

SIDELINE

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BE UNIQUE

MART TIISMANN, PRESIDENT OF SIDEL



The Drinktec show last September marked the symbolic start of the turnaround in investments for the global beverage industry. The industry's major players displayed certain optimism and belief that beverage consumption is on the rise again. In this context, the wave of innovations presented by Sidel – more than 20 new pieces of equipment on display, particularly for beer, aseptic filling and PET technologies – as well as the attention devoted to developing productivity solutions, got very positive reviews. This success is both confirmation and compensation for the R&D efforts we have made in recent years. In four years, Sidel has doubled its investments in order to reinvent its product portfolio – despite the worst recession that the industry has ever experienced – and we are continuing our development projects at a steady rhythm.

Innovate to differentiate

This strategy has yielded results. We are seeing that our most advanced products, such as the Sensofill FMa aseptic filler or the unique Predis dry decontamination technology for preforms, are enjoying great success with our customers. This demonstrates that technology is the key for any business. While the beverage industry serves a mass-consumption market that is expanding overall, it is also a highly competitive market. Without a technological edge that creates a product, environmental, price or image differentiation, it is not possible for a company to ensure its profitability or long-term viability. At Sidel, this is what guides us: making sure that our technologies respond to the needs of our customers by offering them a distinct competitive edge.

Water and CSD: Unique solutions for mass markets

In this race to innovation, the PET bottle is the untiring long-distance runner. Its many qualities, unceasingly amplified and renewed, now make it the world's top material for liquid food packaging, ahead of glass. Its base markets are water and CSD, which today represent three-fourths of its uses. On these mass markets, competition between brands is intensifying, just as criticism of bottled water and sugary drinks are stimulating innovation. There can be no doubt: here as elsewhere, to succeed, you need to innovate to be unique. ■



At a time when what we drink is becoming as important for our health as what we eat, **natural and functional drinks are on the rise.**

FOCUS

LET'S DRINK TO OUR HEALTH!

Consumption of bottled water and carbonated soft drinks worldwide is growing at varying rates, depending on region, market maturity and local purchasing power, but total volumes remain high: +4% per year between 2005 and 2009. This growth is expected to continue at a rate of nearly 3% between now and 2013.

Despite these geographic and socioeconomic disparities, a strong trend is evident: the desire for health and well-being. What we drink is as important for our health as what we eat. Whether it's for public health reasons, such as increased obesity or diabetes, or in response to increased life expectancy or to deal with ethical and environmental concerns, producers and consumers are increasingly



focusing on four watchwords: fresh, natural, pure and functional. Natural, diet, flavored, energy, vitamin-enriched and nutritional drinks abound. Consumers are always looking for more choices. Some

want their soft drinks with sugar, while others want them to be calorie-free. Some others want water with antioxidant or anti-cholesterol properties, such as a lightly sparkling malt-based drink or a plant-flavored carbonated drink or even an isotonic drink with tomato, lettuce, spinach and celery extracts...

Enhancing the natural side of these products has a consequence: they are increasingly treated as sensitive products, making them more complex to package. It's up to the packaging industry to innovate with technological solutions and propose processes that yield healthier drinks. ■

INTERVIEW

Innovative and sustainable beverages with natural ingredients and added functionality answer to “Better for you” consumers’ expectations.

MIKE GIBBONS

General Manager **COTT US**



What are the main trends in the North American water and CSD markets?

M.G. National sales trends for both CSDs and Water would suggest that they are mature category markets with CSDs’ leading the life-cycle curve. Social and economic changes over the past two years have accelerated their rate of maturity. In NA, they have forced many consumers to become more conscientious about the products they buy and consume. A rise in obesity rates over the past 20 years and the recent global economic crisis has affected many product categories in different ways. Growing concerns over obesity negatively affected CSDs as consumption rates have declined. Inversely, water (sparkling and still) grew in popularity and was recognized as a healthy alternative. Bottled water, with its healthy image and portability, showed aggressive growth rates until the economic crisis; encouraging us to look into innovative ways of taking cost out of our products.

Did the consumers’ behavior change and why?

M.G. As the economic crisis was worse than we have seen in many years, we can assume that consumers will continue to be more mindful of how they spend their

“As the US population ages, nutrition in a bottle becomes a very attractive proposition.”

money and they will be smarter shoppers; seeking lower cost products that continue to deliver great quality and taste. Of course we hope this means that more and more consumers will look to private label brands.

Consumers who might feel guilty about buying “over packaged” products will simply cut back their consumption or eliminate their purchases totally, coming back to tap water consumption. Retailers and consumers will tell you they prefer products that offer more sustainable packaging; it makes them feel better about their purchase. If companies do nothing in the way of minimizing their carbon footprint, then the consequences could be quite high.

What is the situation for Cott US?

M.G. Cott US has historically been a CSD manufacturer. However, for over 10 years, Cott has manufactured purified drinking water. About three years ago, Cott placed an even greater emphasis on diversifying its product portfolio by successfully strengthening production efficiencies in this category. As a result of this focus, Cott is growing its distribution footprint. On a volume basis, water represents about 12% of our mix and CSD almost 86%. While glass containers are not part of our

product mix, PET and cans definitely are key formats for Cott and our retailers. Our CSD sales mix alone is approximately a bit less than half PET. When you add purified drinking water (PDW) to the mix, PET now represents more than half of our sales mix. Despite the growing interest in more ecological (green) packaging, consumers continue to enjoy the convenience of PET bottles as a portable and re-sealable beverage container. A lot of hours and dollars have been invested to reduce the gram weight of our bottle in efforts to reduce our carbon-footprint and offer our consumers a good value at retailers.

How strong is the competition in this marketplace?

M.G. In the overall bottled water category we are a relatively small player, but in the specific areas where we focus, we have a significant presence. Competition has clearly increased over the past few years, both as a result of increasing production capacity and over the past 18 months or so, as a decline in volume growth. We entered the bottled water category over a decade ago when it was still new and relatively under-developed. At that time we saw it as a way to improve utilization on our PET CSD lines and support a key CSD customer of ours. Of course, since that

time, bottling technology in water has improved dramatically and we now use lines that are dedicated to bottled water production.

How are you keeping up with and contributing to the changing trends in the consumer beverage market?

M.G. Consumers are busier than ever and their interest in small portable re-sealable formats will continue to be high. Considering smaller formats will continue to be popular, the types of beverages offered for “on-the-go” consumption will see the biggest change. Cott strives to closely follow consumers’ interested in “better for you” products. The use of natural ingredients and added functionality are two very important product characteristics; particularly with baby boomers. Those functionality beverages are closer to the original flavor or status and focus on products’ performance-enhancing properties, with specific benefits as health and wellness for example. As the US population ages, nutrition in a bottle becomes a very attractive proposition. This applies to both women and men. Parents also seek these “better for you” product types for their families as their understanding of good nutrition broadens. >

“ To produce an all natural CSD requires a bit more complexity and specialized equipment. ”

> **What are the latest innovations in this field for Cott US?**

M.G. Cott has been a pioneer by working with several retailers to reduce the amount of sugar in products that have traditionally contained 100% sugar/HFCS (high fructose corn syrup). We can significantly reduce calories in our products without negatively affecting the taste and quality of our products; it has to taste good if we're to continue strengthening shopper loyalty for private label. Considering there is still a "learning curve" in place for consumers to understand functional products, it's important that beneficial product claims



are highlighted on the products' packaging. Communication on the bottle must be simple and clear, all while following guidelines set forth by the Food & Drug Administration (FDA). Consumer demand for preservative free/all natural CSDs is still in an early stage, but interest is expected to grow with improved taste and price. Today, all natural CSDs are perceived and priced as a premium product. Additionally their taste is not as good as their preserved counterparts. To produce an all natural CSD requires a bit more complexity and specialized equipment. We're selling a private label all natural CSD today and we're realizing growth in this area. Our product tastes superior and is priced at a good value for the consumer.

What are the priorities of Cott US today?

M.G. Excellent quality and competitive pricing are certainly critical to stay ahead of the competition. Additionally, we must be innovative and find ways to partner closely with our customers to help them improve their business. For Cott, sustainability is a priority. We are taking steps across the company to be more energy efficient, reduce waste and otherwise improve the sustainability of our manufacturing processes and final products. While not all of our actions are immediately visible to consumers, they are known to our retailer partners and enhance their efforts to improve the sustainability of the products they sell. Packaging is one of the large opportunities in sustainability. We've made great progress in the past few years on light-weighting, which is good for business and good for sustainability. In this, Sidel has



been a trusted partner for Cott in bringing new innovations on lighter bottle weights for our custom bottle designs. There are also things we can do on secondary packaging to reduce waste without reducing service levels or consumer appeal. We're continuing to work on these opportunities. ■

IMAGES

Although the maturity of water and CSD markets still varies from one country or region to the next, **reliability and automation are all watchwords for production.**



FOCUS

WATER AND CSD: ON TARGET FOR HEALTH

| | | |
|---|---|---|
| 1 | 2 | 3 |
| | 4 | 5 |
| | | 6 |

1 / 7_ Water and CSD require sophisticated solutions for accumulation, filling and end of line.

2_ The Asian water market is expecting annual growth of 7% through 2013 (source: Euromonitor).

3 / 4 / 6_ Sidel engineering and complete lines satisfy the need for high speeds with water and CSD, both of which are mass markets.



| | | |
|---|----|---|
| | 7 | 8 |
| 9 | 10 | |

5 / 8 / 9_PET, glass and metal cans:
Sidel fillers are available for all types
of packaging.

10_ The growth of single-use bottles
and metal cans reflects increased
non-household, on-the-go consumption.





POINT OF VIEW...

Leveraging **brand strength.**

... **SAMIR YAÏCI**

General Administrator, **Saïda Algeria**

Why did you invest on the Saïda brand?

S.Y. The Yaïci Group entered the Algerian water market in 2008 with a new brand, Djemila, however, strong existing competition made it a difficult start for us. We therefore decided to buy Saïda, which was the oldest brand on the water market. In Algeria, it's the generic name for bottled water. Saïda defines water, and water is defined by Saïda. Excellent for regularity and for clearing the bile ducts, it contains magnesium oxide and has high bicarbonate content (400 mg/liter). It is light, a diuretic and recognized for its excellent taste. This well-known image justifies its higher price versus other bottled waters. It is sold in 0.5- and 1.5-liter PET bottles.

How did you revitalize Saïda?

S.Y. We worked on the fundamentals of Saïda, without breaking from the past, but nevertheless still rejuvenating its image. Its premium positioning is well understood, and the new bottle shape is winning unanimous praise, with its high ring cap and its elegant, wraparound label. We haven't lightened the bottle: we wanted to respect the consumer's wishes by offering a package that corresponds to this high-quality image, with a stable bottle that is easy to grip and does not

deform. Consumers aren't easily fooled. A 1.5-liter bottle weighs 32 g on average, but some producers have tried to lighten it to 28 g. These attempts at savings have not been favorably received by consumers, and they were quickly abandoned.

“Saïda is the generic name for bottled water in Algeria.”

What are the next steps in your development?

S.Y. We want to be one of the top three on the Algerian water market in the next three years. We are going to develop the Saïda brand in glass for major urban areas. We are going to launch the 5-liter PET format for households. We are also entering the water cooler market for businesses. Finally, we want to export Saïda to nearby countries where many Algerians live. With Saïda, we have a product that complies with European legislation.■

POINT OF VIEW...

A healthier future.

