

TRENTO FRUTTA / OSKAR SYLTE
DANONE DE MEXICO / PROLIPOS SARL

30 YEARS
Anniversary

smid
DOW

Magazine 2017/17

TRENTOFRUTTA

FRUIT BABY FOOD

*from the tree
...to the jar!*

DANONE MEXICO

THE DANONE
GROUP'S TOP YOGURT
PRODUCTION
FACILITY

INDUSTRY 4.0

IOT-EMBEDDED
BOTTLING AND
PACKAGING SYSTEMS



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EDITORIAL 2017/17

Doing business for 30 years ... with
more than 6000 machines delivered!

30 YEARS



30 years is a time for taking stock and this year SMI is celebrating this anniversary. We are proud of how far we have come from 1987 to today, pushed by the uncontrollable dynamism that continually allows us to keep thinking up new solutions, innovative projects, and revolutionary technologies to satisfy our global customers. Everything we do, from complete bottling lines, to modern, efficient, flexible and ergonomic packaging machines, is increasingly inspired by the concepts of Industry 4.0 and the Internet of Things (IoT). SMI began its 30-year anniversary celebrations with the delivery of our 6,000th packaging machine and with a special new

logo that captures the essence of our history. In addition to this, 2017 will see the launch of the new EBS K series of compact stretch-blow moulders that are entirely electronic and the completion of the upgrade in our range of packers with the ERGON design and construction platform. This design was first used two years ago, on the SK shrink-wrappers, and provides cutting-edge solutions in terms of the compactness of the machine modules, ergonomic design, energy savings, operational flexibility and process automation and it is fully compatible with the parameters of the "smart factory". All this and more will be discussed in this issue of Sminow. Enjoy your reading!

Paolo Nava, President & CEO, SMI S.p.A.

sminow | magazine

Created by:

SMI S.p.A. - Marketing Dept.
Via Ceresa, 10
IT-24015 San Giovanni Bianco (BG)
Tel.: +39 0345 40111
Fax: +39 0345 40209
www.smigroup.it



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Contributors to this issue:

Trento Frutta - Oskar Sylte
Danone de Mexico - Prolipos Sarl

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TRENTO FRUTTA



ENCHANTING PLACES, SMELLS AND FLAVOURS

THIS IS NOT A FAIRY TALE! SUCH A PLACE DOES EXIST: IT IS THE MOST NORTHERN REGION OF ITALY, TRENTO-ALTO ADIGE, WHICH, FRAMED BY THE BEAUTIFUL DOLOMITE MOUNTAINS AND SURROUNDED BY LUSH VALLEYS FULL OF FRUIT, IS FAMOUS FOR ITS PRODUCTION OF APPLES AND, THANKS TO ITS VARIED CLIMATE, KIWIS, CHERRIES, PLUMS, NUTS, AND OTHER SMALL FRUITS AND VEGETABLES. WHEN FIRST TASTING THE PRODUCE OF TRENTO, YOU BEGIN A DELICIOUS JOURNEY THROUGH A NEVER ENDING VARIETY OF MOUNTAIN FLAVOURS AND AROMAS: FROM BERRIES TO AGED GRAPPA, MOUNTAIN CHEESES TO HAND-CURED COLD MEATS AND MANY OTHER PRODUCTS THAT ARE ABLE TO SATISFY EVEN THE MOST DISCRIMINATING PALATES! ONE OF THE MORE RENOWNED COMPANIES IN THE LOCAL AGRICULTURAL FOOD SECTOR IS TRENTOFRUTTA, A COMPANY IN TRENTO. THEY BEEN PROCESSING, PRODUCING, PACKAGING AND MARKETING LARGE QUANTITIES OF TOP QUALITY FRUITS AND VEGETABLES FOR OVER 50 YEARS, USING STATE-OF-THE-ART SYSTEMS AND TECHNOLOGIES CAPABLE OF PRESERVING THE QUALITY AND FLAVOURS OF THE FRESHLY PICKED PRODUCE.

➤ **SECTOR: FOOD**
TRENTOFRUTTA S.P.A.
Trento, Italy
www.trentofrutta.com

➤ SK 802T and MP 300 Packers

➤ DV 500 Divider-channeler unit and conveyor belts



VIDEO



GEO LOCATION

FROM THE TREE TO THE JAR



The use of modern production technologies allows the fruit and vegetables processed by Trentofrutta to maintain the quality and taste that has been appreciated by consumers over time. Among the more innovative systems, used within the Trentino company, are the automatic secondary packaging machines provided by SMI. These were designed to ensure high levels of production efficiency

with a wide range of packaging solutions that meet the most stringent quality and purity parameters. The ultra-modern bottling and packaging line at Trentofrutta makes it possible to fill almost 30,000 jars of baby food per hour, immediately after the fruit has been processed, thereby achieving a sustainable "from the tree to the jar" production process.





HIGH-QUALITY PRODUCTS DESERVE HIGH-QUALITY PACKAGING

Trentofrutta is one of the leading Italian and European manufacturers of semi-finished products in the fruit and vegetable sector, which are either marketed all over the world or packaged as private label juices, nectars, fruit-based drinks, jams and baby food. To meet the diverse needs of consumers, the Trento-based company packages its products, in a wide range of different containers and packaging:

- glass jars from 80 to 250 ml with twist-off caps
- pouch - flexible packaging from 70 to 500 ml
- glass bottles from 125 to 250 ml with twist-off caps, paper labels or sleeves for the Bar Line
- glass bottles from 500 ml to 1 L with twist-off caps.

In addition to various types of containers, the Trentofrutta production company is also capable of efficiently handling a large variety of pack collations and different packaging configurations thanks to the operational flexibility and ease of format change given by the SMI automatic packers.



SMI SOLUTIONS FOR TRENTOFRUTTA



To automate and optimize its end-of-line secondary packaging process, Trentofrutta turned to SMI, which has over 30 years experience in the design and manufacture of high-speed automatic packers. All of which are equipped with the latest technology in terms of automation processes and extreme flexibility of use. For this facility, SMI formulated a logistics solution that enhances the strengths of the machines, created by integrating features and versatility; this integration resulted in a system for the end-of-line secondary packaging, that allows Trentofrutta to exploit the potential of each individual SMI machine installed, modulating its production according to packaging requirements using cardboard sleeve, shrink film, tray + film and tray-only loose containers or ready-made packs to create convenient "pack-in-pack" configurations.

➔ MP 300 PACKER - OUTPUT UP TO 300 PACKS/MINUTE

Containers packaged: glass jars of 80 g, 100 g, 125 g and 200 g.

Pack collations made: cardboard packages with overlapping flaps on the bottom in 1x2, 1x4 and 2x2 collations with over the top (OTT) neck.

Advantages: the MP series of packers, packs a wide range of containers in a number of different configurations, in order to respond effectively to the ever changing, present and future needs of end consumers. The continuous-cycle packaging system ensures a smooth production process, without any jerky movements, so as to protect the containers from jolts and impacts and ensuring the integrity of the product, greater pack quality and less mechanical wear to the machine components. The hot glue bottom, closing system of the pack, ensures precise and lasting closure and offers the possibility to use different types of cardboard. The SMI MP series packers are the ideal solution to create attractively designed packs with a strong visual impact, capable of attracting consumers' attention; moreover, the cardboard packages are extremely impact resistant and easy to handle, open and store.

➔ DV 500 DIVIDER-CHANNELER

Function: line separation of the 1x2, 1x4 and 2x2 collations leaving the MP 300 packer

Advantages: a compact and flexible system for dividing packs into multiple lines and channelling them along a double lane to the SK 802T shrink-wrapper. The DV 500 model is a continuous-motion divider, its smooth operation is ensured by the control of product availability at the machine input which automatically restricts the speed of work, and by the machine stop device. Packages leaving the MP 300 packer in cardboard, are conveyed to the machine for tray + film or film-only re-packaging, ensuring a smooth and continuous packaging process.

➔ SK 802T SHRINK-WRAPPER - PROCESSES UP TO 70 + 70 PACKS/MINUTE

Containers packaged: glass jars of various sizes, glass bottles of 0.2 L, and 1x2 and 2x2 collations of glass jars in cardboard coming from the MP 300 packer

Packages made: multiple tray + film pack collations on a single or double lane and tray-only pack formats on a single lane.

Advantages: the automatic packer is equipped with an electronic separator, automatic format changeover, reel-lifting trolley, and a centering device for printing on film. The machines of the SK series are the ideal solution for the quick switching of pack collations, alternating between double- and single-lane packaging production. The machine is also equipped with the optional "Easy-load" device, an automatic cardboard blank loading system comprising a series of conveyor belts with motorized belts which supply the packer's cardboard blank magazine. The movement of the cardboard blanks on the conveyors and their loading into the machine's storage unit are handled and controlled by the automation system to optimize production efficiency. The Easy-load device is therefore, the ideal solution for packaging many different types of containers in various pack collations, and for the quick change between configurations. Additionally, the ergonomic design of the system allows the operator to easily load the stacks of cardboard blanks onto the feeding belts of the blank magazine situated externally to the machine at a convenient height for this operation.

➔ CONVEYOR BELTS

Function: the handling of loose and packaged products

Advantages: its modular composition is the most suitable line solution for meeting customer needs in terms of speed and automation of format change operations; in addition to this, a series of specially-designed guides have been mounted on the SK 802T packer to manage the flow of products on the parallel side conveyor in-feed area, further simplifying any machine adjustments needed to handle various pack configurations.

A TRUSTED PARTNER SINCE 1961

The company was founded in Trentino as Cremogen S.p.A by the Pizzinini family in 1961. In 1966, the company changed its name to F.lli Pizzinini and the ownership expanded to include the German company Peter Eckes, which, gradually gained greater control until it became the sole shareholder in 1971. In October 1988, after an ambitious restructuring programme lasting several years, the ownership of Cremogen passed to a group of German entrepreneurs. They changed the name of the newly acquired company to Trentofrutta and undertook a substantial investment plan directed at fruit processing. The Trentino-based company processes many types of fresh and frozen fruits and vegetables, mostly produced in Italy,

into semi-finished industry products destined for markets worldwide. It also packages a wide range of nectars, juices and fruit-based beverages, as well as smoothies and baby food for third parties. The quality of the raw materials used is guaranteed, during all the growing phases, by frequent field inspections carried out by expert agronomists. Food production uses conventional, biological or controlled methods. Each product is always traceable along the entire manufacturing and marketing value chain, starting from the field in which it is grown. Presently, Trentofrutta, has a total storage capacity of 25 million litres and its customers include some of the world's largest food companies, such as Sunval, and several pharmaceutical industries.





TRENTOFRUTTA S.P.A.



Year founded: 1961



Production facility: Trento – Italy



Turnover: over € 45 million



Employees: the company employs over 150 people



Production: Trentofrutta is one of the leading manufacturers of semi-finished products in the fruit and vegetable sector in Italy and Europe and a reliable partner for packing private label products into glass and pouch containers.



SUNVAL AT A GLANCE

Together with Sunval Nahrungsmittel GmbH and Trentofrutta SpA, Sunval offers high quality organic baby food that is both organically and Demeter (*) certified. The company's product range includes selections of fruit, vegetables, meat and cheese, milk (powdered or liquid)

and many other baby foods. In order to offer a complete assortment of baby food products, the Italian-German company cooperates with other manufacturers of cream cereals, pastries, cookies, etc., whose business approach is inspired by the same principles and values as Sunval: quality, health, ecology, and genuineness.

Starting back in the 1950's, Sunval was one of the first companies to package baby food. Over the years, the company has worked closely with nutritionists, pediatricians and pediatric nurses to develop a wide product range (almost 400 recipes), and is now known worldwide as a specialist in private label organic foods.

➔ (*) Demeter Associazione Italia is a private association of producers, processors and distributors of agricultural products and bio-dynamic foodstuffs, whose members operate in accordance with Demeter international production, processing and labelling standards and earn the right to place the Demeter label on their products.





The main customers of the Italian-German company include large and small businesses, chain stores and retailers operating in the food sector in Italy and abroad. Using a three-shift production system, the Sunval facility produces about 70 million jars of high-quality baby food every year, and these vary greatly by recipe, pack collation, seasonal preferences or promotional campaigns.

SUNVAL



Group: Sunval Nahrungsmittel GmbH



Business office: Trento – Italy



Group turnover: over € 60 million



Employees: the Group employs about 160 skilled employees, who are responsible for the processing of wholly organic raw materials for customers worldwide



Production: sales and marketing of baby food



LET'S FIND OUT WHY THE PRODUCTS OF TRENTO HAVE SUCH A UNIQUE TASTE!

Consisting of a patchwork of valleys, crossed by the river Adige and surrounded by the Dolomites, the Trentino region may well be seen as the meeting point between northern and southern cooking styles. People coming to this region from the north are welcomed by a first taste of Mediterranean influence, evocative of

the flavours of traditional Italian cuisine. In fact, Trento is the home to some dishes with Latin origin, such as fried cheese and sage or apple fritters. Those who come from the south, on the other hand, are introduced to the world of Nordic cuisine with traditional German or Austrian dishes, such as "knödel" or "dumplings" (small balls of stale bread, mixed with

ingredients that vary from area to area, but usually include "speck" (cold-smoked bacon), cheese, a pinch of chives, etc.), and "sauerkraut" (tasty cabbage frequently served with dumplings) and "nockerln" (gnocchi, especially those with smoked ricotta).



