

GRUPO LALA LACTEOS Y DERIVADOS - AQUA GEO  
HOLDERHOF PRODUKTE - GRISI HERMANOS

smid  
FLOW

Magazine 2021/24



DESIGN WITH US  
**YOUR CIRCULAR PACKAGING**

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# EDITORIAL 2021/24

Gathering challenges  
from an ever  
changing world



Since the beginning of 2020, every one of us has had the opportunity to see how the Covid-19 pandemic has changed our daily lives and changed our habits, perhaps forever: working from home, social distancing and a drastic reduction in local and international travel were just some of the consequences that revolutionized the way the whole world was used to living, moving, working, interacting, trading. SMI, like all other companies on the planet, was forced to reorganize its “modus operandi”, especially as regards commercial relations with existing and potential customers and after-sales assistance services for machine maintenance. For our sector, where business is still done almost exclusively through “face-to-face” negotiations that can

last for months, it was a hard blow to have to suspend all direct contact with the rest of the world and “move” overnight. entire business in the digital world. Aware that the chaos created by the coronavirus would not be resolved in a short time, we took up the challenges associated with the pandemic to continue investing in new solutions that would allow our customers to effectively face the new increasingly uncertain global economic climate. For example, we have expanded the range of the single lane 90° ASW ERGON series packaging machines, which has been completed with models of 30 and 40 packs / minute, we have also renewed the entire range of the SK ERGON series of shrink wrappers, one of SMI’s “Historical” products, to increase productivity and efficiency and reduce energy consumption. In addition, we have strengthened and expanded our solutions in the plastic packaging sector, even for products used on a large scale in healthcare, to fight the spread of the pandemic (just think about masks and hand sanitizers). Now, almost all of our machines allow the use of sustainable packaging materials, such as rPET, regenerated film and ArcWise® cardboard, which represent the new frontier of the circular economy. In this issue of sminow you will find a lot of interesting information on all of these topics and other projects we are working on. Enjoy the reading.

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

## sminow | magazine

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# GRUPO LALA

**LALA GROUP IS A MEXICAN COMPANY FOCUSED ON HEALTHY AND NUTRITIOUS FOOD INDUSTRY, IT HAS AN OVER 65 YEARS EXPERIENCE IN THE PRODUCTION, INNOVATION AND MARKETING OF MILK, MILK DERIVATIVES AND BEVERAGES, ACCORDING TO THE HIGHEST QUALITY STANDARDS, AND CONSTANTLY TRIES TO PROVIDE CONSUMERS WITH THE BEST.**

SMI WAS CHOSEN TO SUPPLY AND INSTALL A SHRINK WRAPPER FROM THE SK ERGON SERIES TO PACK LALA YOGHURT BEBIBLE PRODUCTS IN SHRINK FILM. THE PARTNERSHIP BETWEEN THE TWO COMPANIES, WHICH BEGAN IN 2007, WAS STRENGTHENED WITH THE ARRIVAL OF THE NEW SK 600F ERGON AND CONVEYORS, THAT ARE AN ADDITION TO THE OTHER FIVE PACKERS FORM THE SAME SERIES WHICH RUN IN THE FACTORIES AT TORREÓN AND IRAPUATO.

➤ **DAIRY SECTOR**

COMPLEJO INDUSTRIAL IRAPUATO LALA

Irapuato, Mexico

[www.lala.com.mx](http://www.lala.com.mx)

➤ SK 600 F ERGON shrink wrapper and conveyors



GEO LOCATION

# THE BEST SURPRISES ARE NOT ALWAYS THE BIGGEST!

**I**t is not always the big surprises that make our days fantastic. Sometimes small gestures, a little bit of joy or little moments make daily life exciting. Just think of an unexpected hug of a child, a casual meeting with friends or why not, a delicious dish to enjoy by ourselves or in company. Lala, leader in Mexico for the production of high quality dairy products it has become a large, global company which started small and then turned into one of the most recognized and appreciated companies not only in Mexico, but also at the international level. It doesn't matter whether it's for breakfast, lunch, dinner or any snack: for Lala any time of the day is perfect to enjoy a pleasurable experience. This explains the success of this important, Mexican, business reality, leader in the dairy sector, which continues to invest in Mexico and abroad, so that every single consumer can enjoy the genuineness, quality and delight of the vast portfolio of its products. Starting from these considerations, Lala recently turned to SMI for the installation of the sixth shrink film packaging machine from the SK series, intended for the secondary packaging of 0.25 L HDPE bottles in shrink film bundles only.



## ➤ NURTURING YOUR LIFE IS OUR PASSION

This is how Lala's mission and passion can be summarized, it contributes to people nutrition through a wide range of delicious and nourishing products, made with very high quality ingredients, for all stages of life. This Mexican company has its roots based on austerity and perseverance, with the aim of growing, by producing healthy food, after over seventy years it continues to keep these principles alive, thanks to innovative solutions that take care of the consumer and the collaboration with a team committed to guaranteeing health and growth.





