

■ Safi Sarl ■ El Dahouara ■ Darida
■ Kassatly Chtaura ■ SMLC

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Magazine 2015/15

SAFI & EL DAHOUARA

Water for Africa

SK ERGON

WHEN TECHNOLOGY
MEETS ERGONOMIC
DESIGN

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“ SMI marks another milestone with the new ERGON series ”

For companies as SMI, working in the field of bottling & packaging machinery and systems, it is crucial to be able to offer, both to its existing and potential customers, a wide range of solutions that are easy to customize and adapt to the changing needs of the consumer market.

With nearly 6,000 primary and secondary packaging machines installed worldwide, today SMI is a reference point for all those companies in this sector which are constantly on the lookout for innovative, environmentally sustainable and cost-effective technical solutions, able to ensure high levels of competitiveness, efficiency, flexibility and energy saving.

In line with SMI's historical commitment to continuous innovation, our R&D labs have recently made available on the market a new range of secondary packaging machines featuring the ERGON brand.

The new range is based on design choices inspired by key concepts such as ergonomics, technology, sturdiness and modularity, masterfully blended in the new ERGON systems to mark a new, significant evolution in the history of SMI products.

The first of the new series, an SK 500 F ERGON shrinkwrapper, had its world première in Cologne at the Anuga Foodtec fair, where it attracted the interest of many visitors thanks to the first-rate technical innovations the machine is equipped with.

Instead, at the Nuremberg Brau Beviiale fair, we are presenting the second model of the new ERGON series, an SK 800 P that, thanks to the optional double lanedevise, can package 6-can film-only packs at the max speed of 160 packs per minute (80 packs per minute on each lane).

I invite you to discover all the features of the new ERGON range in the innovation section of this sminow issue. Moreover, in the installation section you will find just as interesting information about our latest “line engineering” solutions implemented for the “food & beverage” industry in many countries of Africa and The Middle East.

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

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Kassatly Chtaura - SMLC

Product pictures in this issue are shown for reference only.

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WATER FOR AFRICA

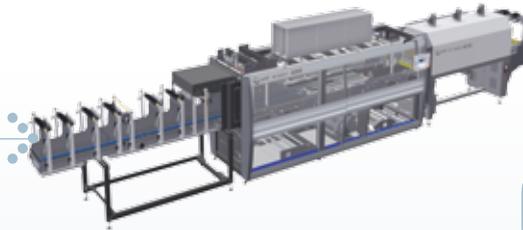
The African market of bottled water has grown significantly in recent years, with higher development trends than in Western nations.

Rising incomes in different regions allows more people to afford bottled water now.

Over the past five years, growth levels have remained consistently high throughout the continent, with double-digit increases in several countries.

INNOVATION

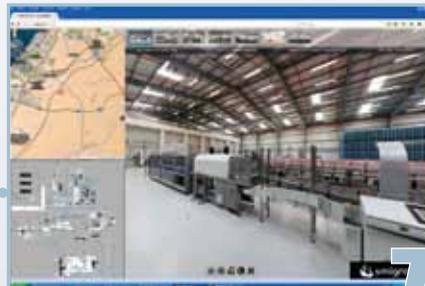
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SAFI SARL



SOFT DRINKS SECTOR

SAFI SARL
Niamey, Niger

- PET LINE for 20,000 bottles per hour:
- Smiform ECOBLOC® 10-84-10 HP LG-VMAG
- Smiflexi SK 400F shrinkwrapper
- Smiline conveyor belts
- inkjet, premix, HP and LP compressor, inspection system, power distribution, labeller

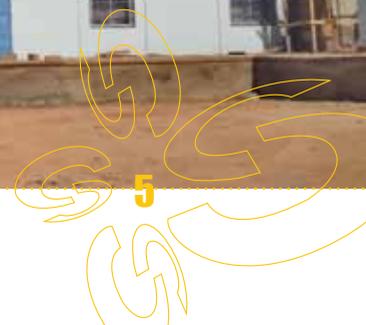


GEO LOCATION



Africa is a place that conjures up spellbinding atmospheres and situations, which call to mind simple and at the same time fascinating, unusual and unique images. West Africa is undoubtedly one of the most incredible areas of the planet, since every single country in this continent has its own historical, cultural, culinary and musical identity. Niger is no exception: it is the biggest country in the Sahel (from Sahil, "the desert edge"), i.e. that strip of land in Sub-Saharan Africa that stretches from the Sahara Desert, which lies to the north, to the Sudanian Savanna to the south and between the Atlantic Ocean to the west and the Red Sea to the east. Crossing Niger means diving into nature with a millennial flavor, that leaves you breathless, but also into a daily reality made of internal tensions that make economic development more difficult.

Nevertheless, Niger's economy includes numerous companies that invest in new businesses, as they trust and confide in the good growth prospects of the market which are favored by the GDP growth rate of recent years. Safi Sarl is one of these companies and recently entrusted to SMI the design, implementation and installation of a complete bottling line of 20,000 bottles per hour, dedicated to the packaging of a new range of carbonated soft drinks in 0.5 liter PET containers in several different flavours (cola, mango, kiwi, pineapple, lemon, orange, apple, fruit cocktail, to name a few). Safi Sarl is a concrete example of the great economic turmoil taking place in the African continent, involving a growing number of local industrial enterprises assisted in their development plans by leading European suppliers of modern technologies.





THE GREAT CHALLENGE OF SAFI SARL



The production of carbonated soft drinks is undoubtedly a great entrepreneurial challenge in a central African country that has a population of 18 million inhabitants

and no outlets to the sea, where 2/3 of its territory is covered by the Sahara desert, uninhabitable and barren. Despite geo-climatic difficulties, Safi Sarl decided to face this challenge by

commissioning to SMI the supply of a new production facility to expand into the bottled drinks market. This is a growing industry, in which the owners of the Niger company have succeeded



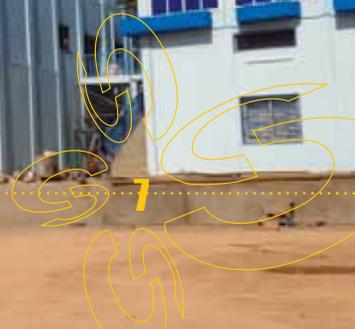
INSTALLATION / Safi Sarl



in grasping the preconditions for a bright future thanks to the constant growth rates recorded in recent years. The new development project has required massive investments in brand new plants and advanced technologies due to the fact that the "food & beverage" sector is an alternative to Safi Sarl's core business, i.e. transport and petrochemicals. This new bottling plant has created the prerequisites for enabling this African enterprise to quickly become a major player in the food sector in Niger, with the aim of conquering both the domestic market as well as that of neighboring countries.



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THE AÏR AND TÉNÉRÉ NATURAL RESERVES

Niger offers much in terms of landscape: breathtaking natural beauty, multicolored dunes, Tuareg villages and the charm of a multi-ethnic culture.

Niger is the second largest and also one of the most fascinating countries in West Africa, kingdom of ancient peoples like the Hausa, the Germa, the Fulani and the Tuareg.

It is also a land with endless deserts, starting from the desert of deserts, the Ténéré, which offers unique moments for visitors in search of a mystical experience, and remarkable mountain ranges such as the Aïr and Sahel massifs where the Bororo people live.

The Aïr and Ténéré natural reserves, with their 7.7 million hectares, make up the largest protected area of Africa, hosting many species of plants and wildlife and an amazing variety of landscapes, from the mountains to the sand dunes.

The Niger State owes its name to the same-named river running through it, the third longest river in Africa (approximately 4,200 km, of which 500 in Niger territory), and also its only permanent water source.

Niger's capital city Niamey lies on this river's banks, as well as most towns such as Zinder, Maradi and Tillabéri.





THE NIGER RIVER: A VITAL WATERWAY

A great communication route for a very widespread area, a great collector of water for a largely semi-arid region: it is the Niger, one of the most important rivers of the African continent so much so that two states - Niger and Nigeria - have taken their name from it.

The Niger River, boasting a total length of about 4,160 km, stems from the Loma Mountains on the border between Guinea and Sierra Leone.

With its crescent-shaped course, it crosses Mali and Niger, then borders Benin, runs through Nigeria and eventually empties into the Gulf of Guinea with a very wide delta called the Niger Delta or Oil Rivers.

Used, from time immemorial, to join the coast to the inland areas and as first crossing of the Sahara, this river is vital for West Africa.

Much of its importance is linked to its function as a means of communication and to the fact that its waters, which cross very arid regions, make farming possible as well as a very dense human presence.

In Niger State, nearly the entire population thickens around this river that, shortly before abandoning the territory, draws a number of consecutive bends, giving that stretch

a W-shape: this is where one of the most beautiful national parks has been established in West Africa, called the W Park, which is home to rich fauna (mammals, reptiles, birds and fish) and was declared a UNESCO World Heritage in 1996.

ONE STATE, MANY CULTURES

The people of Niger are highly differentiated and preserve among the most varied customs and traditions.

The Tuareg, a nomadic people, wander constantly in search of grazing land, water and salt like all other farmers in Niger.

More vibrant is the life of the Bororo sub-ethnic group (also known as Wodaabe), who loves dances and festivals.

Their most important festival is the "cure salée" (salt cure) or "nomads





festival”, an annual event celebrated in September when shepherds gather in the very green area of Ingall so that their cattle can be nourished by this grass that has a very high salt content. The Bororo are a “vain” people and the meeting becomes an opportunity

to stage some sort of beauty contest attended only by men who take advantage of this occasion to wear make up, show off shiny ornaments and, thanks to stimulating beverages, dance like crazy for hours. When these dances (called Yaake) are

over, the women choose their future husband. Another challenge young males undergo is the Soro, an endurance contest in which participants have to endure with a smile the strong beatings inflicted on them.



A TECHNOLOGICALLY ADVANCED TURNKEY PROJECT

The new plant in Safi Sarl is located in the city of Niamey, Niger's capital and first city of the country in size and cultural & economic importance.

Nestled along the Niger River, Niamey is among the least populated capitals of West Africa; it is a quiet city of one million inhabitants, struggling to cope with the new needs of an economy in turmoil and getting equipped

with latest generation services and infrastructures.

The owners of Safi Sarl decided to build from scratch a soft drink bottling plant in this area, capable of producing 20,000 bottles per hour, and entrusted this project to SMI's professionalism and experience.

The intervention began with SMI designers' careful research and inspections, and it was clear from

the outset that the new plant would represent a major engineering challenge: to design, build and install an actual turnkey system comprising the entire process, filling, storage & distribution technology as well as all the relating management and control systems of the production line.

SMI proposed itself as the sole supplier to manage all the major stages regarding the design and

From the left: Tahiri Nouredine, Safi Sarl Plant Manager, El Hassane Taissat, SMI Sales Area Manager and Luigi Galizzi, SMI Project Engineer.



INSTALLATION / Safi Sarl



construction of the plant, with the primary objective of providing to the customer a first-class production facility, by implementing its technical and managerial skills. The full line of 20,000 bottles per hour was designed from the outset to be controlled by a single operator,

who can easily handle the loading of the raw materials and the unloading of the finished products. Plant management was further facilitated by placing the area, intended for sorting the raw materials and finished products, in the vicinity

of the Smiform ECOBLOC® stretch-blow moulding, filling and capping integrated system and the Smiflexi SK shrinkwrapper.



ECOBLOC®

THE ADVANTAGES OF SMI'S INTEGRATED SYSTEMS



The ECOBLOC® 10-84-10 HP LG-VMAG integrated system represents the ideal solution for the bottling of carbonated products marketed by Safi Sarl. In fact, thanks to this compact solution that integrates blow moulding, filling and capping modules, the bottles exiting from the stretch-blow moulding module are conveyed to the filling carousel

through a "neck handling" system, made up of transfer stars equipped with grippers acting on the bottle's neck. In the filling module, a sensor detects the presence of the bottle at machine inlet and starts the bottle's isobaric filling phase by means of an electronic volumetric process, via magnetic flow meters, which counts the amount of product passing through the valve.

