



Corporate presentation  
2009/2010

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# New solutions for a recovering market

In 2008 we entered the worst recession our industry has ever seen. But looking back at the last one and a half years, I am proud to say that Sidel kept the strategic course we set in early 2008 with full-forward momentum, despite the exceptionally dire conditions. In fact, in the midst of the global downturn, we were able to add additional initiatives to adapt to the market conditions.

One of those new initiatives was focused on our installed base, where we increased our offering to customers in the form of upgrades, line optimisation services and re-engineering. It is increasingly clear that our customers have a huge unfulfilled demand for services regardless of the business cycle, and we are now investing to further differentiate ourselves as an outstanding service provider.

In this brochure you will find many examples on how Sidel staff have developed existing products and solutions into even better alternatives for our customers. You will also see some of the first results of our comprehensive initiatives within R&D, a result of an almost doubled R&D spending since 2007.

All in all, we believe we have entered the recovery phase of this cyclical downturn. The international beverage packaging market is fundamentally attractive because it is driven by strong macro trends that will continue for a long time, namely urbanisation and the growth of the middle class in many developing regions. As the world develops, demand for the convenience of packaged beverages will grow strongly. With our investment in manufacturing capability in China and the build-up of global competencies in our Market Operations, Sidel is well positioned to serve this demand.



Mart Tiismann



# Sidel in two minutes

Net sales in mio Euro

Employees

Countries covered

R&D units

Service units

Number of plants

990

5,151

>190

8

31

25

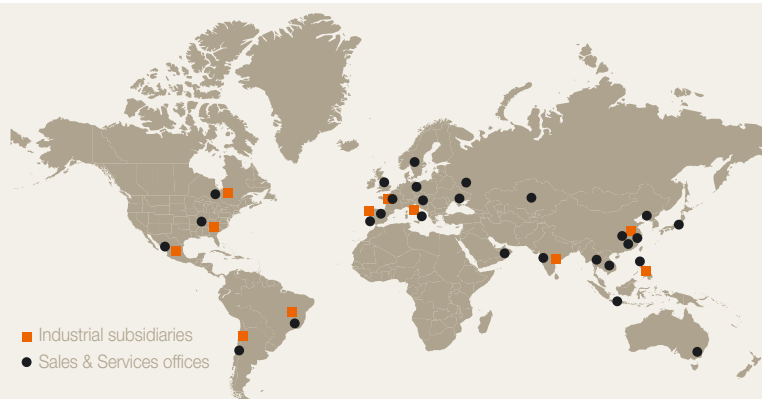
## Vision

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



## Our brand

The Sidel brand stands for proximity and innovation. Sidel delegates decision-making and business responsibilities close to customers, localises experts and competencies, and develops tailor-made solutions.



## Market presence

Sidel has installed more than 30,000 machines in 190 countries: from China to Brazil, taking in the United States, Germany, Japan 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.



## 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, labelers, pasteurisers, palletiser / depalletiser, robotic equipment and end-of-line operations.

## Core values



### TEAMWORK

When we pool our individual, complementary abilities we accomplish extraordinary things.

### DISCIPLINE

Once decisions are made, we execute them with dedication and respect for our community.

### EMPOWERMENT

Each employee is personally accountable, has the authority and resources to fulfil his/her mission.

### INTEGRITY

Integrity forms the foundation for all of our other values. Commitment to the highest ethical standards is essential for personal and collective progress.

### CUSTOMER FOCUS

We create and develop lasting partnerships with customers, actively listening to them, understanding and anticipating their needs. We deliver the best innovative solutions and services, with unrivalled quality and lead times, worldwide.

### LEADERSHIP

As a company, we lead our industry. As employees, we lead by example.

## 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.





# PEOPLE

## WCLE implementation leads to substantial improvements

In 2008, Andrea Forzenigo joined Sidel as the new Vice President Product Supply. His task: to lead the implementation of World Class Lean Enterprise (WCLE) in all the Sidel factories around the world. WCLE is used by many leading multinationals as a tool to deliver best quality products with short lead times, using the company's assets in the best possible way. It takes into consideration all steps in the process from suppliers of raw material to the start-up at the end customer. At Sidel, WCLE has quickly become an important tool to guarantee continuous improvements.

"What we do is that we look at every process and assess how much time that is wasted. It could be time for waiting, or handling a mistake or something else. WCLE allows us to clearly monitor seven different types of waste, which we then use as a tool to identify the root cause of the waste and eliminate it", says Andrea Forzenigo.

