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### **SIDEL PET COMPLETE SOLUTIONS FOR ASEPTIC APPLICATIONS: ENSURE PRODUCT INTEGRITY, OPTIMISE UPTIME, MINIMISE COSTS**



**Beverage producers are currently facing multiple challenges. Their packaging solutions need to be innovative and able to offer great consumer experiences. Also, they have to ensure product integrity to meet food safety standards. All of this, without compromising on cost effectiveness. Sidel has worked with liquid dairy products (LDP) and juices, nectars, soft drinks, isotonic and teas (JNSDIT) producers for over 50 years - developing extensive experience and expertise in aseptic packaging. This means that the company can offer all the proven benefits of reliable PET aseptic complete line solutions.**

The increasing consumption rates of JNSDIT and LDP products – growing respectively by 6% and 5% on a yearly basis - provides significant business development opportunities for producers. The use of PET in these market segments continues to increase, with an annual growth of 3% expected for the JNSDIT sector and 8% for LDP by 2020. Producers can enlarge their bottling capacity or diversify their production with more value-added products in PET to maximise this market potential.

Whatever the industry business goals, one concern stands above all others: food safety. PET bottles offer great physical protection and food barrier benefits that maintain the product's safety and integrity across the supply chain. Guillaume Rolland, Sensitive Products Category Director at Sidel, comments - "Worldwide, consumers are becoming increasingly health-conscious and moving towards drinks with a more natural taste. This has brought a focus from producers on filling methods that protect the quality, taste and vitamin content of the beverages. Hot fill and aseptic filling solutions maintain the properties of beverages." Using PET in aseptic packaging solutions offers great business opportunities through bottling sensitive products to be distributed at ambient temperature, preserving organoleptic properties and keeping them free from bacteria. It gives products a shelf life without pasteurisation, hot filling or the use of preservatives or sterilising agents.

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By choosing a PET aseptic complete line solution from Sidel, beverage producers can protect sensitive drinks and differentiate brands, handling a broad variety of products while reducing environmental impact and costs.

### **Optimised aseptic production**

By partnering with Sidel, producers work with a single, market-leading supplier and can leverage an extensive 40 years of aseptic packaging expertise. Meeting producers' needs via fully connected aseptic lines requires an approach that is both holistic and flexible. The company's fully integrated and technically advanced solutions employ the processing equipment and capabilities of Tetra Pak Processing Systems (TPPS) - the original inventor of aseptic technology. Over the years, Sidel and TPPS have been combining competencies and expertise to define and execute almost 100 complete lines projects.

Sidel's extensive experience, innovative equipment and professional services, assist customers through the entire production process. This ranges from differentiating and customised bottle and complete line design to fast production ramp-up and beyond. Tackling the challenges of sensitive beverages while maintaining cost-efficiency, the company helps producers package their products with the correct PET solution. It ensures food safety, product integrity and longevity while providing the support to build and differentiate their brand.

### **Beverage and packaging solutions qualified by in-house experts**

Sensitive drinks can be affected by various factors when they are packaged – micro-organisms, light, oxygen and temperature. As well as ensuring that these do not detract from the quality of the content, PET also presents real opportunities to enhance the finished product. If Sidel's scientific expertise on beverage packaging and industrial production is involved early in a new product packaging project, producers will be able to optimise bottle performance while ensuring product safety and quality. They will also achieve faster time to market and bottle designs which stand out on the supermarket shelves.

Sidel experts in chemistry, microbiology, food science, filling processes and packaging materials help customers to qualify specific packaging solutions. This can involve a number of processes, including evaluating bottle samples and performing physical, chemical and sensory analyses to determine how the liquid interacts with the package. Tests are carried out under supply chain conditions to determine the optimal solution for defined distribution methods and shelf life. Based on the results, Sidel experts then make recommendations on bottle barrier material, weight, shape and type of cap, in order to ensure the product's desired shelf life.

### **Creating value from concept to customer**

At five packaging centres and four in-house R&D laboratories around the world, Sidel aims to create value in every phase of the supply chain. Based on the customer's individual specifications, supply chain conditions and product goals, Sidel designers provide everything to turn a producer's wish from idea to reality, creating innovative packaging to protect beverage quality and give the finished product a memorable and differentiating look. Those packaging solutions maintain optimum line performance using less material and energy, yet increasing product shelf life and

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always delivering a great consumer experience. Every year Sidel works on more than 250,000 new bottle concepts and 8,000 bottle designs.

For new lines and the conversion of existing lines, the Sidel moulds for these bottles are designed for fast production and optimal performance. Made from quality aluminium or stainless steel and tested using real-world mechanical analysis and virtual stress simulations for maximum uptime, they are engineered to last. The moulds offer great freedom of design with fast, easy changeovers - and can be adapted to all generations of the company's blowers.