At the end of the filling process, the filled bottles are transferred to the capper by a star equipped with appropriate grippers and, finally, to the conveyors at outfeed to be transferred to a rotary labeller. The engineering study performed by SMI enabled the optimization of the conveyor stretches to ensure correct build-up and ensure efficient production.



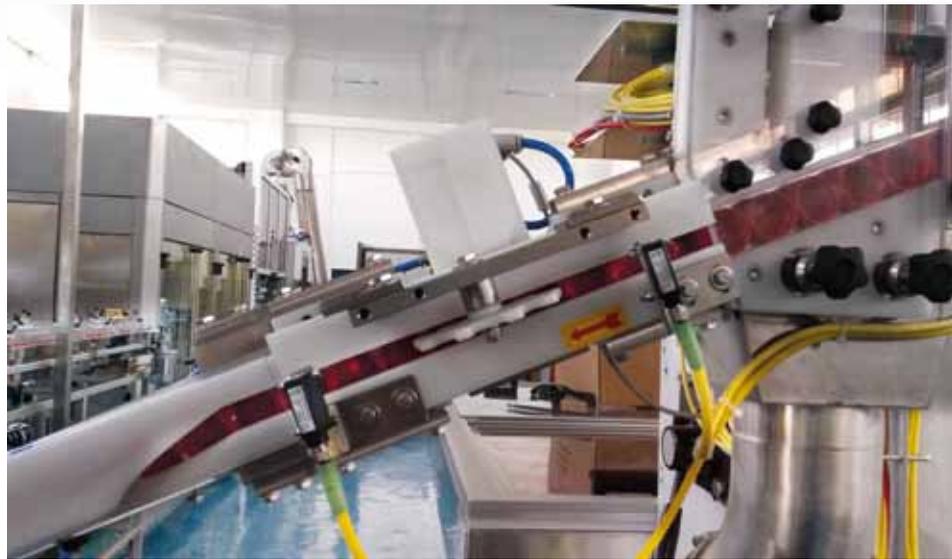
INSTALLATION / Safi Sarl



The plant supplied to the Niger company also includes a new generation rotary labeller from reel, suitable for the application of labels of different materials applied to containers by means of hot glue.

The end of line secondary packaging is performed by a SK 400 F model shrinkwrapper that packs the 0.5 liter PET bottles in 4x3 film only packs.

The final palletizing stage will soon be implemented in the production line by means of an automatic palletizing system of the Smipal APS series in PACKBLOC version (i.e. integrated with the shrinkwrapper), in order to reduce the system's overall dimensions and optimize running costs and maintenance.



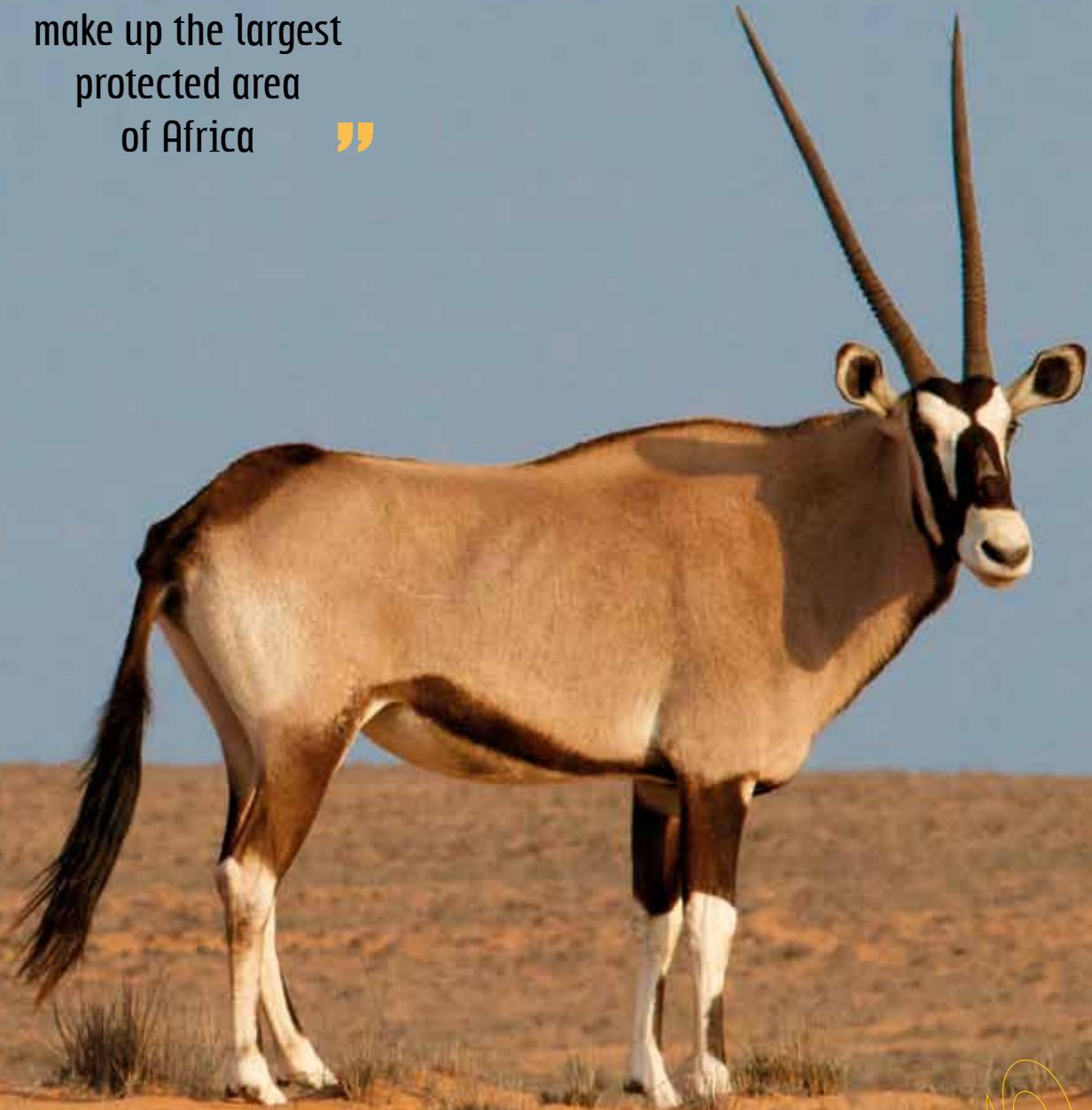
THAT WHICH DOES NOT EXIST: THE TÉNÉRÉ DESERT

A bright white expanse stands out in the center of West Africa, enclosed by the dark spots of the Hoggar mountains to the north, by the parched Aïr and Tibesti highlands to the east and west, and by the Termit massif to the south: this is the Ténéré desert, "that which does not exist" according to local tradition, one of the souls in the sand of the Great Sahara. This is a vast, barren expanse of over 400,000 square kilometers, at times flat, at times full of dunes inaccessible half of the year due to extreme temperatures and raging winds. It is a destination that is well worth the trip to Niger, both for its beauty and its mystical aura, a place that preserves evocative and abandoned medieval locations as well as enormous dinosaur cemeteries such as that of Gaudoufoa, discovered by an archaeological expedition more than thirty years ago. Many call the Ténéré the "prototype" of the desert, the "desert of deserts" for its wide, parched and inhospitable expanse; its name comes from the Tuareg language and means "desert". Likewise, the Arabic word for "desert", i.e. sahara, has been used as the name for the entire region.

The Ténéré desert is quite sparsely populated, even though it was a fertile land in prehistoric times, inhabited by humans until Paleolithic times, about 60,000 years ago. During the Neolithic period, about 10,000 years ago, hunters had created engravings and paintings which can still be seen in several places, but the population then moved away due to the drying up of the Sahara, and by 2500 BC this area was entirely desertified. Today the lords of this land are the Tuareg, a nomadic people, who never show their face because they wear a "tagoulmust", the veil of cloth wrapped around their head that leaves only the eyes uncovered. This stretch of sand is also renown for the Ténéré Tree, an acacia tree that used to be the most isolated tree in the world as it stood 400 km away for all other forms of vegetation. Unfortunately, that tree was destroyed by mistake by a truck in 1973 and replaced by a metal sculpture, although maps still list it as a point of interest. Just for curiosity's sake: since the eighties, the Japanese company Yamaha produces a motorcycle called Ténéré precisely because it adapts to the long raids in the African deserts like the Dakar Rally.



“ The Aïr and
Ténéré natural
reserves,
with their 7.7
million hectares,
make up the largest
protected area
of Africa ”



THE WORD TO THE CUSTOMER

Interview with Tahiri Noureddine, Safi Sarl Plant Manager



What are the strengths of your company?

"The success and strength of our organization mainly depend on the people who work in it.

The professionalism and dynamism of our staff allow us to face the market's new challenges and give us the strength to start-up new businesses, which also require a deep knowledge of the domestic market, as well as that of other African states, in order to capture all opportunities.

Another aspect of crucial importance for Safi Sarl is the focus on consumer health and welfare.

To do this, we decided to use only raw materials of excellent quality, in line with strictest food safety standards".

Which are the factors that prompted Safi Sarl to invest in a new production line that includes an ECOBLOC® 10-84-10 HP LG-VMAG and an SK 400F shrinkwrapper provided by SMI?

"Customer demand first of all, which was not satisfied due to an insufficient supply of carbonated soft drinks on the Niger market.

The growth rates in this sector bode well for a sustained development of activities related to the consumption of

bottled drinks which, to be produced, require modern, automated, environmentally sustainable and energy-efficient plants: all features we found in SMI systems, known worldwide for technological innovation and operational reliability".



What must be the supplier's role to help this process of growth?

"Since our company was born during the economic growth period, it must be able to respond adequately to the demands and needs of the market that are often changeable, heterogeneous and subject to sudden changes.

For these reasons it is essential to establish a close working relationship with our suppliers, who must be able

to quickly and effectively satisfy our needs in terms of volume, flexibility, new formats, etc.

Successful companies like SMI, that for nearly 30 years has been providing automatic machines for the bottling and packaging of food and beverages, which can offer us valuable support in achieving our development goals”.

How do you see the future of the bottle beverage market in Niger?

“Undoubtedly a rapidly growing market, otherwise we would not have invested such considerable resources in this sector”.



Below: Ait Oufkir Abdellatif, Safi Sarl Production Manager.



EL DAHOUARA

MINERAL WATER SECTOR

Sarl El Dahouara Eau Minerale
Dahouara, Souk Ahras, Algeria

- ❖ PET LINE for 16,000 bottles per hour:
- Smiform ECOBLOC® 8-42-8 HP VMAG integrated system
- Smiflexi SK 600F shrinkwrapper
- Smipack HA 60 handle applicator
- Smiline conveyor belts
- Smipal APS 3070 P palletizer
- inkjet, HP and LP compressor, inspection system, power distribution, labeller, turntable-based pallet wrapper



GEO LOCATION





Algeria is one of the largest food markets in North Africa.

The economic reforms initiated in this country in recent years are leading to the accelerated privatization of large public companies in this sector, setting the foundations for a strong growth in the years ahead.

The importance of the changes under way is confirmed by the increasing success of the "Djazagro" trade fair event, this year in its 13th edition, which is held every year in the city of Algiers.

For several years SMI has attended this event with its own stand, attracting many operators of the food and beverage sector, whether North-African bottling and packaging companies in search of latest generation bottling machines and technologies or manufacturers of same, in search of new business opportunities.

Besides the food sector, even the contiguous one, i.e. that of the



bottling of natural and carbonated beverages, is going through a phase of sustained growth in Algeria.