Fruit is an extremely important part of the gastronomic landscape in Trentino. Apart from apples, which deserve an article all of their own, the Trentino region is famous for the Dro plum, strawberries and raspberries, organic vegetables from the Gresta Valley, broccoli from Torbole and corn from Storo. Trentino is a treasure trove of goodies for fans of cakes, starting with "Strudel" (a puff pastry wrap with a filling made of apples, raisins, pine nuts, and breadcrumbs browned in butter and scented with cinnamon), and continuing with "Zelten" (a traditional Christmas cake made with dates, dried figs, raisins, pine nuts, walnuts, cinnamon, brandy and cognac mixed in a rye bread dough), and then the "Krapfen" or "donuts" from Merano in the Passeier Valley (soft jam- or cream-filled morsels, or topped with poppy seeds), Tyrolean plum cake, and much more.



An apple
a day keeps
the doctor away

This well-known proverb attests to the fact that the apple is a special fruit, long considered a natural medicine and remedy for many problems. The famous proverb actually bears some scientific truth, as supported by research presented at the "Experimental Biology 2008" conference in San Diego, California. The researchers analysed data from the largest federal database on nutrition and health, in the United States and found that people who eat apples are 27 percent less likely to suffer from metabolic syndrome, a condition linked to several chronic diseases such as diabetes and hypertension. Adults who eat apples also have less abdominal fat, 30 percent lower blood pressure and a 21 percent lower risk of obesity. According to these researchers, apples play a leading role in a healthy diet that is low in fat and sugars.



THE "STRADA DELLA MELA E DEI SAPORI DELLE VALLI DI NON E DI SOLE"

This corner of north western Trentino, is particularly rich in history, culture and traditions, and has recently started presenting a genuine, new offer, full of flavours from the so-called area of "Strada della Mela e dei Saporì" (Road of Apples and Flavours), which, situated in the middle of the Non and Sole Valleys, is surrounded by majestic mountain ranges like the Maddalene, the Brenta and the

Ortler Alps. This "gourmet road" connects the two valleys, which, for centuries have been dominated by the cultivation of apples and fruit orchards in a beautiful landscape marked by lakes and streams, and which is home to the only PDO apple produced in Italy. Whereas, the higher areas of the Val di Non and Val di Sole are dedicated to cattle breeding; the milk that comes from here is used to produce various dairy specialties, highly

appreciated by consumers. Trentino also produces excellent sausages, including the smoked "Mortandèla" and there is also a small wine producing area on the shores of Lake Santa Giustina. The valleys offer abundant fruit and vegetables from which many organic and natural products are made. The numerous bees found in the area help to pollinate the fruit trees, while also producing delicious honeys.



A DELICIOUS HISTORY

The first apple trees in Europe probably originated in Kazakhstan, in Central Asia. Apples were brought to Greece along the Silk Road and reached the South Tyrol at the time of the Roman conquests. In the Middle Ages apple tree cultivation fell mostly into the hands of the monasteries, which were the repositories of knowledge, though peasant families also grew apples for their own subsistence needs for several centuries. Starting back in those days, the South Tyrolean apple

was exported northwards through the mountain passes and then by means of the new railway line that ran through the Brenner Pass. Between 1880 and 1890, South Tyrolean fruit growers gained more land for growing, thanks to the regulation of the river Adige and the subsequent reclamation of the surrounding wetlands. Towards the end of the 19th century the first grower cooperatives were established and from then on apple cultivation has not stopped.





OSKAR SYLTE

IF THEY'RE ROSES, THEY'LL BLOOM!

THIS ITALIAN PROVERB IS USED PARTICULARLY TO ENCOURAGE THE CONTINUATION OF A JOB OR PROJECT WHOSE SUCCESS IS CONDITIONED BY LOGIC AND EVENTS THAT CANNOT BE PREDICTED.

IT IS QUITE UNUSUAL, THOUGH NOT IMPOSSIBLE, TO SEE ROSES IN SCANDINAVIA. HOWEVER, IN THE CITY OF MOLDE, NORWAY, ONE FINDS ROSES EVERYWHERE. THE CITY IS EVEN KNOWN AS THE "CITY OF ROSES", HIGHLIGHTING THE EXCEPTIONAL NATURE OF THIS FLORAL "PRESENCE"; MADE POSSIBLE BY THE CLIMATE, WHICH CANNOT BE FOUND IN OTHER PLACES AT THE SAME LATITUDE. THIS BELOVED FLOWER IS PROUDLY DISPLAYED IN GARDENS, TERRACES, PATIOS AND BALCONIES AND APPEARS PAINTED, INLAID, CARVED AND DEPICTED EVERYWHERE, WITH ITS DELICATE FRAGRANCE, SO MUCH SO THAT IT HAS BECOME THE SYMBOL OF THE TOWN.



➤ **SECTOR: WATER AND BEVERAGES**

OSKAR SYLTE MINERALVANNFABRIKK A.S.
 Molde, Norway
www.oskarsylte.no



VIDEO

- ECOBLOC® 10-66-10 HP LG-VMAG integrated system
- SK 602F Packer
- Conveyor belts
- Subcontracting: compressor, rotary labeller, inspection system; drying tunnel.



GEO LOCATION

MOLDE: ROSES AND TECHNOLOGY

The most valuable rose in the Norwegian town of Molde bloomed in 1929 and continues to flourish year after year, becoming ever more precious and unique to the local landscape. This is the Oskar Sylte company, which produces and bottles mineral water and soft drinks, and is famous in northern Europe for its pineapple soda. Like the roses in Molde, the company has grown well, thanks to the founders' ability to constantly adapt to market

situations, investing in technology to deliver increasingly competitive and appealing products.

For the modernization of its bottling line of fruit-flavoured beverages, sold under the brand name Brus, the company has relied upon the bottling and packaging solutions offered by SMI, including an integrated ECOBLOC® LG-VMAG series blowing, filling and capping system, an SK 602F shrink-wrapper, conveyor belts and sub-contracted machines.





OSKAR SYLTE MINERALVANNFABRIKK A.S.



Year founded: 1929



Production facility: Molde - Norway



Turnover: € 12,770,000



Main products: Brus brand soft drinks in pear, lemon, raspberry, and other flavours. Pineapple soda is the most famous of these



Employees: the company employs 70 people





DIVING INTO HISTORY

The history of Oskar Sylte Mineralvannfabrikk AS is closely linked to its founder, the Norwegian, Oskar Sylte (1907-1976). He came to the city of Molde at a young age, worked as a messenger for different local companies before starting a fish and ice vending business. Shortly after, becoming the owner of an ice house in Romsdalsmuseet that allowed him to deliver fresh food to tourists. After a few years of good business and earnings, the fish industry began to experience a downturn so, at the age of 24, Oskar Sylte bought some machinery to undertake soda production in the old Meierigården factory in Molde. At first, the factory also produced beer, but later the decision was made to concentrate exclusively on the production of soda.



During World War II, the bombing of the city of Molde also had an impact on the Oskar Sylte company and its business in the Kirkebakken district. In the post-war period of reconstruction, the Norwegian company moved to new headquarters in the Vektergata area. In 1973, production was transferred to a large factory outside of town in the area of Årø; this decision drew a lot of criticism from people who thought it unrealistic and naive to build a large plant there, but in the following years the strong growth in production and sales, again proved Oscar Sylte right, and today the plant has doubled compared to its original size.

In 1990, Oskar Sylte Mineralvannfabrikk AS signed an agreement with Ringnes, Norway's largest beer producer. After 27 years the cooperation agreement with Ringnes (now part of Carlsberg) came to an end on 1 June 2016. Subsequently, Oskar Sylte was in need of new reorganization that would safeguard its know-how and lay a solid foundation for the further expansion of its product range and sales.



Today Oskar Sylte is a modern company equipped with the latest technologies that has successfully weathered unfavourable market situations and profound restructuring and reorganization processes over the years, such as the reconstruction after the bombings of World War II. More recently, however, for the modernization of its bottling line of fruit-flavoured

beverages sold under the brand name Brus, the company has relied upon the bottling and packaging solutions offered by SMI, including an integrated ECOBLOC® LG-VMAG series blowing, filling and capping system capable of producing 20,000 bottles per hour, an SK 602F shrink-wrapper, conveyor belts and sub-contracted machines.



↓ **From the left side:** Oskar Dag Sylte Junior, Ingunn Sylte and his father Oskar Dag Sylte Senior are making a toast with a bottle of Brus.



SOLO: THE NORWEGIAN SODA

Solo is among the most famous and popular soda brands in Norway and is a beverage made with orange juice that has a light-yellow colour and refreshing taste.

The recipe of the drink comes from Spain (its name, in fact, comes from "Naranjina Solo", which means "only oranges") and was introduced to the Scandinavian country in 1934 by Torleif Gulliksrud, who worked at the brewery in Tønsberg. Oskar Sylte was also one of the founders of Solo. The success of this product on the market was immediate, so much so that in the 1960s Solo soda even surpassed Coca-Cola as the best-selling soft drink in Norway. Over the years the original drink has also seen the addition of Solo Super (a low-sugar variant), Solo Sunset and Solrik. In Norway, soda consumption was about 110 litres per person per year in the period 2008-2016 and the non-alcoholic beverage market recorded a growth of 0.7% per annum. Oskar Sylte has produced the Solo beverage in cooperation with the Norwegian company Ringnes, since the beginning in 1934.



SMI SOLUTIONS FOR OSKAR SYLTE



The SMI systems supplied to Oskar Sylte were designed according to innovative criteria to achieve highly efficient levels of production and significantly reduce energy consumption and the customer's Total Cost of Ownership (TCO). The ECOBLOC® 10- 66-10 HP LG-VMAG system is the ideal solution for the bottling of still and carbonated drinks on high-speed PET lines, thanks to the integration of the stretch-blow moulding, filling and capping operations into a single "block". Such a configuration, in fact, does not require a rinser, or air conveyors between the blower and the filler or accumulation belts, with considerable advantages in economic and maintenance terms.



➤ ECOBLOC® 10-66-10 HP LG-VMAG INTEGRATED SYSTEM

Functions: stretch-blow moulding, filling and capping of 0.5 L and 1.5 L PET bottles of Brus brand drinks.

Advantages: it is an eco-friendly solution with low energy costs, thanks to the use of several innovative technologies: the "baseless" configuration of the filling module ensures less water consumption for the washing and cleaning of the machine, the preform heating module is mounted with energy-efficient IR lamps, the stretch-blow moulding module is equipped with an air recovery system that helps reduce the energy costs of producing compressed air at high pressure.

SMI's ERGON ECOBLOC® integrated systems use the latest generation of filling technologies to enable fully-electronic handling of the filling process, selection of the processing parameters directly from the operator's panel and faster and easier format switching.

In addition, the filler and capper motorisation and transmission systems are located in the upper base of the machine, perfectly dry and insulated from the work area.

➤ SK 602F SHRINKWRAPPER

Containers packaged: 0.5 L and 1.5 L PET bottles.

Packages made: 3x2 and 4x3 packs of film only on a double lane (0.5 L PET bottle) and 2x2 and 3x2 packs of film only on a double lane (1.5 L PET bottle).

Advantages: the automatic packaging machine is equipped with an electronic separator, automatic changeover, reel-lifting trolley, and centering device for printing on film. This is the ideal solution for the quick switching of pack collation, and alternating between 0.5 L and 1.5 L film-only packaging on a double lane.

This shrink-wrapper is equipped with the optional "heated-blade film reel splicing system" device, which allows the automatic joining of the edges of film reels without stopping the machine; it offers safe and fast operation for printed and non-printed film with reference mark and non-stick film.

➤ CONVEYOR BELTS

Function: handling of empty, loose and packaged bottles.

Advantages: the SMI bottle and pack conveyor systems installed on Oskar Sylte's bottling line ensure highly-efficient production standards. In fact, these latest generation automation and control solutions ensure that the handling process flows smoothly and continuously, providing the utmost operational flexibility of the production facility and allowing effective management of sudden changes in product flow due to unforeseen situations in the operation of the individual machines.

AROUND OSKAR SYLTE

The city of Molde is located on the north shore of the Romsdalsfjord, a fjord that opens into the Norwegian Sea, and has a beautiful view of the peaks on the southern shore of the fjord south-west of the country. The city is known for the beauty of the nature that surrounds it, including the "Molde Panorama" with its 222 mountain peaks.

Molde is a modern city, active in various areas of production and full of cultural initiatives, such as the International Literature Festival (Bjornson Festival) and the annual Jazz Festival (Molde International Jazz Festival). The city is also known for the Atlantic Road (Rv64), one of the most panoramic routes in the world. At 8.3 km long, this road is built on eight low bridges, which connect a small archipelago

of islands, and in 2006 was voted the Norwegian engineering feat of the century (it is the most visited scenic road in Norway, after the Trollstigen Road). The Trollstigen Road, or "The Troll Footpath", is a unique and fascinating natural scenic route, consisting of 11 hairpin bends that climb with an average gradient of 12% up to Stigrøra, the highest point on the route located 858 metres above sea level.