### Scientifically proven dry aseptic solution

Sidel's unique PET aseptic filling solution with dry preform decontamination ensures product integrity, production flexibility, cost efficiency and sustainability. Based on the obvious fact that it is simpler to decontaminate the preform rather than the blown bottle, Sidel patented this unique technology - Sidel Predis™ - which uses hydrogen peroxide mist to sterilise the preforms. Injected into the preforms just before they enter the oven, the peroxide mist is activated during the existing preform heating stage. The same technology is used for cap decontamination with Sidel's Capdis™. "By integrating preform decontamination, blowing and filling functions with cap decontamination in a single enclosure, the Sidel aseptic Combi Predis ensures a completely sterile filled and capped PET bottle with a 100% dry aseptic solution", explains Rolland.

To ensure food safety on a line, it should be simple, because a line with few critical factors is managed more easily and effectively. This is achieved by minimising the sterile zone to reduce risk of contamination, continuously monitoring critical parameters and controlling potential contamination. This process ensures a high level of decontamination up to a Sterility Assurance Level (SAL) of Log 6, without need for blow moulder sterilisation. This aseptic Combi Predis uses membrane-free magnetic filling for safe, hygienic filling with flow meter control for high accuracy. It is also easy to operate and maintain.

The end result is reliable, simple aseptic beverage production in PET bottles, ideal for products distributed at ambient temperature. Additionally, it can help to lengthen shelf life and reformulate more sensitive beverages that would otherwise need added preservatives to maintain food safety. Suitable for aseptic production ranging from 10,000 to 60,000 bottles per hour, it can handle a broad variety of drinks (still beverages or products with pulps), including those with high or low acidity such as UHT milk and soy or yak milk. "Now with multiple installations throughout the world, the Sidel Combi Predis offers producers the simplest and fastest aseptic solution embedding dry preform decontamination. Compared to traditional aseptic filling systems, it ensures maximum cost-efficiency with the highest uptime", adds Rolland. By significantly reducing chemicals and not using any water to decontaminate the package, the savings can be substantial. It also contributes to extensive lightweighting possibilities to decrease the amount of PET used. It offers a potential output of up to 2,400 bottles per hour per mould, with a continuous aseptic run of 165 hours between cleaning and sterilisation cycles. Simple, fast and safe changeovers with limited manual intervention are possible with Bottle Switch™, the tool-free system that reduces mould changeover times to 40 seconds each. Liquid changeovers require less downtime too, with only three hours cleaning and sterilisation between bottle-to-bottle production.

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### Flexible production line to build end-user engagement

For the sensitive drinks producer, the challenge lies in ensuring product safety and quality across the supply chain. It is also important for a beverage or dairy brand to stand out on the supermarket shelf to influence consumer purchasing decisions as the choice of a product is made in a matter of seconds. The label and the pack help significantly in attracting consumers' attention and encouraging them to select one product over another. Sidel's complete aseptic lines are able to take advantage of a wide range of versatile, reliable labelling and packing solutions to help beverage producers to attract and differentiate, while ensuring sustainable production. Whether roll-fed or sleeve labels are required for aseptic beverages, Sidel labellers can handle any label format with fast, consistent roll-fed labelling or efficient, high-quality, heat-shrink sleeve labelling. Whether shrink-printed film, nested packs or wrap-around cartons are required, it is important to keep this layer appealing, strong and functional. Sidel flexible secondary packing systems offer reliable pack consistency and durable quality, while the company's palletising solutions and compact robotic solutions, with high production speeds and multiple patterns, handle a variety of products, packs and layers with easy operation and greater line versatility.

### Maximised uptime today and tomorrow

Even if the ideal packaging solution is implemented, the reality with any production line is that, over time, performance will decline without intervention. "The goal is to maintain and improve an aseptic line's productivity, efficiency and performance levels throughout its lifetime. Similarly, it is important to upgrade the existing line with new technologies that can boost productivity to new levels and help to lower total cost", concludes Rolland. The dedicated Sidel Services team offers producers a tailored portfolio that can increase the safety and value of an aseptic production line for long-term success. They will monitor line equipment, plan for downtime and reduce unexpected costs. As Sidel continuously develops and upgrades aseptic solutions to reduce the need for energy, water and raw materials, lowering total cost and improving environmental footprint, producers of LDP or JNSDIT products can ensure their equipment is not left behind. These new technologies - along with Sidel line conversion, training and proactive spare parts management - can also optimise costs and deliver the flexibility to keep up with changes in consumer demand.

Further details on Sidel's aseptic complete line solutions are available at [www.sidel.com/aseptic-lines](http://www.sidel.com/aseptic-lines).



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### About Sidel

Our purpose is to help brands protect the product inside, preserve the planet outside and touch the lives of millions of people every day.

We do so by offering complete and modular PET, can and glass packaging solutions, including people, services and equipment.

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

Part of the Tetra Laval group, Sidel has offices worldwide, including 8 production sites and 8 training centres. All our experts are committed to creating the optimum liquid-packaging solution.

We call it **A Better Match** - for our world, our customers and ourselves.

Find out more at [www.sidel.com](http://www.sidel.com) and connect with us



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