... CLAIRE PHOENIX

Managing Editor of **Beverage Innovation magazine**

What are consumers looking for when drinking bottled water and CSD?

C.P. Today's consumer is looking for more than just a great tasting or rehydrating thirst-quenching drink. They are looking for a drink that makes them feel good – both through ethical and environmental emotive connections as well as perceived natural and functional health benefits.

Which are the factors which drive this move to naturalness and functionality?

C.P. A number of changing lifestyle demographics have led to the desire for drinks offering more than just refreshment. By living longer we need to remain healthy for many more years. So, we look for gentle self-medication in the form of vitamin- and mineral-enhanced drinks, plus those with natural antioxidants from fruits and many functional herbs. There is a resulting requirement to stay younger looking, which leads to the rise in beauty drinks containing ingredients such as CoQ10, collagen and aloe vera. We can expect to see more drinks with targeted benefits including those for hair, teeth and nails. The rise of obesity on a global basis has also led to the growth of both low and zero calorie drinks along with many promising satiety to diminish appetite or fat-burning drinks.



What about the fears of tap water contamination?

C.P. The taste of chlorination and a yearning for natural source water has led to a massive rise in consumption of bottled water across the globe in the past decade. From the choice of water as an alternative to alcohol, tea or coffee, to its use as convenient refreshment as part of our ever busier lives in offices and cars, as an accompaniment to meals.. natural flavored and functional waters are thriving. There are those offering benefits such as energy, relaxation, sexual motivation, and immune protection and others offering a more general feeling of well-being through the addition of fruit and herbal extracts with their inherent health benefits.

Where do those trends come from?

C.P. Echoed across the globe, these trends sometimes emanate from the Far East – in particular Japan, which is known for its high turnover of innovative beverages, although these are frequently trialed and dropped at an alarming rate.

However, there are a number which are staying the course – from those designed to lower blood cholesterol and blood pressure levels, to the more unusual vinegar drinks and non-alcoholic beers.

Many wellness drinks have stemmed from >

> Europe – for instance, where healthy apfel schorle (a German soft drink, which is a mix of carbonated mineral water and apple juice) and ACE energy drinks have long been popular. By adding natural mineral waters to fruit juice, the biggest development has been that of noting health benefits on the pack and educating consumers about the benefits of various fruits and herbs. It has been the move to vitamin-enhanced waters that has highlighted the ‘antioxidant phenomenon’ and opened up a new market sector. The United States has also been prolific in developing functional waters. One example of success here is SoBe Life Water, a naturally flavored beverage that is a rich source of antioxidant vitamins C & E, launched in spring 2009.

How have brands reacted to those new expectations?

C.P. We have seen brands reacting to these trends with a portfolio evolution in the move to still drinks offering natural and functional benefits. The scale of R&D has escalated in recent years to unprecedented levels with new formulations, market research, consumer samplings and more scientific trials undertaken than ever before. They are recognizing the consumer’s reluctance to ‘drink science’ but are catering to the need for the natural feel-good factor and at the same time adding value and nutritional benefits. The private label sector and co-packers have been quick to adopt and develop natural and functional drinks, in particular enhanced juice and water drinks, and naturally sweetened and colored CSDs. In the 2009 Beverage Innovation Awards, we saw the highest ever entry numbers in

the functional drinks category, ranging from natural energy shots to tooth-friendly dairy drinks and fruit-enhanced waters.

What influence do regulatory authorities have on those changes?

C.P. Consumers and retailers need to be reassured, of course, that such innovation is safe and effective. As a result, clinical trials are being undertaken on a larger scale than ever before. To meet with regulatory approval from bodies such as the European Food Safety Authority (EFSA) and Food & Drug Administration (FDA), companies are required to provide well-constructed and applicable dossiers evidencing viable claims with information that is applicable to the target market in both demographic and geographic terms. With consumers leaning strongly towards products carrying the claim ‘natural’, we have seen reformulation for a ‘clean dec’

(clean declaration), meaning no artificial colors, flavors, sweeteners or preservatives. This has led to a flurry of activity on the market. The launch of Stevia rebaudioside – the plant-based sweetener, has meant even further reformulation, and use of fruit extracts and honey as sweeteners along with colors derived from foodstuffs such as purple sweet potato has also become part of this recipe redesign.

What is the influence of retailers on those modifications?

C.P. A trip into your local supermarket or a more detailed store study soon reveals the changing face of the non-alcoholic supermarket SKU. With more space allocated to still and chilled enhanced drinks and a reduction in the space allocated to basic bottled waters and own brand/private label carbonates. We are seeing a polarization between basic





“ We have seen beverage reformulation with no artificial colors, flavors, sweeteners or preservatives. ”

commodity brands and the more costly, desirable but added-value functional drinks. This was underlined by Wal-Mart reducing the shelf space devoted to its own brand carbonates and giving a greater number of SKUs to still drinks. However, the major companies in the CSD sector have been quick to react to the trend to natural and functional with developments in CSD's offering antioxidant rich flavors such as pomegranate, blueberry and the new Natural range for 7UP.

In your point of view, what are the most recent amazing beverage innovations in the bottled water and CSD segments?

C.P. Aside from the range of Next Generation Waters containing active functional ingredients – there are a number of outstanding developments in functional waters and CSDs. The AiQa range from AiQA Intelligent Water of Austria offers sports waters targeting men, women and

children, each with specifically targeted functional benefits. While Coca-Cola in Germany attracted a number of followers for its latest flavored water – Römerquelle emotion blackberry and lime. The recent launch of Eve in Russia targets women with a lightly sparkling drink. While also aiming at women in their 20s and 30s is Coca-Cola Plus with green tea catechins which unsurprisingly reached consumers in Japan first. Meanwhile in 2009, Pepsi in Japan offered more unusual blends such as Pepsi Shiso – which apparently tastes like basil and has an herbal aftertaste.

A great many vitamin-enhanced waters have been launched since the millennium success of Glaceau, and these symbolize the move to healthier drinks in flavored waters and CSDs – both in terms of formulation and marketing stance. Drinks made for a healthier future – benefiting the health of mankind and the beverage industry. ■



POINT OF VIEW...

The leading edge on PET technology and applications.

... ROBERTO SCHIANCHI

Market Operations Executive Vice-President, **Sidel Group**

What trends are you seeing on the water and CSD markets?

R.S. These two markets are still the biggest ones for non-alcoholic beverages, and while both are progressing, their dynamics are quite different. CSD is a mature market, which has had high volume for quite some time but whose growth is now slowing down (1.5% per year between 2005 and 2009). In contrast, the water market has enjoyed the strongest growth of all beverages in the last four years (+7% per year). Volume has increased, and water is gaining in importance.

However, some large disparities are hiding behind these general trends. From the geographical perspective, the outlook is better in the zones where demographic growth, urbanization and increased purchasing power are more promising, while the outlook is less positive, or even in decline, on mature markets, where consumption per inhabitant is already high. From the segment perspective, bottled water consumption is increasing at four times the rate of CSD: the growth rate for water is estimated at 4% per year between now and 2013, versus a little less than 1% for CSD.

And on the packaging side?

R.S. PET is the leading material on the water market, where it should represent about 90% of packaging in 2013. For CSD, metal cans are still number one in 2009 with 41% of all containers, versus 38% for PET. However, PET is expected to increase its market share and take over the number one spot for CSD (40% by 2013), thus the absolute need for Sidel to strongly focus on this growing opportunity.

Is the success of bottled water linked to a trend among consumers to go with more “natural” products?

R.S. As for CSD, the water market has seen significant growth in countries where purchasing power is increasing and lifestyle changes are favoring on-the-go consumption, not necessarily linked to the trend towards more “natural” products. This is the case in Eastern Europe and the Middle East (+10% from 2005 to 2009), in China (+9%) and Latin America (+10%). While in North America (+7%), consumers favor natural drinks with positive effects on health and environment, therefore they are drinking more bottled water as one of the solutions to the obesity problem.

Still, this growth on the bottled water market is expected to slightly slow down in the next few years, reaching 4% per year, mainly because of its replacement by tap water (for family economic reasons) and because of the increasing diversification of the beverage offer to the final consumer.

And what are the trends on the CSD market?

R.S. The CSD market is growing in Asia, Eastern Europe and Latin America, where consumers appreciate the taste and thirst-quenching properties of these products. But globally, growth for this mature product is expected to stagnate (less than 1% growth through 2013), and even drop in North America (-1.3% through 2013).

A significant trend is appearing on this market: the increased “naturalness” of these products. Beverage companies want to decrease preservative levels, particularly benzoates and sorbates, which leave a taste in the final product, or “Velcorin”, a tasteless, colorless cold sterilizing agent whose presence in the drink has to be indicated on the label, in line with consumer information and protection measures.



“Without preservatives, some CSD become sensitive products.”

Major beverage companies are therefore looking at product packaging solutions that require no preservatives.

What technical constraints does this desire for greater “naturalness” involve for CSD?

R.S. Without preservatives, some carbonated soft drinks become sensitive products, which are more complex to package, requiring a new process. New technological solutions have to be found and Sidel is on the race: Alwa Fontanis in Germany and a major company in China have decided to package their sparkling fruit juices as sensitive products, applying one of our leading edge technologies. They have ordered Predis Combis from Sidel: the innovative dry decontamination process for preforms that ensures perfect quality for sensitive products sold at ambient temperature. Predis offers a simpler path

than traditional aseptic installations, which should be of interest in this new segment, where there are still no “hygienic” production habits.

What are the industrial challenges on this market?

R.S. Of course, everybody is looking to improve productivity (producing more with less) and optimizing existing capacity (modification of parts for improvement, relocation of lines to growth areas, etc.). We can also see that the major players on these markets are increasingly preoccupied with sustainability, which is leading them to reduce energy and water consumption, to decrease the carbon footprint of their activities, to lightweight their packages and to use recycled materials.

For this specific purpose Sidel developed a complete range of new “service products”:

audits, tests and analyses for line relocation or transfer, package lightweighting or decreased secondary packaging in both the food and non-food sectors and technical solutions aimed at reducing consumption (energy, water, steam, chemicals...) of the installed base. Other important developments in this area include bottle lightweighting and PET recycling. Last September, at its Drinktec stand in Munich (Germany), Sidel blew bottles with 50% recycled PET, and in the laboratory, we have blown marketable bottles with 100% recycled PET.

Even if Sidel is leading in water and one of the key players in CSD, we are facing fierce competition. Therefore it is of utmost importance that we continue to focus our innovation efforts on this strategic segment thus keeping the leading edge on PET. ■

TECHNOLOGY

Sidel's highly innovative approach to bottling carbonated beverages and water has led to the design of new electro-pneumatic volumetric filler.

SF 300 FM FILLER

Flexibility, efficiency, hygiene and sustainability

Sidel launched its new electro-pneumatic volumetric filler with flow meters, the SF 300 FM, at Drinktec in 2009. "It's an extremely versatile, multipurpose machine," explains Andrea Lupi, Sidel Combi & Regular Filler Product Manager, "specially designed for filling carbonated beverages, but also perfectly suited to packaging still and sparkling water and even hot-fill products." In fact the SF 300 FM also has a hot-fill configuration: with a few simple adjustments (the addition of a chamber and some extra circuits) the product can be re-circulated inside the filling valve.

Flexibility – an indispensable market requirement

Today's bottlers of carbonated beverages increasingly wish to diversify their offering in terms of products, containers and labels. "In other words" – sums up Andrea Lupi – "short batches instead of traditional long runs." That's why speed and simplicity in format changeovers are now essential criteria for beverage producers when choosing filling technology.