#MOLDEJAZZ

EVERY YEAR, IN JULY, THE NORWEGIAN CITY OF MOLDE HOSTS THE MOLDE INTERNATIONAL JAZZ FESTIVAL (MIJF), ONE OF THE OLDEST JAZZ EVENTS IN EUROPE (THE FIRST EVENT WAS HELD IN 1961) AND CERTAINLY ONE OF THE MOST FAMOUS MUSICAL EVENTS IN SCANDINAVIA. FOR THE WEEK OF THE FESTIVAL THOUSANDS OF PEOPLE DESCEND ON THE TOWN TO ATTEND NUMEROUS JAZZ, BLUES, POP AND ROCK CONCERTS BY THE MOST FAMOUS ARTISTS IN THE WORLD. PAST EVENTS HAVE SEEN THE LIKES OF JAZZ LEGENDS SUCH AS MILES DAVIS, BILL EVANS, JACO PASTORIUS, CHICK COREA, ART BLAKEY AND MANY OTHERS, AS WELL AS TRUE STARS OF BLUES, POP AND ROCK, SUCH AS BOB DYLAN, ERIC CLAPTON, PATTI SMITH, BB KING, JAMES BROWN AND STING.

DANONE DE MEXICO

THE CORPORATE MISSION OF DANONE DE MEXICO - "PROVIDE HEALTH THROUGH FOOD, TO AS MANY PEOPLE AS POSSIBLE", IS EFFECTIVELY REALIZED IN THE CITY OF IRAPUATO, WHERE THE ARRIVAL OF THE FRENCH MULTINATIONAL HAS MARKED A MAJOR TURNING POINT, BY OFFERING HIGH-QUALITY DAIRY PRODUCTS TO FEED MEXICANS AND HAS CONTRIBUTED GREATLY TO SPREADING THE CULTURE OF CONSUMPTION OF YOGURT, A DELICIOUS AND HEALTHY PRODUCT. TODAY THE DANONE IRAPUATO PLANT IS ONE OF THE FRENCH AGRICULTURAL FOOD GROUP'S MOST MODERN PRODUCTION FACILITIES WORLDWIDE, WITH EXCEPTIONALLY HIGH OPERATIONAL AND QUALITY STANDARDS. THE MEXICAN COMPANY HAS ACHIEVED THESE FANTASTIC RESULTS THANKS TO THE TALENT OF ITS HUMAN RESOURCES, THE UTMOST SAFETY AND QUALITY MEASURES APPLIED TO ALL OF ITS INDUSTRIAL PROCESSES, THE RESEARCH AND DEVELOPMENT OF MORE HEALTHY AND WHOLESOME FOOD PRODUCTS, AND THE USE OF THE LATEST TECHNOLOGIES TO ENSURE THE EFFICIENCY AND COMPETITIVENESS OF THE PRODUCTION SYSTEMS.

➤ **SECTOR: FOOD**
DANONE DE MEXICO SA DE CV
Irapuato, Mexico
www.grupodanone.com.mx

- 3 SK 500 T Packers
- Conveyor belts



VIDEO



GEO LOCATION

the city of STRAWBERRIES

WHERE THE HILL MEETS THE PLAIN



Avast stretch of strawberry crops that, viewed from a distance, appear like red brush strokes: there is no better way of describing the city of Irapuato, in the state of Guanajuato in Mexico, where the hill meets the plain (this is the meaning of Irapuato in the local language) and where it is impossible to resist a plate of fresh strawberries served with cream ... or the tasty strawberry-based products manufactured by Danone de Mexico, with one of the largest production facilities in the country situated here.

Everything that surrounds the city of Irapuato has the taste and colour of strawberries: from fresh fruit jam, and the excellent "strawberry glazes" that can be tasted in many varieties: from the traditional sugar crystal version to those with chili sauce or chocolate. In the local language the name Irapuato means "where the hill meets the plain", and signifies a good place for agriculture, today the main economic activity of the city. The city in fact, is the greatest producer of strawberries, broccoli, carrots and avocados in all Mexico, and many other

fruits and vegetables also grow abundantly in this fertile ground. No matter how many strawberries are actually produced in Irapuato, the name of this city is now so closely linked to this fruit that its people will always be affectionately known as "Freseros" or "Strawberry Heads". Compared to other Mexican cities, at half a million inhabitants Irapuato is a relatively small urban settlement, yet one that is charming and possesses unparalleled beauty, is rich in history, culture and has monuments, temples, churches and squares of great architectural value.



How did all this come to be??

To answer that, we must take a step back into the past, or more precisely to the 1700s, the death of Charles II of Spain, and the ascent to the throne of Philip V, grandson of the King of France. It is said that, to find out what interested the Spaniards, the new king decided to organize several expeditions to Chile, from where, the first strawberry plants were brought to France. It then took nearly two centuries for the strawberries to get from Europe to Mexico, where from 1849 onwards, the strawberry plant cultivation in Irapuato took hold rapidly and became the main economic activity of the city. The exceptional quality of Irapuato strawberries have gained them, an undisputed reputation both nationally and internationally. Infact, the Mexican city is home to the large "World Strawberry Capital" festival, one of the main events of the "Si Sabe" food festival of the state of Guanajuato, which hosts 27 stands of handmade gourmet products among its main attractions.



HEALTH IS ONE WITH FOOD

The Danone Group has for a long time been active, in promoting the importance of a correct diet as the key factor, in developing and maintaining a healthy lifestyle. In particular, Danone de Mexico is especially attentive to all activities that promote correct hydration and nutrition habits, by promoting a series of initiatives that educate Mexicans to perform physical activity, drink plain water several times a day, avoid habits

that are harmful to the human body and, in general, to adopt a healthy lifestyle. An example of this, is the "Danone 2020" Manifesto, through which the French multinational company has globally adopted a revolutionary approach to address health-conscious topics starting with food. It also promotes a healthy and genuine food culture not only through the sale of its products but also by encouraging healthy habits among its 100,000 employees.



→ **THE IRAPUATO FACILITY IS THE LARGEST
IN THE WORLD BY PRODUCTION VOLUME**





The goals of the “Danone 2020” Manifesto are also strongly promoted by Danone de Mexico in four key areas:

- My health: periodic monitoring of the weight and habits of Danone employees, in addition to teaching how to eat healthily, stay hydrated and perform physical exercise.
- One yogurt every day: a campaign that encourages staff to eat yogurt daily, adhering to Mexico's official food and nutrition guidelines.
- DIY healthy hydration: promoting a healthy lifestyle that begins with proper and healthy hydration.
- Eating functional foods: foods that have beneficial properties for the health thanks to their content of minerals, vitamins, dietary fibre and other compounds.



DANONE DE MÉXICO S.A. DE C.V.



Year founded: 1995



Production facility: Irapuato, Guanajuato



Production volumes: 420 million tons per year



Production lines: 20 bottling/packaging lines that supply Mexico and Central America



Product line: Activia®, Benegastro®, Danette®, Danfrut®, Danonino®, Danone®, DanUp®, Dany®, Oikos Vitalínea®

THE IRAPUATO FACILITY



no. 1 of the Danone Group



the largest in the world by production volume



the 3rd safest worldwide



1st in quality management



produces up to 750 products per minute



has an average monthly production of 30,000 tons of yogurt



A SUCCESS STORY FROM FRANCE TO MEXICO

A solid, well-established company in France for over 50 years, Danone arrived in Mexico in 1995, giving a strong boost to the local supply of dairy products and greater selection to the food choices of the Mexicans.

The Danone de Mexico facility is located in the industrial city of Irapuato, in the State of Guanajuato, and produces over 119 different products: Activia®, Danette®, Danone®, Danonino®, DanUp®, Dany® and Vitalínea®. Due to the production volume and the quality standards achieved, the plant in Irapuato is considered the most important Danone Group facility worldwide and is one of the largest and most modern companies in the world. In addition to efficiently

managing as many as 20 production lines, the staff of the Mexican plant is also dedicated to intensive research and development activities, in order to continuously improve and expand the range of Danone products distributed in Mexico and other countries of Central America. Directly across from the factory in Irapuato, is the company's Regional Distribution Centre (RDC), which contains the largest cold stores in Latin America. It ensures that products are stored within a defined temperature range, in order to maintain their quality and properties until they are distributed on the market.





To alleviate the suffering of children who suffered from intestinal disorders in the years following the First World War, in 1919, the Spanish merchant Isaac Carasso founded a small factory in Barcelona to produce yogurt using cultures from the Pasteur Institute in

Paris. Looking for a name for the label, Isaac Carasso immediately thought of "Danón", an affectionate nickname used for his son Daniel, but the authorities refused to register it as it was a proper name; to get around the problem, he added an "e" at the end and the Danone brand was born. Daniel Carasso studied at the Ecole Supérieure de Commerce in Marseille and later performed bacteriological studies to increase his knowledge of cultures. These studies proved very useful when, not yet twenty years old, he decided to launch the Danone products in France and on 6 February 1929 registered the Société Parisienne du Yoghourt, a company with a capital of FRF 500,000 and Daniel Carasso as sole director. Thereafter, the Danone company underwent a long series of expansions, transformations and mergers, which led to its becoming

one of the largest and most dynamic multinational groups in the global food industry. With a global turnover of € 22 billion in 2015, the Danone Group is present on five continents, has more than 180 manufacturing facilities and employs about 100,000 people. Danone's "mission" is to bring health through food, to as many people as possible; its business activity is based on four lines: fresh milk products (Dairy Division), baby food (Early Life Nutrition), bottled water (Waters Division) and medical nutrition (Medical Division). The French multinational manufactures and markets products under the brandnames Danone® Activia®, Evian®, Volvic®, Aqua®, Gallia®, Actimel®, Nutricia®, Bledina®, Cow & Gate®, Fortimel®, Taillefine®, Vitalinea®, Ser®, FortiCare®, Infatrini® and many others.

DANONE'S REGIONAL DISTRIBUTION CENTRE

The Irapuato Regional Distribution Centre is at the heart of Danone's distribution network in Mexico and Central America. It is a modern facility that spans over 10,000 m² in which all the products that come off the 20 packaging lines of the nearby production facility are stored, before being distributed throughout Mexico, El Salvador and Guatemala. The RDC has been operating since December 2010 and was formally inaugurated in March 2011. In addition to the latest technological solutions, the success of this logistics facility is also made possible by a workforce operating 24 hours a day, 365 days a year.



Stores 150 Danone Group products



Handles an annual merchandise volume of more than 40,000 tons



Before shipping, products are stored for no less than 24 hours and up to 5 days (depending on demand)



Storage capacity of 7,600 pallets distributed in 6 reception platforms (pallets from production facilities) and 27 loading platforms (pallets for distribution)



Daily transport by more than 115 lorries



Innovative water management system that allows the reuse of 2.5 million litres of water per year



The RDC won the "Galardón TAMEME" National Logistics Award in 2012 and 2014

SMI SOLUTIONS FOR DANONE DE MEXICO



→ THE IRAPUATO PRODUCTION FACILITY PRODUCES THE EQUIVALENT OF 7 EUROPEAN DANONE FACTORIES!



The Danone bottling plant in Irapuato contains a total of eight SMI automatic packers for secondary packaging in different pack configurations. The collaboration between SMI and the Mexican company started in 2009 with the installation of an LSK 35P shrinkwrapping machine that packages different types of containers in various pack configurations at speeds of up to 35 packs/minute. The latest supply includes three SK 500T shrinkwrappers for use on the production lines of the drinkable yogurt of the DanUp® Activia® and Danone® brands. SMI has also supplied the bottling and packaging facilities of other companies of the Danone Group in Mexico for many years.



➔ 3 SK 500T PACKERS

Containers packaged: 170 g and 250 g HDPE bottles of DanUp®, Activia® and Danone® drinkable yogurt.

Pack collations made: two SK 500T packers package 250 g HDPE bottles in 7x4 film-only, tray + film and tray-only bundles, while the third machine places 250 g bottles in 7x4 tray + film bundles and 170 g bottles in 6x4 and 2x2 film-only bundles (the latter format is produced on three lanes simultaneously).

Advantages: SMI SK series shrinkwrappers are the ideal solution to package the 250 g and 170 g HDPE bottles for Danone de Mexico at up to 30,000 bottles/hour. The SK series packers are equipped with numerous technological innovations that allow the packaging process to run smoothly and efficiently; for example, a special loose container sorter mounted on the machine's infeed belt automatically controls the incoming product flow, so as to optimize the production cycle. The HDPE bottles packaged in various pack configurations have a "sleeve" label, so the feed belt of the shrink-wrapper has a sophisticated control system that, when necessary, can empty the tunnel of the "sleever machine".



I, YOGHURT



Whether for breakfast or as a snack, or even as a light dessert after a meal, yogurt is a versatile food and one of the most valuable foods for the health and well-being of the entire body.