In short, WCLE is about assessing the real value of the time spent on a certain stage or process. The question to ask is: what is the part of the time that the customer would not want to pay for, or rather: what is the part of the time spent that does not add any value.

### **RADICAL IMPROVEMENTS**

The improvements made are stunning, with lead times being cut by up to 50 per cent and operational inventory at the factories reduced by 40 per cent compared to November 2008. For the filler production, WCLE was implemented on the whole process, from the customer order to the Factory Acceptance Test. The project identified possible improvements both in terms of solutions design and the production process itself. By radically changing the way the filler is assembled, a significant improvement

was seen in the lead time, the accuracy of the delivery, the assembly cost and the inventory.

"In fact, we were able to cut the lead time from 24 weeks to 12. We have also gained a 94 per cent ability to ship the machine on time, with all parts. The WCLE implementation met a lot of scepticism at the beginning, but today it is evident for everyone that it is a tremendous success", says Andrea Forzenigo.

One of the other internal advocates of the WCLE implementation is Frédéric Saily, Director Product Supply France, who is responsible for the Octeville plant, where the implementation started early on in 2008.

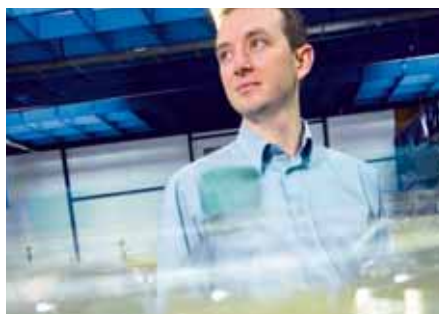
"The WCLE approach has "forced" us to dive deeply into all non value added activities, chasing waste at all stages. In that way, we found that WCLE not only gave the expected lead time reductions, but also generated a lot of extra saving, such as produc-

tivity, inventory reductions, and quality improvements. One finding was that a lot of waste was generated by communicating wrong or incomplete information between different entities. Forcing the different departments to focus on the same targets clearly forced the employee to think about the customer, rather than 'intra department tasks'", says Frédéric Saily.

### **SUBSTANTIAL COST SAVINGS**

Although there has been increased costs for implementing the WCLE mindset, the cost savings have already been substantial in the first year. But more importantly, and the sole focus for the project, customers now experience better quality and shorter lead times.

"Customers should know that at Sidel today, as soon as we identify an issue there are people looking into every aspect of it to remove the root cause. The real impact that WCLE has shown has been driving the interest and ambition among our staff. In 2010 we will also extend the methodology to the installation phases up to customer acceptance. Today we have also started to see the interest of customers for joint projects involving WCLE for instance concerning quicker changeovers or the overall management of the lines", says Andrea Forzenigo.





# RCA solves a problem before it occurs

By looking at the source of the problem instead of the problem itself, Sidel will increase customer satisfaction and cut unnecessary costs.

Like many other industrial companies, Sidel has always taken great pride in swiftly solving any customer problems that occur. Whether it is giving advice over the phone or jumping on a plane, the staff at Sidel have taken any measure to assist the customer. But what if the problem did not occur in the first place? Enter the new Sidel investigation tool, the RCA, root cause analysis.

Instead of fixing and patching a problem, the root cause analysis takes a deeper approach where the root cause of the problem is identified and solved. In 2009, Sidel launched an initiative to further investigate problems within the blowing portfolio, using the root cause analysis.

“I realise this sounds basic and simple, but it is still not easy. What we have to do is define a solution for the

cause of a problem, instead of solving the problem itself. Otherwise we will never be able to eradicate the problem”, says Stephane Aymonier, Global Process Owner – Product Evolution.

Together with other Sidel specialists, he has been responsible for implementing the root cause analysis method within the company. The starting point was the message from Sidel top management that customer problems took too long time to solve and that it was unacceptable that many of the problems occurred again and again.

“A recurrent problem is of course devastating for any customer relation. We pride ourselves by delivering top quality and our customers should expect nothing less. And internally these problems mean a real cost issue until we solve them”, says Stephane Aymonier.

## FOCUS ON FACTS AND FIGURES

He says the new approach has led to a clear understanding of how certain problems occur, both giving leverage to the redesign of the present solutions and providing important insights for developing new platforms. The

this provides good insights in both directions. We have also had the opportunity to work with colleagues from Tetra Pak who have provided an excellent benchmark”, says Stephane Aymonier.

A project that might look internal from the outside, the focus for the root cause analysis is strictly to increase customer satisfaction. Stephane

“We pride ourselves by delivering top quality”

root cause analysis has also brought different Sidel entities together, creating a swifter and more fruitful process.

