieve greater food safety in a more cost-efficient way. The new Tetra Alcip unit is based on totally new automation platforms that give food and beverage producers a range of new and unique benefits to assure uncompromising food safety at lower cost than ever.

"CIP activities should intrude as little as possible on production time, because no production equals no profit."

GIVE TOTAL CONTROL

"CIP activities should intrude as little as possible on production time, because no production equals no profit", says Stefan Åkesson, Manager of Food Safety & Equipment Safety at Tetra Pak. "It is important to consider the process as a whole, also making sure the product recovery step preceding CIP can be performed in a smarter way. That's why CIP is to a large extent an optimisation issue."

Thanks to new functions in the new Tetra Alcip unit, producers gain full control of the key CIP parameters: temperature, concentration, flow and time. New features, like queue handling with prioritisation and the flexible dosing system, give the customer maximum operational flexibility while cutting costs – and environmental impact.

"That's why we call the new Tetra Alcip 'smart CIP safety'", adds Stefan Åkesson, "and it means that we've managed to make the best even better."

PREPARED FOR INTEGRATION

Tetra Alcip is prepared for full integration with a wide variety of Tetra Pak's dairy, food and beverage processing equipment and filling machines – everything from a single unit to complete lines, and entire customised processing and packaging production solutions. It has also been prepared for integration with Tetra PlantMaster – Tetra Pak's unique automation solution for plant-wide control.

French mountain milk in FSC package

Auchan, one of the world's top retailers, has chosen an innovative package from Tetra Pak to launch a new, store brand milk produced by small, local dairies located in the mountainous Massif Central region in central France. The choice of the Forest Stewardship Council™ (FSC)-certified Tetra Gemina Aseptic package underscores Auchan's commitment as a socially responsible discount retailer.

New solutions for a new generation

In 2010, Tetra Pak in East Europe and Central Asia delivered more than 1.4 billion packages for baby & toddlers food products, mainly Tetra Brik Aseptic. The success story started in the early 1980s when Tetra Pak was selected by the government of the Russian Federation as the leading supplier of processing and packaging solutions for the Lianozovo Baby Food plant in Moscow – the first specialised production site for infant and toddler dairy products in the country. Today, a number of Tetra Pak customers produce high quality baby and toddler foods in aseptic packages, ranging from ultra-pasteurised white milk and kefir to enriched cultured milk, ready to drink infant formula, juice and fruit purees.

Tetra Pak's product portfolio successfully competes with glass bottles in the baby and toddler foods category. The new iLine solution Tetra Pak A3/CompactFlex allows Tetra Pak to offer to the market new high-tech solutions for portion packs oriented categories, primarily for baby and toddler foods. Tetra Pak Aseptic portion packages are widely used not only in core segments such as liquid dairy products and juice, but also for a range of new products: liquid cereals, fruit and vegetable purees and smoothies.

Effective damage control

Even a short break in production can create great losses. If a whole factory is destroyed, the damage can be almost irreversible. In June 2010, a flood in northeast Brazil caused the total destruction of a co-packing factory for PepsiCo, a key account customer of Tetra Pak. With no output, loss in market share was imminent. But due to great determination and commitment from all parties, it only took 60 days to recover the losses. With all equipment in place, production started again on August 29.

Dedicated service

Good service should never be underestimated. This was the lesson learned when Sydney–based Contract Beverage Packaging of Australia (CBPA) turned over their packaging line maintenance to Tetra Pak in 2008. With Tetra Pak's help, CBPA boosted their efficiency from 75 per cent to over 90 per cent within 3 months. The dedicated on-site service teams are always available and with their knowledge of both machines and products, effective output and profitability is at an all-time high.

A record-breaking recovery for 5 Alive

After a fire in a plant in Nigeria, all production and distribution of the fruit drink 5 Alive was disabled. As of late 2009, the Coca Cola-owned brand has been re-introduced into the Nigerian market with the help of Tetra Pak. With new production facilities and a new package, 5 Alive remains a top ranked brand with a strong growth potential in the future.

In 2008, fire struck The Nigerian Bottling Company Plc (NBC), destroying the only factory where the 5 Alive fruit drinks were produced. NBC and The Coca Cola Company, who owns the brand, needed a quick and efficient recovery strategy.

Globally Coca Cola was using Tetra Pak's Tetra Prisma Aseptic package in 18 markets. Knowing its value and advantages, the decision was made to co-operate with Tetra Pak in reviving 5 Alive, and a record-breaking recovery took place. In just nine months Tetra Pak, Coca Cola and NBC installed one of the largest and most technologically advanced juice plants in the world.

"Tetra Pak was deeply involved in helping us set up the new production facility. With their vast knowledge of the global beverage industry, they also provided the guidance required to make the launch of 5 Alive a success", says Roland Ebelt, Managing Director, Nigerian Bottling Company.

The package was very well received by the consumers, who especially thought it was easier to handle than the former 1 litre package. Due to this initial success, Coca Cola is planning to expand the usage of the Tetra Prisma Aseptic package during the next three years.

Eco-efficient lid on Tetra Top Carton Shot

Together with Tetra Pak Japan, Yakult Honsha Co. Ltd has developed Hiuchi, a big tab opening with several advantages. It is easy to separate from the carton sleeve for efficient recycling and consumers can either drink from a straw or directly from the package.

Yakult selected this package since it is innovative, convenient and very suitable for the oxygen sensitive Bifidobacterium culture and because it offers consumer convenience and is eco-efficient.

A successful partnership

It has been said that successful business always starts with a good partnership. This is definitely true when it comes to the long-term commitment between Tetra Pak and Albalact. In 2004 the old milk factory Albalact in Transylvania, Romania was close to bankruptcy. Six years later Albalact is a thriving company with leading brands in the Romanian dairy market thanks to close and successful cooperation between Tetra Pak and Albalact.

Complete line for premium powder

Established in 1992, the Chinese company Beingmate has a diversified portfolio including the production of wedding dresses and infant formulae, and everything in between. However, the main operation centres on producing items for infants and young children, including premium infant formula.

After the acquisition of Cheese and Powder Systems in 2006, Tetra Pak improved its position substantially in the dairy and infant formula powder sub-categories. Even though the milk crisis in China during 2008 damaged consumer confidence in milk, Tetra Pak strengthened its position in China as manufacturers saw the value of a complete line of processing solutions with full traceability, food safety focus and validated performance guarantees.

With the relationship dating back to 2007, Tetra Pak has delivered two comprehensive solutions. The latest, called Beingmate II, was a complete plant including milk receiving, mixing, CIP station, evaporation, drying and powder handling equipment. The production capacity is 3,000 kg infant formula powder per hour.

"We have a long-term focus in everything we deliver and this has fostered a close and very fruitful relationship between Beingmate and Tetra Pak. By bringing in experts from several different countries; Netherlands, New Zealand, Malaysia, and China; we delivered a high quality plant in full, on time", says Bruce Zhang, Tetra Pak's project manager.

In addition, Tetra Pak supplies after sales services and conducted a technical seminar for selected Beingmate staff. Looking ahead, Beingmate and Tetra Pak are currently discussing a new production line, boosting production capacity even further.

Tetra Pak introduces FSC™-labelled cartons in several markets

During 2010 Tetra Pak introduced FSC-labelled (Forest Stewardship Council™) cartons in China, France, Germany, Switzerland, Spain and several other countries. The launch of FSC-labelled cartons represents another step in Tetra Pak's commitment to support responsible forest management and drive continuous improvements in our environmental performance.

Introducing FSC-labelled cartons has been a way to further strengthen Tetra Pak's environmental performance. Customers and retailers are showing an increasing demand for environmentally sound packages. Together with Tetra Pak's strong commitments to sustainable development and environmental responsibility, this has led to a substantial upswing in sales of FSC-labelled packages.

The largest FSC market for Tetra Pak is Brazil. It was also the first country to introduce FSC-labelled packages on a large scale, back in 2008, due in large part to the fact that Tetra Pak's supplier in Brazil was able to supply the company with 100 per cent FSC-certified material.

OTHER MARKETS FOLLOWED

Since then a number of European and Asian markets have followed. For instance, during 2010 Tetra Pak supplied more than 100 million FSC-labelled carton packages to Carrefour stores across France. The goal is to achieve FSC labelling on a majority of the 3 billion packages Tetra Pak sells every year in the country before the end of 2012.

2010 also saw the first FSC-labelled cartons introduced in China, in the form of Tetra Fino Aseptic, Tetra Prisma Aseptic and Tetra Brik Aseptic.

"Tetra Pak is committed to sustainable development and is working together with suppliers, customers and NGOs to create a green chain from the upstream all the way to the consumer", says Hudson Lee, President of Tetra Pak China.

In Switzerland, Tetra Pak plans to offer about 340 million FSC-labelled packages to the market in 2011, representing more than half of its annual sales in the country. The first FSC-labelled cartons were delivered to Coop stores in 2010.

Spain also launched its FSC initiative in 2010, with a goal of offering the market 1.5 billion beverage cartons bearing the FSC label during 2011.

FSC
www.fsc.org
FSC® C014047
The mark of responsible forestry

FSC standards are globally recognised as the highest social and environmental standards in forestry.

"Tetra Pak is committed to sustainable development and is working together with suppliers, customers and NGOs to create a green chain from the upstream all the way down to the consumer."

"Our ultimate goal is to have our entire supply certified to the highest standard, which is currently set by FSC", says Adolfo Orive, Managing Director Tetra Pak Iberia.

A CHAIN OF CUSTODY

FSC certification guarantees a chain of custody from forest to store, by securing the traceability through the supply chain to a filled package. It enables Tetra Pak to use the FSC label on its packages and is a guarantee that all wood fibre used to produce paperboard comes from FSC-certified, well-managed forests and other controlled sources.

"The FSC certification is an important part of the evaluation of our suppliers", says Lena Dahl, Environmental Specialist Forestry and Base Materials at Tetra Pak.

Tetra Pak has ten major suppliers of paperboard, of which eight are currently FSC certified.

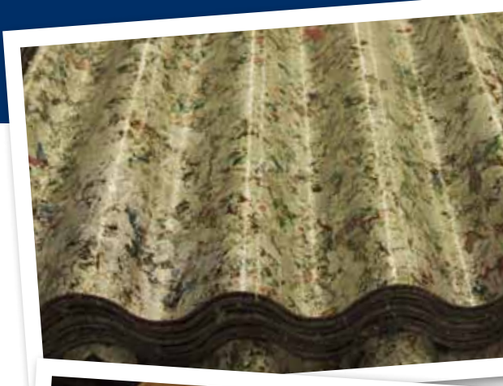
AMBITIOUS OBJECTIVE

Tetra Pak's long-term objective is that 100 per cent of the paperboard supply should be FSC certified. In 2010, that number was around 40 per cent.

"The problem is the availability of certified forests, which is why we are supporting FSC and WWF (World Wide Fund for Nature) in projects to increase FSC certification", says Lena Dahl.

During 2010, 8.5 billion FSC-labelled Tetra Pak cartons reached retail shelves. Tetra Pak has a deployment plan for the introduction of FSC-labelled packages, the next step being to extend the roll-out to other markets in Europe, where customers have expressed strong demand.

Tetra Pak meets its climate goal and sets ambitious new targets



In 2010 Tetra Pak met its climate goal to reduce its CO_2 emissions by more than 10 per cent compared to 2005. The absolute reduction, despite business growth, was mainly reached through energy efficiency measures in the converting plants and by investments in green energy. New ambitious goals have been set for 2020.

Tetra Pak has been a partner in WWF Climate Savers since 2006. The company was invited to join by virtue of its global goals to reduce absolute CO_2 emissions. Currently 25 companies in the world are members of the WWF Climate Savers; each one committing to an absolute reduction of its greenhouse gas emissions.

"Every year, Tetra Pak is obliged to report the amount of electricity and other forms of energy that it purchases, produces and consumes. Regardless of whether it is a factory or an office, all sites have to report", says Mario Abreu, Tetra Pak's Director for Global Environment, Recycling and Supply Chain Support.

RESULTS AUDITED BY INDEPENDENT EXPERTS

In order to measure the CO_2 footprint of its operations globally, Tetra Pak uses the Greenhouse Gas Protocol, developed by the World Business Council for Sustainable Development and the World Resources Institute.