Among the most dynamic companies in the industry, Sarl El Dahouara Eau Minerale is the one that stands out.

This enterprise, headquartered in the town of Souk Ahras, has recently made a large investment by commissioning to SMI the design, construction and installation of a new production facility of 16,000 bottles per hour for the bottling and packaging of the Besbassa-branded natural water in 0.5 liter and 1.5 liter PET bottles.



ALGERIA

A RAPIDLY GROWING DYNAMIC MARKET

In the last decade, all Algerian companies operating in the bottled water industry have recorded significant growth rates, showing how the consumption of these products is booming and how these companies are increasingly attentive to the legislative, distributive, productive and economic aspects of their businesses.

According to a market survey carried out by specialist firm Euromonitor

International, the per capita consumption of bottled water in Algeria rose from 48.4 liters in 2010 to 75.9 liters in 2014, with the expectation of attaining 120.6 liters per capita in 2018.

This rapid growth is attributed mainly to the increased attention to health on behalf of 40 million Algerians, which inevitably leads to consuming more and more natural bottled mineral water through systems and

technologies that offer the highest level of product purity, safety and hygiene.

As such, from the supply viewpoint, the investment in industrial high-tech systems is an obvious choice to expand market share and product range, offering increasingly conscious and demanding consumers products having higher and higher quality standards.





In addition to this sector's "historical" companies, new operators keep showing up in the Algerian beverage market who are starting-up new production facilities, often from scratch, to seize the commercial opportunities offered by the current favorable situation and guarantee their future growth. Among the new leading lights in this sector you will find Sarl El Dahouara

Eau Minerale, which has decided to enter this business by purchasing the most sophisticated equipment available, to meet the demands of a booming market.

The decision to collaborate with SMI was dictated by the expertise and experience that SMI can boast in the field of automatic bottling and packaging systems.

After thorough analysis of this

Algerian company's business needs, SMI engineers developed some technical solutions able to satisfy both the present and future production requirements and marketing needs, thanks to the design of an original and captivating bottle for marketing the Besbassa water in the 0.5 and 1.5 liter PET formats.



Eau de source non gazeuse
Montagnes Dahouara source Ain Djemal

EL DAHOUARA EAU MINERALE INVESTS IN SMI ADVANCED TECHNOLOGY



The Besbassa mineral water, produced by El Dahouara, is bottled in 0.5 liter and 1.5 liter cylindrical PET containers by a Smiform stretch-blow moulding, filling and capping integrated system of the ECOBLOC® 8-42-8 HP VMAG series.

The bottles are then conveyed to a rotary reel labeller and, subsequently, to a Smiflexi SK 600F shrinkwrapper that packages them in

film only packs.

The 0.5 liter bottles are packaged in the 4x3 collation while the 1.5 liter ones in the 3x2 collation.

Once shrink-wrapped in film only, the packs exiting from the packer are transferred to a Smipack HA 60 automatic handle applicator and then reach a Smipal APS 3070P automatic palletizing system.

This system palletizes the packs on 1000x1200 mm pallets, inserting a

cardboard interlayer pad between one layer and another.

All SMI machines are manufactured using high quality materials that ensure operational reliability and durability.

The use of wear resistant components also reduces cleaning and maintenance, thus greatly reducing overall running costs.

The Smiline conveyor belts, which handle all the 0.5 liter and 1.5 liter



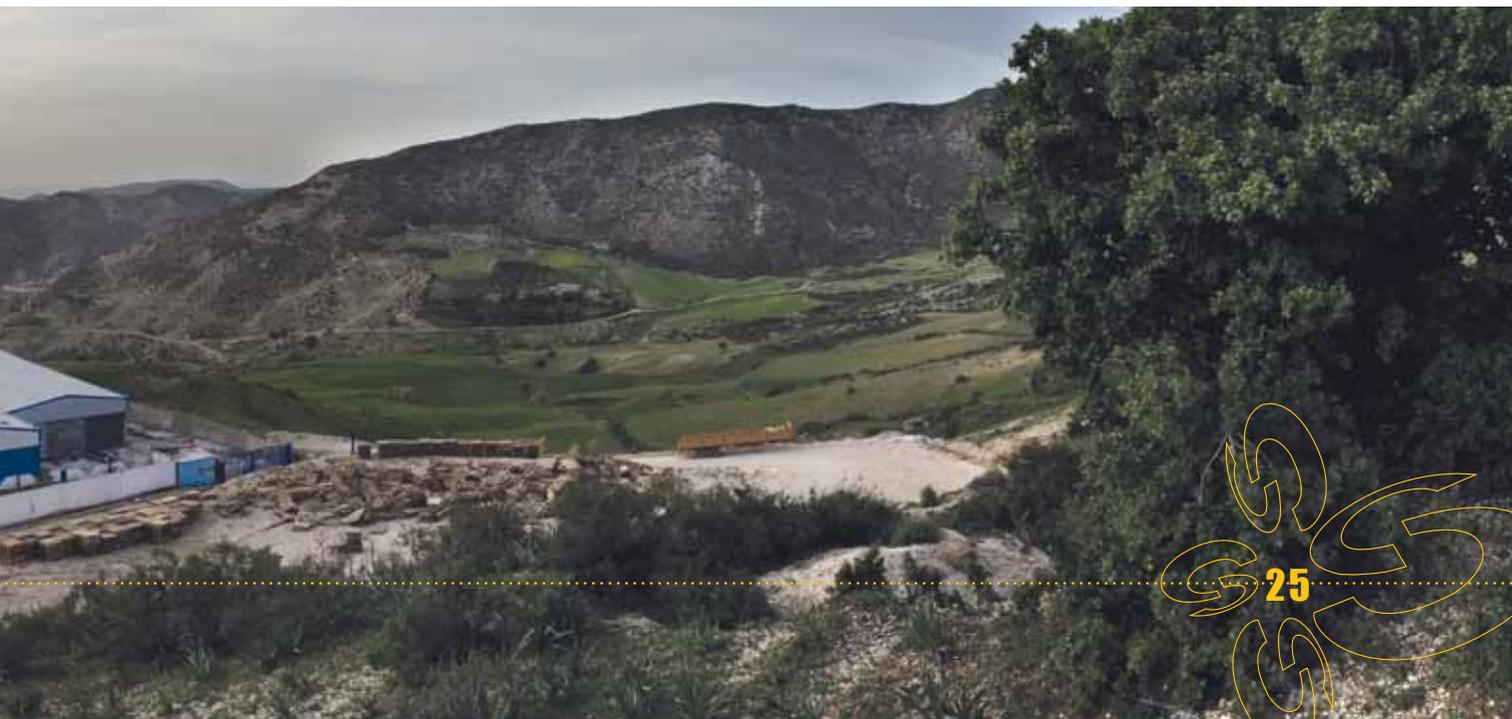


From the left: Dief Allah Issam, El Dahouara Maintenance Engineer; Adel Rezqui, El Dahouara Technical Manager; Abdelkarim Mahiaoui, El Dahouara Technical Advisor; Charaf Rguibi, SMI Service Engineer; Hassani Abderahman, El Dahouara Automation Engineer.

loose containers and the finished packs, allow the production cycle to run smoothly and steadily, adjusting its flow to meet customer requirements.

The control of the entire line provided by SMI to Sarl El Dahouara Eau Minerale is entrusted to a latest generation automation system that, combined with the use of sophisticated sensors,

allows to maintain high levels of operating efficiency throughout the production cycle.



THE ADVANTAGES OF THE ECOBLOC® INTEGRATED SOLUTION

The Smiform ECOBLOC® integrated system offers numerous benefits to the end user. First of all, the stretch-blow moulding, filling and capping modules are combined into a single block within the machine's modular and compact structure, allowing the removal of the connecting conveyors, which are needed in traditional solutions to connect the blow moulder with the filling/capping monobloc. Similarly, the integration of multiple functions into a single system reduces electric power consumption thanks to a smaller number of motors, lowers the company's running and maintenance costs thanks to a reduced number of mechanical moving components and, finally, protects the environment thanks to the use of eco-friendly technologies.

In addition, ECOBLOC® systems are designed according to innovative criteria that favor ease of use and maintenance.

For example, the filling module is equipped with a “baseless” structure that houses the motors and transmission components in the upper part of the system, thus leaving the machine’s base completely clear.

This technical choice ensures extreme ease of operator access to the filling carousel, maximum cleanliness in the area underneath the bottles, time-saving maintenance and reduced use of water when washing the system.

The ECOBLOC® system installed in the Sarl El Dahouara Eau Minerale plant is also equipped with the ARS Air Recovery System, which reduces up to 40% the consumption of high pressure compressed air used during the stretch-blow moulding process of the PET bottles, and up to 20% of the electrical energy necessary to run the machine.

The automation and control of the stretch-blow moulding, filling and



capping modules of the Smiform ECOBLOC® integrated system are governed by a single system that allows the management of the

equipment by only one line operator through a simple and user-friendly man-machine interface.





“ the per capita consumption of bottled water in Algeria rose from 484 liters in 2010 to 75.9 liters in 2014 ”

RELIABILITY AND PRECISION IN END OF LINE OPERATIONS

The project engineering study of Sarl El Dahouara Eau Minerale's new line paid special attention to the end of line packaging machines, i.e. a Smiflexi SK 600 F shrinkwrapper and a Smipal APS 3070 P automatic palletizing system.

Equipped with a simple dual inlet, the APS palletizer installed at the bottling plant in Souk Ahras is capable of managing 1000x1200 mm pallets, created by stacking packs of 6 or 12 bottles arriving from the automatic packer located upstream of the palletizer.

The dual inlet system, made up of two double rubber-coated cadencing



belts, groups the packs in the layer preparation zone and then palletizes them at the max speed of about 70 packs per minute.



Thanks to a roller belts system, the full pallets are then transferred to the automatic turntable system, which wraps them in wrap-around film.





The central column of the APS 3070 P palletizing system is run by brushless motors, which guarantee highly dynamic, reliable and accurate movements of the operating axes.

Automation and control rely on the PC-based system called MotorNet System®, configurable with Servos fieldbus and industrial Ethernet communication network.

The use of this technology within palletizing systems, characterized by repetitive movements, is synonymous with high reliability, reduced maintenance and low running costs.



INSTALLATION / El Bahouara

“ high
reliability,
reduced
maintenance
and low running
costs ”



SOUK AHRAS, WHERE HISTORY IS THE LEADING LIGHT

The name of the town of Souk Ahras derives from the Arabic word "souk", which means market, and from the Berber word "ahra", which means lion, referring to the lions that lived in the surrounding woods until their extinction in 1930; hence, Souk Ahras means "the lion market". This city, known in Roman times by the name of Tagaste, was for centuries the cultural and artistic center of ancient civilization, the remains of which are still partially visible today. The plains, rivers and mountains surrounding Souk Ahras form a

stronghold that features valuable evidence of over 500 years of Roman rule. A centuries-old olive tree would bear witness that Augustine of Hippo was born here on 13 November 354, the first theologian and father of the Catholic Church, bishop of the nearby city of Hippo (modern-day Annaba), where he died in 430 while Hippo was under siege by the Vandals, revered as a saint by the Christian Church since ancient times. The modern Souk Ahras, populated by about 150,000 inhabitants, developed especially in the twentieth century, following the start-up of a number of mining

companies and the construction of the railway that began in the middle of the eighteenth century after the French colonization of Algeria. The area surrounding the ancient Tagaste is rich in water sources. In fact, this city is located south-east of Annaba (ancient Hippo) in a basin surrounded by wooded mountains such as the Jebel Beni Salah or the Djbel Ouled Moumen and benefits both from the semi-humid climate brought from the nearby coast of the Mediterranean Sea, 80 km north of Souk Ahras, and from the semi-arid climate from the south, from the Sahara desert.