The SF 300 FM has very fast format changeovers:

- > Transferring bottles by means of starwheels equipped with grippers ensures

that various types of neck diameters can be handled

- > A two-chamber structure (one for decompression and the other for CO₂), manufactured by using a special procedure involving automated welding, and an external product tank make cleaning particularly easy, thus also facilitating product changeovers
- > Automatically inserted and removed dummy bottles make CIP between products faster.

Efficiency: lower costs and less consumption

On the current economic scene efficiency and cutting overall costs are in everyone's interest. Minimizing consumption to optimize the TCO thus becomes crucial. Today's machines must consume less carbon dioxide, electricity and water, as well as guaranteeing minimal product loss. From this point of view, the SF 300 FM has a number of key advantages:

- > The centralized product infeed has been designed for a long lifecycle with face seals in the product circuit and no seals liable to short-term wear in the other circuits
- > Due to the use of an external tank, product loss during product changeovers is reduced to a minimum. Moreover, washing the

tank is very simple (with faster CIP times) and, consequently, consumption of water and chemicals is optimized

- > To pressurize the bottle, the centering bell is lowered onto the valve (thus avoiding any bottle movement): this system optimizes the stability and precision during transfer and minimizes the risk of foaming with consequent product loss
- > A special sensor, positioned on the decompression circuit, constantly monitors pressure during the filling phase and ensures that the process is always repeated precisely. Moreover, the sensor signals any deterioration in active components (thus indicating the need for adjustments or replacements)
- > The use of servomotors cuts consumption of electrical energy
- > Filling temperature is set at values between 18°C and 20°C, thus guaranteeing minimal energy waste and high-quality final packaging.

Hygiene

Lastly, the SF 300 FM has been designed for easy sanitization of both the internal circuits and the chambers. This detail, in particular, has been closely studied:

- > The integration of the electro-pneumatic components on the valve makes the

“ Speed and simplicity in format changeovers are now essential criteria for beverage producers when choosing filling technology. ”



machine design extremely simple and therefore means a very high standard of hygiene: all the pneumatic connections have been completely eliminated

- > The machine structure has been designed for maximum hygiene: all the surfaces are self-draining with high-standard finishes; parts in contact with the product are all made of 316 stainless steel
- > The carousels and all the rotating parts in the base are driven by servomotors. The elimination of mechanical components and the reduction of surfaces to a minimum ensures optimal machine hygiene standards (CIP/COP). Access as well as maintenance and cleaning operations are greatly simplified, while consumption of water and chemicals is reduced
- > The filling area can be installed in a reduced enclosure so that air and water consumption is minimized and the controlled environment is completely hygienic (this is an important factor for beverages containing sugar, such as CSD)
- > With still products, the return air can be channeled into a separate external tank thus further guaranteeing hygiene and top quality. ■



TECHNOLOGY

The new Rollquattro labeling machine can also apply **increasingly thin, hot-glued wraparound labels** to ultra light containers.

THE ENHANCED ROLLQUATTRO

More flexibility thanks to the “vision” and “markless” systems



The label market for soft drinks and water in PET containers is now mainly served by roll-fed technology, which applies the label with hot glue. In the PET world, the great success of this technology is leading to the gradual replacement of pre-cut paper labels associated with hot melt technology.

The reasons for this trend can be found in the growing need felt by bottlers to market attractive, diversified packaging which is also easy to handle in logistics operations. Labels applied by roll-fed technology have specific features that make them attractive – they are shiny and can even be transparent (the

so-called “no-label look”) – and waterproof, therefore, not subject to negative atmospheric effects during transport and storage.

Extremely thin labels for ultra light bottles

Another fast-growing market requirement is the possibility of using increasingly lightweight containers on which to apply extremely thin labels. Sidel has focused its efforts in this direction to offer efficient high-speed machines also capable of handling ultra light bottles (as light as 9.8 g at 60,000 bottles per hour in the case of NoBottle) with minimal label thickness (less than 20 µm).

The evolution of the Rollquattro

Sidel’s consolidated roll-fed technology, the Rollquattro, is found worldwide with a vast total installed capacity: over 600 machines, including 500 in the water and soft drinks sector. First installed in 1996, and then redesigned in 2005 (as the Rollquattro Evolution), the Rollquattro was presented at Drinktec 2009 in an even more up-to-date version.

The Rollquattro Evolution already offered very high efficiency and a low TCO thanks to high-quality labeling, easy maintenance and the ergonomic, modular features of the machine (ready for delivery in only eight weeks). Enhanced with the “Vision System”

“...to offer efficient high-speed machines also capable of handling ultra light bottles with minimal label thickness.”

and the “Markless System”, the latest version of the machine also offers greater flexibility and superior quality of final products. Another key feature of the Rollquattro, setting it apart from similar machines on the market, is a unique system for applying the labels with no smoothing required. This means labels can also be perfectly positioned on lighter bottles.

Vision System

Thanks to the presence of several cameras, the Vision System ensures labels are accurately positioned by precisely orienting the container according to specific reference points on the container itself. When applied to paneled hot-fill containers, this technology guarantees greater machine efficiency and top-quality labeling.

Markless System

The aim of this system is to indicate the correct cutting position on the film roll without any need for the traditional marks on the bottle. In fact, the markless system scans the whole label, which is then sampled and its variations in color are verified to establish the exact point where cutting will begin.

All of this translates into:

- > Improved appearance and more space for information. No need for bottle marks, which in traditional cutting systems are indispensable and, in the case of transparent labels, unsightly; no need for the area of uniform color (situated before the mark) required in traditional systems.
- > Savings on costs. Because there are no marks on the container, the label is seamed



by simply overlapping one edge on the other. With no marks to cover up for aesthetic reasons, the label can be shortened (with 3-5% savings). ■



ANALYSIS

Health and environment: In the past few years, water in PET bottles has come under attack, mainly from these two angles. An analysis of the risks **between emotion and reality**.

IS THE PET WATER BOTTLE ENDANGERED?

In April 2009, two researchers from Goethe University in Frankfurt (Germany) claimed that plastic bottles release endocrine disruptors in bottled water. The German Risk Assessment Institute (BfR) refuted this finding: scientifically, PET cannot release this type of product, and external contamination is the only plausible explanation. Then, in June, researchers from NCEH (National Center for Environmental Health) in Atlanta (USA) announced that the consumption of water from plastic bottles increases the amount of Bisphenol A (BPA) in the blood and in body tissue. However, PET does not contain any BPA, and PET manufacture does not employ any plasticizers, whether phthalates or others!

Health risks?

Water in PET regularly comes under this type of attack, since health concerns are a priority for the consumer. Thanks to the most modern analytical techniques, we can now detect the compounds present in any material or liquid, even at incredibly minute levels. Traces of various products that were once undetectable can now be found in packaging materials. But do they come from the material itself or from contamination? Are they present in hazardous levels? Is it really necessary to scare consumers? It's up

to agencies like the FDA, SFDA, EFSA, Health Canada* and others to provide the answers, based on indisputable and independent scientific studies. PET has always met the most rigorous standards, and an increasing number of processes can now be used to recycle PET for food-grade uses.

Environment?

Who hasn't seen images of PET bottles on a beach or plastic containers fished out from the middle of the Pacific Ocean? While the problem is real, the analysis of the root causes should be the true topic of discussion. What exactly is the cause? Is it PET itself? Or is it the consumer who litters, or cities that don't sort and recycle plastic waste? It seems easier to ban certain types of packaging than to face up to one's own responsibilities.

Another criticism of PET involves the use of oil and natural gas for its manufacture, as well as the packaging waste that is generated. Oil resources are limited, and experts agree that "Peak Oil", i.e. the use of half of the world's known resources, was reached at the beginning of the millennium. The world's coal reserves are estimated at the equivalent of 175 years of use, and natural gas at about 80 years. About

250 million tons of plastic is produced each year, representing less than 4% of global oil consumption, with PET for packaging accounting for just 0.2% versus 70% for transport and heating. Clearly the criticisms of packaging materials are disproportionate to their actual impact on resource consumption.

The same is true when we examine waste from an average consumer. In France, according to ADEME, 849 million tons of waste was produced in 2004, with only 28 million tons, or 3.3%, coming from households. The PET water bottle accounted for only 0.08% of these waste, or just 0.03% of total waste! Today, 50% of PET bottles are collected for recycling in France, with the European average having reached 40%.

Lightweighting and recycling

Beverage companies are aware of immediate concerns: recycling and optimum lightweighting of packages. "They have taken measures to reduce their environmental footprint," stated the International Bottled Water Association (IBWA) during the Global Bottled Water congress in Istanbul (Turkey) last November. They are making their packages lighter and lighter – a 26.7% drop on average since the year 2000, according to the IBWA. ➤





> They are also using more recycled materials and are conducting life cycle analyses of their product. Eco-shape®, the latest generation of 0.5-liter bottles from Nestlé Waters, weighs just 9.3 grams and uses 60% less plastic than the first bottle released in the 1990s. The same goes for PepsiCo, which in 2008 announced a 20% decrease in the amount of plastic used for its 0.5-liter bottles for non-carbonated drinks.

Another industry initiative to reduce both the consumption of natural resources and the environmental footprint is the recycling of packaging materials. In late 2007, European regulations defined the use of recycled PET for food contact applications, which can only encourage consumers to recycle. Since 2008, Danone has included 25% recycled materials in its 1.5-liter mineral water bottles. Faced with a lack of food-grade recycled PET, companies have equipped themselves with small recycling units capable of treating 2,000 to 5,000 tons per year. In association with URRC, Coca-Cola has set up recycling units in its plants worldwide for an annual capacity of up to 40,000 tons.

Bio...

Faced with plastic waste that is so visible and so unacceptable, some companies have been tempted to go the biodegradability route (decomposition of the material at ambient temperature). Oxo-biodegradable additives for PET have proven attractive to some. But their use is opposed by the international expert Ramani Narayan. Napcor, APR and the recycling community have criticized their impact on recycling, such as the lower energy value of PET

during incineration (approximately 25 MJ per Kg). And if we say that the package is biodegradable, the consumer may be tempted to no longer put it out for recycling...

PLA (polylactic acid) made its appearance on the mineral water market, generating high hopes which were eventually dashed; its poor performance meant that the product had to be distributed in the cold chain, which is bad from an environmental perspective. According to Napcor, PETCORE and recyclers, less than 0.2% of PLA in PET is enough to contaminate it and make it unusable. Originating mainly from corn, PLA also raises the question of competition with food use. A second generation of biomaterials from food waste should answer these concerns. The production of polyethylene from sugarcane molasses is underway in Brazil. This process can also be used to produce ethylene glycol, one of the two main components of PET. Tested in late 2009 in the United States, the PlantBottle™ from Coca-Cola (0.5 and 2 liters) is making its entry on the world market: it is made from PET containing 30% ethylene glycol from this process. “This innovation is a real victory, because it helps us towards our goal of zero waste with a material that decreases our carbon footprint, while also being recyclable,” says Scott Vitters, Sustainable Packaging Director for Coca-Cola.

However, we are still not close to having fully biosourced PET, and it will be difficult to produce terephthalic acid from renewable resources. Companies are testing bioplastics, and other resources are being proposed, such as algae cultivation.

Photosynthesis by algae is much more efficient than by traditional plants: 2,000 gallons of biofuel can be produced from an acre of algae, according to Exxon, compared with 250 gallons from corn or 450 from sugarcane. This is a significant edge, particularly since agricultural resources may be limited in the future.