The reported figures on electricity and other energy are translated into a global carbon dioxide equivalent number and audited by an external independent partner – Ecofys, a German consultancy company.

In 2005, Tetra Pak set up an ambitious climate goal, where CO_2 emissions were to be cut by 10 per cent from 2005 to 2010 in absolute terms, while maintaining business growth.

"We are particularly proud that we managed to reduce our CO_2 emissions by 11 per cent in absolute terms over that five year period, particularly as the business and net sales of Tetra Pak have continued to grow significantly over the same period", says Mario Abreu.

In fact, Tetra Pak had a sales growth of 23.1 per cent between 2005 and 2010. Taking this business growth into account, the relative reduction of CO_2 emissions during the period 2005 to 2010 is close to 30 per cent.

To achieve the CO_2 reduction, Tetra Pak focused on two key areas of activity: green power and energy efficiency. The green power we invest in must meet WWF's high criteria for renewable energy, and Tetra Pak has a number of qualifying purchase agreements in place.

On the energy efficiency front, the company continues to replace outdated production equipment with more energy-efficient machines, and to develop new ways to operate its facilities that will reduce their overall carbon emissions. This includes everything from our on-going quality improvement programmes, to activities focused on reducing waste, streamlining processes and raising energy-efficiency standards across all areas of its operation.

"We are particularly proud that we managed to reduce our CO_2 emissions by 11 per cent in absolute terms over that five year period, particularly as the business and net sales of Tetra Pak have continued to grow significantly over the same period."

WHY CO_2 REDUCTION IS SO IMPORTANT

There are several reasons why Tetra Pak believes it so important to reduce carbon emissions, not least being the global spread of the company's activities and the considerable size of operations.

"We are aware of our role in society. But it is also a part of our culture to do things properly and be a good citizen", says Mario Abreu.

Another equally important reason is that most of Tetra Pak's customers expect the company to contribute to a lower environmental footprint by offering sustainable products and solutions.

"So we have to supply them with products that have the lowest possible environmental impact", says Mario Abreu.

All in all, being more energy efficient saves money and contributes to an efficient business for Tetra Pak as well as a better environment.

NEW GOALS FOR 2020

Tetra Pak has now defined a new goal for continued and extended reduction of its carbon footprint. In the measurement of CO_2 emissions, the company has decided to include what comes before and after its own operations. This means that emissions generated during the production of the company's raw material will now be included, together with those related to the use of Tetra Pak plant and equipment at our customers' sites.

"Our new target is ambitious: that in 2020, we will have the same level of total carbon emissions across the whole value chain as we had in 2010, irrespective of how much we grow our business during that same 10 year period", concludes Mario Abreu.

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Sustainability in Brazil

Brazil is one of many countries where Tetra Pak is investing both time and resources to encourage awareness and support action for sustainability. Among other things, all the layers from Tetra Pak's packages are recycled, for instance plastic and aluminium layers are reprocessed into construction material and industrial resources. The production of packages with the FSC label has increased since the first packages were introduced to the country in 2008. In 2010 alone, some 5 billion packages were produced with FSC labels. Besides this, the Tetra Pak facility in Monte Mor has been significantly modified to decrease its impact on the environment, with a sharp focus on maximising energy efficiency.

Tetra Pak also helped to speed up the process to ratify the bill on the National Policy on Solid Waste, which settles the concept of shared responsibility for all parties involved in the product lifecycle. It was a very important step in creating environmental, social and economic benefits for Brazil.

Tetra Pak drives initiatives to increase recycling worldwide

Despite a consistent growth of carton recycling – every year since 2002 the amount of recycled cartons has grown by more than 1 billion per year – Tetra Pak is not satisfied. Today 20 per cent of Tetra Pak cartons are recycled around the world and the ambition is to double this figure by 2020.

Increasing recycling is a key element of Tetra Pak's environmental strategy. Activities to drive recycling include facilitating the development of collection schemes for used beverage cartons, the launch of new recycling technologies and to raise awareness and engagement about the importance of recycling. The initiatives vary widely from country to country, depending on the maturity of the recycling system.

In countries like Belgium, Germany, Norway and Spain, recycling rates reach over 50 per cent, but in regions with little access to collection and recycling facilities Tetra Pak often collaborates with local authorities, retailers, community recycling networks and sorting facilities to establish beverage carton recycling. The work pays off:

"In 2010, approximately 30 billion of our cartons were recycled worldwide. The increase in the amount of cartons being recycled has been over a billion cartons per year – a figure that we expect to continue to increase in the coming years", says Mario Abreu, Director, Global Environment, Recycling and Supply Chain Support, Tetra Pak.

HIGH AMBITIONS

For Tetra Pak recycling begins with designing products that can be recycled efficiently and ends with taking an active part in supporting the collection, recovery and recycling of used cartons. The challenge is to involve the consumers.

"Our ambition is that as many packages as possible should be collected after consumption and be recycled. But we are dependant on the willingness of the consumers. My impression is that more and more people would like to contribute to a better environment", says Mario Abreu.

USED CARTONS ARE RESOURCES FOR NEW PRODUCTS

Besides having a clear consumer focus there is another reason why recycling is so important to Tetra Pak – it contributes with used cartons as resources for new products. In Europe, the EU Packaging and Packaging Waste Directive classifies cartons as a single grade of recoverable paper, facilitating the trade of used beverage cartons as a commodity. The idea is that all material should be used for as long as possible.

"The fibres in our cartons are a suitable material for use when producing carton boxes. The more fibres that can be used to produce new products the better. The same applies to other materials such as polymers and aluminium foils which are dealt with in the recycling process", says Mario Abreu.

BUILDING ON EXPERIENCE TO DRIVE CONTINUED GROWTH

Since 2000, the amount of Tetra Pak cartons collected has more or less doubled. Tetra Pak has contributed in several ways to this positive development:

- Support to recycling companies by transferring Tetra Pak's own knowledge about recycling systems and technology.
- Cooperation with governments, industry and non-governmental organisations in different parts of the world to improve the collection of used packages and to support the establishment of effective regulatory frameworks.
- Investment in communication towards consumers to increase awareness of collection and recycling, such as campaigns in TV, newspapers and other channels, often together with customers and other stakeholders.

Recycling has been a Key Performance Indicator for Tetra Pak for several years. To measure and report recycling has become a key tool for driving improved performance. These are a few of the key elements that will contribute to the ambition to significantly increase recycling in the coming years in order to reach the target of doubling the global recycling rate by 2020.

NUMBER OF EMPLOYEES 2011

5,079

COUNTRIES COVERED

190

R&D UNITS

8

NET SALES 2010

1,300

MILLION EURO

NUMBER OF PLANTS

26

SERVICE UNITS

31

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 strive to provide excellent service and constantly challenge the limits of technology in order to offer customers A Better Match for a more sustainable & profitable business.

A BETTER MATCH

In a world of constantly changing needs, today's bottle is tomorrow's old news. But by having approximately 5,000 skilled employees all over the world, we are able to listen to our customers, offering them reliable production-systems that are easily adaptable to new developments - without causing expensive downtime. At Sidel, a company of the Tetra Laval Group, we are a driving force in PET, can and glass solutions. Our value-added service secures both our customers & us with a sustainable business in the global environment. No doubts, no compromises, just A Better Match.

MARKET PRESENCE

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 5,000 employees.

CUSTOMERS

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

ANYTIME – AFTER-SALES SERVICE

Sidel delivers after sales service 24/7. A fantastic support to leverage productivity based on the daily management of a globally installed base and a history of all past actions.

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 bottle hygiene. Sustainability is Sidel's new frontier for innovation.

ENVIRONMENT AND CSR

The world leader in stretch blow moulding for PET bottles, Sidel's concern for the environment is not a recent development. We have an established track record of source reduction initiatives and have been particularly instrumental in PET bottle lightweighting. Our industry-leading knowledge of PET, package design and equipment expertise enables customers to achieve optimal package and line performance vis à vis package weight, with many able to achieve as much as 20-30 per cent gram weight reduction. Sidel has proposed a number of equipment innovations aimed at reducing the consumption of energy and other resources. In addition, we have led research in the field of packaging material possibilities, from the use of recycled materials to testing materials made from renewable resources.

PRODUCTS

With more than 30,000 machines installed in 190 countries, the Sidel Group is one of the world leaders in solutions for packaging liquid foods including water, carbonated soft drinks, milk, sensitive beverages, edible oil, beer and other alcoholic beverages, in three main types of container: glass bottles, plastic bottles and drink cans. Sidel can support complete line engineering needs, from preliminary design to developing an investment budget, drafting plans for line layout or building the bottling line on-site. The equipment offer encompasses blow moulding machines, barrier treatment, Combi equipment, fillers, conveyors, labellers, pasteurisers, palletiser / depalletiser, robotic equipment and end-of-line operations.

Functionality hand in hand with attractive design

Laurent Lepoitevin is one of Sidel's in-house designers. Together with a group of colleagues, he develops PET bottles in almost any shape or form. To him, functionality goes hand in hand with attractive design.

WHAT REQUIREMENTS DOES A BOTTLE HAVE TO MEET?

The requirements vary as a function of the product and the country where it is marketed. If the main requirement is aesthetic in nature, we work on shapes and colours in order to differentiate the bottle from the competition. If it is a matter of responding to a functionality issue for a given target, then the development focuses on ergonomics, for example a smaller bottle for children or an easy-to-grip sport bottle. Finally, there are highly technical designs for lightweight bottles or hot-fill bottles. These development areas can also be combined, as a function of the customer's priorities.

WHAT INFORMATION IS NEEDED TO CREATE A NEW BOTTLE?

How we proceed depends on the customer's requirements. Companies can submit a marketing brief that describes the brand image, product positioning and any information about the competition. Often, there are technical specifications for the bottle. Other customers turn the project completely over to us: it is up to Sidel to conduct a marketing analysis for their product, their market and their competitive environment. It is essential to understand brand positioning in order to design a bottle that is suited to its target.

HOW DO YOU KEEP YOUR SOURCES OF INSPIRATION FRESH?

There is no method for finding inspiration: it depends on each designer's sensibility. It is about being open to your environment and observing and listening. All of our senses are constantly in action. To start with, we set no limits for ourselves, so that we don't stifle our creativity, and then little by little we start focusing more on what the customer wants to express. A designer is a creative person: we all have an art background and were trained in painting, sculpture, architecture or other fields. We stay up to date on new trends in all fields of design. And we also have experience in auto design, product design (household goods, etc.) or even furniture design. These are all fields where aesthetics is a primary concern, and they are all sources of inspiration for us. For example, we recently designed a bottle based on a detail from an auto body.

HOW IS AN IDEA TRANSLATED INTO A DESIGN?

The designer's work starts by communicating with and listening to our customers in order to understand their expectations. The people we deal with are not just technicians, but also, increasingly, marketing specialists. After listening to their ideas, we imagine how the end consumer will use the product. We then define key words as a function of the values the product has to reflect. We add visuals that translate our ideas into concrete terms and then we come up with bottle design proposals.

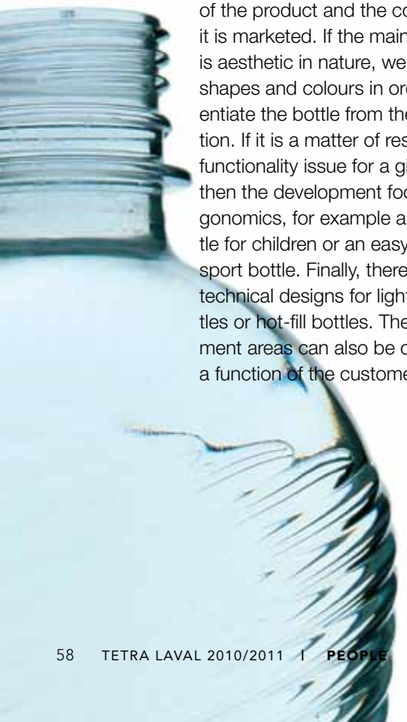
WHAT DIFFERENTIATES YOU FROM A DESIGN AGENCY?