Scientific research describes yogurt as extraordinary food, one with many beneficial properties, and a daily ally able to meet all of one's food needs in a healthy and natural way. These properties are also attested to, by important research on the subject, including that of the "Yogurt Nutrition Initiative (YINI)" project initiated by Danone Institute International in collaboration with the American Society for Nutrition and the International Osteoporosis Foundation. This study has thoroughly investigated the role that yogurt plays in human nutrition at all ages, collecting the results of the study in a book called "I, Yogurt: from Food to Health" with the aim of increasing awareness of the beneficial properties of this tasty and healthy food.

Yogurt history and trivia

The functional food par excellence is breast milk, but the plant world also provides us with many natural functional foods, all with specific and beneficial properties: tomatoes, grapes, coffee, tea, cocoa and vegetable oils to mention only the most widespread. After mother's milk the most important functional food for all age groups is definitely yogurt, the use of which is attested to in many ancient documents, including the Bible. In fact, in Genesis we are told that Abraham offered the Lord, cakes, veal, fresh milk and sour milk. More recently, in an essay from 1799, a traveller describes the curdled milk which the Greeks call "ghiogurt", while another document from 1890 tells how the Turks used to consume a sour milk called "lugurth" in the summertime. But the modern history of yogurt only began in 1882, when the Russian biologist Elia Metchnikoff (Nobel Prize for Medicine in 1908), studying the life and



habits of shepherds in the Caucasus, concluded that their habitual fermented milk consumption was closely linked to their unusual (for those times) longevity and good health. Of course, it is not enough simply to eat yogurt, even a lot of it, to live up to 100 years, but Elia Metchnikoff has the distinction of having shown the beneficial effect of fermented milk on the entire body, particularly on the intestine. Any kind of milk may be used to produce yogurt; even soy milk, which is totally vegetable in origin, can be fermented with success. Nowadays, yogurt is produced mostly in large industrial facilities using selected microbial cultures. Sweet yogurts, which often contain added sugar or other sweeteners, fruit and/or other ingredients, have great market success.



SCIENTIFIC RESEARCH DESCRIBES YOGURT AS AN EXTRAORDINARY FOOD, ONE WITH MANY BENEFICIAL PROPERTIES, AND A DAILY ALLY ABLE TO MEET ALL OF ONE'S FOOD NEEDS IN A HEALTHY AND NATURAL WAY



FOOD PACKAGING IN MEXICO

Mexico is now one of the most interesting markets for the food packaging industry, thanks to 115 million consumers who are buying more and more food and drinks and a booming food industry of global importance. The data in a recent Agency report, for foreign promotion and internationalization of Italian companies (ICE), indicates that the Mexican food sector represents an annual production of 10 million tons for the packaging and bottling industry, has a turnover of over USD 11 billion and that imports of machinery for use in this area amount to USD 500 million per year.



DRINKABLE YOGURT: A YOUNG PRODUCT FOR A YOUNG MARKET

It is estimated that about half of the Mexican population, nearly 60 million people, is younger than 28 years old. Thus there are an increasing number of food companies, engaged in trying to meet the needs of this population, focusing on products popular with young people, such as yogurt, especially in the drinkable form. Thanks to greater disposable income, in recent years this form of yogurt has seen a real "boom" in consumption among young people, who are increasingly making it a

part of their diet. The strong growth in demand for this food product, has given rise to a series of new investments by all companies in the sector, with the aim of winning an ever greater market share by introducing new tastes, containers and types of packaging.



THE INFORMATION CONTAINED IN THE ARTICLE WAS GATHERED BY SMI AND MAY NOT REFLECT THE LATEST RESULTS OF DANONE GROUP



PROLIPOS SARU

APPRECIATED FOR THOUSANDS OF YEARS FOR THEIR EMOLLIENT AND MOISTURISING PROPERTIES, VEGETABLE OILS HAVE ALWAYS PLAYED AN IMPORTANT ROLE IN MANY CULTURES; IN FACT THEY EVEN BOAST HEALING PROPERTIES AND ARE AN EFFECTIVE NATURAL REMEDY FOR THE CURE OF MANY AILMENTS. IN RECENT YEARS, THE MARKET FOR THE PRODUCTION OF OILS AND FATS HAS EXPERIENCED REMARKABLE EXPANSION, WHICH, AS HAS HAPPENED IN ALGERIA, IS DIRECTLY RELATED TO POPULATION GROWTH AND THE INCREASINGLY STRONG TENDENCY TO REGARD SUCH PRODUCTS AS AN ESSENTIAL INGREDIENT IN LOCAL CUISINE AND MEAL PREPARATION. THIS INCREASED DEMAND HAS LED MANY COMPANIES IN THE INDUSTRY TO INVEST IN NEW PRODUCTION FACILITIES, AS DID THE ALGERIAN COMPANY PROLIPOS SARL, WHICH RECENTLY INSTALLED THREE NEW VEGETABLE OIL, BOTTLING AND PACKAGING LINES. PROLIPOS, ONE OF THE LARGEST COMPANIES IN THE NORTH AFRICAN AGRICULTURAL FOOD SECTOR, TURNED TO SMI FOR THE SUPPLY OF MODERN AUTOMATIC SYSTEMS ABLE TO EFFECTIVELY MEET CURRENT MARKET DEMANDS AND TO COPE WITH FUTURE ONES.

➤ **SECTOR: EDIBLE OIL**

PROLIPOS SARL
Ain M'lila, Algeria
www.prolipos-dz.com



VIDEO

- 3 complete PET lines for the bottling of edible oil (production of 6,000 to 20,000 bottles/hour depending on bottle format)



GEO LOCATION



Prolipos is one of the largest companies in the north eastern Algerian agricultural food industry, specializing in the production of oils and foods made by refining crude vegetable oil. Founded in 2000, by the Bareche family, the company immediately distinguished itself on the Algerian market by selling superior quality products at very competitive prices, and production currently exceeds 700,000 bottles per day. Prolipos does not only produce vegetable oils for food use (though it is the market leader in that sector). Over the years, the company has diversified its business activities in various sectors, to include margarine, soaps for the cosmetics industry, vegetable fats for the chemical industry, paints and varnishes for use by glue producers. Recently, the Algerian

company also opened a production unit for liquid cleaners, that may be diluted and used in many home and hospital areas, for cleaning, deodorizing, bleaching, disinfecting or water purification. Vegetable oil production remains its main activity, with a nominal capacity of 450 tons per day, processed into edible oil with extraordinary purity and marketed in 1 litre and 2 litre bottles and 5-litre tins. The increased demand for this product has prompted the Prolipos owners, to invest in three new vegetable oil, bottling and packaging lines (capable of producing 6,000 to 20,000 bottles/hour depending on bottle format), for the supply of which, the company turned to SMI. The three new systems are intended for the fully automated production of oil packaging in 1 litre, 2 litre and 5 litre PET bottles.



THE PROLIPOS RANGE OF PRODUCTS

Oil from the "Lynor" brand is a 100% vegetable soy oil, cholesterol free and rich in Vitamin E, and is an ideal ingredient for the daily preparation of meals. "Lyna" margarine is a light and tasty vegetable margarine with no cholesterol, that is easy to spread and enriched with vitamins A, D and E; it is multi-purpose, ideal for cooking, for preparing sauces or simply enjoying as a spread. The "Hana" brand margarine, is composed of 82% vegetable fat and 16% water and is a rich source of vitamins A, D and E; thanks to its special composition, this product is ideal for preparing puff pastry sheets, brisee and other similar doughs. Prolipos produces even more... In 2011, the Algerian company opened a new factory to produce soap bars to be processed into Marseille soap, soap for personal hygiene and soap for specific uses, areas in which Prolipos meets a good portion of the domestic demand. The "Citadelle" brand of Marseille soap is made from the saponification of oil, especially vegetable oil (palm oil and stearin) without solvents or dyes, and is excellent for the skin.



Citadelle soap, thanks to the quality of its basic ingredients without allergens, is the ideal product for children's hygiene, and for anyone suffering from allergies, and can be used for the daily cleaning of hands and body.



Oil and fat consumption is on the rise in Algeria, due to an increase in population and the greater availability of income for a growing number of families. In particular, the habits of consumers seem to be oriented to encourage more consumption of vegetable oils and fats; this trend is driven by factors related to health and well-being, and to the fact that vegetable and seed products have no substitutes or alternatives in cooking and, no less in importance, the fact that they are available at much cheaper prices than animal fats. According to accurate market research by the specialized company Canadean, it is estimated that the volume of vegetable oil consumption in Algeria, in 2020, will amount to 341 million kg, about 24% more, than the volume recorded in 2015 (275 million kg). Thus, there is a need for many companies in the industry to reorganize production, in order to adequately meet the demand coming from the market in the years ahead, by investing heavily in new plants or expansion projects and the modernization of existing ones.

PROLIPOS SARL



Year founded: the company was founded on 6 March 2000 with private funds



Production facility: the plant is located in the industrial area of Ain M'lila, in north-eastern Algeria, and covers an area of 40,000 m²



Turnover: € 43,220,000 (Bareche Group)

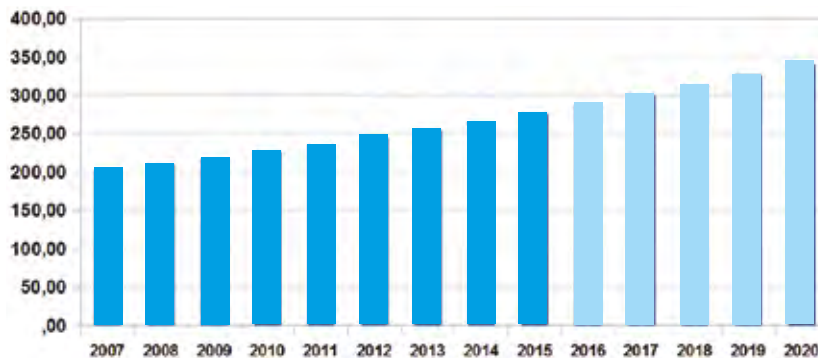


Employees: the company employs 260 people



Production: the company is specialized in the agricultural food industry and in all human food consumption related activities, in particular the production of margarine, the refining and packaging of oil, plastic processing, and soap production

Vegetable oil consumed in Algeria in millions of kgs (predictions are included)



THE EDIBLE OIL MARKET IN ALGERIA



SMI SOLUTIONS FOR PROLIPOS



The Prolipos facility has installed three new, latest generation production lines supplied by SMI for the bottling and the packaging of oil in PET bottles. Primary packaging is assured by three integrated blowing, filling and capping systems of the ECOBLOC® VMAS series; the secondary packaging is performed using film-only shrink-wrappers of the LSK series (Line 1) and SK series (lines 2 and 3); the tertiary packaging on 1000 x 1200mm pallets is performed by the APS automatic palletising system series, while transport of loose bottles output by the ECOBLOC® systems and outgoing packets from the shrink-wrappers is handled by fully automated conveyor belts.



➤ LINE 1

Primary packaging

- ECOBLOC® 6-24-6 VMAS integrated blowing, filling and capping system
- production of oil in 1 L PET bottles

Secondary packaging

- LSK 40F packer
- film-only packaging of the 3x2 collation

Tertiary packaging

- APS 1550P palletiser
- 1000 x 1200mm pallets with plastic pad

➤ LINE 2

Primary packaging

- ECOBLOC® 10-36-10 VMAS integrated blowing, filling and capping system
- production of oil in 2 L PET bottles

Secondary packaging

- SK 400F packer
- film-only packaging of the 5x2 and 4x3 collations

Tertiary packaging

- APS 1550P palletiser
- 1000 x 1200mm pallets with plastic pad

➤ LINE 3

Primary packaging

- ECOBLOC® 6-21-4 VMAS large container integrated blowing, filling and capping system
- production of oil in 5 L PET bottles

Secondary packaging

- SK 600F packer
- film-only packaging of the 2x1 collation

Tertiary packaging

- APS 1550P palletiser
- 1000 x 1200mm pallets with plastic pad

➤ CONVEYOR BELTS AND SUBCONTRACTED MACHINERY

PRIMARY PACKAGING WITH ONLY ONE MACHINE

ECOBLOC® VMAS SERIES INTEGRATED SYSTEMS

In the past, the most widely used container for packaging edible oil was the 3 or 5 litre metal tin; later on, at least for the smaller 0.75 to 1 L sizes, glass containers caught on. The most notable trend of recent years is the gradual transition to PET bottles, which are a convenient, lightweight and unbreakable packaging solution. The SMI investment project, for the three new turnkey bottling lines commissioned by Prolipos, began with the awareness of the many positive aspects PET has over other packaging materials, and led us to design the 1 L,

2 L and 5 L containers and install all the machinery needed, to handle the entire packaging process up to and including palletising for transport and distribution to sales centres. The primary packaging solution proposed by SMI, consists of three integrated ECOBLOC® VMAS series systems for the blowing, filling and capping of PET bottles of various formats. This has been a particularly advantageous solution for the Algerian enterprise, because the grouping of these three functions in one machine, allows them to reduce costs, and to simplify system management compared to conventional solutions that require long conveyor belts to connect separate machines to each other and multiple operators to run them. Moreover, the ECOBLOC® solution SMI supplied to Prolipos ensures high hygiene standards during the filling process, which is a particularly delicate operation, given that the viscosity of edible oil requires precise and accurate filling techniques, which the SMI systems handle by using extremely high capacity electronically-controlled flow meters. The SMI filling machines supplied to the Algerian company, are also equipped with innovative solutions, to preserve the quality of the product and minimize waste; for example, there is no contact between the bottle and the filling valve, and the filling takes place at two speeds, this allows completion of the processing cycle in the shortest possible time and avoids the leakage of product from the bottle.