Tap water: A competitor?

For drinking water, we have a choice: tap water or simple bottled water that has been made drinkable by treatments, or natural spring water and mineral water, which come from underground sources and which are naturally pure and clean. As environmental debates rage, some cities are banning or restricting the sale of bottled water, in favor of tap water. Some declare that “water purchased in bottles costs 100 to 600 times more than tap water.”

“ In the end, it's up to the consumer to choose. ”

This may be true, but not all countries have pure, clean tap water, and when sanitation problems occur after storms, floods or natural disasters, the priority for aid agencies is to provide the local population with drinking water, quite often in bottles. We also have to note that, as water becomes a scarcer resource, prices are increasing. In Europe, the average increase was 5.1% per year between 2003 and 2008, according to a study published in October 2008 by Nus Consulting. The pollution of ground water owing to the intensive use of fertilizers and herbicides means that even more costly treatments might prove necessary. In the end, it's up to the consumer to choose: tap water, plain or filtered, in a carafe? Or bottled water? As the IBWA notes: "Many people drink both, depending on the circumstances... The main thing is for people to drink water."

Transport, protect and conserve

The PET bottle has two undisputed advantages. The first, which we tend to forget, is related to the main function of any package: to protect and conserve the same state of sanitary equilibrium for water as when it was taken from the spring. This is in contrast with filtered water, which loses its calcium and which is not protected from a sanitary standpoint and therefore cannot be stored under good conditions for any length of time. Osmosis also has the drawback of removing essential minerals from water. PET's other advantage is that it is suited to on-the-go consumption, owing to its practicality, lightness and unbreakability. So is the PET water bottle really an endangered species? As we have seen,

efforts by the major brands have led to significant progress in terms of the environmental impact of bottled water, with the promise of even further advances in the future. The industry has to keep informing the public about these advances and about the virtues of packaging in general. And why not do this with a dash of humor? On the Web, the Elipso (professional organization) campaign, with two videos for the general public, takes a wry look at why we need packaging.

For now, consultants at Euromonitor are predicting global growth of 4.4% per year until 2013 for water in PET bottles. Striking a balance between emotions and reality, responsible communication by all industry stakeholders will be decisive in perpetuating this success. ■

*** ABBREVIATIONS**

- > ADEM: Agence de l'Environnement et de la Maîtrise de l'Energie - Environment and Energy Control Agency (France)
- > APR : Association of Postconsumer Plastic Recyclers (USA)
- > BFR : Bundesinstitut für Risikobewertung - Federal Risk Assessment Institute (Germany)
- > EFSA : European Food Safety Authority
- > FDA : Food & Drug Administration (USA)
- > IBWA : International Bottled Water Association
- > Napcor : National Association for PET Container Resources (USA)
- > NCEH : National Center for Environmental Health (USA)
- > PETCORE : PET Containers Recycling Europe
- > SFDA : State Food & Drug Administration (China)

ANALYSIS

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

THE COMBI, THE DURABLE SOLUTION



We chose the Sidel Combi for the guaranteed hygiene it provides, for Sidel’s blow molding 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 on 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% of the equipment sold by Sidel on 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 aerobic 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% of the total price of the empty bottle, also helps cut costs. Water is a mass market requiring high productivity. Decreasing the number of machines and reducing 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 liters in Latin America or Southeast Asia. ■

**Greenfield, complete lines, Combi for CSD, bottle
lightweighting and Options & Upgrades:
all of our customers' latest acquisitions
and installations around the world.**

WORLD TOUR IN 4 STEPS



STEP 1
ASIA



ASIA MOVING AHEAD AT FULL SPEED

Asia has maintained strong growth throughout 2009 and the beverage business is no exception. **Sidel's equipment manufacturing plant in Beijing has been a responsive solution to meet local demand.**

In contrast with most of the world, Asia has been sheltered from the global financial crisis, with the exception of a few countries. Growth rates are still high, and beverage companies are getting ready to seize new opportunities. To support them, Sidel has been investing massively over the past two years and continues to develop local resources in order to provide responsive, leading-edge solutions for equipment and services. Sidel now has offices in 10 Asia Pacific countries and 600 highly qualified experts. More and more Asian beverage producers are putting their trust in Sidel and are giving positive feedback about this greater presence. In this part of the world, 2009 was a record year for Sidel.

The Beijing plant's first year

Opened in late 2008, Sidel's 40,000 sqm Beijing plant is the first multiproduct facility in the Group's global industrial base. It can assemble all equipment found on a complete line, from blow molding to palletization. One year after the official opening, Sidel has delivered more than 40 pieces of equipment, including Combi machines, blowers, fillers and mixers which are already operating at customer sites. Shanghai Zijiang Enterprise – one of the largest

producers of PET bottles in China – was among the first customers to order and test their machines in the new Beijing plant last year. They ordered two SBO 20 Universal machines, which were fully assembled in Sidel Beijing, using the same lean manufacturing processes at all Sidel plants around the world. With a guaranteed efficiency of over 97%, those blow molders will produce 0.6 L, 1.25 L and 2 L bottles for CSD applications. “We are very pleased with the technical acceptance results. In the past, we weren't able to run production tests on the machines in China before acceptance. Those tests had to be conducted overseas. With Sidel's new manufacturing site in Beijing, we can now run tests on the machine, which helps smoothen the commercialization process.” said Mr Liu Tie Feng, General Manager of Shanghai Zijiang Enterprise, Container Packaging Unit.

“By choosing Sidel as our blow molding supplier, we have always benefited from Sidel's knowledge and expertise in this area. Now, with their manufacturing site located in Beijing, Sidel also provides us with benefits in terms of proximity, enabling us to achieve better cost and quality outcomes.” >

STEP 1

ASIA

“With Sidel’s new manufacturing site in Beijing, we can now run tests on the machine, which helps with the sales and delivery process.”



- As further evidence that Chinese customers are pleased with having local supply of top-quality equipment and fast delivery, a leading manufacturer of bottled water in China has ordered 11 Combi water lines which will be fully assembled in Sidel Beijing. The Combi machines, which integrate three essential packaging functions - blow molding, filling and capping - are equipped with 20 blowing stations, 60 Europa WM filling valves and 15 heads, and will run at 36,000 bph.

Home for SBO Compact

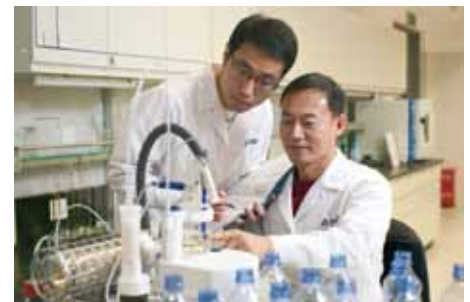
The Beijing plant is also home to the SBO Compact linear blow molders. All models of this Sidel entry-level range of blow molders, for output between 2,400 and 6,000 bottles per hour and sizes from 0.25 L to 10 L, are produced and qualified in Sidel Beijing for worldwide customers. Production is managed in collaboration with Sidel France, which is in charge of the engineering and configuration of these machines to guarantee the same product strategy, the same international quality standards and homogeneity between all the ranges of Sidel Group blow molders. In the Beijing plant, they can test those machines and welcome customers locally for testing and technical acceptance. Thanks to a dedicated production process, the turnaround time can be less than three months. With more than 70 SBO Compact machines sold on all continents, this generation of blow molders is really appreciated for its good compromise between quality, output, container size and price.

Growth all across Asia

Converters, co-packers and brand owners are all scaling up their projections in Asia Pacific to respond to growing market demand. Sidel is a partner of choice, with a complete portfolio for all beverage markets and local

Factory Acceptance Test (FAT)

At Sidel’s Beijing facility, all machines assembled are subjected to intensive testing before being delivered to the customer. Customers are invited to participate in the FAT so they can be directly engaged in the process, where any issues surfaced may be resolved and fixed quickly. Conducting FATs at Sidel’s production facility before the machine is delivered has a clear added value for customers. It minimizes perturbation and shortens the commissioning time at the customers’ beverage production plant.



support from its strong industrial and service bases in India, Malaysia, Philippines, Thailand, Japan and other countries across the continent. In 2009, Sidel received orders for a record number of large complete line projects, including complete water lines in the Philippines and South Korea, complete liquor lines in the Philippines, complete beer lines in Vietnam, Australia and India, and complete CSD lines in Thailand, Singapore and India. A significant change on the market is the growing thirst for aseptic bottling solutions. With the recent introduction of the Sensofill FMA aseptic filler and the unique Predis dry decontamination system, Sidel has made significant inroads into the sensitive beverage business, with deliveries and orders in a number of countries, including Japan, Indonesia and Vietnam for juice and tea production in PET containers. ■



About Shanghai Zijiang Enterprise

Shanghai Zijiang Enterprise is one of China's leading manufacturers of PET containers. The group has diversified interests with industrial clusters spanning packaging, an industrial park, real estate, instruments and the hotel industry.

Headquartered in Shanghai, the packaging and printing division provides packaging materials, new packaging products and is a beverage OEM for end consumption manufacturers such as Coca-Cola, PepsiCo, etc.

GREENFIELD IN KAZAKHSTAN

To increase its production capacity and to invest in new technologies, the Kazakh company, RG Brands has built a new plant and ordered three high-speed complete lines from Sidel.



September 19, 2009. The inauguration was a festive occasion in this brand-new plant near the city of Almaty, at the foot of the Tien Shan Mountains in the Republic of Kazakhstan. About 300 people, including the Kazakh Minister of Industry, local authorities and representatives from Unilever, PepsiCo, Tetra Pak and Sidel, were invited to visit the new production and logistics site of the Kazakh company, RG Brands (Resmi Group). The company had three brand-new Sidel complete lines up and running in the plant dedicated to high-speed bottling of iced tea (Lipton), fruit juice (Da-Da) and CSD (Pepsi). It's "in response to steady growth on the market," explains

Arman Zhanalinov, CEO of RG Brands, that the company has invested more than \$100 million in this site, which meets international quality standards.

Local and international brands

Founded in 1994 in Almaty with the purpose to distribute imported foods from global brands, RG Brands gradually started producing fruit juices under its own brands. In 1998, the company obtained the exclusive PepsiCo franchise for Kazakhstan and its neighbor Kyrgyzstan, and then it entered the milk business by purchasing the dairy company Kosmis from Nestle.

Located in the heart of Central Asia, Kazakhstan has a population of nearly 16 million, and its economy is based on its mineral resources and a desire to develop new technologies. The country enjoys strong growth, with an average rate of 10% yearly, and beverage consumption is increasing at a steady pace. RG Brands combines a wide portfolio of local brands (Da-Da Juice, DA-DA Day, Gracio, Solnechnyi, Piala Gold tea, Moë milk, Grizzly and Bravo snacks) and international brands (Pepsi, Mirinda, 7 Up, Lipton iced tea and AquaFina water). With its vast plains and high mountains, Kazakhstan is the world's ninth largest country by area, and consequently RG Brands has adapted its

“ The highest quality at reasonable prices and with tailor-made financial solutions. ”



distribution system: a lot of trucks and wagons are out on the roads, delivering products to two distribution centers throughout the country as well as to wholesalers and retailers. RG Brands is also starting to export to neighboring countries: Uzbekistan, Turkmenistan and Tajikistan.