“The root cause analysis forces us to really work with clear facts and figures. People from the market companies get together with the R&D staff and

Aymonier points out customer satisfaction as the driver in any company, and with the root cause analysis he says Sidel has got a new tool to reduce the time spent on problem solving, simply by solving the customer problem before it occurs.

# 2009 IN BRIEF



## Reduce energy consumption with ECO Services

Sidel has launched its first ECO Services to respond to bottlers' and bottle manufacturers' economic and environmental concerns. The two new services, ECO EIT™ and ECO Booster™, help reduce the impact of packaging materials (lightweighting, use of recycled materials, etc.), decrease water and energy consumption as well as waste and emissions. This is done by closely monitoring and recording data about bottling lines, blow moulders etc., enabling the ECO EIT™ and ECO Booster™ experts to develop plans and propose corrective actions in order to improve productions. The ECO Services family will expand over time, as further proof of Sidel's commitment to combine business competitiveness with environmental protection.



## The totally revamped sidel.com

On the occasion of the opening of Drinktec in Munich the new sidel.com was launched. The site has been revamped to be more customer-focused, user-friendly and with even more direct access to the website's contents. The completely newly designed website now gives visitors an overview of products and services offered by the Sidel Group to meet all requirements not only in the beverage world but also in the food and homecare sectors. Scroll-down menus take visitors straight to the images, descriptions and film clips. A new section on complete lines provides a clear, concise description of Sidel's long-standing expertise in the field. There is also a section dedicated to services: from Life Cycle Management to Engineering & Conveying, PET bottle design and the production of moulds.

## Sidel joins NAPCOR

In 2009, Sidel joined NAPCOR (National Association for PET Container Resources), the trade association of the PET plastic industry in the United States and Canada. The main reason for this is Sidel's awareness of the environmental challenges faced by the beverage packaging industry. By joining NAPCOR, Sidel is now even more actively involved in environmental initiatives concerning the industry. The membership will also help the Group enhance its dialogue with other companies in the industry.





## Sidel at Drinktec: Responsive solutions for a changing world

In a booth of more than 4,000 m<sup>2</sup> the Sidel Group presented state-of-the-art technologies and services at Drinktec 2009 in Munich, Germany. At Drinktec, Sidel demonstrated both its responsiveness and its foresight, being a true partner in responding to new expectations in a new economy. With the motto "responsive solutions for a changing world" Sidel showed that the company is able to meet the urgent needs of its customers. This could be by optimizing the life cycle of the installed base, to re-engineer a line or to re-invent a package, and by offering new flexible, sustainable, efficient and cost effective solutions and equipment. At the exhibition visitors experienced a path through Sidel's latest innovations for both equipment and services: 20 pieces of equipment, a tower dedicated to services, a complete beer line: the most challenging installation ever shown by Sidel at an exhibition.



# Wine in PET: A Sidel vintage




In a close collaboration between the French négociant Paul Sapin, the plastic cap specialist Novemba (Tetra Pak Group) and Sidel, two wines were specially bottled in 187 and 750 ml PET bottles for the exhibition Drinktec 2009. This was done with the purpose of fighting the preconceived notion that wine in PET bottles is poor in quality. At the moment, the main buyers of PET-bottled wine are airlines and railways, major retail outlets and the hospitality sector, but by improving the PET bottles this will open up a whole new market. Single-layer PET allows a shelf life of up to six months in a 187 ml bottle while multi-layer PET can enable much longer shelf life – up to 24 months for a 750 ml bottle.

## Kohlox™ takes the grease out of moulds

For blow moulders to work well, regular greasing operations are needed as moving parts generate friction. However, this kind of operation takes time. To reduce maintenance time for blow moulders Sidel has created Kohlox™, a new material that is used in moving parts such as studs and wear rings. This is a self-lubricating material which does not require any greasing operations for the moulds. By using Kohlox™, maintenance time is reduced by two minutes per operator and mould a week, which is a considerable amount of time in production. Not having to grease the moulds also helps improve mould cleanliness by eliminating the possibility of grease splashes or deposits, which are sources of persistent dirt.





## Predis™ – the dry alternative

Predis™, Sidel's patented dry preform decontamination system initially used for beverages distributed in the cold chain, can now also be used for products sold at ambient temperature. Combi Predis™ FMa is Sidel's innovative, simple system for blowing bottles and filling sensitive products in aseptic conditions. The key feature setting the system apart from other equipment of the same type is its "dry preform technology": bottle rinsing is replaced with dry preform sterilization at the oven entrance. Predis™ ensures superior hygiene for sensitive beverages while offering unrivaled cost-effectiveness along with product and environmental benefits since no water is used and fewer chemical agents are needed. Predis™ has already been selected by a number of beverage producers in Europe, Asia and North America.