THE CITY OF ANNABA, THE ANCIENT HIPPO

Annaba, formerly Hippo, in Latin "Hippo Regius", is one of the major tourist attractions in the western Mediterranean thanks to its beautiful beaches, hotels and nightlife. This coastal city of 350,000 inhabitants, not far from the border with Tunisia, also boasts many places of religious interest as it had hosted, at the beginning of its history, an important and influential Christian diocese before the city was destroyed by the Vandals and the subsequent, massive Islamization in the seventh century. Ancient Hippo was founded

by the Phoenicians and later became a Roman colony. It is known mainly because Christianity took refuge here when Saint Augustine was bishop and also because it was an important Byzantine center until the arrival of the Arabs. Today, the monuments of the imperial age, the forum, the baths of Septimius Severus and the spas in the south, the theater and the remains of the urban and suburban villas are all an amazing witness to its glorious past.



ALGERIA AND THE MAGHREB

As easily understood by its assonance, Algeria is named after its capital Algiers, city founded by the Berbers on the ruins of a Roman city.

Algeria is located within a vast region of North Africa known by the name of Maghreb (in Arabic "al-Maghrib", meaning "place of the sunset" because it is situated in the westernmost part of the Arab countries), with which one indicates the westernmost area of North Africa that overlooks the Mediterranean Sea and the Atlantic Ocean.

Two systems converge in this vast region, made up of reliefs and folds and formed in two different phases of the Alpine orogeny: the Tell Atlas (mountain range located primarily in northern Algeria but extending for a short distance also in western Tunisia) and the Saharan Atlas; plains and fertile highlands, rich in flora and fauna, reach within these two giant natural barriers.

The Maghreb includes the coast of Morocco, Algeria and Tunisia and today is the African continent's area of greatest economic development.

Note that the aforesaid Arabic expression "al-Maghrib" is the proper name of the State of Morocco.

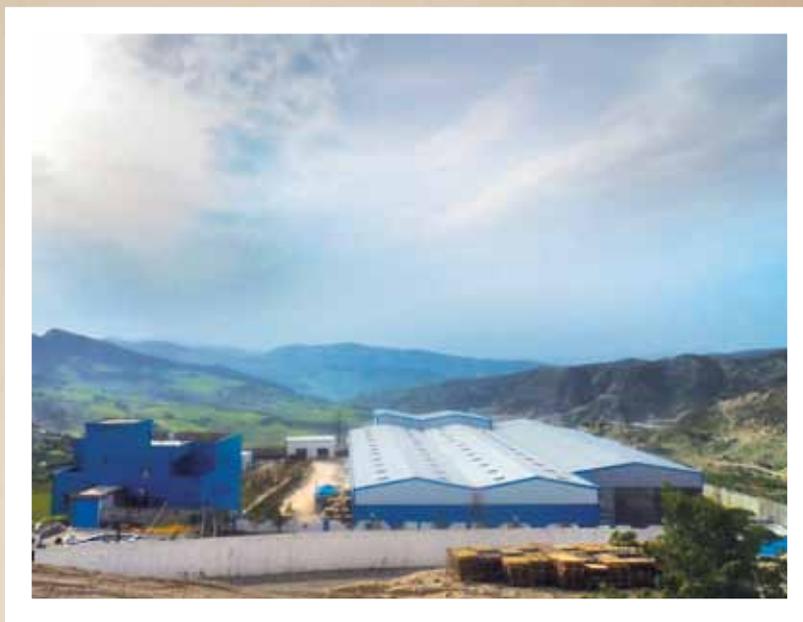
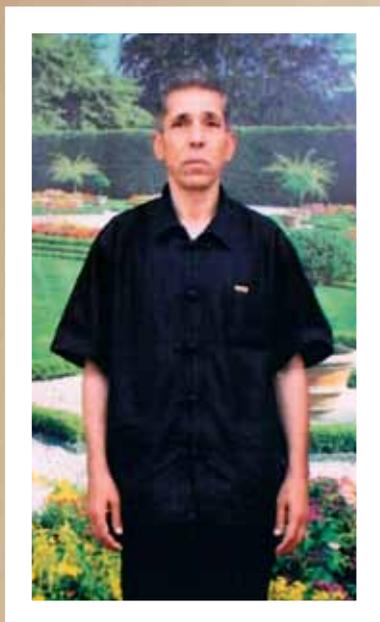
The Maghreb economy is relatively prosperous, also thanks to dense commercial relations with the European Union. Among the main resources of the North African states in this area, in addition to agriculture, industry and mining, is its tourism, which is a very important sector for the economy of Morocco and Tunisia.





THE WORD TO THE CUSTOMER

Interview with Tayeb Djebbar,
Owner of Sarl El Dahouara Eau Minerale



What are the factors that led Sarl El Dahouara Eau Minerale to invest in the new production line supplied by SMI?

"Since our company was faced with a rapidly expanding market, which offers excellent opportunities for the marketing of bottled mineral water, we decided to invest in the new 16,000 bottles per hour bottling line provided by SMI.

This plant is dedicated to the packaging of the Besbassa-branded

mineral water, a spring water of excellent quality and increasingly appreciated by the market.

As our company could not remain motionless in the face of the growing market demand, it built a modern and efficient bottling plant, able to cover the current and future needs of this sector".

What are the strengths of your company?

“Sarl Dahouara Eau Minerale is a young enterprise, recently established to meet the growing market demand for bottled water.

Our strengths are the excellent quality of the water we produce, the entrepreneurial spirit that drives the company, leading it to continuous investment in new technologies, and our internal organization that pursues ongoing improvement of the production processes”.

What are you asking your bottling and packaging machine suppliers in terms of flexibility, innovation and efficiency?

“Companies working with Sarl Dahouara must ensure maximum efficiency of our production facilities, both during their daily operation and, above all, in case failures or malfunctions occur, events that must be promptly solved through a technical after-sales service which we expect to be efficient and able to intervene rapidly”.

How do you see the future of the beverage market in Algeria?

“The beverage market in Algeria has been growing strongly for several years and we think this will continue for a relatively long time thanks to the abundance of water sources in the Algerian territory and the improved economic conditions of local consumers.

A considerable contribution to the increase in the consumption of bottled water and related products will come not only from the restaurant industry, also developing strongly, but also from the Algerian population's greater attention to health and personal well-being”.



KASSATLY CHTAURA

BEER SECTOR

Kassatly Chtaura SAL
Nahr El Mott, Beirut, Lebanon

Smiflexi SK 400 F shrinkwrapper



GEO LOCATION



Beirut attracts, engrosses and surprises you, thanks both to its centuries-old history, which hardly goes unnoticed, and an exceptional urban setting which earned the city the nickname of "Paris of the Middle East". The ongoing reconstruction of the city over the years has resulted in a fascinating fusion between modern and ancient buildings, bearing witness to the exceptional path undertaken by this city in over 5,000 years of history. Visiting Beirut is like traveling to a multifaceted microcosm, where a Christian church stands next to a mosque and where, after crossing a narrow millennial lane, you suddenly end up on a modern avenue full of trendy shops. Beirut is considered one of the most important cultural capitals of the entire Middle East and in 1999 was named the "capital of Arab culture". With nearly 2 million inhabitants, Beirut is an international metropolis, both in practice and in the collective imagination of the whole West, hosting universities, museums, cultural centers, art galleries and festivals, and is an important financial and commercial center of the Near East. It was precisely thinking of the dynamism and vivacity of this city that Kassatly Chtaura SAL, leader in Lebanon for the production of alcoholic beverages, launched a new product called "Beirut Beer", sold in packs of six 0.25 liter and 0.5 liter glass bottles, packaged in film only by a Smiflexi SK 400 F shrinkwrapper. This machine is to be added to the



other numerous automatic packers provided by SMI to the Lebanese company since 1997, reflecting the strong technical and commercial collaboration between these two companies.

BEIRUT BEER

A BEER CREATED TO AMAZE

When the new Beirut Beer appeared on the market in July 2014, it surprisingly attracted everyone's attention thanks to its appealing image and a massive advertising campaign that aroused much interest.

This beer stands out for its light color, light taste and a slightly bitter but pleasant aftertaste.

In fact, with the launch of this new beer and renowned for producing alcoholic beverages, Kassatly Chtaura SAL wanted to express its commitment to excellence embodied in the motto



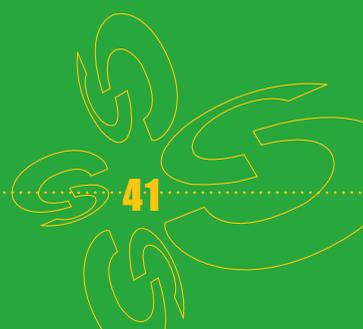
قد ما نرفع راسنا
رح يضل الجيش فوق راسنا.



“Commitment to Excellence” on the bottle’s label.

The entire Beirut Beer production process was studied in great detail, in order to be able to easily adapt to the changing demands of local consumers.

With a total investment of about US\$13 million, Kassatly Chtaura has seized this new challenge, aimed to increase the per capita consumption of Lebanese beer both on the domestic and international markets.



KASSATLY CHTAURA

A COMPANY'S SUCCESS LOCKED UP IN A GREEN BOTTLE

The Kassatly family, owners of the company bearing their name, markets many alcoholic beverages such as those branded Freez and Buzz and worked hard, down to the smallest detail, to launch its new Beirut Beer, born from a recipe based on four simple, wholesome ingredients: water, malt, hops and yeast.

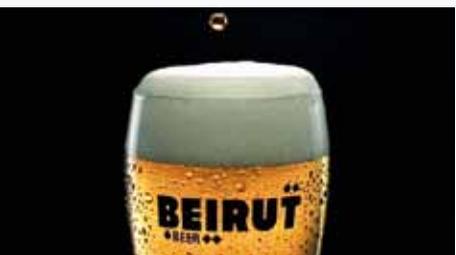
The commitment lavished upon creating this new product is now locked up in a green, beautifully designed bottle, with a background image that depicts the ancient Lebanese tiles used in the old houses of Beirut.

The word Beirut of the brand is depicted on the body of the bottle with a 'T' surmounted by two points, reflecting the 't' of the Arabic alphabet.

In its new plant, which produces 200,000 hectoliters of beer per year, the Lebanese company has installed the best technology available on the market, a sign of how everything they do at this company is based on the exasperated search for quality and strictly selected raw materials and the systematic use of the best production techniques.

The result: a very modern 2,000 m² plant located in the town of Chtaura, 40 km south of Beirut, in the fertile Bekaa Valley, equipped with cutting-edge machinery installed in a neat and clean working environment.





Kassatly Chtaura SAL has also paid particular attention to the ease of use of its products by consumers. To do this, the company chose a Smiflexi SK 400 F shrinkwrapper that packages the Beirut Beer bottles of 250 and 500 ml in convenient packs of 6 pieces.



Kassatly Chtaura SAL in short

The company's historical roots date back to 1974 when the current CEO, Akram Kassatly, founded a small company dedicated to the production of wine, following the footsteps of his father Nicolas who worked in this field since 1919. Today, after forty years in the business, the name Kassatly Chtaura is linked not only to wine but also to a wide and diversified range of drinks, satisfying the growing number of consumers across the Middle East region. The growth of the Lebanese company was well supported and constant from the very beginning, so much so that it was able to achieve major breakthroughs in just a few years both on the domestic and foreign markets. The product range is now very wide and diverse: syrups, liqueurs, alcoholic and non-alcoholic beverages marketed under the Buzz and Freez brands, recently joined by the Beirut Beer.