Technology, reliability and flexibility

In 2007, RG Brands decided to increase its production capacity. With a market share ranging from 15 to 28%, depending on applications, the company purchased a 21-hectare (52-acre) site about 20 miles from Almaty (population: 1.4 million), in order to build a new production and logistics center. The operation received financing from the European Bank for Reconstruction and Development (EBRD), in the form of a \$60 million loan as well as fit-for-purpose solutions proposed by Sidel’s financial services.

For the first time, RG Brands has chosen Sidel to equip its brand-new plant. Sidel offers “the highest quality at reasonable prices and with tailor-made financial solutions,” sums up Arman Zhanalinov. The RG Brands CEO particularly appreciates Sidel for “its high technology, the reliability and flexibility of its equipment, the quality of its technical support, in terms of both proximity and responsiveness and the personal commitment of its support staff.”

Right from the start of the project, Sidel worked in partnership with the RG Brands team to optimize plant design and bottling line layout. Three lines entirely equipped with Sidel machines were ordered and progressively commissioned during 2009. Two lines specially dedicated to CSD are equipped with the SBO Universal 20/24 and the Eurotronica FM-C filler. They bottle various formats ranging from 0.5 to 2.25 liters at speeds from 15,200 to 36,000 bottles per hour. These are high speeds compared with the normal range of 10,000 to 12,000 bph reached by other bottlers in the region.



Six million hectoliters per year

The hot fill technology was chosen for the bottling of fruit juices and teas. According to Arman Zhanalinov, this technology is the best for “ensuring product quality that >

RG Brands

- > Four plants (Almaty, Kostanay)
- > Staff numbers: 1,368 employees
- > Yearly production (2008): about 20 million cases (12 bottles)
- > Sales in 2008 : \$240 million (US)
- > Sidel equipment: three complete lines with blowing, filling, conveying, labeling, shrinkwrapping and palletization equipment.

STEP 1

ASIA



> meets the expectations on our market.” Sidel’s designers worked on bottle shapes, both square and cylindrical, using four to six panels for hot filling at 85°C, in order to improve the compression zone and to guarantee shape stability. Four different bottle formats (tea and juice) - 0.5 and 1.5 liters- are therefore being run on the Hot Fill line equipped with the SBO 20/24 Universal HR and the Veloce filler. Speeds range from 15,000 to 30,000 bottles per hour.

On the day of the inauguration, RG Brands did not fail to mention its full satisfaction with these three lines, which bring its production capacity up to approximately 6 million hectoliters (nearly 160 million US gallons) per year. The launch of new carbonated

beverages has been backed by a TV advertising campaign. “Improving consumers’ quality of life through beverage distribution and marketing innovations in Kazakhstan and in other Central Asian countries”: that is the stated ambition of RG Brands, which sponsors a local soccer team and has created 900 new jobs in the region.

The priority is now to “control costs and optimize all resources and processes.” Despite the global recession and a slowdown in growth (-0.8% estimated in 2009 versus +10.6% in 2006), the goal is “profitable growth, continuous improvement of our products and a sales presence in all Central Asian countries.” ■

INDONESIA

P.T. Nobel, continues to pioneer PET in Indonesia

Jakarta-based, PET bottle manufacturer P.T. Nobel Packaging Indonesia has purchased its second Sidel blowing machine. The latest acquisition, an SBO 8/10 UniversalHR, is expected to raise the company’s current annual production of 124 million heat resistant PET bottles to 180 million by the second half of 2010. Mainly focused on bottles for hot-fill products, though it also produces 12 million CSD bottles, the company is the leading producer of heat resistant PET bottles and has a domestic market share of approximately 57% of the nationwide installed capacity. Despite being a newcomer to the beverage industry in 2005, P.T. Nobel anticipated the global trend towards the



convenience of PET packaging for beverages in Indonesia by being the first to produce and market PET bottles for hot-fill applications (teas, sports drinks, juices, energy and vitamin drinks), after installing a Sidel SBO 14 HR Series 2+ in 2006. Since then the company has recorded a compound annual growth rate of over 500%. Given the excellent performances of the first machine and the all-around support provided by Sidel, it was almost only natural that P.T. Nobel should turn to the same supplier again. Moreover, Sidel's technology and service fits in perfectly with the company's market vision of sustainability (both in terms of costs and the environment) and its plans to develop attractive, customized lightweight bottles also for other sectors, such as sensitive products filled at lower temperatures. Sidel's specific solutions have given P.T. Nobel a competitive edge in its constant pursuit of innovation and quality, which keeps it ahead of the field in PET packaging in Indonesia. ■



VIETNAM

The Vietnamese group THP celebrated fifteen years of rapid growth and advanced technology

In keeping with its corporate vision, "Today must be better than yesterday but worse than tomorrow", the Tan Hiep Phat Group had plenty to celebrate on October 15, 2009. THP celebrated its 15th anniversary but also the personal birthday of the founder and owner Dr. Tran Qui Thanh. The 2009 celebration was highly meaningful for the company, especially after ten years of investments; THP has left its mark on the Vietnam beverage market's new development curve by successfully launching Zero-Degree Green Tea in PET. Moreover, on the basis of its considerable experience in beverage production and marketing, THP has taken another big step forward by adding Balley Team and Dr. Thanh Herbal Tea to its existing product portfolio (Number One Soya Bean, Juice, Fruit Tea, Active, Ben Thanh Beer and Wintermelon). The Number One brand in particular has an enormous market potential, a product of "international standard," according to world-renowned marketing guru Philip Kotler. In 2009, THP also established an efficient distribution network, covering all 60 provinces of Vietnam and some Asian markets. The same year THP was the only



Vietnamese company to receive a World Intellectual Property Organization (WIPO) Award for Innovation. With fifteen years of successful growth, THP has always made major investments in the most advanced technology, such as state-of-the-art Sidel and Tetra Pak aseptic lines, and in quality control systems (ISO 14001:2004; ISO 9001:2004 and HACCP). In the near future, THP looks like it will reach its goal of becoming a leading Asian group in three main businesses: beverage, instant food and plastic packaging. ■

PREDIS: THE SAFETY NET FOR RTD BEVERAGES US

Pristine beverages and production versatility:
**the new Combi Predis guarantees the perfect
quality of both premium water and iced teas**
produced by RTD Beverages.

In 2005, Wm. B. Reily & Company, Inc. experienced the destruction of Mother Nature when Hurricane Katrina hit New Orleans, Louisiana and the surrounding metropolitan area causing massive windstorm and flood damage that destroyed thousands of businesses and residences. Their own bottled water plant was inundated for over two weeks in toxic flood waters. With no way to clean and repair the facility and guarantee a safe product for the consumer, they formed RTD Beverages LLC to rebuild on higher ground and bottle at the source.



From bulk water to iced tea & premium beverages

In 1994, the U.S bottled water business was booming and Wm. B. Reily & Company, Inc. purchased an independent water bottler, Abita Springs, whose principle business was the delivery of 5-gallon bottles of water in large volumes with small margins to homes and businesses.

Wm. B. Reily IV, President of RTD Beverages, sought to “exploit and defend premium niche products.” He formed RTD to bottle those beverages. Evamor™, an existing brand owned by the Company, was repositioned as a natural artesian water from a rare alkaline source. The product is being produced in three different sizes: 20 oz., 32 oz. and 64 oz. It is available in specialty and health food stores, while currently being introduced into grocery and other channels.

Sidel, the single provider for the entire project

After the destruction of the Company’s facility by Hurricane Katrina, the Company decided to build a manufacturing plant at the source with state-of-the-art equipment



“One provider with guaranteed design, implementation, efficiency, production capacity and warranties from one company.”



managed by one provider with the guarantee of a pristine product. In 2007, the new company, RTD Beverages called on Sidel and from that point forward a strong partnership developed between the two companies. RTD Beverages purchased a complete line from Sidel that included a Combi (SBO 14 Universal & Eurotronica FM-S) with Predis, Rollquattro labeler, conveyors, Cermex Packer and Shrink wrapper.

Sidel's Engineering and Conveying (E&C) unit designed and supervised the installation of the line. Mr. Reily was fond of the idea that the “entire project would be managed by one provider with guaranteed design, implementation, efficiency, production capacity and warranties from one company.” The Engineering & Conveying team worked closely with RTD Beverages to ensure the best layout of the facility for

today and also the future. It was designed to anticipate growth and simplify future expansion. Installation of the equipment at the facility was completed in December 2009. Mr. Reily explains the installation process as “enjoyable, not acrimonious, I typically found out about solutions before we encountered any problems, overall the project was better than expected.”

A pristine production environment

Sidel's Combi, “guaranteeing quality in an all in one machine”, solidified the purchase decision for RTD Beverages. Mr. Reily felt that this was the right equipment for a “state of the art” facility. According to Reily, “an all in one, blower and filler, has less chance of contamination. It just made sense and Predis was icing on the cake.” Mr. Reily desired to bottle at the highest quality level. Therefore, it was a prerequisite to have a hygienic product that was even more sanitary than regulations required by law.

Versatility for water, iced tea and other beverages

Another key factor for RTD Beverages was versatility. As with most facilities, changeover times are crucial. The Company plans to produce ready-to-drink Luzianne™ tea on the same line. The first bottle size to be produced on the line will be 16 oz. and the Company intends to expand later to a larger bottle. Luzianne™ ready-to-drink tea is made from award winning tea, Louisiana cane sugar and artesian water. With that said, it is important to have the product produced in a pristine environment. >

STEP 2

AMERICAS



- > The tea will now be produced using Predis and will no longer run on a hot-fill line. RTD Beverages purchased additional equipment in December 2009 for its tea room addition. Sidel and RTD Beverages have worked intimately together to make certain that the introduction of the new product to the line will take place flawlessly.

The perfect bottles

RTD Beverages utilized Sidel's Packaging and Tooling Center to develop the perfect bottle for their product. Sidel assisted RTD Beverages with every step necessary to get the bottle from an idea to the retailers' shelves for the consumers including but not limited to preform and cap specifications, label and bottle design. According to Bo Reily, "[Sidel] took our ideas and miraculously turned them into something that worked."

Family Heritage

Wm. B. Reily & Company, the parent company of RTD Beverages Reily Foods Company, is a fourth generation owned company that has been in operation for 107 years.

William B. Reily founded the company as a coffee company and then shortly added tea production. The majority of the world's imported coffee beans primarily passed through New Orleans so this provided Mr. Reily with the selection of the finest beans. Mr. Reily also began to produce coffee with chicory. The demand

for tea increased, especially after the introduction of iced tea, and this helped the company grow even more. Wm. B. Reily & Company, Inc. later grew into other segments including condiments, sauces and beverages through product development and acquisitions. Some of the renowned brands produced by Reily Foods Company are Blue Plate™ Mayonnaise, Luzianne™ Tea, CDM™ and French Market Coffees™ and Swans Down™ Cake Flour. The iced tea brand Luzianne™ is now the second largest tea brand sold in the United States.

The bottle design for Evamor™ was critical. The company wanted the bottle to look and feel like a premium product for its re-launch. As with many companies today, RTD Beverages sees sustainability as a necessity, however, the company could not reduce the weight of the bottle as much as originally desired due to its design, in order to maintain its structural integrity, and to ensure the entire package reinforced the product's positioning as a premium product. RTD Beverages also had to consider its distribution circuit. The product is produced in Louisiana and distributed nationally thus "the bottle had to maintain more rigidity than with captive distribution," states Reily. RTD Beverages also felt that a large neck was needed as a point of difference to reinforce the brand's position as a high-end premium product. This particular feature also hampered the Company's desire to reduce bottle weight. However, even with the special requirements above, Sidel and RTD Beverages were still able to reduce the bottle's weight significantly. Sidel also participated in a redesign of the Luzianne™ Iced Tea product. The Packaging and Tooling Center (PTC) was able to reduce

the weight of the bottle significantly. Since the product is moving from a hot-fill line to a Predis line, PTC designed a bottle with no panels and was able to create an "antebellum" look and feel.