## New Engineering & Conveying Business Unit

Since the start of the global economic crisis, Sidel's customers have been focused on the optimisation of existing bottling lines, rather than investments in new production capacity. Therefore the company has created a new Engineering & Conveying business unit which gathers all the skills within line audits, flow studies, layout design, auxiliary processes, piping, worksite coordination, all types of conveying and accumulation systems. By doing so, Sidel guarantees that the skills are put in even better use for refurbishments, transfers or other line adaptations.

The unit works under the leadership of former Gebo President Marc Aury and is already operating worldwide, with more than 800 highly qualified staff based in North and South America, Europe and Asia.



 **Sidel**

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# PRODUCTS



## More eco-friendly PET packaging for milk

A world's first: the French dairy company LSDH is launching a lightweight PET bottle, without a sealing lid, for UHT milk, thanks to the Predis™ technology.



## LAITERIE DE SAINT-DENIS-DE-L'HÔTEL (LSDH) / JUS DE FRUITS D'ALSACE (JFA)

<b>Headquarters:</b>	Saint-Denis-de-l'Hôtel (Loiret, France)
<b>Production sites:</b>	3
<b>Employees:</b>	650
<b>Sales in 2008:</b>	€ 320 M (juice: 60% ; milk: 25% ; other: 15%)
<b>Production in 2008 :</b>	620 million packages (75% in Tetra Brik, 20% in PET, 5% in glass)
<b>Sidel complete line:</b>	preform infeed, Combi Predis™ FMa, shrink wrapper, conveyors, EIT™ system (Efficiency Improvement Tool).

"A global revolution." Emmanuel Vasseneix does not mince words. The young CEO of Laiterie de Saint-Denis-de-l'Hôtel (LSDH) based in the Loiret countryside, approximately 100 miles south of Paris, is talking about the 1-litre UHT milk bottle made from PET, with its slogans emblazoned on the label: "Ecological. Practical. No sealing lid."

Emmanuel Vasseneix lists the arguments in its favour: "at only 28 grams, this bottle is lighter than the traditional polyethylene bottle and thus more ecological. For the consumer, it's both practical and safe, with its completely leak-proof cap, which replaces the aluminum sealing lid. Finally, PET allows us to diversify and personalize bottle shapes."

Since the summer of 2009, this bottle has been produced on a Combi Predis™ FMa, at a rate of 24,000 PET bottles per hour.

### INNOVATE TO DIFFERENTIATE

"Innovation is the only way to differentiate your company," insists Emmanuel Vasseneix. "If you are doing what everyone else is doing, price will be the only differentiator!". This mindset has certainly paid off. During the years, LSDH has been at the forefront of product and packaging innovation,

resulting in LSDH packages receiving both a Packaging Oscar and a Gré d'Or in the Innovation category.

With the milk market remaining stable at 3.5 billion litres consumed per year in France, differentiation is all important. To increase its production capacity and thus meet its customers' expectations, LSDH decided to take another technological leap forward: the acquisition of a Sidel line equipped with a Combi Predis™ FMa. This was a first for sensitive beverages with neutral pH.

### LIGHTWEIGHT AND ENVIRONMENT IN FOCUS

This new technology was chosen for several reasons, explains Emmanuel Vasseneix. "First of all, there was the environmental aspect: the dry decontamination system consumes very little disinfectant, and it reduces water consumption to next to nothing." As Vasseneix says, "you have to look ahead to the company's future responsibilities, both to society and to the environment." Another important feature for LSDH was "the possibility of lighter bottles: we have gone from 28 to 24 grams thanks to the Predis™ system, which sterilizes preforms instead of bottles. We have decreased bottle weight by nearly 20

per cent, and we no longer have the thermal constraints associated with bottle decontamination." He adds: "fast output rates, innovative technologies and Sidel's recognized expertise in bottles all had a role in our choice."

### WEIGHT REDUCTION NEXT STEP

The system's flexibility is also appreciated when products have to be changed three or four times a week on the same line which runs 24 hours a day, six days a week, in order to bottle short runs and promotional products. The new line is up and running for part-skim, skim and whole milk in 1- and 1.5-litre bottles. 5-litre bottles are to be added to the line in 2010. Product shelf life is three to four months at room temperature.