We combine the creative skills of a design agency with complete mastery of bottle manufacturing technologies, including knowledge about all the equipment in a bottling line. Our challenge is to preserve the initial creative concept all the way through final industrial design. Above all, the bottles we propose are all ready for industrial upscaling right away, which saves a lot of time for our customers. We are sometimes called on at unexpected steps of the project. For example, we have participated in developing the recipe for a drink, we have drawn up product brand logos and even made labels. Sidel is undeniably recognised as a design agency within the bottling industry.

The Group has participated several times at the Pentawards, an international packaging competition, and has systematically taken home awards, including a Bronze for NoBottle in 2008 and a Bronze for the Torche bottle in 2009. And Sidel was the only company there that wasn't a dedicated design agency. Many of our product references are now on the shelves, and we are proud of them: Vittel (France), Zagori (Greece), Ecofina (Pepsi USA) and EcoShape (Nestlé USA). The list is long.

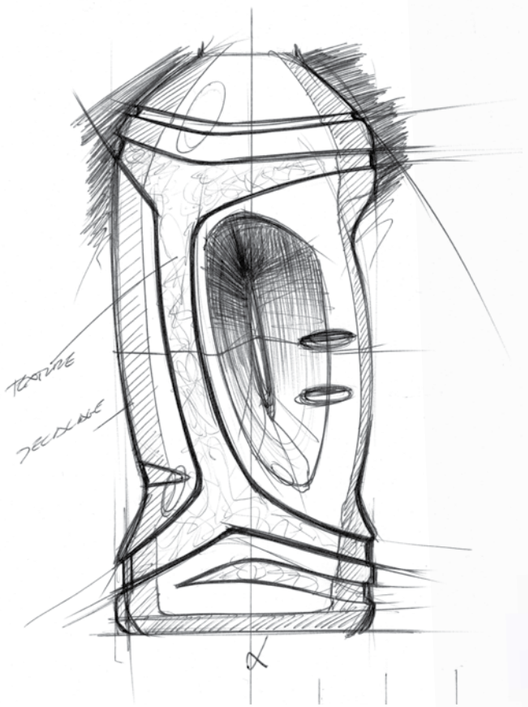
HOW MUCH TIME PASSES BETWEEN THE INITIAL DRAWINGS AND THE FIRST PRODUCTS REACHING THE SHELVES?

Development times for new bottles are quite variable and dependent on the customer's requirements and challenges. In general, barely a month is needed to get final shape validation. However, some developments have lasted a year from the first sketches to market release. From the rough conceptual sketch to the 3D drawing that integrates technical constraints (volume, bottle weight, etc.), we arrive at an industrial-scale bottle. After that, there are many possibilities: computer-generated images to get a view of the real product, simulation of bottle performance with structural calculations, production of marketing samples that are similar to the final bottle in order to evaluate volumes and ergonomics, and performance of bottling tests or consumer tests. Then, we move on to the industrial phase with the production of moulds and perso parts.



Large grip for consumer comfort

Elegant and triangular in shape, the three-liter DeepGrip™ is the first PET bottle with a deep blow-moulded grip, requiring no external handle. It is produced using Sidel's punching-conforming technology (patent pending). Developed in partnership with PTI-Europe, this technology makes it possible to manufacture single-material packages in large, functional formats. Including a deep grip to give consumers an ergonomic handle, the DeepGrip™ is ideal for the bottling of water or oil.



Showroom with a spotlight on packages

Each year, Sidel organises 250 customer visits on average at their site in Octeville, France. To effectively accommodate these visits, a "packaging showroom" was inaugurated in September 2010, displaying all possibilities in Sidel's offering. The showroom covers more than 60 m² and has almost 400 bottles on display, reflecting the entire market. It creates an impression of visiting a design agency demonstrating Sidel's creative quality and scope, outside the industrial context of the site. The showroom also gives the clients, no matter expert or novice, the opportunity to learn more about Sidel's products. Finally, the showroom works as a sales tool, giving the sales staff opportunity to explain different blow moulding processes and technologies or to discuss potential incompatibilities.

HPR certification for the Beijing site

On August 23, FM Global gave the Sidel Group HPR certification for its new industrial plant in Beijing. FM Global is an insurance company in the industry specialising in risk prevention services. The HPR certification confirms that the Beijing plant is managed in line with the world's highest quality standards. The plant is Sidel's showcase for lean manufacturing and quality excellence. Opened in late 2008, Sidel Beijing's 40,000-m² site is the Group's most recent plant and its first multi-product plant: from blow moulders to palletisers, all machines in a complete line can be assembled there.

Modulomold™

A single mould, several bottle shapes

Beverage brands manage a wide portfolio of products. To respond to productivity needs as well as the greater customisation of packages, Sidel presents its new, patented technology: modulomold™. Several bottles of the same size can be produced in a single mould using removable inserts. The modulomold™ technology is used to customise a portion of the mould: the shoulder or the lower part of the body, or both at the same time. The solution is characterised by a set labelling area and a shared mould base for all bottle shapes of the same size. Designed in accordance with the smed method (single minute exchange of die), this technology facilitates ultra-quick changeover (20 seconds for an insert set) without tools, and it reduces the risk of error during installation in the mould, thanks to a foolproof system.

Bottle shape constraints related to the choice of filling technology are no longer a consideration with FreeShape™. This innovative bottle needs no panels due to its overstroke base, offering maximum shape freedom. In addition, it gives the possibility of using a single bottle for both hot fill and aseptic filling of sensitive beverages. The secret lies in the patented bottle base profile, which acts like a membrane or piston: it rises and falls depending on variations in the volume contained within the bottle.

Maximum shape freedom

A durable solution for the water market

Bottle lightweighting, energy savings and greater hygiene: the Combi is the must-have solution for the water market.

"We chose the Sidel Combi for the guaranteed hygiene it provides, for Sidel's blow moulding expertise, the high productivity of its equipment and the bottle lightweighting possibilities."

"We chose the Sidel Combi for the guaranteed hygiene it provides, for Sidel's blow moulding expertise, the high productivity of its equipment and the bottle lightweighting possibilities." This is what the management of Erikli Nestlé Waters said in 2008, when ordering the first Combi 34 for the bottling of natural spring water.

Since then, the leader in the Turkish bottled water market has ordered another Combi. One out of every three customers has already reordered this integrated blowing-filling-capping system, which today represents 98 per cent of the equipment sold by Sidel in the water market. More than 300 systems have already been sold. Their benefits? Providing a technological response to consumer expectations in terms of natural products and eco-friendly packaging.

LESS THAN 10 GRAMS

The Combi guarantees hygiene for water, which is increasingly considered a "sensitive" product. Food safety and bacteriological stability are ensured by the use of a single chamber, the absence of any intermediate equipment (air conveyor, silo), the sanitation of product circuits and the level of aerolic protection in the filling-capping part.

With the dry decontamination systems for preforms (Predis) and caps (Capdis), Sidel is raising hygiene performance even higher. Reducing environmental impact involves using less raw materials and decreasing package weight.

Equipped with positive transfer control between blowing and filling, the Combi breaks free of the limits that air conveying places on lightweighting potential: less than 10 grams for a 0.5-L bottle is now possible on an industrial scale. The thinness of the preform walls leads to other savings as well – less energy is needed for their manufacture, blowing pressure can be decreased and the absence of a rinser reduces water consumption.

HIGH SPEEDS

Finally, reducing the use of raw materials, which represent nearly 80 per cent of the total price of the empty bottle, also helps cut costs. With water being a mass market requiring high productivity, decreasing the number of machines and reducing the equipment footprint helps to increase yield quickly and improve system reliability. In the end, the Combi (more than 60,000 bottles per hour) also meets the expectations for small formats for on-the-go consumption (North America or Far East) as well as for larger sizes up to 3 litres in Latin America or Southeast Asia.

Less than a minute to change a mould

To meet the increasing demands on lead production and minimal machine downtime, Sidel has developed the Bottle Switch system. By reducing the mould changeover time, faster product changeover times on the filler can be reached. This improves overall machine flexibility, reduces machine downtime and therefore improves the Total Cost of Ownership (TCO). It is also a solution that helps customers avoid investing in storage silos or intermediate palletisation.

The principle involves a simple, semi-automatic solution that positions the required blowing station right in front of the operator. All he or she has to do is to change the moulds, without using any tools. The result is an easy-to-use system with no tools, optimal ergonomics, increased safety and a 50 per cent decrease in machine downtime.

Eco-conveying saves cost and materials

Using its expertise in conveying, Sidel develops sustainable equipment in line with current environmental and economic concerns.

Think about “sustainability” in the conveying field, and the first thing that comes to mind is electricity. Conveying means transport, which usually means motors. Sidel conveyors are equipped, as a standard feature, with the Movigear® motor, the latest innovation from the Sidel partner Sew-Usocome. Developed in collaboration with Sidel and tested at its Conveying Test Centre, this new reducer motor increases yield by 30 per cent while decreasing total power consumption by 23 per cent.

This is a perfect example of Sidel’s pragmatic and rational approach to eco-design. Two major focus areas guide the eco-design phase, resulting in the development of sustainable equipment: optimising energy and fluid consumption, and designing equipment that requires fewer parts and material for construction and maintenance. This is an approach that Sidel has adopted for the past five years.

In addition, the Movigear® motor does not require the use of fans, leading to an obvious reduction in electricity consumption. Furthermore, this trims down noise and the risk of germs and bacteria spreading in the production facility. On a bottling line, this approach leads to a significant drop in the number of motors needed.

BETTER AIR REGULATION

However, a motor isn’t the only way to create movement for conveying. Air, which is used to propel light objects, such as empty PET bottles and caps, also uses a lot of electricity. Special attention is therefore given to air in the eco-design approach. Sidel cap feeders, which feed properly oriented caps to the filler, are now available in a “Low Consumption” version: compressed air is replaced by a fan, which decreases energy consumption by 70 per cent and also greatly reduces the noise level.

DRY LUBRICATION: EIGHT TIMES LESS WATER

Another important issue in eco-design is water consumption. Water is used to clean and lubricate the conveyor support, i.e. for the chains in the case of mechanical conveying and for the underneck guides in the case of air conveying. Water prevents abrasion of the bottles and chains, and it also reduces energy consumption by reducing friction. These are necessary functions. However, the traditional use of soapy water, despite its good friction and cleaning properties, involves significant volumes of water as well as wastewater treatment problems.

The Conveyor R&D department has therefore looked at various alternatives for “dry” lubrication based on silicone, teflon, amines or mineral oils. Once again, the results have been particularly significant: at constant performance levels, dry lubrication requires eight times less water than wet lubrication, and it also uses much less energy.

SAVING MATERIALS

In addition to these local improvements in energy and fluid consumption, the eco-design process also examines equipment operating concepts and principles in order to reduce the materials and parts used without adversely affecting performance. The development of the new Sidel accumulation table, the AQ-HC, is a perfect example of eco-design. It saves on materials thanks to its intelligent accumulation principle (patented by Sidel) and to its clear-cut design. It is a simple table, both compact and open, requiring very few additional parts compared to a traditional mass conveyor. Still, the AQ-HC offers unmatched performance: modular, dynamic accumulation, maximum accumulation potential and optimal use of floor space. Finally, the eco-design quality of the AQ-HC is reflected in its maintenance, requiring few spare parts.

Rollsleeve

– all advantages in one machine

Meeting an increasing demand for heat shrink labels, the new Rollsleeve machine is an innovative rotary labeller that creates and applies plastic shrink sleeves from a machine direction orientation (MDO) label roll onto glass, plastic and metal containers. With the “tubing” taking place in the machine, ready made sleeves do not need to be outsourced. The result is a saving in label material cost of up to 30 per cent, actually leading to a full recovery of the initial investment in 18 months if the throughput is 200 million bottles per year.

A major advantage of the new Rollsleeve is the quick format changeover, where the machine can be easily transferred into a roll-fed machine using the same labelling unit. With a lengthways reel, the machine ensures that the labels are closed with no need for glues or solvents. Since the sealing area can be positioned exactly to the edge of the label, the final overlap has no visual or tactile flaws after shrinkage. Successfully tested on all the principal materials available on the market, the quality of labelling is optimal even with high speeds (up to 54,000 bph) and does not depend on the height of the container.