EFFICIENCY, RELIABILITY AND FLEXIBILITY AT THE HIGHEST LEVEL



With a view to offer shrink film packages to the market, Kassatly Chtaura turned to SMI, with which it has been working since 1997, for the supply of a new

Smiflexi SK 400 F shrinkwrapper, capable of producing up to 40 packs per minute. The SK range is suitable for packing many types of containers (bottles, cans, jars and cluster packs)

in film only, cardboard pad + film, cardboard tray only or tray + film. The products to be packaged can be managed by the machine on single, double or triple lanes, depending



INSTALLATION / Kassatly Chtaura



From the left: Nayef Kassatly, Kassatly Chtaura Plant Manager, Pierre Anid, Novadim Chief Executive (SMI Agent) and Maurice Rassi, Kassatly Chtaura Technical Manager.



now



on the selected formats and the characteristics of the containers, with the progressive increase of the production speed as their sizes decrease. The SK 400 F shrinkwrapper is synonymous with high yields, ease of use and simplicity of installation and maintenance, as well as its great capacity of being integrated with the other packaging systems that are present in the production line. Furthermore, the automatic format changeover adjustment device, with which these packers are equipped, allows the user to quickly switch from one pack configuration to another. The automation, control and diagnostics of the SMI system are entrusted to the tried and tested MotorNet System® (MNS®), an integrated and open technology that brings together in a single PC-based controller (MARTS) the features for managing the machine's independent axes and the typical functions of a traditional PLC.

Novadim food technology

In Lebanon, SMI has been represented for many years by Novadim Food Technology, which ensures fast and efficient local support to numerous customers in the area. Novadim Food Technology has a staff of 6 people, committed to providing not only a commercial service to this industry's companies but also technical support to the more than 200 SMI machines installed in Lebanon, Syria, Kuwait, Bahrain, Qatar, UAE, Oman, Yemen, Ethiopia, Sudan, Uganda and in part of East Africa. Thanks to the professionalism and experience gained over 20 years of business in the field of systems made for the food & beverage industry, the staff of the Lebanese company, which is based in Beirut, has earned the trust of leading bottling companies operating in Lebanon such as Kassatly Chtaura, Société Moderne Libanaise pour le Commerce (PepsiCo), National Beverage Company (Coca-Cola) and many other customers even outside the national borders. With regard to recent projects implemented in Lebanon, Pierre Anid, Chief Executive of Novadim Food Technology, stated: "Companies in Lebanon are especially attentive to market trends and, in order to meet the changing needs of consumers, rely exclusively on reliable and competent partners. As such, in this context, companies like ours are essential as they are able to respond quickly in case of need, offering suitable and adequate commercial assistance and technical after-sales support to all SMI's existing and potential customers".

THE BEER MARKET IN LEBANON

In recent years the alcoholic beverage industry in Lebanon has experienced a quite favorable period, characterized by huge investments in new bottling plants and by the market launch of a variety of new products.

Beirut Beer was born in this context, as a sign of the focus Kassatly Chtaura has towards the local market that, after years of waiting, can now count on a 100% Lebanese premium pilsner with a smooth and balanced taste, produced by a Lebanese company for Lebanese consumers.

The launch of the new product, which is sold in 250, 330 and 500 ml glass bottles and aluminium cans, was supported by an intense advertising campaign on all national media, which favored an instant and warm welcome by consumers of all ages.

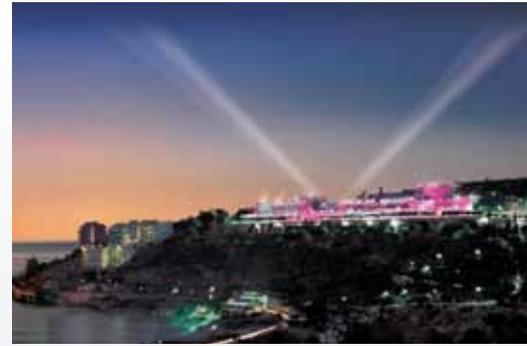


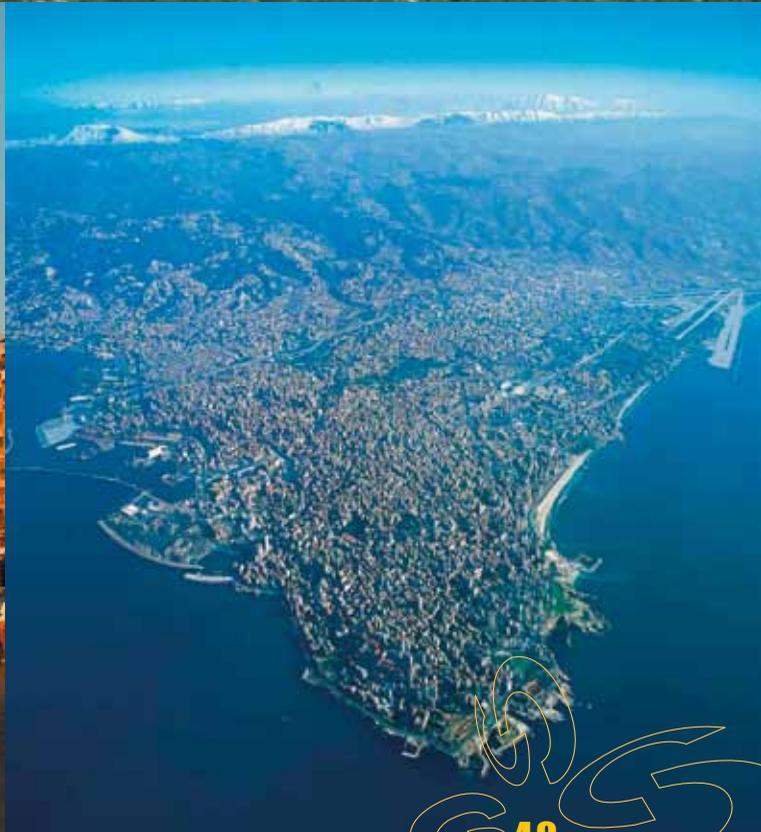
BEIRUT

THE CITY OF CONTRASTS

Beirut, Lebanon's capital, is the city of contrasts. Fascinating and mysterious, serious in the daytime and crazy at night, alive 24/7, surprises anyone. The waterfront and the downtown streets are densely populated at any time of day or night, frequented by young people and businessmen from all over the world. Beirut is a melting pot of different cultures, languages and traditions, so much so that you feel immediately at ease when wandering through this city. Contrasts are obvious even in the buildings you run into: churches and mosques coexist next to one another, smoking chimneys along the harbor are the backdrop for quiet fishing and joggers, beautiful modern residences are located side by side with run-down houses. Of course, evidence of Beirut's historical ruins are scattered throughout the city: its origins go back to a Canaanite settlement of the Bronze Age (around the nineteenth century BC) but the first historically attested evidence dates back to the eighteenth dynasty of Egypt, when its urban core is mentioned in a cuneiform tablet belonging to the so-called "Amarna letters". The etymology of the place-name associates the

probable Phoenician and Akkadian name "Bêrut" with the meaning of "wells" or "water springs", referring to groundwater reservoirs still in use. The ancient Romans had also crossed this area and even today you can see the remains of buildings and temples still in good condition. The capital of Lebanon is today an energetic, vital city linked to traditions but open to Western mentality; to understand it you must wade through a myriad of sharp contrasts. But it is at night that everyone goes wild as nobody would ever have imagined! In fact, since 1990, after the civil war and subsequent reconstruction, Beirut regained the reputation of the fun city that it had in the 60's; every night its nightclubs are full of young people of various nationalities who want to have a great time. Even cultural life bustles: the Lebanese capital has always encouraged artistic creativity through concerts, festivals, fairs and social events like the boat shows, the motor shows, the garden shows and the fashion shows. The new Beirut Beer launched by Kassatly Chtaura could have no better name: that of a dynamic, courageous and passionate city, much loved by its inhabitants.





SMLC

SOFT DRINKS SECTOR

Société Moderne Libanaise pour le Commerce
Choueifat, Beirut, Lebanon

- Smipal APS 3100 LR palletizer
- Smiline conveyor belts



GEO LOCATION



The Société Moderne Libanaise pour le Commerce (SMLC) is a very well-known company on the Lebanese market as being the historical bottler and distributor of a wide range of PepsiCo products such as Aquafina, Pepsi Max, Diet Pepsi, 7UP, Mirinda, Tropicana, Lipton Ice Tea and AMP.

Since its founding in the 50's of the twentieth century, SMLC has always been at the forefront in driving the evolution of the Lebanese soft drink industry.

Over the years, it has invested heavily to equip its production facilities with the most modern and technologically advanced bottling plants.

This Lebanese company's commitment to innovation lies in its twenty-year collaboration with SMI, recently confirmed via two important system-expansion projects, which led to the installation of an automatic Smipal APS 3100 LR palletizer and relating Smiline conveyors within the can line dedicated to the production of Pepsi Cola, Mirinda and 7UP.

The APS 3100 LR model installed at SMLC is driven by brushless motors, which ensure fast and accurate movements, and stacks packs, on 900x1500 mm pallets, made up of 24 0.33-liter cans arriving from a Smiflexi SK 450T shrinkwrapper.

The new system was easily integrated in the existing canning line.



SMLC

STILL INVESTS IN SMI TECHNOLOGY



Since 1995, SMLC has purchased 8 medium-high speed automatic packers from SMI, to which the recent foregoing supply should be added as a sign of the deep trust the Lebanese company places in the technological solutions offered by SMI. The modernization process undertaken by SMLC also includes the following machines were installed: a Smiflexi SK 500F automatic packer for packaging the Aquafina PET bottles in film only packs and a Smipack automatic handle applicator for the application of a handle on the finished pack. As such, the Lebanese company has now embarked on a



large-scale expansion program, which will allow it to further increase its

presence both on the domestic and the foreign markets.





LEBANON

A COUNTRY "WHITE AS MILK"

Lebanon is one of the most fascinating countries in the world and perhaps the only one in history to have kept the same name since the dawn: "Lib Nin". This term derives from the Aramaic "laban", which means "white as milk" and presumably referred to the snowy





as the Valley of Qadisha; the latter, a UNESCO World Heritage Site, is a deep gorge created by the river that has the same name and is a strictly protected area not only for its spectacular natural scenery created by the steep sides of the gorge, the mountain peaks (such as the Qurnah al-Saudah that reaches 3083 meters at the top) and the remaining cedar of Lebanon (*Cedrus libani*), pine and juniper forests, but also because it is home to some of the most important Christian monastic settlements in the Middle East, many of which are perched on the sides of the valley. The Cedars of God (also known as the Cedars of the Lord or Horsh Arz el-Rab) are the last remnants of the immense forest that once covered Mount Lebanon, whose trees were exploited by the Assyrians, Babylonians and Persians, as well as the Phoenicians. Lebanese cedar wood was especially prized by the Egyptians for shipbuilding and King Solomon used it to build his famous temple. This plant, which grows very slowly, seems to hide the true identity of Lebanon, a country that is trying to recover from the destruction of the past, aiming as high as the skyscrapers of Beirut.



peaks of the mountains of Mount Lebanon, which sprinkled the valleys when it melted in spring. Traveling to Lebanon means taking a trip into History: ancient cities, Roman ruins, ski resorts and nightclubs that animate the towns along the coast. But Lebanon has so many other things such as, for example, the underground world of the Caves of Jeita, beautiful caves soon destined to become one of the wonders of the planet, or the fascinating natural landscapes such



SMIPAL

EFFICIENT END OF LINE MANAGEMENT



Smipal's APS range comprises automatic systems for palletizing cases, bundles, trays and packs in general, designed to meet production needs from 35 to 100 packs per minute (depending on the size of the processed product and the chosen palletizing pattern).

APS systems consist of single-column palletizers equipped with two Cartesian axes and are characterized for being highly flexible and easily adaptable to any logistics condition in the line end area for many industrial sectors: beverages, food, chemicals, pharmaceuticals, detergents, glass, paper and many others.