As a next step, LSDH is looking to lighten its PET milk bottle even more, in collaboration with Sidel, with the goal being to get it down to 22 grams. LSDH is also targeting high-end markets (infant formulas, vitamin-enriched milk, products for seniors, etc.) and clearly announces its ambition: "to become the national brand for major retail customers."



## Labelling with maximum flexibility

The SL 90 labeller meets the growing market demand for both paper labels applied with cold gluing and self-adhesive transparent labels.

Also suitable for high speeds, this labeller is entirely driven by servo motors, making it particularly efficient and flexible. With no gears at all, maintenance and format changeovers have been greatly simplified. Labels are centred electronically: a vision system, combined with bottle platform servo motor drive systems, orientates the bottles to ensure that even the most complex formats are perfectly positioned.

The SL 90 can also handle very lightweight self-adhesive labels: an air system controls the tension of the film, reducing mechanical stress. Since the machine can be cleaned very quickly, savings in energy consumption are optimised. Moreover, overall line noise levels are low because of the use of servo motors.

## Rollsleeve turns the art of labelling

The Rollsleeve machines are innovative rotary labellers that create and apply plastic shrink sleeves from a machine direction (MDO) label onto glass, plastic and metal containers. Traditional sleeves are applied transversally (TDO), a technique that requires substantially more material.

The special feature of these machines is a shrink sleeve creation and application by a lengthways reel, with a unique welding system ensuring that the labels are closed with no need for glues or solvents. The Sidel Rollsleeve is not restricted to only one type of material but instead can work many types of materials and thicknesses due to the bottle moving down into the created sleeve, instead of the sleeve being pulled down over the bottle.

Compared to traditional TDO labelling, the Rollsleeve leads to a cost saving of 15-20 per cent. In addition, there are apparent environmental benefits because of the absence of chemicals in the process.



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# PARTNERSHIP

## SIX programme cuts installation times

An initiative to improve the installation process has led to substantial cuts in lead times and costs and a lot of praise from customers.

One of the key factors of success for Sidel is a well-managed installation of complete lines and standalone equipment. Obviously, a smooth installation process that runs according to plan is a solid sign of Sidel's ability to deliver high quality. With this in mind, Sidel launched an initiative in 2009 to monitor and optimise the installation process.

The SIX programme (Sidel Installation eXcellence) aims at enhancing the speed and quality of the installation of standalone equipment as well as complete lines.

"This project is about delivering a world class customer experience. We look at the elements of the installation process to see where we have possible improvements and try to find the root cause of any issues. We have also launched a comprehensive competence development programme among our staff to increase knowledge sharing about the installation process", says Stefano Calestani, Global Technical Pool Director at Sidel Group.

He has been responsible for the design and implementation of the SIX programme, which has covered all Sidel markets and so far more than 300 installation projects. The objective has

been to cut installation costs and increase the quality of on-site execution. So far, SIX has turned out a success.

"We have cut the average installation time by 4 weeks, compared to similar installations in 2008. We now are working to secure additional improvements during 2010 by speeding up the project with a Lean approach and investing in sustainability."

The SIX programme has integrated new ways of working into Sidel's day-to-day activities worldwide. One of the key elements has been the management, control and reporting system which has introduced increased predictability and systems for anticipating risk prior to the installation phase. The control intervals are tighter and the competence development programme has led to a culture of continuous improvements.

"At the end of the day it all boils down to customer experiences. We have received a lot of praise from our customers after launching the SIX programme. They see shorter lead times, improved overall quality and better project management", concludes Stefano Calestani.



### SIDEL INSTALLATION VISION

"We commit to establishing a culture of performance across the value chain and developing competencies to deliver world class installations with predictable results that satisfy our customers and increase our competitiveness."





# Strong partnership cuts global lead times

Japanese Ferrotec has become a model-like partner in the strategy of sourcing internationalisation and in the localisation of modules in China to supply Sidel's plant in Beijing as well as the European plants.

An important part of Sidel's strategy during the last few years has been to closely monitor and evaluate all suppliers. Cutting lead times, securing the right specifications and initiating new price negotiations allow Sidel to offer a more competitive product portfolio from many aspects. In addition, a close cooperation with suppliers results in better product development and increased quality performance.

In China, it was decided to develop a strong partnership with a strategic supplier, to support the set-up of the Sidel plant in Beijing in 2008. The choice was Ferrotec, a Japanese company with 4,000-plus employees and two manufacturing sites in China; Shanghai and Hangzhou. Certified for both ISO 9001 and 14001, this supplier was chosen for its rigorous com-

mand of the manufacturing and control processes. The contract runs over five years, covering GUPM's (large mould support units) and front and rear modules. These are some of the most technically complicated sub-assemblies in Sidel's entire production.