Offering great flexibility in the choice of materials for labels, and considerable benefits in terms of optimising costs, the Rollsleeve can apply labels that are 50 per cent thinner compared to a traditional sleever. High quality performance, cost and sustainability benefits and the possibility to change from sleeving to hot glue roll-feeding: Sidel has once again put all the advantages into one machine.

Radical drop in oven power consumption

The new SBO Universal2 Eco presents a decrease in oven power consumption by up to 45 per cent. This major drop was made possible by changes to the oven configuration, which decreased the number of lamps per module as well as the number of heating modules, leading to more than a 40 per cent reduction in the installed electrical power. In addition, optimised oven efficiency helps to decrease heating time by 15 per cent.

Greater precision in the heat treatment of preforms ensures technical characteristics and bottle quality that are identical to the levels offered by the entire SBO Universal blow moulder range. Another benefit is lower installed power, which reduces the oven’s footprint. Proposed on all models in the SBO Universal range, this new system can also be adapted to existing machines.

Cap feeder puts lid on energy bills

With the Aidlin Eco, cap feeding now combines energy savings, high speeds and ergonomics.

Often copied but never matched, the Aidlin cap feeder has been a market reference for 20 years. Today, more than 1,300 of these cap feeders are installed worldwide due to its position as technology leader. Presenting the new Aidlin Eco, Sidel further strengthens its position as technology leader within modern capping. The new generation of Sidel cap feeders is once again taking aim at energy consumption and is definitively abandoning the use of air, not only for cap propulsion but also for ejection of off-spec caps.

The Aidlin Eco can be used at all production speeds, even the highest ones. It can process flat caps at more than 120,000 caps per hour. Based on the same general principle as previous versions, the Aidlin Eco retains the qualities that have made the Aidlin range a success: process reliability, respect for the caps and lower dust emissions.

REDESIGNED FOR RELIABILITY AT HIGH SPEEDS

To meet their eco-design goal, the Cap Feeder R&D team kept what was best from the original Aidlin version. This includes the cap orientation principle which has proven its effectiveness over time. Cleats linked together by an articulated chain carry the caps gently from a large storage hopper towards an adjustable speed bump, which inclines the cleats and causes poorly oriented caps to fall by simple gravity.

Around this unchanged principle, the rest of the cap feeder was significantly redesigned and optimised in order to operate without air, while still guaranteeing optimal reliability at high speeds. The main new development is the innovative design of the cleat kinematics. The chain now has a lateral curvature, so that the properly oriented caps slide simply and naturally along the vertically positioned cleats. They then enter a corridor that guides them to a wheel for sorting and elevation. Caps that are poorly oriented or missing their tamper-proof ring are automatically ejected via a magnetic finger system.

Caps that are on-spec and properly oriented are continuously conveyed by the wheel, which is equipped with a brushless motor, and then elevated in a vertical column to the required height and direction in order to feed the capper.

TENFOLD DROP IN ENERGY CONSUMPTION

The new range offers a significant decrease in energy cost. The consumption, including the off-spec cap ejection system, was cut by a factor of more than 10 compared to the standard compressed-air cap feeder, and by a factor of 5 compared to the ventilated-air cap feeder. With an installed power of 0.7 kW, the Aidlin Eco offers unmatched TCO (total cost of ownership).

This new operating principle, simple and air-free, is beneficial for more than just electricity. Another direct consequence is to make it easier to preserve cap hygiene by eliminating the possibility of air contamination. The advances in terms of ergonomics are also notable: all of the cap feeder's essential components are at chest height, making them easily and immediately accessible for maintenance and upkeep.

This minor revolution on the flat cap feeder market will be available in the sport cap version in early 2011.

Five months from idea to ground-breaking launch

Create an innovative package, and adapt an existing line to switch from still to sparkling water. These were the challenges that the Norwegian mineral water producer Isklar and Sidel faced together. A real success in record time.

Sidel supports bottlers in rapidly converting their production equipment while optimising their costs, by offering its expertise as both an equipment manufacturer and a package designer. This know-how is what led Isklar to ask Sidel to adapt its bottling line following an expansion of its product range.

FROM STILL TO SPARKLING WATER

For this Norwegian company, which specialises in premium glacial mineral water, everything started with the need to get into sparkling water in order to increase market share.

"We asked Sidel to bring to life a unique faceted Isklar sparkling bottle that would completely change the industry's perception of design limitations for carbonated PET bottles", says Helge Valeur, Vice President Business Development at Isklar.

"We asked Sidel to bring to life a unique faceted Isklar sparkling bottle that would completely change the industry's perception of design limitations for carbonated PET bottles."

Sidel's designers, therefore, focused their efforts on developing a ground-breaking shape for sparkling water. At the same time, Sidel's labelling specialists worked on a technical solution to label the bottle without a mechanical indexing system. The solution was to use an optical indexing system for bottle orientation. To validate this solution, a number of tests were successfully conducted. As for the filler, it was already configured to bottle both still and sparkling water. Only a carbonator had to be added to the existing line.

COMPLETE PROJECT MANAGEMENT

Beyond the work focused on the new bottle, an entirely new industrial situation had to be taken into account, involving preparation of the upstream production line. By asking Sidel to manage line conversion, Isklar no longer had to worry about technical issues, due to Sidel's guarantee that the first bottles would be on the market by January 2010, just five months after the initial order.

"Sidel made it in five months. A truly challenging task, no doubt, but the motivated, capable Sidel team gave us the necessary confidence and delivered on time, quality and budget", concludes Helge Valeur.

Successful PET premiere for Hauser Weinimport

The German company opens its doors to PET for teas with the Combi Predis FMa from Sidel.

Hauser Weinimport GmbH is a German company that was founded in the mid 1950s. Specialised from the beginning in the hard discount market, the company originally focused its production on vermouths and liqueurs. Since then, it has broadly expanded its activities, which include many other products such as soft drinks and flavoured teas.

QUALITY AND EASE OF USE

In 2010, Hauser installed a complete line from Sidel equipped with a Combi 10 Predis FMa, which is a compact solution for blowing and aseptic filling of preforms using dry decontamination.

The advantages are tangible: very easy to handle and transport, practical for pouring the product and re-closable.

"For years, we have observed a clear trend toward PET bottles. The advantages are tangible: very easy to handle and transport, practical for pouring the product and re-closable. Moreover, the half litre-bottle can also be used for on-the-go consumption. To remain in the market and to offer our customers a comprehensive offer, we decided to take this step", says Walter Lau, Plant Manager for Hauser.

There were many reasons that prompted the German company to take this new path.

Above all, final product quality is a must for Hauser and cannot be set aside. "Eis tee" is distributed at room temperature with a shelf life of approximately one year and is filled without the use of preservatives. From this perspective, the aseptic process has proven to be the best solution, as it guarantees the commercial sterility of the product without altering its organoleptic and microbiological properties.

All the deadlines were met, and the constant flow of daily progress reports kept us informed at all times.

Total cost of ownership and the environmental advantages of Predis also played an important role in Hauser's decision. In fact, Combi Predis FMa guarantees 100 per cent decontamination of the preforms using only H_2O_2 (hydrogen peroxide) vapour, which means no consumption of water and a minimal use of chemical agents.

A FRUITFUL PARTNERSHIP

The project proved to be especially stimulating and complex in terms of layout. Finding the proper solution for a facility that has very limited, narrow space was a difficult challenge for the Sidel experts in the engineering studies for the line. In this respect, Combi Predis FMa best met the requirement for minimising the footprint as one of the two AQ-Max accumulation tables installed was characterised by a special entry to the combiner.

Since Hauser is making its first use of PET, the study and development of packaging represented a very important phase in the project.

"From the start, Sidel's collaboration on bottle development was extremely positive. We received all necessary support in terms of design and technical characteristics for the container – stability for example – as well as important advice on selecting preforms. All the deadlines were met, and the constant flow of daily progress reports kept us informed at all times. In short, it is a highly pleasant and professional partnership", says Walter Lau.

Packaging is crucial to brand image

Patrick Etesse of Procter & Gamble Eurocor Belgium says the consumer sees the package and the product as one and the same. Here he describes how Procter & Gamble works with package development to win more consumers.

WHAT IS P&G'S PROCESS FOR PACKAGE DEVELOPMENT?

"Innovating to win with more consumers in more parts of the world more completely": package development perfectly illustrates this strategy of P&G. Our Product Research Department, which combines marketing and technical sensibilities, works to understand consumer needs and develops products that meet them. Our Design Department focuses on the brand experience, in other words, the package and all the sensory aspects of the product and package experience. Our designers manage the development of package shapes with design agencies. The PackDev Department then translates the Design Department's expectations into a technical solution that can be industrialised and implemented with external partners such as converters or suppliers like Sidel. Last but not least, a mandatory step for any package development is its validation through testing such as impact on store shelves against competitor products, functional performance, etc.

WHAT ARE THE CRITERIA FOR SUCCESS OF A PACKAGE?

From the consumer standpoint, package and product are one and the same. Store shelves are cluttered with more and more product references. That's why the package has to be distinctive, while still complying with the codes for its category. Since purchase decisions are typically made in less than 10 seconds, too many signals can have a negative impact on the purchase decision. The message therefore has to be strong, clear and consistent. The product's appearance on the shelf is essential for triggering the purchase, and the consumer not only has to try the product the first time, but also wants to repurchase it based on its performance. This is what we mean when we say that "we want to win at the first moment of truth and second moment of truth".

WHAT IS THE PLACE FOR INNOVATION?

The package is the first and the last thing that the consumer sees. Innovation in packaging is crucial since the brand image is at stake. Historically, most of P&G's innovation was done internally, while today it is increasingly done in collaboration with external companies. Our partnership with Sidel illustrates this perfectly. We benefit from all the experience of a leader who works with the main players on the market. Together, we develop technical solutions for packaging, such as neck indexing to show the direction to pour from, or more recently for easier handling of large containers, Deep Grip™, which is deeper than a standard grip. With a conventional grip, handling quality is related to the grasping force exerted by the hand, which increases as a function of package weight. This isn't the case with Deep Grip™ which enables the consumer to hold a heavy bottle in one hand with just the fingertips without having to squeeze tightly, while being able to use a measuring cup with the other hand.

HOW DO YOU RESPOND TO BRAND SPECIFICATIONS WITH THE PACKAGE?

Since our packages are mostly produced by extrusion blow moulding (EBM) of HDPE, we have to manage several hundred specifications. We are therefore looking to simplify these processes in order to increase productivity. One of the solutions is to switch to injection stretch blow moulding (IS BM). We have qualified the Sidel blow moulding platform as our strategic technological platform and aim to have all of our IS BM platforms Sidel compatible.

Lightness combined with quality

The SmartWeight™ bottle for still water offers the best in user comfort for an ultra-lightweight package – less than 10g for a 500-ml bottle – thanks to its reinforced foundation using the overstroke base technology.

Lighter, yes, but not at just any price. On supermarket shelves, ultra-lightweight water bottles increasingly suffer from deformation in their base, which alters not only package appearance but also stability. Sidel has found a solution for this issue: SmartWeight™, a lightweight 500 ml PET water bottle weighing less than 10g, with a much stiffer base that ensures better mechanical performance and appearance. Due to the overstroke base technology, these benefits open the door for the lightweighting of premium water bottles.

STIFF BASE FOR ULTRA-LIGHTWEIGHT BOTTLES

The overstroke base technology consists of synchronising the blow moulding process with the rise of the bases. It increases the lengthwise stretching rate of the PET preform and therefore helps to decrease the quantity of material used for the base of the SmartWeight™ bottle and ensure a more uniform distribution. The savings made on base weight can therefore be redistributed throughout the bottle body.

The bottle base diameter is about 10 per cent greater than standard, giving greater stability on conveyor lines, which makes it possible to increase speed. Even when pressed together, the bases of SmartWeight™ bottles retain their shape, which ensures bottle integrity. During transport on palettes, the pivot effect (bottle twisting, which exerts stress on the base) is considerably less, which preserves better pack quality. In the end, on supermarket shelves, the consumer gets a perfectly intact and stable bottle for everyday use.