After years of planning and rebuilding, RTD Beverages rose from Katrina and relaunched Evamor in the first quarter of 2010. ■



STEP 2

AMERICAS

BRAZIL

Sidel production in Brazil for **Schincariol Group**

With a production capacity of approximately 5 billion liters of beverages per year, Grupo Schincariol is the largest solely Brazilian-owned brewery group. Based in Itu, São Paulo, the group has 14 plants and a domestic market share of 12%. In 2009, it was among the major Brazilian beverage players who renewed their trust in the Sidel Group. This particular order stands out mostly because of the performance requirements needed to meet the rated output: 120,000 cans (350 ml) per hour. Very high speed and technology are key features of this complete Sidel line, which includes a Sweepoff A U depalletizer, Starcans HS volumetric filler, Pama

pasteurizer, two palletizers and conveyors for packs and cans.

The excellent long-standing relations between the two groups was important, however, was not what clinched the deal. The final decision was based on the optimal combination of technical aspects and financial terms that Sidel could offer to the customer. Schincariol benefited from a financial program called FINAME because Sidel was able to produce all of the machines in its own Brazilian plants. FINAME involves funding from a government bank for companies buying new machinery produced in the country, the aim being to support and revitalize the Brazilian industry. ■



UNITED STATES

Nestle Eco-shape™ lightweighted at less than 10 grams

In 2005, Sidel and Nestle Water North America (NWNA) joined forces to develop an eco-friendly, lightweight water bottle. The project was broken down into two different phases. The first phase focused on lightweighting the body of the bottle. After redesigning the 0.5 liter body, the weight of the Eco-shape™ bottle went from 14.5 grams to 12.2 grams. The second phase, which began in 2009, concentrated

on reducing the weight of the body once again but also reducing the neck size. The new bottle design resulting from this phase reduced the weight to approximately 9.25 grams or lower depending on the vintage of the blowmolder. Sidel is working with NWNA to convert 50 lines in 16 plants. Distribution throughout the entire United States will be completed by May 2010. ■

FRANCE

30% longer life for spindle chains at **Delifruits**

In January 2009, the French company Delifruits (Refresco Group) installed the new generation of spindle chains, proposed by Sidel for its SBO Series2 range, on one of its four blow molders.

The new chains, with adjustable stretching and made from new materials (polyacetal and Ertalylte®), decrease elongation and increase chain life by 30%. The use of these new materials also reduces friction and eliminates all contamination. The result is a decrease in maintenance costs. "Since the installation of this new chain on our SBO20 Series2 blow molder a year ago, we have not had to retighten it. Up to now, we have only

performed preventive maintenance. No problems have been observed during this year, and we have seen better precision of preform transfer," adds Pierre Mezard, Blow Molding Technical Manager for Delifruits. Control and adjustment procedures and tools are also available to make maintenance operations easier.

Delifruits is fully satisfied with this new generation of spindle chains and is ready to invest to equip its other three blow molders. A plan is also under advisement to install these chains on all SBO Series2 machines in the Refresco Group. ■



UKRAINE

Sandora chooses Sidel for its new Pepsi bottles

In 2009, Sandora LLC (PepsiCo Group), the leader on the Ukrainian fruit juice, carbonated soft drink and nectar market, decided to launch production of Pepsi brand soft drinks, while also developing its own CSD brand, FruTonus. The aim is to diversify and expand the company's offer on the Ukrainian market.

This is why Sandora has chosen Sidel for the acquisition of two new lines for its Nikolaev site in southern Ukraine. These lines run up to 28,800 bottles per hour for an annual production capacity of 170 million liters. Since January, these PET bottles in sizes of 0.5, 1, 2 and 2.5 liters, with redesigned shapes, have been on sale throughout the country, thanks to a strong distribution network. ■



COCA-COLA TOULOUSE: A COMBI LINE IN SIX MONTHS

Six months between the initial order and the first bottle blown: that's the challenge Sidel and Coca-Cola Toulouse (France) met when starting up the **first multi-product line equipped with a Combi.**

Since its acquisition by the Coca-Cola Enterprises (CCE) Group in 1999, the Coca-Cola Toulouse plant has continued to expand its production capacity in order to broaden its product portfolio. From 20 million bottles in 2000, production increased to 60 million in 2007 with a single line, following the acquisition of a new Sidel SBO 14 Universal blow molder and a new syrup plant to bottle all carbonated soft drink brands in 1.5 L and 2 L formats. And Coca-Cola hasn't stopped there: in late 2008, the company decided to invest in a second PET bottling line.

Second line, first Combi

With this investment, the CCE Group has two goals: respond to increasing demand on the CSD market in southwestern France and produce 500-mL bottles at two sites, instead of just at the CCE Clamart plant (south of Paris). This new multi-format, high-speed PET line will be equipped with the first Combi for the CCE Group and will produce and fill both small- and large-format bottles. It will expand the site's production capacity to 200 million bottles per year. "This is a complex project," says Arnaud Perrin, Operations Manager, "with many challenges: completing line installation in a short time, rethinking

factory layout without expanding the site for the new equipment, and also learning about a new technology for us."

Record delivery time

When CCE Toulouse decided to invest in this new line, the target was clear: "To begin selling the new products the following summer, which was a real challenge for suppliers", explains Arnaud Perrin. The goal was accomplished on May 5, 2009: the line was started a week ahead of schedule, barely six months after the order was placed. "Close collaboration between Coca-Cola and Sidel enabled us to organize an extremely precise schedule, with milestones to check that we were on schedule. We created a dedicated project team, half of whom were experts from CCE Europe and the other half were staff from CCE Toulouse. Each team member had his or her own responsibilities: engineering projects, installation of utilities, equipment delivery and operator training."

Overcoming site constraints

For CCE Toulouse, it wasn't just about installing a new line, it was also about reviewing the entire plant organization. "None of the utilities – electricity, air or water – were properly sized for two





bottling lines. We therefore had to adapt a lot of the installations,” explains Arnaud Perrin. With one major imperative: to use the existing space. “The layout for the new line was a real challenge in itself, since no expansion of the plant was planned for this new production line. Only a few inside walls were knocked down.” The plant’s floor space was completely redesigned in order to install the line in the former raw materials storage area, which was moved elsewhere. “In light of these layout constraints, we opted for the Sidel Combi, owing to its compactness, since its blowing

and filling functions are closer to each other than in machines from other manufacturers.”

Only two operators needed to run the line

This new acquisition had another benefit for Coca-Cola Toulouse: line supervision could be handled by two operators, instead of the four needed for the existing line, with one operator as a back-up, if needed. “A two-person team was possible only with the Combi solution, which is a first for the CCE Group. One person supervises the area from

the Combi to the labeler, while the other handles the secondary packaging area to the end of line, which is fully automated.” Operators were specially trained. “The standardized control interface between the different machines for blowing, filling or labeling makes it easier to train the operators and improves versatility between the machines.”

To keep manual interventions to a minimum, CCE Toulouse decided to go with automated machinery. “Bottle specifications, cap color and screwing: all of these are >

STEP 3

EUROPE



- controlled automatically. So now our operators can focus on supervising the line, not running it. They can be more proactive, which minimizes downtime.” The Sidel technicians who were in charge of line start-up helped the Coca-Cola technicians to learn how to manage the machines and to become experts themselves.

Flexibility: A necessity

One of the prerequisites for Coca-Cola was to install a flexible line that could bottle all of the product references in PET, corresponding to seven bottle formats and 14 flavors. “Line flexibility was one of the decisive factors in equipment selection: short production cycles and frequent format changeovers, while guaranteeing line efficiency greater than 80%. Ensuring high performance is our objective.” Format changeovers are mostly automated with the Combi, including adjustment of the bottle input star wheels in the capper and automatic dummy bottles to clean the product circuits. “Thanks to flowmeter filling, it is very easy to change a value on a single nozzle from the control station, without stopping the machine. Bottle to bottle, about three and a half hours are needed to clean the machines and change all the parts for format and recipe changeovers.”

Maintenance: A key element

Eight hours: that’s how much time is needed each week for the maintenance of this line. “We asked our suppliers to make a commitment about maintenance. It was one of our top priorities during selection, along with equipment cost, line efficiency, format changeovers and energy consumption.” This commitment was based on spare parts prices, ease of format changeovers and required maintenance time. “Our operators have already been



trained in machine maintenance, at Sidel’s factories or on our site. Advanced training is also being scheduled after six months of experience with the machines.”

Reduce energy consumption and lighten bottles

Finally, social and environmental responsibility is a real concern for Coca-Cola Toulouse: decreasing the consumption of water, electricity and raw materials is an integral part of its specifications. Measures

have already been implemented to this end: the blowing oven is equipped with a heat recovery unit, which injects the heat back into the plant’s heating circuits. Natural lighting in the plant has been enhanced, and a wastewater recovery system has been installed. Choosing the Combi has also opened up bottle lightweighting opportunities for Coca-Cola. “After technical acceptance of the line, we are going to work on reducing package weight, through a shorter neck and a lighter cap. Then, we’ll

“Line flexibility was one of the decisive factors in equipment selection: short production cycles and frequent format changeovers, while guaranteeing line efficiency greater than 80%.”



Combi line

- > Output rates: 36,000 bph (0.5 L), 32,000 bph (1.5 L), 24,000 bph (2 L)
- > Combi FMc 20/160/20: 20 blowing stations, 160 filling nozzles, 20 screwing heads
- > Rollquattro labeler
- > Mechanical conveyor, accumulation table.

look at lightweighting the 1.5 L and 2 L bottles, which will require changes in the preform heating process.”

With nearly 40 new jobs created, the line can run with three shifts, five days a week, not including seasonal peak needs. In light of the success of this installation, the Combi technology could be used more widely in the future within the CCE Group, whose goal is to standardize its production equipment. ■



STEP 4

AFRICA & MIDDLE EAST

FROM LEBANON TO CENTRAL AFRICA: THE SAGA OF A FAMILY OF ENTREPRENEURS

Leaving the country of their ancestors **to become, with Sidel, one of the leading beverage companies in Africa:** that's the story of the Lebanese dynasty El Sahely.

When leaving his tiny village in southern Lebanon to seek his fortune in America, Maarouf El Sahely had no idea that his name would one day be the first in a dynasty of great entrepreneurs in Angola, Cameroon, the Central African Republic, the Congo and Zambia. And he had even less idea that it would be involved in a business that he knew absolutely nothing about at the time: the beverage industry. As it turned out, the ship that was taking him far from the cedars of Lebanon was not headed for the United States, as he thought. It was going to an African port, where, not yet 18, Maarouf would begin his new, unexpected life. Whether it was due to a simple mistake or a curious twist of fate, Maarouf chose Africa as his future home in the late 1960s and started in the lumber and transport business. As the business expanded and grew more prosperous over the years, the family group decided to split up in order to work in different regions of Africa. These are the success stories of the founder's two sons, Youssef and Samy.