## FOCUS ON QUALITY

Ferrotec has invested in new equipment and in facilities dedicated to Sidel, such as a manufacturing shop, assembly room and measurement room. Production started in early 2008, with the assistance of Sidel experts from China and France. Ferrotec and Sidel have also worked closely to source and qualify each stage of manufacturing of the sub-assemblies, including raw materials, milling, control,

tests, treatments and packaging.

In order to reduce lead times and to be price competitive, Ferrotec has also implemented Lean Manufacturing with strong support from Sidel Beijing and external consultants. To continue the progress and to maintain an unyielding level of quality, Ferrotec is also using the 6 Sigma tools.

## ZERO DAYS LEAD TIME

An overall challenge for Sidel is to secure the proper sourcing of parts and products despite the different entities of the group being spread across the globe. In the case of Ferrotec, this has been solved by a consignment stock in Octeville, France. By implementing a consignment stock, there is no difference in the lead time between a

local supplier in France and Ferrotec in China. In fact, the lead time today is down to zero days, and the stock is under the management of Ferrotec.

Although there are a number of challenges; in the form of distance, cultural differences and highly technical products; Sidel and Ferrotec have shown that it is possible to establish a two-way partnership where high quality products are shipped from China to France without hampering lead times, quality or costs.

For Sidel, it is of the utmost importance to ensure best quality and lead times and to control the cost of the technical sub-assemblies. Only then can Sidel be the most competitive partner on the market. The partnership with Ferrotec clearly demonstrates this ability.

# Predis develops partnership between two companies

For leading Japanese pharmaceutical company Otsuka, Predis from Sidel was a perfect fit. The ground-breaking solution helped Otsuka underscore the healthy and environmentally friendly profile for the isotonic drink Pocari Sweat.

The beverage market has long been a focus of Otsuka Pharmaceutical's development programmes. After having tried out various local or regional suppliers, the company searched for new partnerships with top-standard worldwide groups able to supply them with break-through innovation. In this, the key for success for Sidel was the ground-breaking Predis solution. Instead of cleaning the full-blown bottle, preforms are decontaminated.

"Our innovation and its high technology content allowed two great companies to become partners in a true win-win relationship. Otsuka is a company focusing on health and eco-friendliness and here is where Predis is a perfect fit", says Sebastien Geffraut, Director Account Management and Marketing for Sidel Group in South East Asia Pacific.

By decontaminating the preforms instead of the bottles, customers can radically cut the use of water and chemicals. In addition, it gives the possibility to reduce the weight of the bottle, which not only saves costs but also reduces the environmental footprint.

At Otsuka, Predis is used for production of the isotonic beverage Pocari Sweat, which is a very popular drink among health conscious people all over Japan and in many Asian countries. Today, some of Otsuka's filling lines are equipped with Predis technology, producing bottles in two different countries.

"Otsuka was the first customer in Asia to acquire Predis. That a renowned big player chose our technology has meant great leverage. Otsuka, like many other Japanese companies, is

extremely quality and performance oriented. Counting them among our customers is the best reference we can get", says Sebastien Geffraut.



# INNOVATION



## Sidel blow moulder shifts into higher gear

2,000 bottles per mould per hour: that is the output rate for the new SBO Universal2™ blow moulders, now more robust and more reliable.

With more than 5,000 blow moulders in service around the world, including 800 SBO Universal™ machines, Sidel has amply demonstrated its blow moulding know-how. Today, nearly 200 machines are operating at more than 40,000 bottles per hour, attesting to Sidel's experience with high speeds. Thanks to its large installed base, Sidel knows how to take its customers' needs into account to continue improving the performance of the blow moulders. These improvements apply to blow moulders that are already in service as well as to the latest generations of SBO Universal™ machines.

### UNMATCHED PERFORMANCE

Sidel's technological expertise and its extensive experience will benefit companies acquiring the new range of SBO Universal2™ blow moulders, whose output of 2,000 bottles per mould per hour put them among the world's fastest blowers.

Also available in Combi configuration, this new range can reach record productivity levels without any compromise in terms of robustness or production reliability. It decreases unplanned downtime to less than 3 per cent through the use of more robust

components and fewer spare parts. It ensures flawless productivity with guaranteed efficiency of 97 per cent and optimised production costs.