This solution enables the development of premium bottles at just 10 g, a weight that had previously been limited to lower-end bottles.

MARKETING BENEFITS

In addition to package integrity when it reaches the consumer, the overstroke base offers another marketing benefit: it creates greater freedom of shapes for lightweight water bottles. The ribs needed to reinforce the dome, which generally continue onto the body, are no longer used. This solution enables the development of premium bottles at just 10 g, a weight that had previously been limited to lower-end bottles.

Available initially for 0.5-litre bottles, this technology will soon be extended to 1.5-litre bottles.

Improved recycling with SafeSense bottle

Lighter than an extruded HDPE bottle for the same level of functionality, the SafeSense™ HDPE bottle made by ISBM also offers equivalent capping quality to PET, without a sealing lid. This is a real alternative for the fresh milk market.

Keeping the same material and the same recycling circuits, while changing only the bottle manufacturing technology: these are the opportunities offered by the conversion to ISBM-type (injection stretching-blow moulding) HDPE (high-density polyethylene) for dairy producers who already use EBM-type (extrusion-blow moulding) HDPE to package their products. This leads to economic and environmental benefits as well as new industrial opportunities in terms of output rates and complete line bottling solutions, such as the Combi.

20 PER CENT LIGHTER

Producing an HDPE bottle with ISBM technology enables much better thickness control than with EBM. The use of a preform instead of a parison also helps keep bottle weight constant. Thanks to precise control of the heat conditioning of the preform, thickness distribution on the bottle is both more repetitive and more precise. This leads to a 20 per cent lighter bottle on average than with EBM-type HDPE, while retaining the same mechanical characteristics. The SafeSense™ bottle is produced from HDPE material available on the market at a weight of 22 g, using an optimised preform designed by Sidel. This represents a sizeable economic and environmental benefit, when one considers that the weight of the primary packaging is the decisive factor not only for bottle cost, but also for the environmental footprint.

AIR-TIGHT CAPPING, WITHOUT A SEALING LID

The first HDPE bottle without an aluminium sealing lid, SafeSense™ also ensures complete air-tightness of the bottle, even when it is laid on its side in a refrigerator. Its extremely resistant, injected neck ensures zero risk of deformation and complete compatibility with the cap. This means flawless screwing quality and the elimination of the aluminium foil. Finally, SafeSense™ is a single-material package, which gives a significant edge in recycling.

BENEFITS OF THE LATEST INNOVATIONS

Switching to ISBM-type HDPE makes it possible to envisage a multitude of industrial systems. Working with a preform makes it possible to separate plastics transformation from bottle manufacture and conditioning. It also offers the advantage of a higher instantaneous mould output rate with ISBM: 2,000 bottles per mould per hour, compared with an EBM output rate of between 800 and 1,000 bph/m. It is therefore possible to reduce the number of machines and consequently the number of operators. It also means reducing the bottle accumulation needs that are necessary with EBM, thus offering greater production flexibility.

The use of ISBM production also eliminates the issue of falling debris (base and neck), which is typical of EBM technology. In addition, switching to ISBM also means benefiting from all the latest innovations for Sidel blow moulders: optimised format changeover solutions, such as Bottle Switch™, and high speeds. The definition of the injected neck makes positive transfer by the bottle neck possible: it also means that integrated blow moulding-filling-capping technologies, such as the Combi, can be used, as well as the benefits of the Predis™ dry decontamination solution for preforms.

Optimised pasteurising process

Carlsberg UK entrusts Sidel for the move of its can line to a new location and integrates the new Swing pasteuriser.

Sidel has installed its innovative Swing pasteuriser at the Carlsberg UK plant in Northampton, UK. The order is part of a wider-ranging project called “Capricorn” under which a Sidel canning line that has already been in operation for about four years in the Leeds plant will be moved to Northampton.

A CUSTOM SOLUTION

Sidel was the chosen partner for the relocation of the old line to the new location and to supply a new pasteuriser. According to Carlsberg’s Project Manager Martin Essex, there were several reasons for choosing Sidel as their partner for this exciting but challenging project.

“First is the previous working relationship with Sidel. This relationship has been built up over a number of years covering several successful projects. Secondly, the equipment, we know from our experience at Leeds, performs very well. Thirdly, and a major consideration for us, was that we were keen to invest in the latest tunnel pasturing technology. We are happy that we have made the right decision from a technical and commercial standpoint and that we have the right machine for the project we are undertaking. Since the equipment is Sidel, it also makes good sense from a compatibility and responsibility perspective”, says Martin Essex.

WHY SWING?

With Swing the efficiency of the pasteurisation process is optimised, as is the quality of the final product, and energy consumption is cut by at least 25 per cent. This result is achieved due to the use of a single heat exchanger in all of the pasteurisation areas and a single ring-shaped circuit, within which water passes, that is kept at a constant temperature by the heat exchanger and is then distributed to different zones as required. Lastly, a water deviation system, specifically for the central zones, ensures that the thermal energy required for the entire pasteurisation process is only as much as is required to heat or cool.

“We were very impressed with the new technology. In fact, the technology in the new machine is so simple it is difficult to understand why this idea has not been thought of before. The operating cost figures look good so it gives us an opportunity to reduce our energy consumption figures. With energy and water being so expensive these days and the promise of using a lot less of both, we see this as an opportunity to vastly reduce those costs”, concludes Martin Essex.

Growing ECO Services family

For the past two years, Sidel has been developing a new sustainability solution for complete lines. Enter the ECO Audit™, the newest member of the Sidel ECO services family, joining ECO Booster™ and ECO EIT™. An ECO Audit™ is a snapshot of a complete line’s situation in full production. Its goals are to conduct an “ECO-performance” review on bottling lines and, in time, to reduce energy consumption and therefore production costs. When the brewing company SABMiller asked Sidel’s team to perform an ECO Audit™ in March 2010, the goal was to determine the environmental performance of a bottling line in South Africa. SABMiller wanted to set a reference point in terms of both method and results, in order to help reach its targets of a 25 per cent decrease in energy and water consumption and CO_2 emissions per hectolitre of beer produced (about 26 US gallons). The ECO Audit™ enabled SABMiller to quantify the exact needs for each bottling step and to compare them with the new technological standards. The audit also showed how improved bottling efficiency could lead to a significant drop in water consumption by more than 2 m³/hour.

NUMBER OF EMPLOYEES 2011

4,179

NET SALES 2010

845 MILLION EURO

QUALITY

We have a strong and long commitment to constantly improve milk quality, hygiene, and animal welfare. We work with dairy farmers to protect their investment by supplying highly efficient system solutions for milking, herd management, animal traffic control, feeding, cooling, manure handling, ventilation and energy recovery, as well as biosecurity and animal health related products.

VISION

Whenever dairy farmers have a need they should think first of DeLaval

MARKETS AND CUSTOMERS

DeLaval operates with close to 4,200 employees in more than 100 markets. DeLaval provides integrated solutions that cover not only cow but also sheep, goat and buffalo dairy farms to over 1,000,000 customers around the globe.

MISSION

We drive progress in milk production

SMART FARMING

Smart Farming is a DeLaval initiative aimed at influencing and shaping the future of dairy farming today. The goal is to accelerate the transition from milking management to global farm profitability management by harnessing emerging decision tools and automation technologies for better quality milk and profits.

SOLUTIONS

DeLaval offers five Capital Goods systems: Conventional Milking Systems, Automatic Milking Systems, Cooling Systems, Feeding and 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, Milk Quality & Animal Health.

R&I

Research and innovation has been essential to DeLaval's steady progress. This is especially emphasised in product development, where the team works in close contact with a worldwide network of farmers, academics, dedicated research facilities, scientists, sales teams, authorised dealers and other agricultural experts.

OUR BRAND

It is our goal to turn the very well-known and respected brand that DeLaval is into a promise to our customers, a promise that is relevant to them and which they see as a reason to choose DeLaval. As dairy farmers, our customers have one of the toughest and most interesting jobs there is. They manage their farms with an increasing level of high technology, and larger staff strength as a result of the consolidation in the industry, and of course larger herds. They juggle all the above complexities to produce one of the world's most nutritious foods. DeLaval helps farmers run their farms their way by providing their solutions, every day.

Our brand promise is therefore to empower the dairy farmer with improved control over milk production.

DeLaval accomplishes this by offering complete, reliable and profitable solutions, including close support.

FOCUS ON SERVICE

In a competitive market, good customer service differentiates one company from another. To further strengthen the partnerships we have with our customers, we have created InService™. It is the trademarked service portfolio designed to increase farmers' profitability taking into consideration that every farm is different and every farmer unique, whilst adapting the solutions to their particular requirements.

CORE VALUES

PASSION – WE SHARE A PASSION FOR DAIRY FARMING

Our focus is to help to improve, sustain and guide dairy producers with complete solutions to adapt to their needs. After more than 125 years we continue to be committed to the dairy industry now and in the future; by driving progress in milk production together with our business partners.

PEOPLE – OUR PEOPLE ARE EMPOWERED TO ASSUME RESPONSIBILITY

We are proud to be part of a global community and we respect and encourage the diversity and creativity coming from the mix of cultures, gender, religions, experiences and personalities.

PROFESSIONALISM – WE ARE PROFESSIONALS WHO EARN OUR CUSTOMERS' TRUST THROUGH COMMITMENT AND RELIABILITY

We are committed and structured in order to create profitable business throughout the value chain.

PARTNERSHIPS – WE BELIEVE IN PARTNERSHIPS BUILT ON MUTUAL TRUST AND BENEFIT

Our customers, their needs and expectations are the starting point for everything we do. We are characterised by our close relationships with all players in the value chain through proximity, attitude and support.

ENVIRONMENT AND CSR

Our Corporate Social Responsibility (CSR) cornerstones are:

Food for Development

Food for Development is an important part of DeLaval's corporate social responsibility.

The target is to achieve sustainable social and economic dairy development by promoting public-private partnership in developing countries.

We are committed to helping customers, governments and community based organisations to provide milk to children around the world. A public-private partnership is the best way to fight rural poverty and malnutrition through dairy development. All DeLaval activities are long-term business development projects aimed at encouraging demand for locally produced dairy products and pushing for transformation of subsistence smallholders into commercially viable farmers.

Sustainable Dairy Farming

Sustainable Dairy Farming is a DeLaval initiative to support farmers to do more with less. In order to achieve this goal we aim to reduce the environmental footprint of farms, while improving milk production, farm profitability and the well-being of the people and animals involved. DeLaval believes this goal can be achieved by supporting dairy farmers with smart technology and services to continuously improve resource efficiency on farm.

DELAVAL

People

DRIVING SUSTAINABLE INNOVATION

Chinese farm bounces back after earthquake, with VMS

When a severe earthquake hit south China, Mr. Yang Fangguo knew he had to help his community. With water and food in short supply, he began offering free, fresh milk.

But Mr. Yang couldn't have made his generous gesture without DeLaval's help and the voluntary milking system, VMS, equipment the company donated to his Yong Feng Yuan farm.

"DeLaval didn't just offer us the equipment, but also shared the technology to help us manage the dairy farm in the best way," says Mr. Yang. "It really helped us to re-build confidence and believe in a bright future again."

DeLaval donated other equipment as well and helped Yong Feng Yuan with design issues and to train employees. The government also provided much support. Like many of his neighbours, Mr. Yang lost almost everything. The farm and farm equipment were virtually destroyed and the herd decimated. Fortunately, Mr. Yang and his family were unharmed and able to rebuild the farm.

Today, three years after the quake, it is business as usual at the Yong Feng Yuan farm. Mr. Yang has a herd of 1,100 cows, each yielding about 7.8 tonnes of milk.

Mr. Yang credits DeLaval and the VMS equipment with helping him restore the farm and produce better milk. He is the first farmer in southern China to use VMS. The high quality milk, coupled with the Yong Feng Yuan farm's good reputation, means the local dairy company is willing to pay higher prices for the farm's milk.

"We're benefiting from the most advanced automation and technology and solution shared with DeLaval's 127 years of experience," says Mr. Yang Fangguo. "And we're grateful for everything we've received."