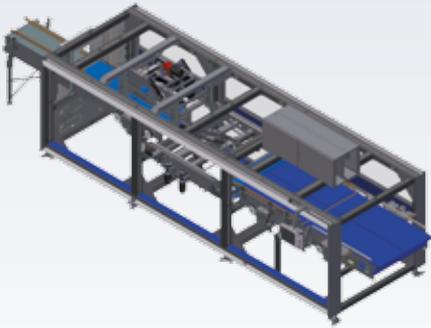
Mechanical simplicity, the use of robot-based components and the structural optimization of SMI palletizers allow the significant reduction of maintenance costs and energy consumption as well as the extension of the system's life cycle.

The accurate sizing of the mono-column and the horizontal beam (which houses the gripping head), sliding on guides with recirculating ball bearings, ensures smooth and continuous movements as well as a long service life of the mechanical components.

The automation and control on-board the machine of the APS Smipal systems rely on innovative technology, based on Sercos fieldbus by means of which the operator, through a simple and user-friendly man-machine interface, can quickly and easily handle all end of line palletizing operations.

Machine management is further facilitated by the use of advanced graphics, touch-sensitive screen and a wide range of diagnostics and technical support functions always available in real time.





Finally, SMI's APS range of palletizers is available in several configurations, both standalone and built-into a Smiflexi packer to form the PACKBLOC integrated system.

◆ INFEED WITH CONTINUOUS
IN LINE PRE-COMPOSITION

The palletizing system installed at SMLC in Beirut includes the continuous in-line preparation of the layer through an innovative "multi-row diverter". In this configuration, the loose packs arriving on a single-row belt are rotated or translated and then arranged in multiple rows in the position envisaged by the palletizing pattern, thereby pre-forming the layer. A special mechanical actuator separates the layer that was just completed, while the multi-row diverter prepares the next layer. The layer thus formed is pushed into the roller-equipped gripping head by a suitable bar system. Infeed with continuous in-line pre-composition is very compact and, as such, optimizes space at the end of the line.



DARIDA

WATER & SOFT DRINKS SECTOR

Private Enterprise Darida
Zhdanovichi, Minsk Region, Belarus

- PET LINE for 12,000 bottles per hour:
- Smiform ECOBLOC® 6-66-8 HP LG-VMAG
- Smiflexi LSK 40F and DV 200
- Smipal APS 3050 P
- Smiline conveyor belts
- syrup room, labeller, checks, turntable-based wrapper



VIDEO



GEO LOCATION



Natural water resources are a real treasure trove in Belarus, where the bottled water market has been experiencing a steady and sustained growth for some years.

Such ferment is the basis of major investments in new technologies affecting the food industry, including those recently made by Private Enterprise Darida that are in a prominent position.

To cope with the growth in the demand for bottled drinks on behalf of Belarusian consumers, Darida decided to install a new production line in its own plant in Zhanovichi, near Minsk, entirely provided by SMI, and which covers the bottling and packaging of carbonated beverages and fruit nectars in 0.75 liter and 1.5 liter cylindrical PET bottles and square-based bottles.

This turnkey system is able to produce up to 12,000 bottles per hour in an efficient, affordable and eco-friendly manner.





HIGH-QUALITY BEVERAGES TO SUIT ALL TASTES

Private Enterprise Darida specializes in the production of bottled mineral water and carbonated drinks, whose trademark is among the most popular in the Republic of Belarus and also in neighboring countries. Among the more than 50 kinds of soft drinks and water produced by this Belarusian company, the lodiner water is its most

renowned and exclusive product, which obtained the gold medal in a contest in this sector. Even the Darida water, extracted from artesian wells located at a depth of 266 meters, is



INSTALLATION / Darida



bottled with no special treatments thanks to the excellent mineralization of the product available in nature (fluorine, potassium, calcium and magnesium) using the modern systems provided by reliable partners such as SMI. Among the most successful factors of the Belarusian company, in addition to the outstanding quality of the water, are the very good quality/

price ratio of its products and the fine and cutting-edge design of the bottles in which they are sold. These bottles, designed in collaboration with SMI specialists, meet the expectations and needs of end users in terms of product quality preservation, ease of use and appearance of the container. Besides the Iodiner and Darida waters, Private Enterprise Darida produces





and markets many other drinks: Acqua Fruit, a non-alcoholic carbonated soft drink made from apple juice, strawberry, lemon and other fruit; Tea Collection, a revitalizing tonic drink obtained using natural water and tea; Cold Coffee, a drink made of water and natural ingredients such as Guarana coffee, caffeine and sugar and, finally, Fruit Mega, a non-alcoholic carbonated soft drink made from natural cranberry juice and concentrated orange, pineapple and carrot juices with vitamin A, C and E.



ABOUT PRIVATE ENTERPRISE DARIDA

Health is the main ingredient for a happy life and it is no secret that the quality of the water we drink impacts positively on health and mood. Therefore, Private Enterprise Darida, founded in 1992, is constantly striving to improve its products, offering consumers more and more high quality beverages.

Darida has received numerous awards at national and international contests but, among all, the most important recognition for its products comes from the appreciation shown by customers throughout Belarus, Russia, Lithuania, Latvia and Estonia.

The key factor of this Belarusian company's business success is most definitely the excellent quality of the artesian-well drinking water. Its first source was opened in 1997 in the town of Zhdanovichi (on the outskirts of Minsk) at a depth of 410 meters; two more sources were opened in 1999 and 2011, at a depth of 266 and 387 meters, respectively.

Thanks to the pristine nature and the advanced technologies used in the bottling process, water from these three sources is protected from biologic and chemical contamination and meets the biological requirements necessary to ensure the high quality of the product.

In 2002, only five years after the opening of the first source, the production of Darida water had already doubled since the beginning. The surge in demand led to the need for a series of investments in new, fully automated and high-tech production plants and bottling systems.

The current plant of the Belarusian company is a modern, functional and expanding facility, where SMI recently installed a new complete line for the bottling and packaging of 0.75 liter and 1.5 liter cylindrical PET bottles and square-based bottles containing carbonated beverages and fruit nectars.



BELARUS

THE BOTTLED WATER MARKET



The sources of natural mineral water are a real asset of "White Russia", the geological structure of which is characterized by the presence of large underground aquifers quite near the surface. The wide-ranging availability of natural resources is undoubtedly the key factor in the strong development of the bottled water sector that in Belarus provides operators with remarkable



THE CITY OF MINSK

Minsk is the capital and largest city of Belarus (about 2 million inhabitants in 2014), home of the Commonwealth of Independent States and also the capital of "voblast" (the Minsk Region). This city lies on the banks of the Svislač River and its historic center is called Rakov. The Belarus capital is a very charming place from an architectural standpoint, with huge squares and major avenues like Praspekt Nezalezhnasci (Independence Avenue), which is the city's main and longest street (15 km!), renowned for the many historic buildings that overlook it. As often happens, the origin of the name of this city is explained in a legend: a giant called "Menesk" or "Mincz" had a mill on the banks of the river near the city, which he used for grinding the stones he used for making the bread to feed his warriors. The name "Minsk", also known as "Mensk" in Belorussian, more likely comes from the word "miena", i.e. "barter", widely used due to this city's long history of trade. No one can leave Belarus without tasting the famous "Draniki" dish consisting of crispy potato pancakes, with its golden, steaming hot crust, prepared in a very simple way: just add, to a base of grated potatoes, some mashed potatoes, finely chopped bacon, mushrooms and ground beef, all served with sour cream, milk, mushroom sauce and, for gourmets, red caviar.





opportunities for future growth. In 2013, the per capita consumption of bottled water for this country's nearly 10 million inhabitants amounted to only 28 liters, a figure much lower than that recorded in other European countries. For this reason, the prospects for future development in this sector are all marked by optimism, also thanks to huge investments in new production facilities made in recent years by many Belarusian companies. In addition to water, other healthy drinks like fruit nectars have shown a growing consumption, reflecting the fact that the local food & beverage sector is rapidly evolving towards the levels of maturity and awareness of the rest of Europe.



THE WHEEL OF LIFE

Surrounded by unspoiled nature of extraordinary beauty, Belarus is rich in protected areas including, among others, four major national parks, the Biosphere Reserve of Berezinsk and numerous national and regional reserves.

Although landlocked on an area of 207,600 km², thanks to a good geographical location, more than 11,000 lakes and numerous waterways, Belarus can boast many favorable factors to the development of trade and tourism.

The strong focus on the environment, agricultural development and eco-friendly issues were also confirmed at Expo 2015, at which the Belarus Pavilion chose the "Wheel of Life" theme.

The authors of the pavilion's project have repeated the lifecycle concept through the architecture of a mill, which guides visitors toward enthralling thematic paths dedicated to the maintenance of food safety and crystalline water quality.



INSTALLATION / Dorida





BELARUS
AT EXPO 2015

MILANO 2015

In the pavilion built in Milan for Expo 2015, the Republic of Belarus has showcased the country's main food and natural resources such as bread, water and salt, in other words the primary ingredients that provide people with energy and nourishment. The cognitive journey of the pavilion of so-called "White Russia" was set in a large garden, crossed by a river, in the center of which stands a 30-meter high wheel made of wood and enriched by a waterfall, a tribute to the "source of life" symbol. On the sides, under a green mantle, the exhibition areas have been designed as "mines" with curved walls and ceilings covered with salt. An outdoor "living room" area, furnished with tables placed in the vicinity of the drinking water source, welcoming visitors for a nice stop between one path and another, giving them the chance to taste the drinks and typical dishes of the hosting nation. The structure was built using mainly wood and glass: two materials compatible with the principles of sustainable development, strongly felt by the organizers of the Milan World Expo 2015.



MODERN TECHNOLOGIES TO SUPPORT ENERGY CONSERVATION

Since the very beginning of its business, Private Enterprise Darida has adopted the most cutting-edge technologies to implement efficient, flexible and cost-effective production systems.

The Belarusian company demanded the foregoing parameters to SMI also for the supply of the complete new PET line of 12,000 bottles per hour installed in the plant in Zhdanovichi,

which includes an integrated solution between technologically advanced machines manufactured by SMI and systems implemented by selected and reliable partners, such as the chiller supplied by Stulz of Valeggio Sul Mincio (located in the Verona province).

This chiller is based on the "free cooling" technology integrated on-board the machine that, during the refrigeration process, exploits the low outdoor



temperatures of the Minsk region, thus reducing the thermal load of the refrigerating system and, consequently, the electricity used to run it.

The bottling process is based on a Smiform ECOBLOC® 6-66-8 HPLG-VMAG integrated system for the stretch-blow moulding, filling and capping of 0.75 and 1.5 liter cylindrical and square-based bottles containing fruit nectars and soft drinks.

The ECOBLOC® integrated system uses latest generation filling technologies, which offer a fully electronic management of the filling cycle while the working parameters are selected directly via the operator panel, depending on required product, container and speed.

At the exit of the compact ECOBLOC® system, a rotary labeller applies the labels to the bottles, which are then

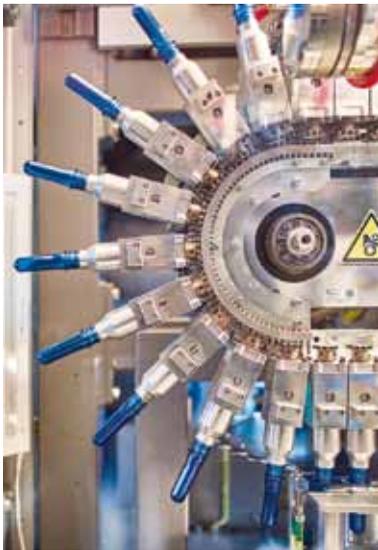
carried by Smiline conveyors to the dry part of the production line to be packaged in shrink film only in the 4x3 pack collations (12 0.75-liter items) and 3x2 (6 1.5-liter items).