SOLID END-OF-LINE PERFORMANCE

LSK AND SK SERIES SHRINK-WRAPPERS

The secondary packaging, chosen by Prolipos, was for shrink-wrap film only; in fact, the three bottling lines supplied by SMI include an LSK 40F shrink-wrapper (line 1), an SK 400F

shrink-wrapper (Line 2), and an SK 600F shrink-wrapper (line 3) that are capable of meeting the different production capacities of the three lines, according to the output pack collation, which ranges from 25 to 60 packs per minute. All three packers, handle the packaging of the filled and capped bottles, coming from the integrated ECOBLOC® system, in practical packs that only use shrink film. Film is the best choice for packaging that is economic, practical, easy-to-handle and attractive to consumers. The film used, may be clear or printed with the customer's advertising. The solution adopted by Prolipos, produces quality packs, and offers an excellent quality to cost ratio for the final package.



APS SERIES PALLETISERS

The tertiary packaging of the three production lines at the Ain M'lila facility has been entrusted to the modern SMI APS 1550P series palletising systems. A lot of intensive research and innovation has gone into creating, these technologically advanced systems, that

optimize end-of-line operations using multiple logistic configurations. The finished packs, coming from the LSK and SK series shrink-wrappers, are stacked in layers on 1200 x 1000 mm pallets. The SMI automatic system then inserts a pad of plastic, not cardboard, between one layer and another, thereby reducing the environmental impact of the packaging and simplifying the recycling and reuse of materials.



#VEGETABLE OIL

HOW IS VEGETABLE OIL EXTRACTED?

Oil may be extracted from plants in two ways:

chemical extraction: a modern oil extraction system that has a higher yield and is also faster and less expensive;

physical extraction: a system that is often used to produce cooking oil, because it is preferred by consumers (at least in Europe).

Regardless of the method of extraction, vegetable oils have many uses in everyday life; they are used for human food, as biofuels (in rural environments of the Third World), for lighting, heating, and cooking food, and some of them, such as rapeseed oil, cotton seed oil or castor oil must be processed, to render them fit for human consumption, before reaching the consumer's table.

WHY ARE VEGETABLE OILS BETTER?

The benefits of vegetable oils vary according to the specific properties of the source plant, and to all of the active ingredients (phytochemicals) that each contains. Apart from this, however, all vegetable oils are essential foodstuffs that improve our health and our quality of life. The benefits of adding these products to our diet, and our beauty regimen, are enough to truly guarantee us a healthier life.

WHAT IS A VEGETABLE OIL?

Vegetable oils are natural products that are obtained by "cold pressing" oleaginous seeds, such as almonds, or extracted from other parts of a plant - from the pulp of fruit for example - like olive oil. Some of the most common vegetable oils are peanut oil, castor oil, olive oil, palm oil, coconut oil, and sesame oil. Some of these products have properties that are good for beauty, others are more suited to be consumed as food and provide well-being and health to the body. Many vegetable oils alleviate the symptoms of several debilitating disorders, and all of them, stimulate our vitality and give us toned, moisturised and radiant skin. Vegetable oils also contain a concentrate of life-giving nutrients, vitamins, minerals, and especially, essential fatty acids. For this reason, more and more consumers are no longer buying products that contain potentially toxic preservatives or are synthetic, and instead are opting for vegetable oils, preferring products that are safe and healthy for the body.



VEGETABLE OIL: PROPERTIES AND USES



Internal use

When used as natural supplements, vegetable oils provide significant amounts of lecithin, a phospholipid that is important for many physiological functions (our brain contains a particularly high amount of it); this substance is a source of good cholesterol and cleanses the circulatory system by removing excess cholesterol and triglycerides. In addition, the essential fatty acids contained in vegetable oils strengthen the delicate membranes surrounding skin cells, extending the physiological function and delaying the signs of ageing. The antioxidant action of these products helps tissues to resist attacks from free radicals. Furthermore, vegetable oils are a good source of fat-soluble vitamins, such as vitamins A, D, and E, which the skin needs to maintain its tone and elasticity.

External use

Many vegetable oils are used in natural cosmetics and body cleansing products. They are also valuable must-have ingredients for the preparation of home-made creams. The nourishing action, combined with emollient properties, provides more elasticity to the skin, preventing wrinkles and stretch marks and giving tone and vigour to our hair. Finally, vegetable oils are also useful for alleviating skin redness, thanks to their soothing and calming action on irritated or inflamed tissues.



INDUSTRY 4.0

WHAT IS THE FOURTH INDUSTRIAL REVOLUTION?

Increasingly in the business world there is talk of "Industry 4.0", "IoT", the Fourth Industrial Revolution, and of "digital disruption". In this issue of Sminow we want to shed some light on these concepts, and also explain what SMI has done and intends to do, towards keeping its range of products a step ahead of technological evolution. As the offspring of the fourth industrial revolution, Industry 4.0 aims to create fully automated and interconnected models and production processes, and, like all revolutions, it involves some risks as well as great opportunities. So far, there have been three industrial revolutions in the Western world:



- in 1784, with the invention of the steam engine and the subsequent use of water and steam power to mechanize production;
- in 1870, with the start of mass production through the widespread use of electricity, the appearance of the internal combustion engine and the use of oil as a new energy source;
- in 1970, with the emergence of computers, giving rise to the digital era which then increased automation through electronic systems and Information Technology (IT). The starting date of the fourth industrial revolution has not yet been determined, probably because it is still under way and it will only be possible to pinpoint in retrospect. This topic was the focus of the 2016 World Economic Forum, which was held from 20 to 24 January 2017 in Davos (Switzerland), entitled "Mastering the Fourth Industrial Revolution".

The new digital technologies inspired by the innovative concepts of Industry 4.0 and IoT will have a profound impact in four directions of development:

- the use of data, computing power and connectivity, expressed as "Big Data". Open data, Internet of Things, machine-to-machine, and cloud computing for the centralization and storage of information;
- "analytics": once data have been collected, the value needs to be extracted. At present, only 1% of collected data is actually used by companies even though huge benefits could be gained from "machine learning", where machines perfect their output by "learning" from the gradually gathered data;
- the interaction between man and machine, which involves increasingly common touch interfaces, and augmented reality;
- the transition from digital to "real", this includes additive manufacturing, 3D printing, robotics, communications, "machine-to-machine" interaction and new technologies for storing and using energy in a targeted way, rationalizing costs and optimizing performance.

➤ IOT

The Internet of Things (IoT) refers to the technology platform, that permits the internetworking of a wide range of peripheral devices with digital intelligence, used in industry and/or the home, to exchange data and information, and which may be remotely controlled through an application.

➤ INDUSTRY 4.0 AND THE FOURTH INDUSTRIAL REVOLUTION

These are synonymous of each other. The key element of this innovative platform, is the systematic application of IoT technology to production processes on a global scale. It is a profound change in corporate organization that began in Germany, when the term "Industrie 4.0" was used for the first time at the Hannover Fair in 2011, and where it is becoming increasingly popular.

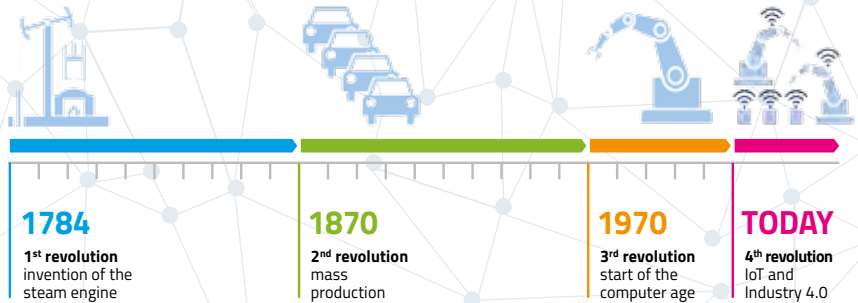
➤ DIGITAL DISRUPTION

Insufficiently specialized professionals will give way to others with greater computer knowledge and skills. This will pave the way for new professional profiles, in particular, technicians specialised in solving specific problems, new positions for machine design and trainers for the implementation of new technologies.

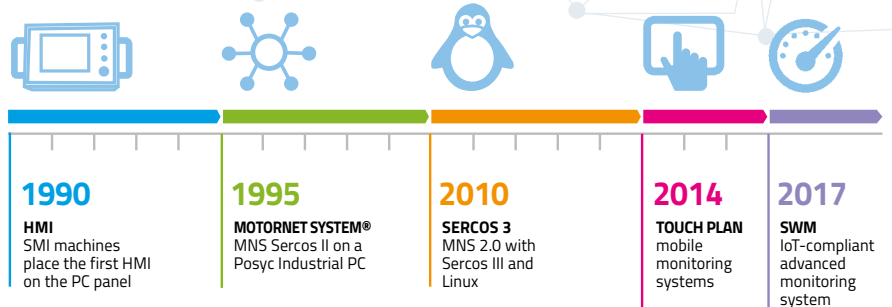
ADVANCED AUTOMATION AT SMI

It is not easy to summarize the results of 30 years of research and innovation that SMI has undertaken since its conception. Research and innovation that have provided customers with flexible, efficient, and environmentally-friendly machines easy to use and monitor, while providing a series of data to improve and render the production process more competitive. These automatic machines are equipped with the latest technologies that constitute all the elements of Industry 4.0. Back in the 1990s, SMI decided to equip its products with a newly-designed automation and control system, called MotorNet System (MNS)[®]. This was inspired by the most innovative industrial automation technology then available. The then revolutionary MNS[®] solution, utilizes an industrial PC to manage and control the packaging machine, making use of a network of sensors and digital input/output modules distributed along the most sensitive points of the system. These electronically drive the transmission axes, constantly monitor production efficiency and easily adapt the machine's operating parameters to meet the needs of the customer. The exchange of data and information is provided by means of a Sercos interface[™] module. A touch-sensitive control panel, equipped with a user-friendly graphic interface, immediately made SMI packers much more flexible and easier to use than the market standard, which, at the time, was still relying on more rigid and difficult to manage control systems.

INDUSTRIAL REVOLUTION TIMELINE



SMI REVOLUTION TIMELINE



INTERNET *of* THINGS



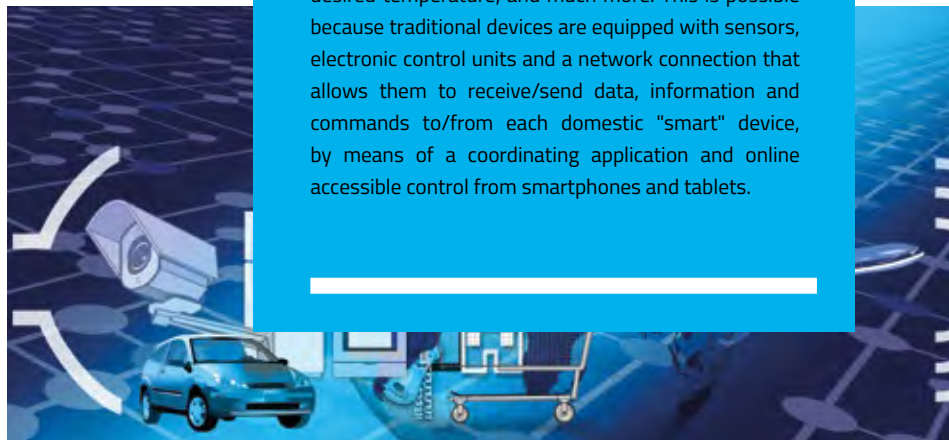
IOT-EMBEDDED BOTTLING AND PACKAGING SYSTEMS

30 years of SMI experience and know-how relating to the advanced automation of machines and equipment, has enabled them to develop increasingly innovative and efficient hardware and software control solutions. So much so, that all SMI products currently leave assembly departments equipped with IoT-embedded applications. Machines equipped with IoT technology are "smart" digital devices that are able to: record, analyse, optimize, automatically change production and operating parameters, exchange data and information with other machines and systems on a bottling and packaging line, run self-diagnostic tests to detect and resolve faults or anomalies, alert an operator about the need for maintenance or repair, etc. IoT technology allows the operating data, for all the equipment in a production facility, to be collected, and placed on a single management and control platform, thus providing a real-time continuous monitoring of industrial plant efficiency and the ability to intervene remotely at every decentralized system point, in the event of anomalies or problems.

This makes it possible to obtain information in real time both from an aggregate point of view (production volume, mean production time, consumption, inventories and stocks), and from the individual machines.

➤ IOT TECHNOLOGY IN EVERYDAY LIFE

IoT technology has now become an integral part of our daily lives. Some examples of its application can easily be seen in home automation, which is the Internet of Things (IoT) employed in domestic technology. It is already possible to integrate network-connected management, of heating/cooling systems, the switching on and off of main appliances, an alarm system and shutter controls etc. onto a single platform. Such systems make it possible to remotely control all of these devices, so that when we come home we find the house already warm, the oven turned on to the desired temperature, and much more. This is possible because traditional devices are equipped with sensors, electronic control units and a network connection that allows them to receive/send data, information and commands to/from each domestic "smart" device, by means of a coordinating application and online accessible control from smartphones and tablets.