Luxury and sustainability hallmarks of UK VMS farm

When the Kneller brothers decided to install a DeLaval voluntary milking system, VMS, at their Middle Burrow Farm in the UK's Devonshire countryside, they didn't just build a new barn. They built a luxury home for cows.

Brothers Chris, Mike and Keith built the barn themselves planning it with Johan ter Weele and Steve Sefton from DeLaval. Walls can be raised and lowered to control temperature, lights work automatically and all of the features are aimed at making cows at the farm as contented as possible.

As Mike Kneller notes, the happier the cows are, the more milk they produce. And the increased yield comes at a lower cost. After installing the initial two VMS units in 2009, the brothers are now installing a third system and their milking yield has increased.

The brothers' efforts haven't gone unnoticed. The farm was included in a British Broadcasting Company (BBC) story about technical advances in food production and it's been featured on a BBC Learning Unit programme and on Sky News. More than 200 UK farmers have also visited the farm to see the Kneller brothers' innovations first hand.

Mike Kneller sees the learning unit programme as a great way to encourage young people to make farming a career. "It showed them how technical modern day farming is and what an excellent outdoor career farming has become," he says.

Bob Ellis, DeLaval Sales Support in Great Britain and Ireland, says the collaboration between DeLaval and the Kneller brothers is exactly the kind of partnership DeLaval strives for with its customers. "Thanks to Chris, Mike and Keith, we've made a great team promoting sustainable farming to the general public for the long-term good of the agricultural community.

"The brothers have been the best ambassadors for DeLaval we could ever wish for and have become part of the DeLaval family."

Norwegian VMS pioneer celebrates 10 years with DeLaval

When Øyvind Østby and his neighbour installed the first voluntary milking system in a co-operative effort in south-eastern Norway 10 years ago, they were trailblazers in modernising Norwegian farming.

"I really felt like a pioneer," says Øyvind Østby.

The idea of robotic milking was met with scepticism in Norway. But Øyvind Østby put his faith in DeLaval's voluntary milking system, VMS. "It was like the industrial revolution," Øyvind Østby says. "It led to a very big change in Norwegian milk production."

Busloads of visitors from all over Norway came to the farm to see how VMS worked. "It was fun," Øyvind Østby recalls. "We're very proud of our farm and equipment." Many of those visitors came back to help him celebrate the 10th anniversary of the VMS installation.

Øyvind Østby started his farm in 1993 and has always been fascinated by new technology. That's one reason he was willing to try VMS. In addition, he saw the potential for saving time and money and increasing milk yield.

"We were able to minimise the amount of work, to make things easier," he says.

Thanks to VMS, Øyvind Østby estimates milk production from his 34 cows has increased by 10 per cent. His herd produces 270,000 litres of milk annually and next year he expects to be able to increase that to 330,000 litres.

His VMS has been upgraded several times, with a new computer and camera and a new hydraulic system.

Øyvind Østby credits DeLaval's service technicians with always being there to maintain the equipment. Of his current technician Ole Christian Borgen, Øyvind Østby says: "he really takes care of his customers."

As Norway's VMS pioneer, Øyvind Østby has no regrets. "VMS milks the cows perfectly."

Kids meet at EcoDairy

The group of school children watches excitedly as cows come in for milking at Bakerview EcoDairy.

Their fascination is pure gratification for Bakerview EcoDairy President Bill Vanderkooi. Raised on a dairy farm in Abbotsford, British Columbia, Canada, the 41-year-old Bill Vanderkooi founded Bakerview EcoDairy to demonstrate just how practical sustainable farming is.

The non-profit operation is part of Bill Vanderkooi's Nutriva Group and the first demonstration farm of its type in Canada.

For Bill Vanderkooi, the DeLaval voluntary milking system, VMS, is perfect for the farm. The emphasis is on letting cows range free, with milking when it suits the animals.

"VMS has a small physical footprint and uses less water and electricity than a parlour," Bill Vanderkooi says.

And he adds that children are "intrigued by VMS in action" in the DeLaval Observation Room.

With five kids of their own, Bill and Helinda Vanderkooi recognise the value of teaching children where their food comes from and making sure it's the healthiest possible.

Through Bakerview EcoDairy, they can share that knowledge with other children, especially those from urban areas who don't get much chance to learn about farming. All of Bakerview EcoDairy's cows are named after schools in the area.

And it's not only school kids who come by to watch the milking. The farm has also hosted Deputy Minister to the Premier Allan Seckel and Deputy Minister of Agriculture Wes Shoemaker.

Bill Vanderkooi has also been honoured for his work with EcoDairy. In November 2010 he received the Agriculture and Agri-Business Excellence Award from the Abbotsford Chamber of Commerce and Abbotsford News.

Bill Vanderkooi

DeLaval supports Oregon organic farm

Using DeLaval equipment exclusively, the Eggert family, owners of Pacific Foods, milks some 1,500 cows, at their four dairy farms.

That milk is used in a broad line of organic food such as soups and pizza.

To ensure the highest standards of cleanliness, Pacific Foods uses DeLaval Cleaning Solutions in its food processing plant.

And food is aseptically packaged in Tetra Pak packages. The Eggerts see DeLaval equipment, DCS and Tetra Pak as fitting in to their idea of how sustainable farming should be done and how animals should be treated.

"Sustainable agriculture means preserving and protecting the land, raising animals humanely, and treating the people you work with fairly," the Eggerts say. "In return, farmers can run financially successful farms that produce healthy, tasty, chemical-free organic food."

And during 2010, the Eggert's began actively investigating the next step for their dairy operation: automatic milking.

They will commission their first DeLaval voluntary milking system, VMS, in mid-2011 to make milking even easier and improve life for their cows even more.

At Pacific Foods, cows range free as much as possible and eat an organic diet. Everything is done to ensure as stress free an atmosphere as possible.

"We're convinced these happy cows produce the best-tasting beef and dairy products," the Eggerts say.

The DeLaval Sustainable Dairy Farming Initiative is intended to help farmers such as the Eggerts reach their goals. The aim of the initiative is to reduce the environmental footprint of farms, while improving milk production, profitability and animals' and people's well-being.

"Our tenet for implementing sustainable farming practices is based in part on developing a local food web. When farmers work with one another, they gain independence unsustainable practices," the Eggerts say. "And that translates into more environmentally friendly, cost effective organic farming."

Smart Farming great success at EuroTier 2010

At EuroTier, the world's leading exhibition for animal husbandry and management, DeLaval took the dairy world by storm, introducing the industry's first automatic milking rotary, the automatic solution large-scale dairy farmers had long been waiting for. EuroTier proved to be the perfect venue for the presentation of the automatic milking rotary, DeLaval AMR™ a new solution set to revolutionise the milking process for many farmers.

During the 4-day trade show, housing 1,900 exhibitors and attracting more than 140,000 visitors, DeLaval welcomed visitors to a state-of-the-art booth of outstanding design and layout and took them on a journey through the company's range of innovative systems, solutions and services grouped in 7 main areas – all of which are part of the DeLaval Smart Farming concept. Media, dairy farmers and industry stakeholders alike showed great interest in the DeLaval display.

DAIRY BARN AT BERLIN'S INTERNATIONAL GREEN WEEK

In January DeLaval offered consumers and dairy trade visitors alike a unique opportunity to see the latest in sustainable dairy technology at the world's largest consumer show for agriculture, food and horticulture, the 2011 International Green Week in Berlin.

DeLaval swinging cow brush named "best in test"

After testing eight different swinging cow brushes on groups of 30 cows during a period of eight months, the German magazine dlz named DeLaval's solution "best in test". Of the eight brushes, DeLaval's equipment showed the best safety and the largest reduction in energy consumption. It also kept the animals calm, clean, active and more balanced, which helped increase milk production and reduce clinical mastitis. Not only a test winner, the new generation of the DeLaval swinging cow brush was successfully launched and certified by the DLG (German Agricultural Society) at the EuroTier 2010, in Hanover Germany.

Animal welfare and lifestyle priorities for first New Zealand VMS farmers

Cathy and David Yates

When Cathy Yates's great-grandfather first started farming 100 years ago, he developed the land with horses, ploughs and hard manual labour.

Today, at Heritage Farm, Cathy and David Yates along with their son Brian are the first dairy farmers in New Zealand to use the DeLaval voluntary milking system VMS. They milked their first cows in October 2010 and their animals are now milked an average of 1.5 times a day.

"We made the decision to install robots as we have faith in the dairy industry," Cathy Yates says. "And as we get older we wanted an easier way to run the farm without the hassles of employing labour."

The Yates family is proud of their organic methods and the care they take of their 180 cows. VMS fits their farming philosophy well, the Yates family says, because it makes for more contented cows.

The family feels that VMS also helps the farm's economy. Milking can be done according to each cow's production and there is much better utilisation of pasture land.

"Training the cows to the system was difficult because they are pasture feeders and were not use to grain feeding," says Cathy Yates.

The family switched to organic farming to avoid agricultural chemicals and create a healthier environment for themselves and their cows.

For the family, VMS was an easy choice. Says Cathy: "The important things in life for us are family, health and lifestyle." With VMS, the Yates are discovering that they can combine these down-to-earth goals with state of the art technology to drive profitable dairy farming, improved animal welfare, and a better lifestyle.

Launch of Cow comfort in Brazil

Due to increasing land prices in Brazil more customers are turning to intensive systems – free stalls, which has improved awareness of cow comfort in Brazil. This contributed to a successful launch of DeLaval's total concept for cow comfort in 2009, leading to a 2 million euro turnover in 2010 for the area. With a clustered and focused solution range specifically selected to fulfill the market demands and including customer support with barn planning, DeLaval has managed to increase its market share in a previously elusive niche market.

Further contributing to the good results DeLaval had an intensive focus on customer support and service. Also adding to the results of the launch was an extensive marketing plan, including production and distribution of a 70-page AfterMarket solutions brochure containing all cow comfort solutions as well as presenting them, along with testimonials, in the DL customers quarterly newsletter.

Milkproduction.com

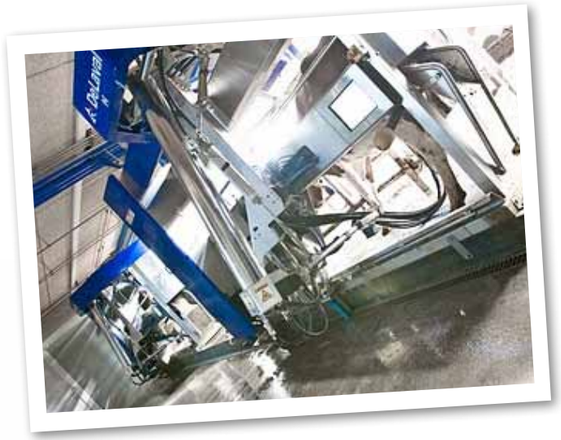
The dairy knowledge-sharing website re-launched!

Milkproduction.com receives over 18,000 visits from around the world every month. Launched in 2000 to share dairy knowledge and farmers' best practices, the site has now been re-launched to greet visitors with brand-new content and improved functionality. Visitors can now comment on articles and suggest new topics. As sponsor of Milkproduction.com DeLaval also makes great use of the website. "Milkproduction.com provides us with the opportunity to have a dialogue with important experts, professors, researches, farmers, veterinarians and other dairy industry stakeholders. This is a way for us to ensure that we strive to expand our network and speaking partners when it comes to dairy technology and progress," says Kim Sjölund, Communications Director at DeLaval International.

Heavy-duty project achievements

In 2010 DeLaval presented a new complete stalling system to the market. The Heavy Duty Herringbone System was merged from six current stall types at DeLaval. Despite top level part numbers being reduced to a third, DeLaval was able to increase flexibility and offer more combinations of exit types and automation choices to customers. The HDHB system has a modular, bolt together design with advantages in both ease of installation as well as making expansions and upgrades simple. The built-in system flexibility aims to meet customer needs, and is specifically designed for the heavy-duty environment of 24/7 milking parlours.

The new DeLaval herringbone HDHB is built with serviceability in mind, according to DeLaval's InService™ concept. Any part can be serviced within just 10 minutes – and with simple hand tools. DeLaval offers a unique and complete InService™ package for all installations.