Purangol in Angola: 700,000 bottles per DAY with the Sidel Combi line

Based in Bom Jesus, in Bengo Province (Angola), Purangol is a young, dynamic company managed by Youssef El Sahely.



Founded with a very precise “mission” – to grow quickly and successfully on the mineral water market, the company now has the ambition of expanding into the juice, CSD and flavored water markets. By 2012, its goal is to double its production capacity and its current workforce, which now counts about 400 employees. The

first step was completed in April 2009, when Purangol decided to invest massively for the mineral water market, with the Aqua Perla brand, in formats of 0.33, 0.6, 0.75 sport, 1.5, 2, 5, 10 and 19 L. As a result, production capacity has already gone from 200,000 to 700,000 bottles per day. Sidel has played a vital role in this important

“ The presence of Lebanese immigrants is particularly important in Africa, where they have acted as pioneers and used their talents in diverse industries. ”

phase for Purangol, which ordered a complete PET line as well as the “dry part” for an existing line.

The new Combi PET line for ozonated water includes an SBO 14 Universal blow molder in Combi configuration with a Europa WM filler, an Aidlin 24 cap elevator, a Rollquattro labeler, Cermex shrink wrapper and carton caser, a Kombi palletizer and conveyors for bottles, packs and cartons. The line produces two bottle formats (0.6 and 1.5 L) at a speed of 25,200 bottles per hour. A new end of line with the same Sidel equipment will also be integrated into the previously installed PET bottling line, which runs at 14,000 bottles per hour.

Ragec in the Congo: 90% of the Brazzaville metro area

In business for only five years, Ragec (Rafraichissants Glaces Eau du Congo) has become the leading mineral water producer and distributor in the Congo. As the country's first bottler to use PET, the Brazzaville-based company produces and markets the Cristal brand for the local market. When we consider that the Brazzaville metro area has a population of nearly one million, we can understand the satisfaction of company manager, Samy El >



STEP 4

AFRICA & MIDDLE EAST



- > Sahely, when he says: “In Brazzaville alone, our distribution capacity covers 90% of the metro area.” Samy El Sahely and Sidel are in negotiations about future investments.

A Sidel line for IBC in the Democratic Republic of the Congo

The story is the same for their cousin Haje El Sahili, whose name is connected to three other fast-growing companies in Senegal (Sosagrín), Ghana (AIMG) and the Democratic Republic of the Congo (IBC). IBC (Industries des boissons du Congo) recently ordered a complete PET line for its Kinshasa plant from the Sidel Group for

bottling sodas and still water. Output rates are 14,400 bottles per hour for the 0.33 L format and 7,200 bottles per hour for the 1.25 L format and soon for 0.5 and 1.5 L. The installation includes an SBO 8/10 Universal blow molder, a Eurostar MS filler, a Starblend mixer, a Rollquattro labeler, Cermex shrink wrapper and wraparound carton caser and Sidel conveyors. ■

“Your country is the place where you succeed”

El Sahely, El Sahili, as well as Tajideen, Achour, Fares, El Khalil, Sifaoui, Wazni and Jaber (all Sidel customers) are just some of the Lebanese families, whose names evoke great business success in the Congo, Senegal, Angola, Ghana, Ivory Coast and Nigeria.

Descendants of the ancient Phoenicians, the Lebanese have found ways, since the start of the last century, to escape from a land rocked by bloody conflicts, forming the famed “Lebanese Diaspora”. They have found a succession of “El Dorados” in Africa, the Americas and Australia, to the point where Lebanese communities are present in about 50 countries.

Their presence is particularly important in Africa, where Lebanese immigrants have acted as pioneers and used their talents in industries as diverse as international trade, real estate, computers, finance, food and beverages. Their business sense, associated with high technology, is a major factor in the industrial development of Africa. Some Lebanese play major roles in the economies of their adopted countries. As the Lebanese saying goes, “Your country is the place where you succeed”.

MOHA SOFT DRINKS MAKES MAJOR INVESTMENTS IN ETHIOPIA

The Pepsi bottler aims **to meet rising demand** with a new Sidel PET line **for CSD and water.**

Ethiopia is a country of remarkable potential and opportunities. The second most populous nation in Africa (around 80 million) recorded an annual GDP growth rate of around 7.5% in 2009. Not surprisingly, with a predominantly young population, the consumption of beverages in Ethiopia is also growing fast. According to industry experts, with a forecasted annual growth of 25%, in the next few years Ethiopia's soft drink market is expected to reach 100 million crates per year.

Pepsi-bottler Moha Soft Drinks SC currently produces around half of the overall national production of 40 million crates. The company was established in 1996 following the acquisition of four state-owned Pepsi plants by Saudi Arabian-Ethiopian business magnate Sheikh Mohammed Hussein Ali Al Amoudi and his wife. The largest foreign investor in Ethiopia, Al Amoudi is strongly committed to boosting job creation and infrastructures in the country.

Moha now operates five plants in Ethiopia: two in the north (Gondar and Bure), one in the south (Awassa) and two in the capital Addis Ababa.

Moha goes to Octeville

Moha's relationship with Sidel dates back a long time. In the company's Nefasilk plant (east of Addis Ababa), a Simonazzi returnable glass line (48,000 bottles per



hour) has been in operation for 25 years. In this plant, regular maintenance and upgrades for all of the machines (including the installation of a new filler to replace two old ones) were carried out with the assistance of Sidel experts. After careful evaluation of market trends, Moha decided to focus on bottling soft drinks and water in PET bottles. The

company turned to Sidel for this new venture, especially on the grounds of its leadership in PET and Combi solutions. At Drinktec, the Moha management team confirmed its choice, after being impressed by Sidel's great image of innovation and solidity at the show.

The Moha management, headed by Ato Getachew Birbo, CEO of Moha Soft Drinks and Ato Asrat Sileshi, Director of Technical Services, then visited the Octeville plant, and Ato Getachew signed the order for a new PET line.

The new PET line will be installed in summer 2010 at the Summit plant in the western suburbs of Addis Ababa. The flexible line will bottle CSD and water in six formats (three each) and has a rated output of 12,000 bottles per hour for 1.5 L bottles. The turnkey project included all the auxiliary services, such as CO₂ production, steam, syrup room, water treatment, piping, etc. ■

One PET line for CSD and mineral water in six formats

- > SBO 8/10 Universal (in Combi) blowmolder
- > Selecta (in Combi) filler
- > Starblend mixer
- > Aidlin 24 cap elevator
- > Rollquattro labeler
- > Bottle and packs conveyors.

STEP 4

AFRICA & MIDDLE EAST

SAUDI ARABIA

Plastico starts production of PET bottles with Sidel

In 2009, Plastico (Al-Othman Group), which specializes in the manufacture of plastic containers for food products, decided to start producing PET bottles.

The company ordered its first two SBO 8 Universal blow molders from Sidel with the aim of producing two types of 0.2-liter bottles – one cylindrical and the other square – as well as 0.5- and 1-liter bottles at a speed of 14,400 bottles per hour.

The goal is not only to supply PET bottles to its Saudi subsidiary, Nada, for the packaging of dairy products, but also to expand its market share for this sector. One of the leaders on the dairy market, Al Marai, already decided to buy square 0.2-liter bottles from Plastico.

The machines, which were commissioned in early 2010, are currently producing both of the 0.2-liter formats. Production of the 0.5- and 1-liter formats is expected to start in April. ■



AFRICA

BGI also goes for Sidel tunnel machines

In 2009, the French Group Castel continued its successful expansion policy and, through its subsidiary company BGI, confirmed its role as leader in the beer sector in Africa. Moreover, last year BGI began to implement a program to renew its machinery pool in 47 plants. In this modernization drive, the company once again chose to work closely with the Sidel Group on the basis of a consolidated partnership and a decade-long relationship of trust.

Besides investing in two complete lines and a large number of stand-alone machines (blowers, fillers,

labelers, craters and palletizers) for plants in Angola, Benin, the Republic of Central Africa, Chad, the Ivory Coast and Togo, over the last year BGI has shown a special interest in Sidel tunnel machines. In fact the machines ordered from the Sidel Group included as many as seven Oceano bottle washers - jewels of efficiency and reliability, unrivaled in terms of price-quality relationship. Among the orders there were also two Pama CLDs, pasteurizers with a worldwide reputation for their particularly low water consumption and their unique system for controlling pasteurization units (PUs) called PRINCE. ■



After the 20 innovative technologies presented during Drinktec in September 2009, Sidel keeps moving forward with the new Rollsleeve labeler.

INNOVATIONS



ON THE INNOVATION PATH

The Drinktec show last September **lived up to all expectations.** A look back in pictures.

Welcome to the Olympic Games of the beverage industry! Every four years, visitors flock to Drinktec (Munich, Germany) to discover the latest trends that will shape the future course of the industry. Suppliers unveil their latest technologies to go faster, higher and stronger.

Sidel was one of them, with a theme that is right in line with current needs: "Adapting quickly to a changing world." Most of all, this involved exhibiting innovative

solutions that ensure return on production investments, improve existing performance and optimize production processes. This is the result of increasing R&D investments by Sidel: +40% in 2009, despite the global recession.

Along the "Innovation Path", visitors were able to discover 20 new pieces of equipment on display, covering all of the key PET bottling technologies and setting new standards in terms of energy and raw material consumption.

At the center of the stand, the Services Tower gathered all of Sidel's solutions for optimizing installed capacities. These range from bottle lightweighting to line reengineering and Eco-Services.

Finally, the Innovation Path ended on a high note with the glass bottling line for beer, which ran in a loop. This was a real technical challenge, covering an area of 800 m² and reaching the record speed of 60,000 bottles per hour. ■



1 / 2 Visitors from all over the world came to discover the 20 innovative technologies on the Sidel booth during the six-day show.

3 General view of the stand. In the foreground, the complete bottling line for beer in glass with new-generation equipment: filler, crown feeder, crowner, labeler, pasteurizer, accumulation tables and end of line.



INNOVATIONS

4 SBO 14 Universal2 blow molder. Industrial-scale output rates have been increased by 10%, despite a 10% drop in oven consumption.

5 The Rollquattro labeler for all types of packaging, with a 15% drop in consumption.



6 Combi Predis FMa, the first aseptic Combi, which enables the bottling of UHT milk in PET, with dry decontamination of preforms.

7 The SF 300 FM electropneumatic volumetric filler for carbonated soft drinks, with external product tank.





8 The servomotor-driven SL 90 labeler for both cold-glued paper labels and self-adhesive transparent labels.

9 / 11 In the Services area, ECO-Services help to maximize the profitability of existing production capacities and to lower environmental impact.

10 Kohlox: the first self-lubricating components designed to facilitate maintenance of the PET bottle blow molds.



THE NEW ROLLSLEEVE LABELER: ALL THE ADVANTAGES OF SLEEVING AND ROLL-FED TECHNOLOGIES IN ONE MACHINE

High-shrinkage full-body labels mean **thinner materials, lighter and more attractive packaging and savings in costs.**

According to figures announced at the International Sleeve Label Conference in 2008, the market for heat shrink labels is growing fast. The trend is seen globally but is particularly strong in rapidly industrializing countries (Mexico and South America, +16%, Eastern Europe +12% and, most significantly, China and India, both +15%).