SWMM SUPERVISOR

SOLUTIONS FOR EVERY NEED

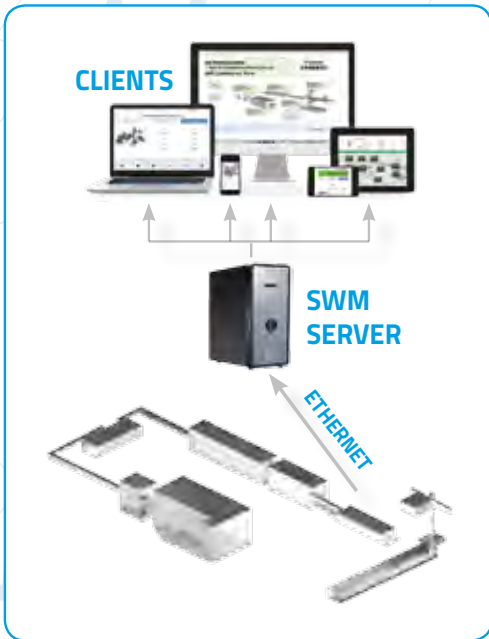
The new SMI SWM supervision, automation and control application, developed according to IoT and Industry 4.0 principles, combines the functions of collecting and monitoring production data, with a set of tools that simplify the monitoring and management of the system, improving productivity, safety and cost containment, and ensuring an excellent return on investment. SWM Supervisor is based on an open and flexible modular enterprise web portal, that fits any application environment. SWM Supervisor is available in a basic,

standard or premium version, in order to satisfy the need of individual data collection and supervision. SMI customers can use this innovative system to easily identify the main causes of "downtime" on their bottling/packaging lines, achieve greater overall efficiency and reduce the time required for system maintenance and format changes. Structured reporting also makes it possible to perform inter-functional analysis. The aggregation and distribution of the information gathered by the various smart devices located throughout the production line and connected to the network, are easily

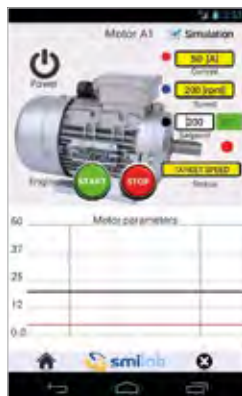
managed and conveyed via the Internet for instant sharing with people, systems and other IT applications, both on the Internet and on the corporate intranet.



SWM SUPERVISOR: FUNCTIONALITY



- DASHBOARD** (Icon: Speedometer)
- MONITORING** (Icon: Bar chart)
- ENERGY SAVING** (Icon: Battery with arrow)
- SCHEDULED MAINTENANCE** (Icon: Gears)
- VIDEO SURVEILLANCE** (Icon: Camera)
- LAN WEB PORTAL** (Icon: Hand cursor)
- PLANT LOGIC MANAGEMENT** (Icon: Factory building)
- MACHINE PARAMETER MANAGEMENT** (Icon: Document)
- MODULAR AND SCALABLE SYSTEM** (Icon: Stacked blocks)



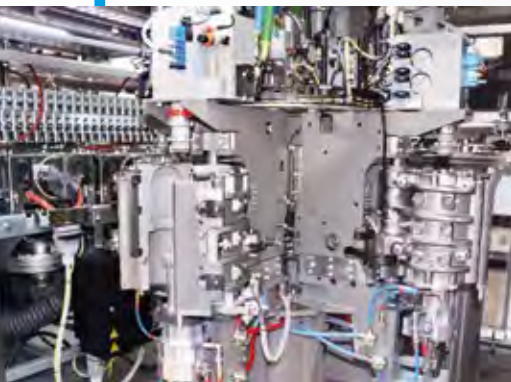


the new age of bottling

...INTRODUCING
THE NEW ERGON
EBS K STRETCH-
BLOW MOULDER!

EBS K

➔ **THE SMI ERGON EBS (ELECTRONIC BLOWING SYSTEM) SERIES OF COMPLETELY ELECTRONIC ROTARY STRETCH-BLOW MOULDERS MARKED THE BEGINNING OF THE "NEW AGE OF BOTTLING". A TRUE REVOLUTION IN THE PRIMARY PACKAGING MACHINERY INDUSTRY, THAT THE SMI RESEARCH AND DEVELOPMENT DEPARTMENT DECIDED TO TAKE EVEN FURTHER.**



Starting from the countless technical innovations introduced on the ERGON EBS series stretch-blow moulders, SMI designers have developed a new series of extremely compact, rotary, stretch-blow moulders called ERGON EBS K (the letter K of the name comes from the German word "Kompakt"). Capable of satisfying production demands of up to 8,800 bottles/hour, the new models are available in 2, 3 and 4-cavity versions, and offer all the advantages of rotary technology in a "speed" range (3,000-4000 to 8,000-9000 bottles/hour), traditionally controlled by linear stretch-blow moulders. In fact, due to advanced technological solutions, the ERGON EBS K range is capable of producing PET containers up to 3L in capacity, with output up to 2,200 bottles/hour per cavity for 0.5 L formats. The new SMI compact stretch-blow moulder, which made its worldwide debut at the Interpack 2017 exhibition (ECOBLOC® ERGON 4-16-4 K EV model), with an electronic volumetric filler, is a cutting-edge technical solution for the stretch-blow moulding of PET bottles and offers a long list of advantages that make it stand out in its market:

- the preform heating section (tunnel) is integrated with the stretch-blow moulding section (carousel) in a single, extremely compact module, that makes the system suitable for installation even on small bottling lines.
- the structure that contains the tunnel and the carousel is equipped with slightly rounded safety doors, providing more space inside the machine to perform cleaning and maintenance tasks easily and safely.

- the carousel of the stretch-blow moulder is equipped with motorized stretch rods controlled by electronic drives and do not require mechanical cams. This innovative solution ensures precise control of the stretch rod's travel and position, as well as significant energy savings. It also makes it possible to change the stretching speed without mechanical intervention (switching cams) and greatly reduces the vibration stress on the blowing carousel compared to traditional solutions.
- the stretch-blow moulding system uses high-performance, low dead-volume valves that reduce pre-blowing and blowing times, thereby improving efficiency and the quality of the bottles produced.

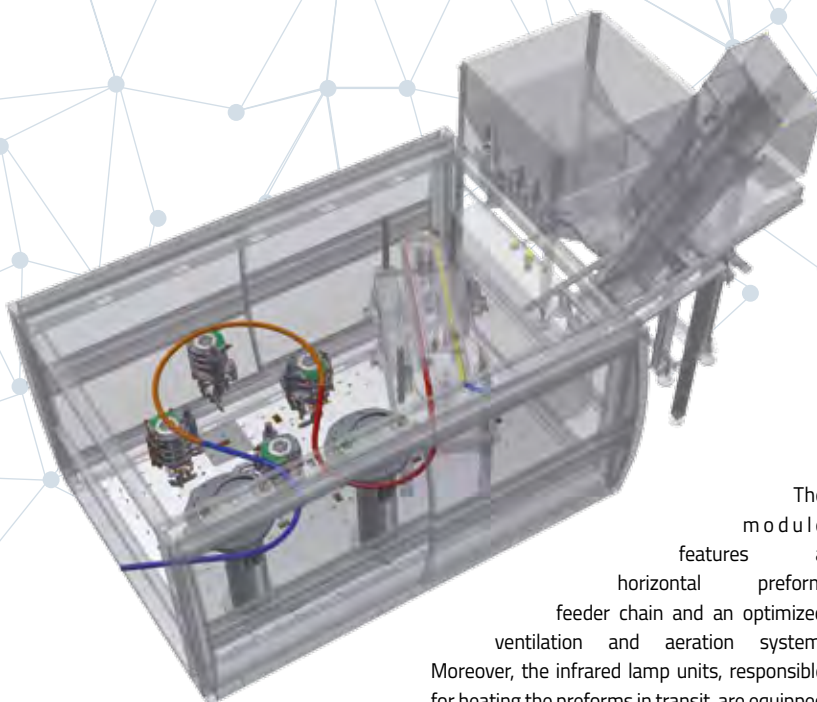




- the mechanical assembly of the mould is equipped with its own motorization, which ensures the utmost precision for the up/down motion of the mould bottom and the opening/closing of the mould-holder unit. The integration of this innovative solution with the electronic stretch rod system, makes the SMI ERGON EBS K stretch-blow moulders a "cam-free" system, with considerable advantages in terms of greater kinematic accuracy, less maintenance, less vibration, less noise and increased system life.
- the machinery is managed by the MotorNet System® for automation and control, which ensures constant maintenance of optimum processing parameters throughout the entire production cycle and the direct modification of machine settings, thereby simplifying format changeover operations.

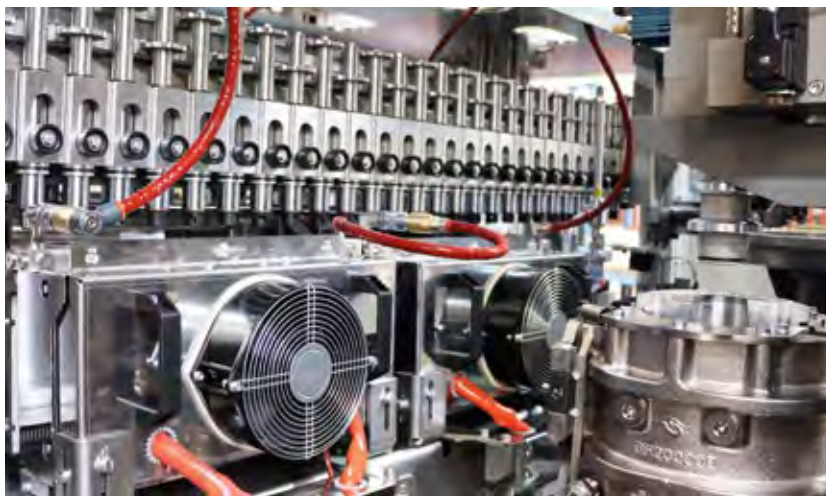


THE MOST INNOVATIVE FEATURE OF THE K SERIES IS THE MODULE!



The ERGON EBS K stretch-blow moulding system has an innovative preform heating module with an extremely compact design, this allows it to be integrated in the same machine module with the stretch-blow moulder carousel.

The module features a horizontal preform feeder chain and an optimized ventilation and aeration system. Moreover, the infrared lamp units, responsible for heating the preforms in transit, are equipped with a system of thermo-reflective panels made of a highly energy-efficient composite material situated both in front of and behind the lamps. This technically advanced solution ensures excellent reflection of the heat generated by the IR lamps, and consequently ensures a more uniform distribution of the heat over the entire surface of the preform. The inside of the module is also equipped with an aluminium diffuser, to provide optimal temperature control and prevent overheating problems. The blow-moulding pressure is automatically regulated according to bottle format, offering unquestionable advantages compared to the manual adjustment solutions used on the linear stretch-blow moulders that SMI EBS K models compete with, by producing from between 3-4000 and 8-9000 bottles/hour. The new machine also comes standard, with a two-stage air recovery system. The new ERGON EBS K rotary, stretch-blow moulders have a very attractive quality/price ratio and also provide savings on installation and start-up costs, as the compactness of the system permits these operations to be performed in a single day.



ECOBLOC® K

THE NEW ERGON INTEGRATED SYSTEMS



The benefits gained from the technological innovations applied to the ERGON EBS K stretch-blow moulders, are further enhanced, when they are combined with a filling and capping module to form an integrated ECOBLOC® ERGON K system. The SMI integration of the three main wet area operations into a single block, makes it possible to achieve optimum performance at reduced costs for the production, filling and capping of rigid containers of up to 3 litres. This solution does not require connecting conveyors between the stretch-blow moulder and the filler, and in most cases, not even a rinsing (the empty bottles are blown, filled and capped on the same machine without risk of contamination from the external environment). ECOBLOC® ERGON K systems are available in various models for use on bottling lines of still water (EV models) and edible oil (EM), and have a filling technology that uses high-efficiency valves controlled by flow meters. The electronic control of operations provided by this solution, ensures a very precise and fast process. Even the prep



times for the machine wash cycle have been reduced by integrating the use of dummy bottles into the valve. The ECOBLOC® ERGON K systems, filling and capping module, is a new design featuring a modular, seamless frame, equipped with access doors made of highly resistant and durable tempered glass. The transmission system of the filling module utilizes independent axes, made possible using brushless ICOS motors equipped

with an integrated driver. Additionally, the automation and control system, equipped with a very simple and intuitive human-machine interface, permits the entire block operation by a single line operator.