German farm closes 17-VMS deal

A new "multibox" dairy operation system has been installed by DeLaval at a farm in eastern Germany. DeLaval has a long tradition and great expertise in setting up this type of installation including Mason Dixon's 20-VMS farm in Pennsylvania, USA, and Rakhimovo's 16-VMS in the Russian Federation's Republic of Tatarstan.

New smart and flexible features make the latest version of the voluntary milking system, the VMS 2011, even better and more cost effective. DeLaval has strengthened the smart farm analysis features and the system's integration options and service features, as well as upgrade and improvement options for older technology.

DeLaval invention awarded with gold medal at EuroTier

2010 was a year of recognition for DeLaval, receiving multiple awards and certificates for innovative thinking and an up-to-date approach to dairy farming. At EuroTier 2010 DeLaval was awarded the "EuroTier Gold Medal" and "Innovation of the year 2011" for the automatic milking rotary, DeLaval AMR™, the world's first automatic milking rotary, based on computer driven robots handling the milking process.

Other honours during the year included the sixth "Environmental Charter Award" for the DeLaval Factory in Drongen, Belgium, DLG certificates for the DeLaval Spraycare Box and the Five Cow comfort solutions as well as the Agrafuchs award for the Herd Navigator.

Flexibility and profitability key to Optimat™

Like people, cows know freshness when they taste it. With Optimat™, freshness is what they get.

As with all of the DeLaval products and solutions, the key to Optimat™ is flexibility, sustainability, improved production and profitability as well as more time for farmers. And it's a key component of both the DeLaval Smart Farming™ and Sustainable Dairy Farming initiatives, aimed at helping to promote better and more sustainable farming.

Patrik Johansson, a fifth-generation dairy farmer in southern Sweden, says Optimat™ fits his requirements perfectly. "Optimat™ is exactly what I was looking for," he says. "It had to be automatic, suitable for a large farm and reliable. I wanted an automatic feeding system because I didn't want the bother weighing, preparing and distributing the different rations every day."

Instead of spending three hours a day on feeding, Johansson says he's now spending just 20 minutes.

Optimat™ was launched in 2009, after four years of development. DeLaval Director of Feeding and Herd Management Fernando Mazeris says it helps to cut costs, while encouraging cows to eat more. And eating more means more milk production.

Fernando Mazeris notes that feed is the single biggest cost farmers have and mixing feed manually is very time consuming and is not always accurate. It can also be wasteful because if large batches of feed are mixed and left sitting, cows are apt to refuse to eat as the feed loses freshness.

With Optimat™, "the wastage is reduced enormously," says Fernando Mazeris. Waste can be cut as much as 50 per cent. All a farmer has to do is deliver the feed to the system. After that, the entire process is automated.

At the same time, properly mixed feed means cows eat more so they produce more milk, milk protein and butterfat.

And more volume means more income for farmers.

The Optifeeding system can be programmed to deliver custom feed mixtures to different cows, with as many as 100 different components. Cows can be fed in groups, as many as 24 times a day.

And the system helps reduce a farm's physical footprint. A barn needs to have a six metre-wide aisle to accommodate a traditional truck and mixer wagon, needed for manual feeding.

But with Optifeeding, aisles can be just 1.5 metres wide, cutting the size of barns and their environmental impact. That also means new barns are cheaper to build.

The amount of energy needed to mix feed with Optimat™ is also less than with traditional feed mixing, another environmental benefit. And the electricity needed can come from natural sources instead of diesel fuel.

Cutting working time is another important advantage with Optimat™. "One of the biggest drivers is labour savings," Fernando Mazeris notes. "People can't do this enormous job by themselves and they don't want to have to hire people."

Farm owners can also give valued employees more responsibility and more interesting work by freeing them from time consuming manual feeding.

Cows can also be milked with the DeLaval voluntary milking system, VMS, saving even more time.

Thus far, Optimat™ has been sold in the Nordic countries and the Netherlands, with the first sales just made in Germany, Poland, Argentina and Russia.

Flexibility is built into the system. Because it's modular, farmers can easily expand the Optimat™ system and initial costs can be kept down. Optimat™ also works with existing silos, mixers and buffer tables as well as conveyors, liquid pumps and augers. And all can be still be controlled manually if necessary.

For Patrik Johansson, Optimat™ was the next logical step after VMS. Not only is he pleased with the system, he praises the support he gets from DeLaval support. "I feel that DeLaval is a company that supports me all the way," he says.

Elin and Patrik Johansson

AMR™ boosts Australian dairy industry

At FutureDairy, they're looking ahead 20 years – with DeLaval's help.

FutureDairy was started in 2004, at the University of Sydney, Camden. It's a partnership between DeLaval, Dairy Australia, the University of Sydney and Industry & Investment NSW.

The aim is to develop technology such as the automatic milking rotary, DeLaval AMR™ that can help improve productivity, and provide more flexibility for work and lifestyle.

Together, DeLaval and FutureDairy developed an AMR™ system that can be applied specifically for dairy farming conditions in Australia, where the feeding system is based on grazing pastures. As well as any other farming conditions around the world. including loose housing and free-stalls.

"This is one of the most exciting developments that has occurred in the 40 years I've been dairy farming," says FutureDairy's chairman Shirley Harlock. "The AMR™ offers considerable benefits in terms of enabling more flexible working conditions and improved lifestyle."

Shirley Harlock also notes the importance of a public-private partnership in developing such new technology. "We are delighted to have made such rapid progress. This was achieved by the dairy industry and government working together with a commercial company," she says.

AMR™ revolutionises large herd milking

For large herd owners, the world's first automatic milking rotary system, developed by DeLaval and unveiled in September 2010 is nothing short of revolutionary.

Farmers with herds of 300 – 800 cows have literally waited years for a solution like the automatic milking rotary, DeLaval AMR™. Such automatic milking means more flexibility, more profitability and healthier, happier cows. And AMR™ is one of the building blocks of DeLaval's commitment to sustainable farming.

Thanks to this industry-first automatic milking rotary, farmers with large herds have more flexibility. DeLaval AMR™ is a valuable tool to better manage large herds.

Because the system saves money, a farmer can either cut costs or choose to invest the savings back into the farm.

"Now the farmers have time to really manage their business," says DeLaval Vice President Business Area Capital Goods Andrew Turner. "This is about profit development, flexibility and lifestyle choices."

To develop the AMR™ system, DeLaval worked with the FutureDairy Project in Australia which brought together four key stake holders DeLaval, Dairy Australia, the University of Sydney and the New South Wales Industry and Investment group. A challenge was to develop a system that works equally well with cows which are used to pasture feeding and which spend more time outdoors, rather than those used to grain feeding and spending more time indoors.

Says Jonas Hällman DeLaval Director Automatic Milking Systems: "This is a once in a lifetime experience, to have a paradigm shift in technology like this."

The farming world got its first look at the DeLaval AMR™ in Hannover, Germany at the EuroTier 2010 show in November. The AMR™ won the EuroTier Gold Medal, a prestigious award given for agricultural innovation. Winners are chosen by an independent commission.

For farmers with large herds, the AMR™ system offers new kinds of flexibility for everything from herd management to sustainable farming, assisting the dairy farmers to increase profitability.

"It has not necessarily been affordable or practical before to look at automated milking for large herds" says Jonas Hällman. But farmers with large herds have been asking for an automated system for years.

With the DeLaval AMR™ system, a farmer can start with a lower level of automation and then increase that as the needs increase.

"It's a huge advantage," says Jonas Hällman. "Less capital is needed upfront."

AMR™ can milk up to 90 cows an hour. The system is designed to improve herd management, cut manual labour and cost and yield more and better milk per cow. And it is the latest step in DeLaval's Smart Farming Initiative.

The initiative has seven core areas, all aimed at caring for cows and sustainable farming, while at the same time maintaining milk quality and cutting costs.

The main components of the AMR™ system are: teat preparation, attachment and spray modules, a touch screen to operate the system, automatic cup backflush, automatic floor cleaning and safety systems which are integrated into the entire system.

are a main aim of the system, AMR™ can also help farmers reward valued employees. "This saves manual labour. So it's a human resource's tool. Valuable employees can be given more of a farm management role, instead of doing manual tasks," Andrew Turner says. Or farmers can choose to save on labour costs.

AMR™ also means employees can have more flexibility in working hours.

At the same time, AMR™ doesn't replace the DeLaval voluntary milking system, VMS technology. Instead, they complement each other.

A farmer can, for instance, combine the two systems so that the bulk of a herd is milked with AMR™ while sick animals or top milk producers are milked via VMS, making it easier to manage them individually.

DeLaval is the only company in the dairy industry able to offer both VMS and AMR™ installations/systems for farmers with large herds – the only complete solution.

The AMR™ system was developed with three customer benefits in mind: profitability, farm management and flexibility.

"The point is to look at each farmer's needs and situation and to provide a solution that meets their needs," says Jonas Hällman.

Robots are stationed in the middle of the rotary platform and cows face outward. Unlike box milking, robots are working almost continuously.

As many as five robots can be attached to the system. Four robots can work on four cows at the same time. Two handle teat preparation and two handle milking cup attachment. A fifth robot handles teat disinfection when milking is done, using a state of the art "time of flight camera" for a three-dimensional view.

And to ensure the best hygiene, the deck of the rotary is flushed and scraped automatically.

DeLaval is testing the system at two farms in Sweden and one in Australia and plans a limited commercial roll out in those two countries during 2011, and in selected markets in 2012.

"Cows are very content when they're milked on rotary systems," says Andrew Turner. As a result, animals are healthier and produce more milk. And AMR™ means lower milking costs. AMR™ also allows farmers to adjust milking practices based on milk market prices.

In addition, while healthy, happy cows

More flexibility, smart features in VMS 2011

Milking that used to take Doyle Waybright and his team at Mason Dixon Farms 25 man hours now takes only one, thanks to DeLaval voluntary milking system, VMS.

Waybright is an eighth generation farmer on the family's dairy farm in the US state of Pennsylvania and Mason Dixon Farms dates back to 1754. He installed VMS in 2005 and today milks about 1,100 cows with 20 VMS robots.

"VMS is a wonderful tool," Doyle Waybright says. "I don't have to have people out at night milking cows and I have more time in the mornings. Labour requirements are greatly reduced."

New smart features and even more cost savings and flexibility make the latest system, VMS 2011, even better.

For smaller, family farms VMS offers single box installation, while larger farms can use a multibox setup, giving farmers exactly the milking solutions they need.

Catering to different customers' needs and tailoring solutions for farms of all sizes are the cornerstones of DeLaval's philosophy. VMS 2011 continues that tradition and enhances flexibility.

"A key driver in our company's 127-years history has been to offer alternative solutions to our customers according to their needs. With every new product or upgrade we broaden that offer," says DeLaval Director Automatic Milking Systems Jonas Hällman.

VMS 2011 is also easily upgradeable. That means farmers with, for example, a 2005 station, can improve their existing VMS equipment and upgrade to the latest 2011 technology.

"We see this as a great benefit for our customers. The VMS is an investment in automation which works immediately and can always be kept up to date," Jonas Hällman says.

VMS can also be integrated with the DeLaval AMR™, the revolutionary automated milking system DeLaval presented in November 2010 at the EuroTier tradeshow in Hannover. And since 2009, can be integrated with DeLaval Herd Navigator™, which helps farmers manage herds, increase milk yields and reducing environmental impact.

Lifestyle choices and having more leisure time are important goals for farmers, but Ken Ward, DeLaval VMS Business Manager, notes that operating costs are also key.

Because VMS uses less water and energy it helps improve profitability while at the same time helping farmers reduce environmental impact and farm more sustainably, says Ken Ward.

According to a study by the Danish Agricultural Advisory Service, VMS is one of the top automatic milking systems in the world when it comes to energy efficiency.

"What we're supplying provides a new degree of accuracy for making financial decisions," Ken Ward says, "while being more resource efficient."

Thanks to updated DelPro software and the touch screen, VMS 2011 allows farmers to instantly see an overview of all the information about their farms as well as track individual cows' locations.

Since it was launched 11 years ago, VMS has been continually upgraded. More than 7,000 units have been sold worldwide.