These pack configurations are made by an automatic Smiflexi LSK 40 F shrinkwrapper that the bottles reach already properly channeled thanks to a DV 200 divider located upstream of the packaging machine.



The final stage of the packaging process is managed by an automatic Smipal APS 3050P palletizing system that places the packs, arriving from the shrinkwrapper, on the 800x1200 mm pallets, inserting a cardboard interlayer pad between each layer of the pallet to improve its stability and witholding capacity.

All SMI machines supplied to Darida are made with high quality materials and are equipped with a technologically advanced automation and control system, called MotorNet System®, which ensures high operational reliability, low power consumption and reduced maintenance.



HOW TO OPTIMIZE LINE MANAGEMENT AND AUTOMATION

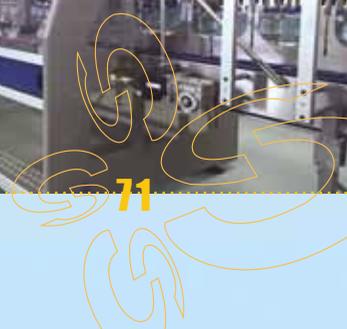


The 12,000 bottles per hour bottling line installed in the plant in Zhdanovichi makes use of a latest generation automation and control system called VaryLine System® that, together with the use of sophisticated sensors, allows you to maintain high levels of operational efficiency throughout the production cycle, thus reducing costs and energy consumption.

In addition, the compact control station can be placed in the production plant's most strategic area, facilitating the operator's job.

The integrated hardware/software system designed and assembled by SMI for the Darida production line is based on PROFIBUS fieldbus, which allows you to control the inverter-equipped motors of the machines installed in the system.

It also integrates the control PC of the conveyors, and the man-machine multilingual interface equipped with touch-screen and simple and user friendly function keys, all in a single unit.



The complete line supplied by SMI to Darida also includes a syrup room, i.e. a system designed to prepare the syrup used for the production of soft drinks and beverages. The solution installed in the plant of the Belarusian company guarantees high quality standards and can be easily adapted to the production requirements of carbonated soft drinks, fruit nectars, tea and other beverages, the latter ones essentially divided into two groups: nectars and soft drinks. For nectars, the sugar syrup is produced at a temperature of 85° C and 60° Brix (Brix is a measure of the substances in solid form dissolved in a liquid), diluted in the mixer with the addition of juice and water up to 25° Brix and, finally, filtered and flash-pasteurized. Instead, the classic process is adopted for the production of soft drinks by means of which flavorings and additives are added to the syrup in the mixers; the mixture thus obtained is then made fizzy, subjected to final dilution at 12° Brix and cooled to 4° C for the bottling operations. The plant of Darida's syrup room is controlled by a series of sophisticated instruments that adjust the running of the machines to a set of parameters defined by the operator, depending on production requirements. Moreover, this system features the possibility of preparing different types of mixtures and sorting them in special tanks, for their subsequent use when the bottling process starts. The syrup room is equipped with an automation and control system that features the full supervision and monitoring of the process variables. As stated above, the system installed by SMI in the plant of Zhdanovichi is able to produce both sugar syrup and nectars, thereby allowing the reduction of the amount of preservatives added to the soft drinks produced by Private Enterprise Darida.

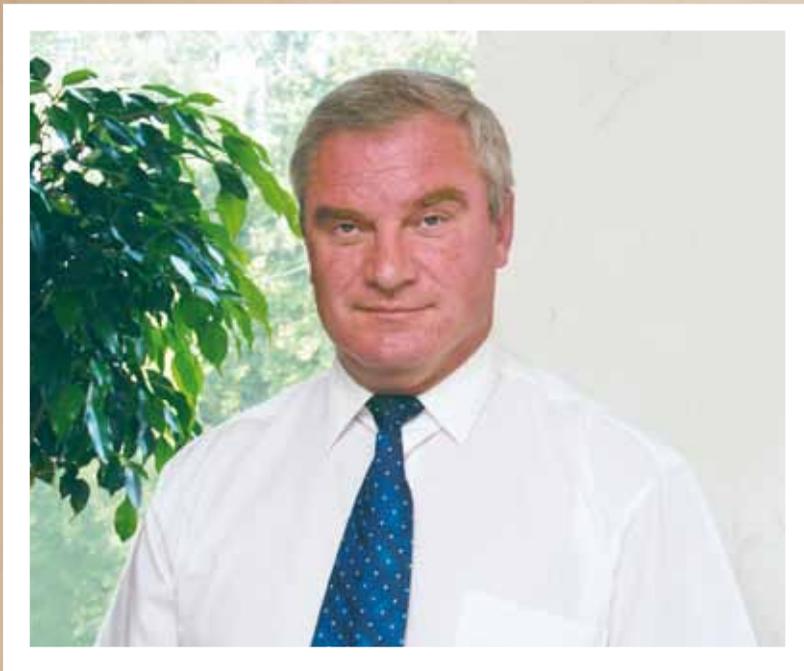
VERSATILE SYRUP ROOM FOR FLEXIBLE PRODUCTIONS





THE WORD TO THE CUSTOMER

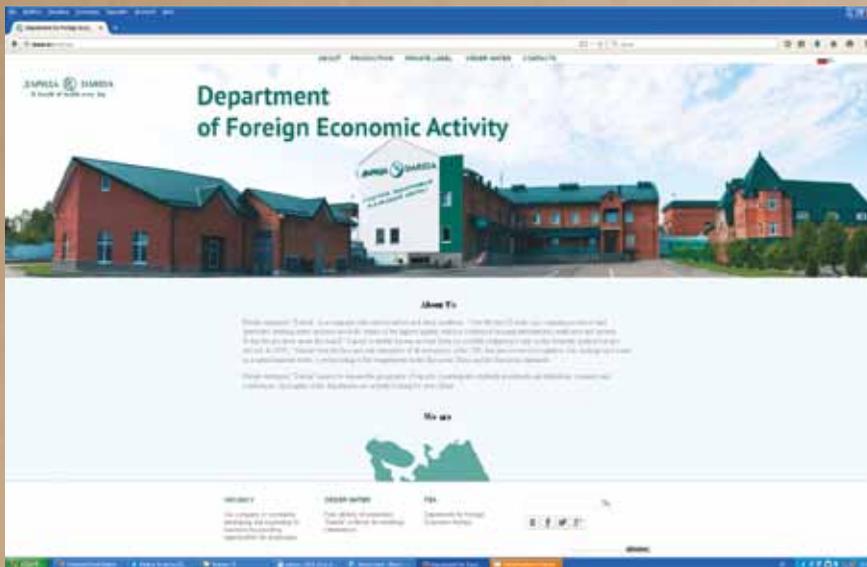
Interview with Vladimir Delendik,
 Founder of Private Enterprise Darida



What are the factors that led Darida to choose SMI as partner for the new bottling line?

"From my point of view, SMI is one of the leading European companies in the field of bottling and packaging technologies, whose facilities are installed not only in Belarus but throughout the world and whose solutions are able to meet the production needs of many industries, among which the

beverage industry, both from the technical and economic standpoints. These are the main factors that led us to choose SMI technology for our new PET bottling line, for which SMI has supplied machinery and latest generation systems, complying with the terms contemplated by our business programs. I would also like to point out that both the start-up and testing of the new production line were completed in a short time, fully meeting our expectations".



What do you ask your suppliers in terms of efficiency, flexibility and technological innovation?

"At the beginning of our collaboration with SMI, we were very impressed with the professionalism and seriousness of the Italian company's technical-commercial staff, with whom we immediately established the right "feeling" for building a business relationship based on mutual trust.

In the later stages of the project of the new PET line, that trust was further strengthened thanks to SMI's way of working, always on time and well-organized.

Our future business development plans include not only the starting of a modernization process but also the continuous improvement of our production facilities, for which we expect innovative and reliable solutions from our trusted suppliers, able to meet all the new consumption trends and customer preferences as quickly as possible, with special attention to energy saving".

Darida has received several awards at national and international level, although the main award is the appreciation shown by your customers. How important is customer satisfaction for your company?

"We are always flattered when we receive an award. In fact, for Darida it is important to continuously improve the quality level of our products and brands, adopting the latest technologies supplied to us by reputable companies such as SMI, so that they can quickly become established in the market and fully meet consumer expectations".

Looking to the future of the beverage industry in the next 5-10 years, what role will the issue of sustainable development play, in your opinion?

"From my point of view, in the next few years technology will change significantly, and energy saving will be increasingly important in the development of enterprises and their products.

I believe that PET containers will continue to play a dominant role within the packaging of the food & beverage products, with further improvements in packaging materials and their environmental sustainability, in their ability to excellently maintain the quality of food and drinks.

Achieving our future growth goals will definitely be facilitated by our collaboration with high-tech bottling and packaging system manufacturers such as SMI, who will help us identify the most appropriate technical solutions for marketing our products in the packaging format that is most suited to the specific needs of an ever changing market".





ERGON SERIES



The new ERGON line of automatic packers (the first of which was presented by SMI at Anuga Foodtec 2015 and that you can see also at Brau Beviale 2015 in a faster version), features design choices based on key concepts such as ergonomics, technology, robustness and modularity.

With the introduction of the first models of this new range of systems on the market, SMI intends marking another milestone in its history of almost thirty years as a manufacturer of technological cutting-edge systems for the global packaging field.

SMI chose to start from the tray-forming machines of the SK series to launch its new ERGON range.

The full renewal of the "flagship" of all automatic packers ideally represents the connection between a glorious past, strong with nearly 6,000 packaging systems sold worldwide, and a future full of exciting new projects and new developments to keep improving the efficiency, versatility and eco-sustainability of the machines it offers.

SK ERGON

WHEN TECHNOLOGY MEETS ERGONOMIC DESIGN



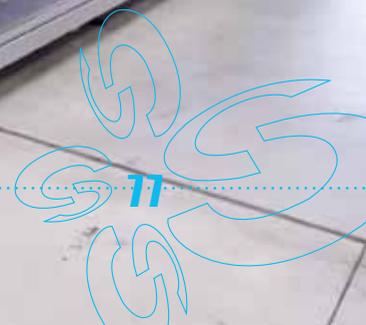
You can point out the new SK ERGON packers rather quickly due to the rounded profile of the movable safety guards and the new “Orobie gray” color, specially created to emphasize SMI’s strong bond with the rocks of the mountains in the area in which it is headquartered.

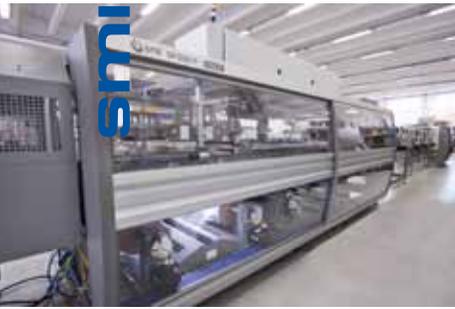
This design allowed SMI to house all the motors on the outside with respect to the mechanical units they run, facilitating line operator access when performing maintenance.

Moreover, the safety doors’ closing system is equipped with a deceleration device, which slows down the stroke’s final stage and accompanies the door smoothly to avoid abrupt slamming that could damage it.

The ergonomic and functional structure of the frame of the new SK ERGON packers allows the operator to easily carry out all the activities related to the use and maintenance of the system, in full compliance with highest safety standards.

There is no contact between the moving components and the packaged





product because the threaded shafts, on which the guide and chain adjusters slide, are housed in a safe environment that protects them from dirt and dust.

Even the film reel section was intensely innovated: each reel is equipped with its own motor, which allows it to unwind and cut the film very precisely, thanks to a new system based on a motorized blade.

In addition, you can install an optional heated-blade film splicing device on the machine, which allows you to join two reels quickly and safely since operator intervention is minimized.