ECOBLOC® ERGON K

➔ ADVANTAGES

- extremely compact modular design;
- overall dimensions reduced to a minimum;
- easier management and control of the production cycle with less maintenance;
- substantial technological content of the technical solutions offered;
- electronic machine with transmission systems that utilize brushless motors with an integrated digital servo-drive (driver);
- low operating and maintenance costs;
- excellent quality/price ratio: the "combi" solution does not require the installation of a rinser or conveyor belts between the stretch-blow moulder and the filler and accumulation belts;
- low energy consumption and complete environmental compatibility of the stretch-blow moulding, filling and capping processes.

ERGON

→ **SMI CELEBRATES 30 YEARS OF BUSINESS IN 2017, THE EXPERIENCE ACQUIRED BY CONTINUOUS CHALLENGES AND INNOVATIVE IDEAS HAVE MADE PACKAGING HISTORY.**



2 015 marked another important stage in the evolution of SMI products with the introduction of the ERGON design and construction platform, which was gradually applied to the entire range of primary, secondary and tertiary packaging machines produced by the company. The platform is based on innovative solutions in terms of modular assembly, reduced machine dimensions, advanced operating device and system management ergonomics, supervision systems and the latest generation automation for even more flexible, efficient and user-friendly production processes than previous generations of products. With the launch of ERGON



technology, SMI started the "new age of packaging" and "new age of bottling", once again demonstrating its ability to stay one step ahead of technological progress in the industry.





the new age of packaging

In the secondary packaging segment, SMI now offers a wide range of high-performance automatic shrinkwrappers to meet every production need of the end user. In particular, the ERGON LSK, ERGON CSK and ERGON SK series, represent the best shrink film packaging technology currently available, for packaging a wide range of PET containers and other types of plastic, glass, aluminium and cardboard in film-only (version F), flat cardboard pad + film (P version) or

corrugated cardboard trays + film (T version) packs. The available models automate the secondary packaging process in production facilities from 30 to 450 packs/minute (the latter figure refers to film-only processing on three lanes). The product range mentioned above, has recently expanded to include the ERGON AFW series of compact shrinkwrappers for shrink film packing with a 90° infeed, particularly suitable for packaging containers or bundles with a square/rectangular base. This series of machines is also available in

F, P and T versions and is suitable for outputs up to 40 packs/minute.



All of the LSK, CSK, SK and AFW series shrinkwrappers produced by SMI have drawn upon the numerous technical innovations introduced by the Ergon platform, applied for the first time a couple of years ago on the SK automatic shrinkwrapper and then later to other primary, secondary and tertiary packaging machines. ERGON shrinkwrappers stand out for their original ergonomic design, featuring slightly-rounded safety doors, which allow all the motors to be housed externally to the mechanical units they drive, facilitating easy access for maintenance by the line operator. The closing system of the doors, made of lightweight corrosion-resistant aluminium, is equipped with a deceleration device that slows the final phase of travel, guiding the door safely and smoothly. The new SMI secondary packaging machines are, almost exclusively, mounted with brushless ICOS motors, with an integrated digital servo-drive, with traditional geared motors installed only on the shrinking tunnel and on the ramp of the cardboard blanks. This solution ensures greater efficiency and precision of movements, less power dissipation and lower energy consumption. Particularly advanced is the direct-drive brushless motor film-cutting system, which provides extremely precise and reliable cutting, reduces machine noise and requires low maintenance. ERGON shrinkwrappers are also equipped with a latest-generation POSYC control panel, equipped with a user-friendly, human-machine graphic interface, touch-sensitive screen and advanced real time diagnostic and technical support functions.



➤ **LSK ERGON**
max 40 ppm

- infeed with manual guides + oscillating device to line up loose containers

- product separation by pneumatic press

- vertical cardboard blank magazine

- reciprocating cardboard blank picker

- manually-phased tray-forming unit

- film unwinding controlled by the cutting blade motor

- manual adjustment of the film winder

- fixed 7" Posyc panel

- standard reel-holder

➤ **CSK ERGON**
max 50 ppm

- infeed with manual guides + oscillating device to line up loose containers

- product separation by electronically-synchronized push fingers

- vertical cardboard blank magazine

- reciprocating cardboard blank picker

- manually-phased tray-forming unit

- film unwinding controlled by the cutting blade motor

- manual adjustment of the film winder

- sliding 15" Posyc panel

- standard double reel-holder

➤ **SK ERGON**
max 150 ppm

- infeed with automatic guides + device to line up loose containers

- product separation by electronically-synchronized push fingers

- vertical/optional horizontal Easy-Load magazine

- rotary cardboard blank picker

- automatically-phased tray-forming unit

- film unwinding controlled by the brushless reel-holder motor

- automatic film winder adjustment

- sliding 15" Posyc panel

- standard brushless, double reel-holder

➤ **AFW ERGON**
max 40 ppm

- infeed with product inserter at 90° sliding on a linear guide and driven by a brushless motor

- product separation by pneumatic press + 90° inserter

- vertical cardboard blank magazine

- reciprocating cardboard blank picker

- manually-phased tray-forming unit

- film unwinding controlled by progressive brake

- manual adjustment of the film winder

- fixed 7" Posyc panel

- standard reel-holder



CSK ERGON

COMPACT AND VERSATILE SHRINKWRAPPERS

The ERGON CSK project came about from SMI wanting to market a compact version of the SK shrinkwrapper, which, having gone through several updates, has been the "flagship" of the packaging machines manufactured by the company for twenty years. It incorporates some of the main features of its big "sister", the CSK series was designed by SMI designers as a technologically advanced packaging machine, offering advanced automation, flexibility of use, energy savings and respect for the environment. The new ERGON CSK series of shrinkwrappers

are able to package a wide range of rigid containers economically and efficiently, thanks to the consolidated technical solutions borrowed from the SK and the design innovations they feature. The range of the new models of the SMI series includes single and double-lane shrinkwrappers with a compact and ergonomic design that contain the leading technology in the industry for shrink film packaging at speeds of 50 + 50 packs/minute (depending on the size of the container and the pack collation).



CSK ERGON
VIDEO
scan this QR code





The infeed section of the ERGON CSK shrinkwrappers, is equipped with a motorized system of oscillating guides. This system facilitates proper channelling of loose containers on a conveyor belt equipped with low-friction chains made of thermoplastic material; in the next step of the packaging process, the loose containers are continuously grouped in the desired format, by means of electronically-synchronized push fingers and separation bars. Cardboard blanks are picked up from the machine magazine, situated beneath the infeed belt, by a reciprocating motion picker composed of a group of suction cups using a vacuum suction system and placed at the beginning of the cardboard blank ramp. The ramp is curved at the beginning and end, this facilitates the insertion of a pad or a tray, below the groups of products coming from the electronic separator, thereby achieving a smooth packaging process free of glitches or snags. An equally important element of the new SMI ERGON CSK series is the compact-design film cutting unit, whose blade is controlled by a brushless direct-drive motor, that improves the precision and accuracy of cutting and simplifies maintenance operations.



➤ ICOS BRUSHLESS MOTORS WITH INTEGRATED DRIVERS

Shrinkwrappers in the ERGON CSK series have new ICOS motors (the same are also present on LSK and SK models) equipped with an integrated digital servo-drive (driver). This innovative technical solution greatly simplifies the machine's wiring and ensures greater energy efficiency, less noise and less component wear. Moreover, the integrated drivers also reduce heating of the electrical panel when comparing to when the digital servo-drivers were mounted inside of it. Due to this innovation, it is only necessary to install an air conditioner in the electrical panel when working environment temperatures exceed 40 °C, and, in most cases, the lack of an air conditioning device means less electricity is used. ERGON CSK shrinkwrappers are equipped with a POSYC control panel that slides along a track running the whole length of the machine.

AFW ERGON

A CUSTOM MACHINE FOR PACKAGING SQUARE OR RECTANGULAR BASE CONTAINERS

The ERGON AFW (Angular Film Wrapper) series was created, due to the need, to provide a custom machine to package rigid containers with a square or rectangular base, such as cartons, or premade packs/bundles for "pack-in-pack" solutions. These shrinkwrappers may also be equipped, with optional accessories, to process cylindrical containers. Smooth and continuous packaging of unstable containers, or those with a particular shape, such as cardboard cartons, requires a special

machine infeed, to be placed at a 90° angle to its infeed belt, to prevent any snags or glitches in the flow of the already channeled, loose product coming from the production line. The machine's infeed conveyor is equipped, with low-friction chains made of thermoplastic material, a pneumatic device and an electronic separation axis (pusher) that group loose containers in the desired format for transit to the film-wrapping section and the shrinking tunnel.





➤ HST ERGON SHRINK TUNNEL

The SMI ERGON shrink tunnels are equipped with cutting-edge technical solutions that reduce energy consumption, ensure the greatest environmental compatibility of processes and improve the final quality of the packaged bundle. A coupling belt at the outfeed of the shrink tunnel, connects the tunnel belt to the production line conveyor belts, this coupling is ventilated to provide the bundle with proper thermal transition. The new SMI tunnels are designed to allow the operator easy access (thanks to removable side panels), to the internal parts in complete safety during maintenance and cleaning operations, which, among other things, are greatly reduced compared to other traditional-design systems. Finally, a special meter positioned outside the tunnel provides immediate and detailed energy consumption information.



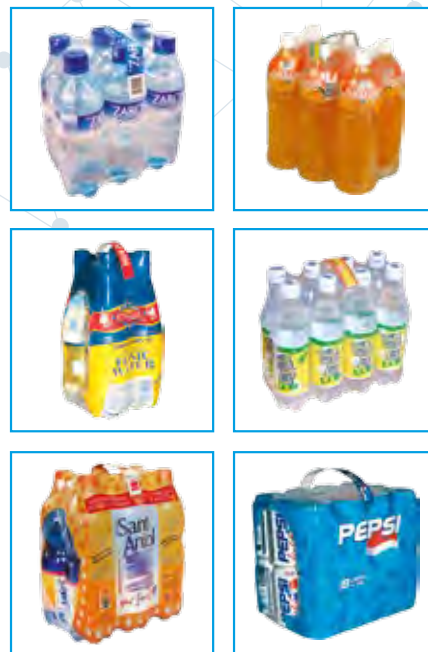
NEW HANDLE APPLICATOR: A COMPACT AND ECONOMIC SOLUTION FOR APPLYING HANDLES TO PACKS

PSHA

The ERGON SK series of shrinkwrappers can be equipped with an automatic PSHA (Pre-Shrinking Handle Applicator), which applies handles to the packs on the shrinkwrap film prior to their formation and their passage into the shrink tunnel. The PSHA handle applicator is mounted on the outer edge of the ERGON SK shrinkwrapper

and, depending on the machine configuration, may be positioned either on the operator side, the opposite side, or on both, for double-lane production. The machine is equipped with all safety guards - made of sheet metal and polycarbonate (Lexan) - required by the safety regulations of the European Community.





THE ADVANTAGES OF THE PSHA HANDLE APPLICATOR

The PSHA applicator has been specially designed to be used in combination with a shrinkwrapper and is, therefore, a convenient and smart solution for use in facilities where there is not enough space to install a traditional stand-alone, handle applicator, downstream of the shrinkwrapper, with connecting conveyor belts between the two machines. The SMI PSHA series of handle applicators are also an ideal option for clients, who want to create bundles, using a thinner film, yet still wish to equip the finished pack with a handle for easy handling.

HOW DOES IT WORK?

The SMI PSHA series of automatic handle applicators couple the adhesive tape and the non-adhesive central support (paper or plastic handles), creating a continuous supply of handles. These are then applied to the shrink film, before, it is cut into sections, sized according to the pack collations to be packaged. The "pre-handle" tape reel is loaded on pneumatic locking spindles, the device is perfectly synchronized with the shrinkwrapper on which it is mounted, so that, when the reel is used up, the handle applicator signals the shrinkwrapper to go into standby. A photocell detects when the tape is about to run out, and an automatic splicing device joins the adhesive tape of the nearly-finished reel to that of the backup reel. In fact, the device can accommodate two reels, one that is in use and a backup, while double-lane production is equipped with four reels (two working and two on standby). The precise positioning of the adhesive handles, onto the shrink film, ensures that they are always properly positioned on the bundles leaving the shrink tunnel. The PSHA is equipped with a control panel that allows the user to change the

parameters and the memory settings for up to 10 formats. The system, also offers, real-time monitoring of the machine status and the transfer of production data to the user's control system using the MODBUS TCP protocol via an Ethernet cable.

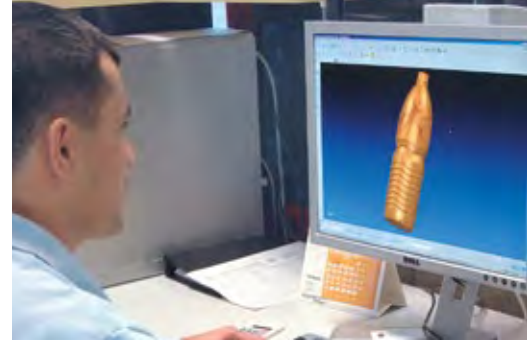


GIVING THE PET BOTTLE THE RIGHT LOOK!