### BOTTLE QUALITY AND ENERGY SAVINGS

The new SBO Universal2™ machines have the same heating reserve already available for the SBO Universal™ range, with identical oven configuration and installed power. New lamps decrease energy use by up to 10 per cent. To optimise heating power and quality, the distances between the lamp rack and the preforms and between the reflectors and the preforms can be adjusted as a function of the process. The result is a wide processability window and impeccable bottle quality. At the blow mould station, the bell nozzle ensures neck stabilisation to keep the preform centred and guarantee bottle quality.

### RELIABILITY AND ROBUSTNESS TO WITHSTAND ANY TEST

The reinforcement of the spindle chain structure increases its service life and enables speeds of up to 2,000 bottles

per hour per mould. To guarantee perfectly repetitive, precise and reliable movements, the laws of movement have been completely reworked: the new cam profiles and the new, optimised transfer arms help to increase the speed.

The mechanical transmission has been modified to ensure greater reliability, with a new, more powerful motor and a new gear module. The mould base cams and the mould open/close

dampers have also been adapted. Centralised, automatic lubrication on the blow wheel ensures good cam lifetime and transfer reliability. To improve information flow and reduce response times of the solenoid valves, a new electrical rotary union has been installed, and the automation architecture has been revised.

The high speeds with the SBO Universal2™ range are adapted to all bottle shapes and to lighter packages.

### eQuick Change: Format changeover times reduced by 50 per cent

As an optional feature, the SBO Universal2™ can come equipped with the new eQuick Change system patented by Sidel. It provides ultra-fast connection of the cooling circuit to the mould neck with just one click. In less than five seconds per mould, all of the piping that feeds the neck circuits with water and the electrical cables for the temperature probes are connected and disconnected. This leads to 50 per cent time savings with respect to the Quick Change version. Implementation is extremely simple: a single part to handle and just four operations to perform without any tools. The eQuick Change system is perfectly adapted to HR moulds (Heat Resistance) and can be adapted to all of Sidel's latest-generation blow moulders (SBO Universal™, SBO Series2 and SBO Series2+).



# Taking beer filling to a new level

At the Drinktec fair in Munich last year, one of the Sidel stars was the new SF 300 LP level-probe electronic beer filler. Equipped with electro-pneumatic components integrated on the filling valve, self-draining surfaces and efficient servo motors, the SF 300 LP is not only a technically advanced solution, but also a solid answer to the many environmental requirements from customers all over the world. One example of this combined sustainability and technology thinking is an external product tank, allowing for a substantial cut in the consumption of water and chemicals and a minimum product loss during changeover.

The SF 300 LP takes beer filling to a new level in several areas; sustainability of course, but also hygiene, efficiency and flexibility. The design of the machine structure has reduced the surfaces to a minimum and many mechanical components have been eliminated, compared to a traditional solution. The few surfaces left are self-draining and the machine access has been improved to simplify maintenance and cleaning operations.

An automatic, telescopic crown chute gives great flexibility by guaranteeing an intervention-free adaptation to all bottle height formats and greater reliability of fine adjustments. Sidel also offers the option of

installing the SF 300 LP in a block with an ultra-clean crowner. The crown feeding on the exposed filler takes place through an Aidlin 24CR, specially designed for very high speed (1,350 crown/minute), highly reliable and featuring increased hygiene and performance due to the gravity orientation principle used in the patented Aidlin™ waterfall system.

“The technical features of the SF 300 LP enable Sidel to compete with the most qualified solutions in the market and to meet the requests from even the most demanding customer”, says Stefano Baini, Filling Equipment Product Manager at Sidel.



“The ECO Booster surely  
combines financial with  
green benefits”



DELIVERING EVERYDAY EXCELLENCE

# SUSTAINABILITY

## ECO Booster reduces energy consumption

The new ECO Booster program from Sidel is aimed at reducing the energy consumption of blow moulders. But it has more to it than just green issues.

Say ECO Booster and most people probably think of the environment. But this new solution from Sidel actually has more to it. By thoroughly auditing blow moulding equipment and proposing improvements, Sidel now can give the customer both an environmental and economic boost.

The ECO Booster represents a progress based approach that is founded on Sidel's knowledge of the installed base, a process database that is constantly being enhanced and on site evaluation by specially trained experts. All in all, this gives energy savings that guarantee a quick return on investment, as well as a reduction in the environmental footprint.

"Energy savings are not only about the environment. A lower energy consumption makes it easier to get energy commissions or reduced tax in some markets. So the ECO Booster surely combines financial with green benefits. In fact, one bar of pressure gained on the high pressure line represents savings of more than € 20,000 per year", says Luc Desoutter, Sustainability Officer at Sidel Group.