With VMS, farmers can check milk quality automatically and weed out any that doesn't meet quality standards. VMS 2011 also provides the highest hygiene levels, through individual teat washing and disinfection, also helping to ensure milk quality and healthier cows.

The system's robotic arms also attach faster, saving time. A visualisation system helps to quickly and accurately find cows' teats and attach the arms properly. The arms are modelled on a human arm's flexibility, allowing for a range of attachment angles and more comfortable milking for cows.

Because the arms are hydraulic, rather than pneumatic, less maintenance and repair is required. Reinforced stainless steel also increases robustness.

A manual mode feature makes it easy to train new cows to use the system which is very important as farmers move into robotic milking.

Whether for smaller or large herds, VMS 2011 means even more flexibility, better milk yield and more personal time for farmers.

AMR™ test wins farmer's confidence

Stefan Löwenborg had a simple reason for testing DeLaval's unique automatic milking rotary, AMR™ the first of its kind in the world.

"Curiosity," Stefan Löwenborg says with a laugh.

But curiosity quickly turned to conviction. "The robot is better for the animals," he says. "And it's more interesting for our staff. They can do things that are more rewarding than milking cows."

For Stefan Löwenborg, the system also means more flexibility. He has been testing AMR™ since April 2010 at his farm in south-eastern Sweden. He began by milking 300 cows and is moving toward milking 500. It took the cows only a few days to adjust to the system, he says.

While there have been some glitches with the system, since it is still a test installation, Stefan Löwenborg praises the help he has got from DeLaval service technicians.

"They've really been supportive," he says. "They can change components quickly if something isn't working properly."

Stefan Löwenborg also appreciates the ease with which he can revert to manual milking in the event of a power outage.

For Stefan Löwenborg, AMR™ is an important way to make his cows more comfortable, improve milk quality and work more economically and flexibly.

"It's all about keeping costs down and working as effectively as possible," he says.

Stefan Löwenborg

DELAVAL

Partnership

DRIVING SUSTAINABLE INNOVATION

Mobile shops simplify life on farm

DeLaval's Mobile Shops and Service is much appreciated by Japanese dairy farmers but when a serious outbreak of hoof and mouth disease developed in the western part of the country it became clear just how important the service is.

"Although in most cases, we were not allowed into quarantined areas, we still delivered supplies to our customers, outside of restricted zones," says Tadahiro Ariyoshi, Director, West Regional Sales Manager. "We made contact by phone. We also had stringent disinfection procedures and worked to help customers with disinfection."

As a result, DeLaval's customers were able to weather the crisis and come back even stronger. And even when there isn't a crisis, Mobile Shops and Service makes farmers' lives easier. "We can not imagine making our dairy work without Mobile Shop service men and Mobile Shop operation," says Kunio Yoshida, who runs Yoshida Farm in Hidaka. "We get exactly what we need, promptly, and with high quality at a reasonable price."

Sören Lundin, President, Sales Company Japan & Korea, says Mobile Shops and Service are one of the most important ways DeLaval builds sustainable customer relations in Japan.

"For DeLaval this is an important sales channel but also a very important tool to establish new customer relations and to build upon our existing partnerships."

In 2008, DeLaval had 14 Mobile Shops and Service operating in Japan. By 2011 there will be 28, with another three operated by dealers and Sören Lundin says the aim is to have 32-35 Mobile Shops and Service. Each unit services 200-250 customers every four to eight weeks.

Customers are offered a selection of products, including those for every day use, those used regularly and investment products. In addition to what is in the Mobile Shop and Service van, customers can order products for direct delivery.

"Considering what customers needed and how DeLaval could help more its Japanese customers and other farmers, as well as training sales people, were keys to expanding the Mobile Shops and Service program," says Sören Lundin. Some of the training in Japan is based on best practices of successful Mobile Shop operations in the Netherlands and Denmark.

Says Eiji Kanemaru, who operates Kanemaru Eiji Farm in Koyu: "Mobile Shop means we get information about new products, feeding and other important farming information. Mobile Shop helps shorten our working days, and makes us a more efficient and profitable dairy operation."

DeLaval partners with French farmers to recycle

Sustainable dairy farming is smart farming. But when it comes to recycling, it's not always easy to know what to do.

In France, DeLaval is working with farmers to make it easier. In April 2010, DeLaval launched a recycling initiative aimed at helping farmers return empty cans of teat dip or detergent.

Vincent Smagghe, After Market Manager for Sales Company Southern Europe, says response from farmers has been positive. DeLaval is spreading information about the programme through advertising, promotional and information campaigns.

For Vincent Smagghe, the recycling programme goes to the heart of DeLaval's sustainability and customer service philosophy.

"Collecting empty containers has a direct impact on the environment," he says. "Reusing the plastic material saves petrol consumption globally, and that in turn cuts fossil fuel emissions."

"By working together with farmers, DeLaval can help them limit their environmental footprints and improve their sustainability."

Local officials are enthusiastic about the recycling initiative, as is Ludovic Le Feuvre, from DeLaval dealership Société Morbihannaise Matériel d'Elevage, S.M.M.E.

"Farmers use large quantities of commercial detergents and hygiene products," he says. "We've not had a plan for recycling of the containers. Often, they just end up in a corner of the farm somewhere and that damages the environmental image of farmers and agriculture."

DeLaval dealers take back containers from farmers, after the they have cleaned them. In addition, DeLaval service engineers collect containers from farmers when they bring fresh product. Farmers don't need to pay for the recycling service.

ADIVALOR, a company set up in 2001 through an initiative of the French Pesticide Industry Association, is responsible for recycling the containers. The association is ADIVALOR's majority owner and works with distributors, agricultural wholesalers and 230,000 farmers as well as the French Chambers of Agriculture.

ADIVALOR began working with the French Detergent, Service and Industrial Hygiene Association to recycle containers from hygiene products dairy farmers use.

For Vincent Smagghe, DeLaval's involvement in helping French farmers recycle and improve the sustainability of their operations is natural. "This is perfectly in line with DeLaval's Sustainable Dairy Farming Initiative," he says. "We committed to the program."

Hands-on DVD training makes learning easier

Without proper training, good products aren't good enough.

But creating a consistent, high-quality training program for DeLaval staff and dealers isn't that easy. It means a huge investment of time. It's also a challenge to provide standardised training across large regions, such as Sub-Saharan Africa, New Zealand and Australia area (SANZA).

But the SANZA team members didn't let those obstacles stop them.

Working mostly after their normal working day was done, the team members developed a series of DVD training programmes that was launched in South Africa in April, 2010. Since then, DVD training for eight products has also been launched in Australia and New Zealand.

Richard Alderton, president of the Sales Company SANZA, calls the team's efforts "working beyond the call of duty."

The team developed a standard script for the training DVDs which includes a general introduction of the product, the way it works and its components, installation and trouble shooting. The DVDs also explain how to load software and program equipment. And the DVDs have voice notes.

Because the DVDs were developed in-house, costs were kept to a minimum. The biggest investment was the hours involved in writing the scripts for the training programmes.

Dealers can now train staff as required, plus recall information when required very quickly

"Dealers can now train staff as required, plus recall information when required very quickly," the team notes. The DVDs are also easy to update.

Not only did the team invest their time in the project, New Zealand-based Solution Manager Graham Harker, who worked on the project, had to learn about DVD filming, editing and script writing. "It's all new to me," he says.

But the effort was worth it.

Team members say that the response from all the countries has been great.

Staff and dealers give feedback after going through a training program. "Helpful," "practical," and "easy to understand" are phrases that come back again and again about the DVD training.

"We know most people retain information by watching & doing," says Graham Harker, "so the video concept plus the hands on training module, with questions and answers gives us a new way of going forward and passing on our knowledge to all users & installer within the DeLaval team."

Herd Navigator – more milk per animal

In a 2010 study published in the Journal of Dairy Science, University of California, Davis, research S.E. Place and F.M. Mitloehner say that "improving the dairy industry's production efficiency – improvements in management, nutrition, reproduction and cow comfort – is an effective way to reduce emissions per unit of milk."

Those four goals are the aim of DeLaval's Herd Navigator system. At the same time, better production will also help meet the world's growing demand for dairy products.

The United Nations' Food and Agricultural Organisation said in a report in 2010 that dairy cows are only responsible for 2.7 per cent of the world's greenhouse gas emissions.

That's a more precise number than the FAO's 2006 finding that 18 per cent of emissions came from livestock. But in the report, "Greenhouse Gas Emissions from the Dairy Sector," the FAO notes that milk consumption is expected to double by 2050 and that "concerted action" is needed to reduce greenhouse gas emissions while increasing milk production.

"Reducing the carbon footprint of the dairy sector is a key element of sustainable milk production," says the FAO. And sustainable milk production is the cornerstone of DeLaval's business.

Save time and care for each individual cow

Ole and Annette Lind aren't quite sure how they managed their cows before they installed Herd Navigator in 2009.

"I can't imagine life without Herd Navigator," says Ole Lind. "It would be like looking after the cows blindfolded."

The Linds have 300 cows at Lystbjerggaard, their 235 hectare farm in Nørre Snede, Denmark. With the help of Herd Navigator and DeLaval's voluntary milking system, VMS, they harvest more than 8,800 litres of milk a day.

Herd Navigator is yet another building block in DeLaval's Smart Farming initiative and another important component of sustainable farming.

Herd Navigator is integrated with DeLaval's voluntary milking system and the aim is to make life simpler and more productive for farmers like the Linds.

But better productivity doesn't just mean more profitability. It's also key to reducing the dairy industry's role in climate change. A new 2010 study, published in the Journal of Dairy Science suggests that more fertile, healthier cows mean lower greenhouse gas emissions per litre of milk.

"What we're trying to do is to support dairy farmers in balancing the economic growth of their operations with the needs of society, animal health and the environment," says Fernando Mazeris, DeLaval's Feeding and Herd Management Director.

To ensure that happens, DeLaval provides a unique training programme so that farmers understand how to effectively use Herd Navigator.

After the system is installed, a baseline set of parameters is generated for reproduction, mastitis, metabolic problems and feed protein balance. The system analyses cows' conditions and releases specific alarms, which generate actions based on standard operating procedures.

After the initial run of the system, an adviser spends half a day at the farm, working with the farmers to see how they're using the system, adjusting it for optimum use and offering training.

After six months, the adviser comes back again.

"The key to Herd Navigator is training," says Fernando Mazeris. "And constant follow up of the parameters."

Annette Lind says the system was "incredibly easy to learn. The programme is really well designed and it is easy to apply."

For Ole and Annette Lind, Herd Navigator has brought a clear and welcome change.

"We used to go around the barn for hours and hours monitoring our cows' health and reproduction status," says Ole Lind. "Now, we get a full overview of the operation and automatic, 24-hour surveillance of our cows."

As a result, Annette Lind says: "we can now concentrate our attention on the few cows that really need it."

In addition, the Linds can now detect when 95 per cent of their cows are in heat as opposed to only about 40 per cent or 50 per cent before they installed Herd Navigator.

"We never would have found these silent cows before," says Ole Lind.

Beyond the time that Herd Navigator saves the Linds, Ole Lind says VMS has proved revolutionary.

"We let the robots do the hard work," he says. "For me, no VMS, no cows."

Herd Navigator is currently available in Denmark, the Netherlands and Sweden. DeLaval partners with the Danish Cattle Federation, the Swedish Dairy Association and Vetvice, a veterinary company working with farmers in the Netherlands for training.

There are pilot Herd Navigator installations in Germany and Italy and plans for more pilot programmes in Finland, Japan, Canada and France during 2011.

Plans are also in the works to further develop Herd Navigator so that it can be used with DeLaval's latest major innovation, the automatic milking rotary, DeLaval AMR™ and to measure more parameters.

"You don't buy this because it's nice or it looks good. You buy it because it improves performance, profitability and sustainability."

Thanks to Herd Navigator, Fernando Mazeris says that European farmers can generate savings of 250 – 350 euro per cow, at the same time they are reducing their environmental footprints, improving the sustainability of their farms and their own quality of life.

Says Mazeris: "You don't buy this because it's nice or it looks good. You buy it because it improves performance, profitability and sustainability."

Annette and Ole Lind

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