There are several obvious reasons for the success of high-shrinkage, full-body sleeve labels. In fact, the main features include:

- > Particularly attractive packaging
- > Enhanced potential for communications and information, thanks to much more available space on the label compared to traditional labels
- > No restriction due to the shape of the container; the film is heat shrunk and therefore adapts to any surface
- > Increased potential for lightweighting containers, since when applied to thinner bottles the full body sleeve considerably strengthens their surface
- > The label also can function as a "light barrier" in the case of sensitive products
- > By covering up over the container cap, the sleeve can also function as a seal, with obvious economic benefits
- > No traces of glue are left on the bottle, making recycling easier.

Roll-fed and sleeving technologies: synergy in action

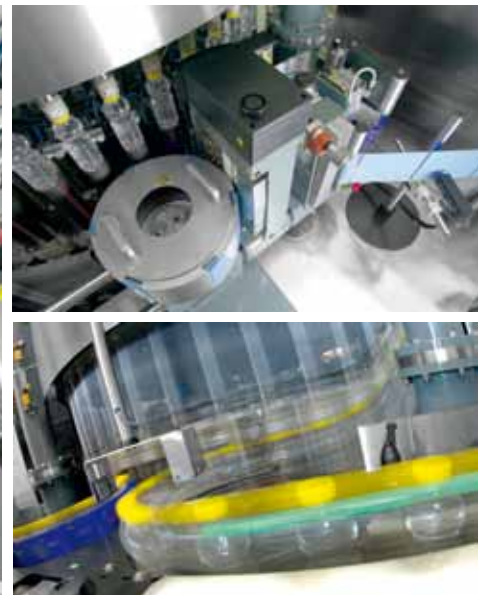
The Rollsleeve labeler combines Sidel's proven roll-fed technology with an innovative sleeving process for high-speed applications. This brings a self-evident competitive advantage because of savings on film. Thinner film can be used for labeling because this sleeving technology does not involve any stress to the film. In fact, the film is made into a tubular form in the machine and then wrapped around the container without moving it (the bottles are raised into position).

Lower costs for label materials

A significant aspect, giving Rollsleeve an edge on more traditional sleeving systems, is the fact that the "tubing" takes place in the machine and sleeves do not need to be outsourced, thus bringing considerable savings for the customer. The process begins from a traditional film roll which is cut, made into a tube and then seamed in the machine by means of an innovative system exploiting pressure and heat. In this way, Sidel guarantees a flawless result, because the seaming area can be positioned exactly to the edge of the label. Even after shrinking, the final overlap has no visible or tactile flaws. The new seaming system also offers great flexibility in the choice of label

materials, again with considerable benefits in terms of optimizing costs. Sidel has successfully tested all the principal materials available on the market: i.e. PET, recycled PET, PVC, PE, PP, OPS and PLA with thickness ranging from 20 µm to 150 µm (the latter is used when isolation from heat





is required) and up to 70% shrinkable. Another distinctive feature of the new Rollsleeve technology is that labels can be shrunk in the same direction as the unfolding of the film (Machine Direction Oriented – MDO). In traditional sleeves, on the other hand, the shrinking of the previously formed tubular roll of film occurs crosswise with respect to the unfolding of the film (Transverse Direction Oriented – TDO). The process in the Rollsleeve is thus very much simpler than in a traditional sleeve, and brings considerable savings in the costs of labels (up to -30%).

Key factors

In short, savings on labeling costs with the Rollsleeve are due to the following factors:

- > Thinner labels can be used (with benefits for the environment)
- > The tube is created directly in the machine
- > The initial film (MDO) costs less.

In addition to the competitive advantage of lower label costs, the new Rollsleeve has several other strengths, which include:

- > High performances:
 - top labeling quality even at very high

speeds (up to 55,000 bph)

- the speed of labeling does not depend on the height of the bottle (the label sleeve is not inserted from above as in traditional technology)

> Flexibility:

- any kind of label material can be used
- the same machine can apply sleeve labels and roll-fed labels (with hot glue)

> Sustainability:

- very thin materials can be employed; only heat is used to seam labels without solvents or chemical agents. ■



“ Sidel guarantees a flawless result, because the seaming area can be positioned exactly to the edge of the label. ”

ECO-CONVEYING

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

Eco-design is the product of a pragmatic and rational approach. Two major focus areas guide the eco-design phase, resulting in the development of sustainable equipment: optimizing 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.

23% less electricity

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

This motor also does not require use of fans, which not only use electricity but also creates noise and spreads germs. On a bottling line, this leads to a significant drop in the number of motors needed. In addition, its range of just four references covering all conveying needs and the standard use of hybrid wiring for electricity and automation reduce and simplify maintenance.



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. For air conveying, this involves the quality of regulation programming to avoid any unnecessary energy expenses by automatically and instantaneously adapting air flow to the characteristics of the bottle being conveyed as well as to conveying needs. 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%, from 7.36 to 2.2 kWh, and also greatly reduces the noise level, down to 78 dB. Today this applies to flat caps; in 2010 this technology will also be applied to crown caps.

Dry lubrication: Eight times less water

Another important issue in eco-design is water consumption. Water is used in cleaning and lubrication of the conveyor support, i.e. for the chains in the case of mechanical conveying and for the under-neck 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

“ The development of the new Sidel accumulation table, the AQ-HC, is a perfect example of eco-design. ”



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's a simple table, both compact and open, whose construction requires very few additional parts when compared with a traditional mass conveyor. Still, the AQ-HC offers unmatched performance: modular, dynamic accumulation, maximum accumulation potential and optimal use of floor space, with a 100% occupancy rate of the effective surface area. Finally, the eco-design quality of the AQ-HC is reflected in its maintenance, requiring few spare parts. ■

WATER FOOTPRINT: A NEW ENVIRONMENTAL BENCHMARK

In late 2009, a Water Footprint working group was created under the authority of the International Organization for Standardization (ISO). The goal is to establish a **worldwide standard** by 2013.



About 30 experts and company representatives from around the world – Europe, North America and Asia – met last November in Stockholm (Sweden). The goal of the first meeting for this ISO (International Organization for Standardization) working group was to establish the water footprint as an

environmental indicator. Specialists reviewed the different methodologies and stressed the importance of establishing ground rules for calculating the water footprint of products or organizations. This standardization process should take two to three years, with two meetings per year.

Water: An absolute priority

After the carbon footprint comes the water footprint. This indicator is gaining in importance, particularly with food and drink companies. Owing to growing environmental awareness and to consumer pressure, “the consumption of water resources is becoming an essential



“Enabling companies to put corrective actions in place.”

indicator in Life Cycle Assessment (LCA), alongside traditional indicators such as carbon, energy and water pollution,” observes Michael Ooms, Director of the Belgian consulting agency RDC Environment.

Companies have become aware of the risks that weigh on this essential resource. Water is “an absolute priority”, in the words of Coca-Cola (Sustainability Review 2008/2009). “Improving water quality and availability is vital to our business and to the communities we serve”. However, climate change, population growth and urbanization/industrialization are all threats to this resource. Both beverages and foods are among the “most threatened industries”, according to JP Morgan (Global Equity Research, March 2008). Companies are opting for transparency, setting targets for reduced water use and publishing their consumption levels in sustainability reports. Some are even doing this on their product packaging; for example, since April 2009 the Finnish company Raisio has done this on its Elovena cereals. Major food and beverage companies have joined the Water Footprint Network, which was founded in late 2008 and now has about 100 members worldwide.

Difficult to compare

Through new industrial processes and wastewater recycling, Coca-Cola claims to have decreased its water usage ratio from 3.1 to 2.4 liters of water per liter of product

between 2002 and 2008. Unilever says that it decreased its water consumption from 7.9 to 2.9 m³ per ton of production between 1995 and 2008. PepsiCo announced that it will reduce its water consumption 20% by 2015. The same is true for SABMiller, which wants to go from 4.6 to 3.5 liters of water per liter of beer produced by 2015. Nestlé says that it decreased water usage by 28% between 1998 and 2007, even though its total production volume increased by 76%. Danone’s water consumption dropped by 10% in 2009. The list goes on...

However, JP Morgan says that the data provided by food and drink companies are “problematic”. “The definitions of water consumption are not always clear or are missing from the reports.” The result is that studies are done on a case-by-case basis, databases are incomplete and any comparison between reports is impossible.

Availability and pollution

Two criteria seem to be the most important: the impact of industrial water use on availability for other uses, and the pollution and quality level of the wastewater discharged back into the environment. One liter of water taken from an arid region will not have the same impact or environmental damage as a liter taken from a very wet region that undergoes no “water stress”. The impact also varies if the water is taken from the sea, from an aquifer that supplies drinking water to a city or from a river. The question

is: does industrial use decrease the availability of water for another application? If the water is discharged into the same environment with a slightly higher temperature but no other consequences, the impact is generally considered negligible. In addition to these criteria, regional factors also have to be taken into account.

ISO standard: A proof of transparency

The challenge for the ISO water footprint standard, as is the case for carbon footprint, is to ensure transparency and the possibility of comparing products and services fairly. This standard is also aimed at expanding and strengthening the family of ISO 14040-44 standards that define the Life Cycle Assessment (LCA) method. This method is used to evaluate environmental impacts by measuring them from the extraction of raw materials to the end of product life. Whether it applies to mining, farming, industry or other activities, LCA takes every step of the process into account.

“A better understanding of the environmental impact of their business will help companies put corrective actions in place,” comments Michael Ooms, whose agency performs about 20 LCAs each year. “In an eco-design approach, there’s a real need to identify the environmental weaknesses of the processes used by producers or their suppliers, and even how consumers use the product.” ■



The new Options & Upgrades Catalog at Sidel.com

Completely revamped with hi-tech graphics and user-friendly browsing, the Sidel Group site now hosts the new Options & Upgrades Catalog. Over 300 solutions are included in the portfolio of services dedicated to the life cycle management (LCM) of all types and generations of Sidel equipment: www.options-upgrades.sidel.com.

Thanks to an advanced search engine and detailed product datasheets, the online catalog fully meets the requirements of customers looking for improvements in terms of greater flexibility, higher performances, better quality products, processes, functionality, hygiene, maintenance and energy savings. Finding the solution you want could not be simpler: just sign up online and begin a quick search by either "equipment" or "main benefits."

Another piece of interesting news for our readers, as of this issue, SIDELINLINE magazine is available in a new interactive version with links to videos, images and documents related to topics being covered.

To visit us, just click on: www.sidel.com ■



Trade shows & conferences

2010

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| 12-15 April | DJAZAGRO / ALGIERS / ALGERIA |
| 08-11 June | FISPAL / SAO PAULO / BRAZIL |
| 16-19 June | PROPAK ASIA / BANGKOK / THAILAND |
| 03-04 June | INTERNATIONAL SLEEVE CONFERENCE / CHICAGO, IL / US |
| 16-17 June | AIP NATIONAL CONFERENCE / MELBOURNE / AUSTRALIA |
| 07-10 Sept. | CHINA BREW / BEIJING / CHINA |
| 27 Oct.-3 Nov. | K 2010 / DÜSSELDORF / GERMANY |
| 31 Oct.-3 Nov. | PACKEXPO (PMMI) / CHICAGO / USA |
| 03-05 Nov. | ASEPTIPAK / CHICAGO / USA |
| 10-12 Nov. | BRAU / NURMBERG / GERMANY |
| 18-20 Nov. | DRINK TECHNOLOGY INDIA / MUMBAI / INDIA |
| 22-25 Nov. | EMBALLAGE / PARIS / FRANCE |
| 01-02 Dec. | PROPAK INDONESIA / JAKARTA / INDONESIA |
| 13-15 Dec | DDTE (DUBAI DRINKTECHNOLOGY EXPO) / DUBAI / UEA |

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