During the global financial downturn, many companies have gained interest in production optimisation. Still, there is insufficient knowledge on what options there are and how easily the performance can be in-

creased. Here is where ECO Booster comes onto the stage.

### AUDIT AND CORRECTIVE ACTIONS

The ECO Booster programme is a four step process. It starts with an in-depth analysis of the installed equipment, looking at power consumption, air pressure, process and package, air and water quality, mechanical control and machine environment. In a complete line, the blow moulder accounts for some 70 per cent of the total energy consumption, making it the obvious starting point for process optimisation.

The second step of the ECO Booster is a comprehensive report compiled from a comparison of measurements with standard machine production data that has been acquired from Sidel equipment all over the world. The report evaluates the main observations, their impact on consumption and the cause of any problems. Finally, it proposes a tailor made solution as a function on the desired return on investment, with evaluation of potential gains.

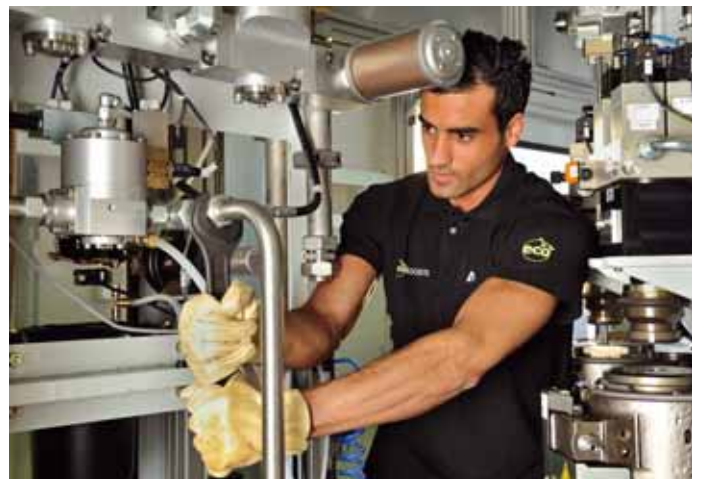
The next step is the actual corrective action on the blow moulder, refurbishing and improving the oven and blow station. This could also include

process and preform design optimisation, as well as new tools for monitoring and controlling energy consumption. With all this in place, the final step of the ECO Booster is to validate the actions taken and to show this by putting the Eco stamp on the equipment.

### SUCCESS IN BELGIUM

Belgian Spadel Group was one of the first customers to perform the ECO Booster. The program was carried out on five Series2 blow moulders and two Combis installed at Spa Monopole.

"Owing to our location in a natural heritage site and to the high environmental awareness of our management team and all our staff, we are constantly on the lookout for initiatives that can help us decrease our environmental footprint. Sidel is one of the first of our suppliers to make this investment with us and to provide us with its expertise in meeting shared environmental and economic goals. This approach is extremely positive, and we are expecting great things from it", says Joffrey Joassin, Technical Development Manager of the Spadel Group.



# Putting green words into action

At Sidel, the efforts within sustainability are about more than fine words. Today, every new product or solution shows evident environmental benefits. On this page you will find three examples.



## SF 300 FM filler

A simple machine design giving a high level of hygiene is the most apparent feature of this new filler for carbonated soft drinks and beer. But the machine also comes with a set of real environmental benefits. The use of torque motors instead of motors with a traditional asynchronous mode has cut the energy consumption substantially. The internal cleaning circuits have been optimised in order to reduce chemical wastage; and by finding a new design for the product feeding system CO<sub>2</sub> consumption has been reduced. The end result is a technically advanced filler for demanding customers; customers who also have high expectations on environmental performance.



## SR-E rinser

This new electronic rinser offers a variable rinsing treatment time in order to minimise water consumption. A special mobile nozzle combines water and sterile air to maximise the cleaning performance while at the same time halving water consumption. Equipped with electro-pneumatic technology, the SR-E rinser enables the operator to check the pressure of individual valves at all times. If any pressure differences are detected by the special sensors, immediate action can be taken during production. Also, the treatment times can be optimised according to the format, leading to less water and chemical waste.



## SM 900 mixer

In a stand alone mixer, about 50 per cent of the CO<sub>2</sub> introduced is lost during production. In the SM 900 this figure is down to 12 per cent. The electronically controlled centrifugal pumps ensure the optimisation of the various production stages, resulting in significant energy savings. A liquid ring vacuum pump means there is no need for the use of water. The SM 900 mixer can handle a wide range of products, from CSD and carbonated water to diet beverages and beer. The quick format changes guarantee maximum production continuity, and the de-aeration system removes air down to 0.5 ppm, providing greater product stability.

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