The new SK ERGON shrinkwrappers do not use geared motors as they are driven by brushless motors (controlled by digital servo-drives), which are connected directly to the drive shafts, with the consequent advantage of reducing energy consumption, noise levels and maintenance.

NEW ST ERGON HEAT-SHRINKING TUNNEL

The technological innovation applied to the new SK ERGON machines has also affected the fundamental element of a shrinkwrapper: the heat-shrinking tunnel.

The new ST ERGON heat-shrinking tunnels are latest generation systems boasting cutting-edge technical solutions that allow reducing energy consumption and ensure the utmost environmental compatibility of the processes as well as the improvement of the final quality of the packaged pack.

Thanks to an accurate analysis of the thermodynamic phenomena generated by the heat-shrinking process, SMI tunnels are able to efficiently and smoothly manage the distribution of the hot airflows across the entire surface of the pack being formed.

In the new ST ERGON version, air adjustments have been further increased, so that now the direction of the heat flow is more accurate, thus improving the final quality of the pack.

Moreover, the pack is immediately subjected to a cooling process which, through a series of fans placed at a regular distance of 1 meter each inside the tunnel, fixes the pack's shape, visual appeal and rigidity to prevent deformation or breakage



INNOVATION / Ergon series

during the later packing stages.

A conveyor at the exit of the heat-shrinking tunnel connects the tunnel's belt to the production line's conveyor belts. This connection is ventilated to allow the correct thermal transition of the pack.

The final stretch of the exit belt of the ST ERGON tunnel is equipped with Vetrinite cleaning brushes that remove any residual dirt deposited during machine operations.

SMI's new systems are designed to allow the operator easy and totally safe access to internal parts during maintenance and cleaning, operations which are also much reduced as compared to other traditional systems. Finally, an appropriate meter located on the outside of the tunnel allows the operator to immediately control energy consumption.



Scan this QR code
to discover
the new SK ERGON





 THE NEW DV ERGON RANGE

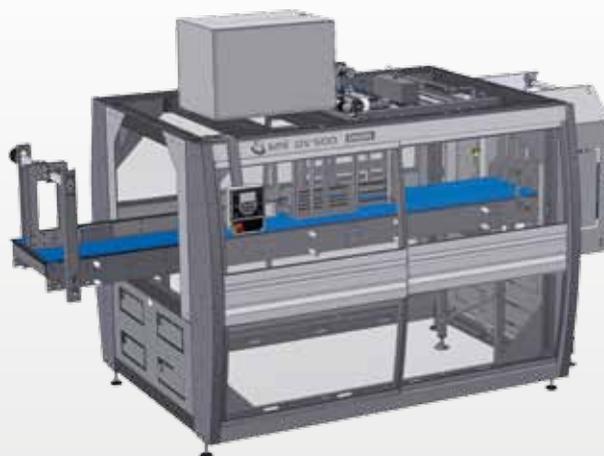
The new DV 500 ERGON, which benefits from the same ergonomic design of the SK ERGON shrinkwrappers, is a divider/laner used to feed a secondary packaging machine with a constant incoming flow of product, both loose and packaged.

The new SMI divider receives the containers from a single-row conveyor belt and channels them on multiple rows at the inlet either of a shrinkwrapper or a wrap-around case packer.

The DV 500 ERGON is equipped with a fully motorized sorting system, designed to handle not only cylindrical containers but also finished packs and square-based containers (such as cartons) at the max speed of 600 containers per minute (depending on product size and weight).

SMI's new SMI divider mounts rounded safety doors, which allow easy operator access to the machine's internal parts, and energy efficient motors for reducing electricity consumption.

The new line of high-performance ERGON dividers also includes the DV 200 model, able to process up to 200 items/minute and that, in some cases, can also be equipped with an accessory device to run at higher speeds, reaching a maximum production capacity of 300 items/minute.



“ Made in Italy
technology for
state-of-the-art
packaging ”



The SMI Group is one of the leading manufacturers of fully automatic bottling and packaging systems, used by thousands of companies in the food and beverage industry caring about the authenticity, purity and safety of their products. Thanks to relentless R&D projects, which enable the company to design packaging systems of high quality, the SMI Group has installed more than 50,000 SMI and SMIPACK machines in 130 countries worldwide. With a workforce of 700 people and a turnover of 130 million Euros, the SMI Group is the ideal partner for the food & beverage-related industries.

CONSTANTLY INNOVATING THE PACKAGING INDUSTRY SINCE 1987



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SMIPACK



After the success of the new range of film shrinkwrappers without sealing bar β P ALX, presented at the end of 2014, SMIPACK has developed the new β P ARX series with the 90° infeed. The new β P ARX packers, which had their world première at IPACK-IMA 2015 in Milan, are especially suited to production needs of up to 20 packs

per minute (depending on the type, size and stability of the product to be packaged) and are characterized by their modular and innovative design, their wide application flexibility and their many options for customizing the packaging process. The β P ARX packer without sealing bar can process cylindrical or square

products and can be equipped with a DIVIPACK 150 model divider to channel the individual items at machine inlet. Thanks to their extreme compactness, the β P ARX film shrinkwrappers easily adapt to any logistics situation of the system in which they are installed, also in case of production lines with reduced space.

BP SERIES

THE SMIPACK SOLUTION FOR PACKAGING WITHOUT SEALING BAR

The range of BP ALX (with line infeed) and BP ARX (90° infeed) film shrinkwrappers includes a model to process packs in film only and one for pad+film processing.

Furthermore, the packs made with these machines can be further customized by using printed film.

This range is managed by an innovative FLXMOD® control system, equipped with an operator interface made of a panel PC and a color touch-screen, 32-bit microprocessor, inverters with built-in encoder reading and I/O control modules.

The operator can easily control all machine parameters, view production statistics, manage and edit formats, etc. via the aforesaid touch-screen panel.

Compared to the traditional version with the sealing bar, in the BP ALX/ARX range without sealing bar, the sealing of film's overlapping edges remains in the lower part of the pack and not on the sides, greatly improving the visual appeal of the packages.





THE SPECIAL FEATURES OF THE NEW BP ARX RANGE

SMIPACK designed the new range of BP ARX film shrinkwrappers to simplify the operations performed by line operators.

To this end, the connecting belt's speed is variable and is controlled by inverters and encoders, whereas the products at infeed are separated by means of a chain separator (controlled by inverters and encoders). The unwinding of the film reel and the wrapping of the film around the pack to be packaged are controlled by a brushless servomotor to ensure constant film tension.

A section of film is wrapped around the product to be packaged and overlaps the bottom of the pack before it enters the heat-shrinking tunnel, so as to obtain a resistant and aesthetically pleasing package. The machine is equipped with a manual film reel sealer and the film is cut by a cold blade operated by reciprocating motion, which allows carrying out this operation efficiently even at the maximum admissible production speed.

Format changeover is very simple, thanks to pack separation and wrapping auto-configuration. In addition, in order to facilitate reel changeover, the shrinkwrapper has an optional support for the second lower reel.

Another important innovation of the new BP ALX/ARX range is represented by the double-chamber shrinking tunnel that, thanks to a differentiated airflow control system adjusted by independent flaps placed at the beginning and at the end of the tunnel, allows the perfect shrinking of the film wrapped around the product, provides excellent performance and saves on energy consumption.

The tunnel's belt is made of fiberglass bars featuring high resistance to heat, patented by SMI and that, thanks to the rigidity of the belt, provide stability to the product in transit, thus ensuring a compact, perfectly heat-shrunk package.

Belt maintenance is also easy and not expensive since the worn bars can be replaced individually.

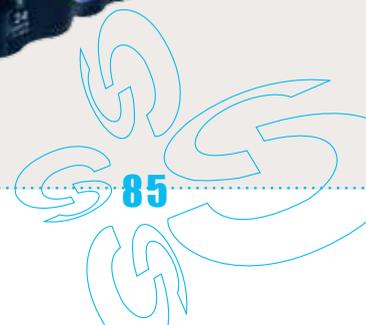




Main features of the BP ARX range

- » Production speed: up to 20 packs per minute (*)
- » Packages made with: film only and pad+film
- » Height of product to be packaged: up to 380 mm
- » Machine infeed: at 90°
- » Tunnel conveyor: fiberglass bars

(*) according to container and pack configuration.



A TALE OF TECHNOLOGY AND NATURE

Hidden in the pristine nature of the Brembana Valley (in the Bergamo province), here are SMI's new headquarters.

Since its foundation, SMI is committed to the product design and production of systems and machinery characterized by their high technological content and by innovative energy saving solutions. The impressive aerial photographs of the SMI Group's new location, taken using latest generation remote-controlled drones, translate these events into images, bringing on stage a wide range of products made in the company's new 65,000 m² headquarters. This location, home to assembly lanes and offices, is a unique example of zero impact buildings where the use of innovative technologies in the renewable energy context allowed SMI to minimize production environmental impact and achieve significant energy saving in plant management. SMI Group's new headquarter tangibly testifies how the smart integration between technological innovation and strategic vision can lead to fully sustainable models of industrial development from an economic, social and environmental point of view.



A PREVIEW FOR YOU





A NEW VENUE FOR NEW PROJECTS

Since 1997, SMIPACK has been producing and marketing a wide range of shrinkwrappers: L-sealing hood packers; L-sealers; continuous sealers; heat-shrinking tunnel; semiautomatic and automatic film shrinkwrappers with and without sealing bar; automatic handle applicators.

Continuous investment in Research & Development, the cutting-edge technology used, the use of highly reliable components and operating flexibility and service are the guarantee of a winning product with an excellent quality/price ratio. SMIPACK invests heavily each year to develop new technologies and bring innovative and competitive products



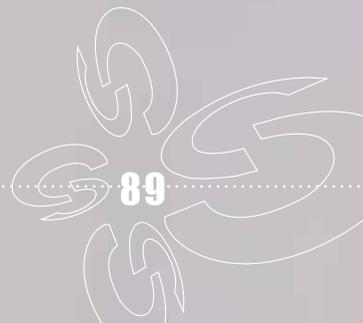
smipack
now



to the market, designed for easy use by operators and for optimizing packaging operations. The company's investments are not only addressed to the machine range but also to the organization and production facility. In fact, SMIPACK recently opened its new, modern and functional premises where design, assembly, sales and

after-sales (spare parts and service) were all joined together over a single area of 14,000 m², since previously they were carried out in different locations. To date, there are more than 48,000 SMIPACK packers installed around the world and about 4,500 units are sold each year.

Thanks to these numbers, SMIPACK ranks among the world leaders in the industry and has become, over the years, a reference point for an increasing number of companies operating in the food and non food markets.





A COMPREHENSIVE VIRTUAL TOUR TO DISCOVER SMI TECHNOLOGY

Thanks to the virtual tour you can now enter the production departments of SMI customer companies and take a close look at the entire bottling and packaging line without being physically present at the facility. The virtual visitor can move freely everywhere inside the plant and can learn more about the machines inside it, through videos and data sheets of the individual SMI units in production. An example of this new multimedia tool is the virtual tour of the Mai Dubai water production facility, available at www.smigroup.it/maidubai, where SMI installed a turnkey system that in addition to the actual bottling and packaging system, also includes all the auxiliary equipment (from the desalinated water treatment system up to the palletizing of the finished packs) necessary for operating it. Your virtual tour begins by clicking on an active spot of the plant's map that is always shown on the screen during navigation; each spot will take you to a photographic 3D reproduction of the sectioned area where you can comprehensively view the surrounding area by simply moving the mouse over it. You can also choose the area you wish to see by clicking on the images at the top of the screen. In addition to experiencing the feeling of realism provided by the meticulous photographic reproduction of the plant, you can also learn more about machines and equipment using the simple and user-friendly multimedia connections (data, videos, information, etc.) these are equipped with.



START YOUR TOUR





www.smigroup.it



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