Product packaging plays an increasingly important role in the inclination of the purchasing decisions of end consumers in the food and beverage industry. In fact, recognition and visibility of the brand on the shelves of retail outlets, is often crucial to the commercial success of a product and the increased turnover it generates. This is all the more true for packages in which the product container is visible, or sold individually, and is why companies in the food & beverage industry invest heavily in the design of the containers, looking for shapes and sizes with strong appeal and taking advantage of all the custom opportunities offered by a ductile and flexible material such as PET.

CUSTOM CONTAINERS FOR EVERY NEED

With its modern CAD centre equipped with the latest generation of design tools, SMI is able to design and decorate a large variety of simple and complex shapes of PET bottles and containers with functional and custom designs. During its twenty years of operation, the SMI design centre has to date created about 1,700 containers that differ in appearance, shape, weight, and size. This number will certainly rise in the future, and at a quicker pace, given the vast opportunities for custom projects offered by new PET production technologies that make the mechanical features of the material ideal for increasingly innovative and eye-catching design solutions.



SOME EXAMPLES OF SMI CREATIVITY

PARADISE FOOD LIMITED

0.5 L AND 1 L PET BOTTLES - FLAT BOTTOM

The distinctive feature of the bottle designed by SMI for Paradise Food, in Papua New Guinea, is its beautiful stylized decoration that covers a large part of the container, like a fine suit. Starting from an already existing bottle design, SMI designers and the customer worked together to create a custom version of beverage containers for the brand "Tru Tru Wara", the aesthetic result is extremely appealing, almost like a real tattoo on the upper part of the bottle. This project was a major challenge for SMI designers, especially the complex decoration work that wrapped around the entire surface of the bottle, which made it necessary to perfectly align both ends of the tattoo.



FONTE STELLA ALPINA

1 L PET BOTTLES - FLAT BOTTOM

The new 1-litre bottle, designed by SMI for the Stella Alpina di Mojo de Calvi bottling plant (in the province of Bergamo, Italy), came about due to the operational needs of the customer, who wanted to avoid format changeovers and easily and quickly switch between 0.5 L and 1 L bottles. The result is an extremely elegant container that easily fits into the hand, thanks to a smaller-diameter, but above all functional, body enhancement that gives the new bottle the same diameter of that of the 0.5 L size and does not require any format changeover during the production process.



AL SALEH WATER

0.3 L AND 1 L PET BOTTLES - FLAT BOTTOM

The design for the new juice bottles, produced by the Al Saleh company, started with an idea from the customer, which the SMI container design department, then developed in several directions to allow the client to choose the version most to his liking. The distinctive feature of the new bottle is that of the leaves, depicted on the outer surface, which appear to be carved on the shoulder of the container in a 3D effect, and symbolize the Saudi company's mission of respecting the environment. Careful study of the slopes of the bottle shoulder, allowed SMI designers to skilfully play with the ribs on the surface. Apart from creating the three-dimensional image of the leaf, the ribs serve the practical function of reinforcing the structure of the container and ensuring greater resistance to mechanical stress.



SOUTEN CO. LTD.

2 L PET BOTTLE - FLAT BOTTOM

At 3,776 metres, and with a peak covered in snow for ten months a year, the volcano, Mount Fuji, is the highest mountain and one of the main symbols of Japan, and is considered one of the "three sacred mountains" of the country. Not everyone, however, can take a trip to Japan to visit this enchanted place with its unique and wonderful landscape, thus, we must be content to drink the pure Fujisan no Shizuku (Fujisan's drops) water, which flows from Mount Fuji and is bottled in PET containers designed by the SMI technical department. These bottles are distinguished by the beautiful image of a snow-covered Mount Fuji on the shoulder of the bottle, to represent, as requested by the customer during the preliminary project study, the pristine purity of the water bottled by the Japanese company, as it flows from the source.



REDUXAIR

Among the energy efficient solutions recently developed by the SMI R&D labs is the new "ReduxAir" system for stretch-blow moulding moulds. This accessory can be installed on SMI rotary stretch-blow moulders, so as to reduce the blow moulding air pressure in the production process of PET bottles and containers. Since the compressed air is produced by a compressor powered by electricity, the lower the level of air compression needed means less electricity consumed by the machine. The mould "ReduxAi" was developed to permit stretch-blow moulding operations at pressures lower than those normally used (about 40 bar). The special technical and design details of this system permit a much faster release of the air located between the outer walls of the bottle

and the surface of the mould, making it possible to produce PET containers with a compressed air pressure around 15-20 bar (depending on the characteristics of the preform, the bottle, and the conditions in which the stretch-blow moulding process is performed). The great advantage offered by the "ReduxAir" solution, in terms of lower electricity consumption by the compressor, imposes certain design restrictions with regard to the form and characteristics of the container to be blown. It is, therefore, essential for the customer to work closely together with SMI engineers to evaluate all the technical elements, that might affect the application of the "ReduxAir" mould to a specific bottle production process.



HOW IS A PET BOTTLE CREATED?

Following a thorough analysis of the client's needs and requests, SMI designers develop one or more ideas for the container and produce three-dimensional simulations of it, to present to the customer, often such virtual prototypes vary in appearance, shape, size, external appeal, etc.. In order to provide different visual interpretations of the parameters dictated by the client during the project development process, which nevertheless, must still take into account any limiting factors of the product to be bottled (soft drinks, water, oils, foods, detergents, cosmetics, etc.), along with the technical specifications of the preform to be blown, the characteristics of the production line, and so on. After these preliminary stages, the bottle design then moves on to the actual custom phase where it is further enhanced with attention to graphics, aesthetics, practicality, cost, and ergonomics, until the client gives approval for it to advance to the final phase of creating the mould that will bring the physical prototype of the new container to life.



QUALITY MOULDS AND ACCURATE TESTING ARE NEEDED FOR AN APPEALING BOTTLE

A great design is not enough to make a great looking bottle that will attract consumers, the appeal of a container, also depends on the accuracy and precision with which the moulds used to produce it are made. To ensure its customers of the highest quality containers, SMI has created a specific department that produces special aluminium and steel alloy moulds, suitable for use in its stretch-blow moulders and those of other manufacturers. The quality of the moulds is assured by employing an FMS line, consisting of 12 CNC machining centres. These are technologically advanced, fully automated machine tools running nonstop 24/7, even unmanned, which follow computer-aided manufacturing (CAM) programs. Research and development are constantly in the foreground at SMI, the company labs utilize vast resources for testing new technologies and applications, especially in the stretch-blow moulding of preforms made of PET and other materials. The use of sophisticated equipment allows testing and dimensional tests of the customer's preforms, for example, the thickness is measured accurately by cameras and parameterization comparison software, while polarized light equipment is used to analyse the homogeneity of the polymer. SMI has a prototyping facility that ensures

rapid quality sampling. The creation of a "pilot" container gives shape to the design, and makes it a product for testing and inspection in the SMI laboratories, to check its mechanical, physical, and functional characteristics and determine whether these are consistent with the customer's expectations. SMI uses only the latest testing equipment, such as the AGR International PPT3000 tester, which tests the quality of the bottles created by the SMI R&D Centre and ensures that they meet pressure resistance and volume expansion goals.



SMI: 30 YEARS OF MARKET EXPERIENCE

1987-2017: THIRTY YEARS OF INNOVATIVE IDEAS THAT HAVE MADE PACKAGING HISTORY

It is not easy to summarize the objectives and results SMI has achieved over 30 years, because each year has been marked by the launch of an innovative product! Continuous innovation has always been the foundation of the corporate "mission", allowing the company to design, build and offer technologically advanced machines and systems capable of easily and effectively adapting to the needs of an evolving market and to thousands of customers around the world. All of this has been possible, thanks to an entrepreneurial spirit, inspired by listening to and sharing the customer's real needs,



making SMI a company that is always in touch with the market and a trusted partner for leaders in the food & beverage, dairy product, and detergent industries. Today, more than ever, the SMI bottling and packaging machines are increasingly inspired by the principles of Industry 4.0 and the Internet of Things (IoT), creating completely automated and interconnected production systems.

EDITOURMOBIL

READY TO GO TO SOUTHEAST ASIA

In conjunction with the important Drinktek 2017 trade fair, PETplanet Insider magazine is setting off on a seven-month tour of the main companies in the PET industry in Southeast Asia. SMI, with the support of its Malaysian subsidiary SMI Asia, will also participate in this initiative, as a sponsor of the tour, and will organize the magazine team's visit to some important Asian customers, in order to take stock of the situation in the world of PET and future industry developments.

<< Scan the QR code to learn more...

CHINA ON THE UPSWING

UNPRECEDENTED GROWTH FOR THE ASIAN BEVERAGE MARKET PROMOTES GREATER USE OF RECYCLED PLASTIC



The most recent analysis conducted by market research firm Canadean, on trends in the Asian beverage market, shows very significant expected growth rates, so much so, that there appears to be a real migration of consumption habits, from developed markets to emerging ones. It is in fact expected, that by 2020-21, Asia will contribute about two-thirds to the growth of global beverage consumption, with China alone responsible for one third of the additional volume (Global Beverage Forecast Report by Canadean).

SMI: 30 YEARS
CONNECTED TO THE
Marketplace

30 YEARS



SEE YOU AT DRINKTEC 2017

drinktec

Go with the flow.

September 11–15, 2017

Messe München



Drinktec, the international trade fair for the beverage and liquid food industry, to be held in Munich from 11 to 15 September 2017, is definitely the most anticipated event of the year. What does the trade fair have to offer since it was last held four years ago? Everything that is new in the fields of bottling, labelling, packaging and related businesses; new items of great interest for marketers, designers, R&D personnel, procurement and production departments, etc., from a number of companies that bottle and package beverages and liquid foods. Future packaging developments will also be at the centre of the "Innovation Flow Lounge" and the "Drinktec Forum" area dedicated to modern packaging techniques and technology.

LIGHTER PET!

Recent market research has shown that between 2000 and 2014, the average weight of a 0.5 L PET bottle decreased by over 50%, resulting in a savings of 6.2 billion pounds of PET resin in the same period. The "National Association for PET Container Resources" has shown that products made from recycled PET (rPET) use up to 2/3 less energy than those made from virgin raw materials. Moreover, thanks to the reduction of greenhouse gas emissions, the industry increasingly makes less of an environmental impact. Increased virgin PET savings, can be attributed to the growing use of rPET for bottled water containers. In fact, the data show that between 2008 and 2014, the use of rPET in this sector increased from 17% to 21%, with a jump of 8% reported in 2015. The average of rPET content in a standard container is about 20% of the material used for its production. The above data were collected by the New York research and consulting firm Beverage Marketing Corporation on behalf of the International Bottled Water Association (IBWA).



WikiPETia.info

Created with the style and structure of the famous free encyclopaedia Wikipedia, WikiPETia.info is a management system of PET world knowledge created and moderated by PETplanet / hbmedia with the aim of bringing together, as much information and data relating to the plastic packaging sector as possible and making it accessible on the Internet.

Visit the SMI page... >>



MARKETS TO EXPLORE: INDIA

The packaging industry in India has experienced a long positive trend, highlighted by the launch of new products backed by strong corporate promotional activities, with food and pharmaceutical industries taking the lead.

(Data from ICE - Institute for Foreign Trade)



SMI S.p.A. Headquarters

S. Giovanni Bianco (BG), Italy
Tel.: +39 0345 40111
Fax: +39 0345 40209

SMIPACK S.p.A.

S. Giovanni Bianco (BG), Italy
Tel.: +39 0345 40400
Fax: +39 0345 40409

SMIMEC S.p.A.

S. Giovanni Bianco (BG), Italy
Tel.: +39 0345 40111
Fax: +39 0345 40708

SMITEC S.p.A.

S. Pellegrino Terme (BG), Italy
Tel.: +39 0345 40800
Fax: +39 0345 40809

ENOBERG S.r.l.

Telgate (BG), Italy
Tel.: + 39 035 845908

SMILAB S.p.A.

S. Pellegrino Terme (BG), Italy
Tel.: + 39 0345 40800
Fax: +39 0345 40895

SMI USA Inc.

Atlanta, GA, United States
Tel.: +1 404 7999929
Fax: +1 404 9946414

SMI Centroamericana S.A. de C.V.

Mexico City, Mexico
Tel.: +52 55 5355 3870
Fax: +52 55 5354 5384

SMI do Brasil Ltda.

São Paulo, Brazil
Tel.: +55 11 36015334
Fax: +55 11 36937603

SMI (UK & Ireland) Ltd

Manchester, United Kingdom
Tel.: +44 161 277 7840
Fax: +44 161 277 7842

OOO SMI Russia

Moscow, Russian Federation
Tel.: +7 495 7206797
Fax: +7 495 7206797

SMI East Europe S.r.l.

Timisoara, Romania
Tel.: +40 256 293932
Fax: +40 256 293932

SMI Machinery Beijing Co.Ltd

Beijing, People's Republic of China
Tel.: +86 10 6947 9668

*Guangzhou, Guangdong,
People's Republic of China*

Tel.: +86 20 8439 6460
Fax: +86 20 8439 8391

*Nanjing, Jiangsu,
People's Republic of China*

Tel.: +86 258 470 4716
Fax: +86 258 470 4776

SMI Asia Services Sdn. Bhd.

Shah Alam, Selangor, Malaysia
Tel.: +603 5103 5368
Fax: +603 5191 3368