## WHAT IS HAPPENING WITHIN THE DAIRY MARKET?

The milk and dairy products sector is one of the product categories, that, in Latin America, has seen significant growth in consumption in the field of packed products and offers great development opportunities in terms of quality, packaging and brand. The Mexican food industry, as a whole, is now of global significance and is characterized by the coexistence of large groups, with huge resources for investments, and many small and medium-sized companies located throughout the territory. The latter are growing rapidly and therefore, increasingly need innovative technologies to adapt to the specifications imposed by large retailers, regarding hygienic compliance of processes, simplification of packaging and recyclability of waste. The Mexican dairy market has seen constant growth year after year, mainly driven by the good performance of milk-based beverages, which represent about 89% of the total reference market (Source: Canadean). The culture of "on the go" consumption continues to grow at a rapid pace, in turn, increasing the use of small containers, convenient to transport and ideal for single use, such as those proposed by Lala and packed by the SK 600F ERGON shrink wrapper.



# STRATEGIC PARTNERSHIP WITH SUPPLIERS OF HI-TECH PACKAGING SOLUTIONS

**T**he operational excellence of its production facilities has allowed Lala Group to achieve significant economies of scale, from the collection of the milk to the delivery of the product, to the retail outlets, offering end-to-end solutions throughout the supply chain. In this context of growth, innovation and attention to the consumer, the continuous collaboration between the company and its suppliers is of vital importance, as regards to both the choice of the most innovative and performing packaging solutions and efficient and fast technical assistance. In fact, the perfect functionality of the systems present in the more than 29 group plants, equipped with the most modern production and supervision technologies, is an essential condition for the success



of the company and the timely supply of the entire range of quality products under the Lala brand to the retail outlets. Each plant is equipped with several, efficient and flexible production, packaging lines, capable of processing the wide variety of

company brands in various types and pack configurations. Lala's distribution network is currently one of the largest in the region and quickly reaches a large number of customers.



➤ **GOOD, GENUINE FOOD FOR A BETTER LIFE**

Mexican consumers have become more and more demanding over the years and increasingly favor dairy products that can both satisfy their tastes and meet the new health and wellness needs. Thanks to a wide range of products, variety of flavours and package formats, marketed through a portfolio of numerous brands, divided into “traditional”, “premium” and “value” categories, the Lala Group has become the reference point for consumers also in Brazil, the United States and Central America.

The product portfolio of the Mexican company consists of:

- 53% milk brands
- 43% brands of dairy products
- 4% drinks, fruit juices and other.

The Lala and Nutri brands are among the top five Mexican brands in the food industry; other important “brands” of the group are: Foremost (Guatemala), Eskimo and La Perfecta (Nicaragua), Vigor (Brasil), Promised Land and Skim Plus (EUA).





# SMI SOLUTIONS FOR LALA



In 2020, Lala sales increased by 6.7% in Mexico.

The company, which operates in 29 manufacturing plants and 172 distribution centers in Mexico, Brazil, the United States and other Central American states, adopts a commercial strategy that leverages the competitive advantages of the variety of its portfolio of leading brands, with the aim of further increasing market shares and profits, within an eco-sustainable industrial approach.

This goal can be more easily achieved, thanks to the significant investments in state-of-the-art production technologies that Lala makes every year.

Among the most recent acquisitions in this sense, are the secondary packaging machines supplied by SMI, which use innovative design solutions in an IoT (Internet of Things) key and ensure high levels of efficiency and productivity of the plant.



The Mexican company decided to install a new SMI packaging machine from the SK ERGON series, in the new production line of Yoghurt Bebible, the supply also includes conveyor belts for loose products entering the shrink wrapper and conveyor belts for packed products at the outfeed.

Thanks to quick and simple format changeover operations, the system supplied by SMI, allows Lala to pack 0.25 L HDPE containers, filled with yoghurt of various flavors, in various pack configurations, passing from one production to another in a short time.

The SK ERGON series shrink wrapper, is an extremely flexible hi-tech solution, for packaging small containers, in bundles of 6 pieces (3x2 format film only) or in larger formats of 24 pieces (6x4 pack); in fact, this machine adapts quickly and easily to the company's production program, which is subject to frequent changes based on market demands.



➤ **SK 600F ERGON SHRINK WRAPPER - production up to 60 packs / minute**

**Containers packed:** 0.25L HDPE bottles of different flavours of yoghurt

**Packs created:** packs in film only in 6x4, 4x2 and 3x2 formats in win lane

**Main advantages**

- Automatic packaging machine suitable for packing products in various pack configurations in film only
- Quick and easy format changeover to switch from one production to another in a short time
- Compact and ergonomic structure
- Maintenance, energy loss and noise reduced to a minimum, thanks to the motors connected directly to the transmission axis
- Machine equipped with guides, sides and winder optimized for processing small 0.25 L HDPE bottles
- Optional device to process 3x2 packs film only in twin lane

➤ **CONVEYORS**

**Function:** transport of loose containers at the infeed of the SK 600F ERGON shrink wrapper and transport of bundles at the machine outfeed

**Main advantages**

- Smooth, fluid handling of loose products and packs leaving the shrink wrapper
- Simplified maintenance operations
- Simple and intuitive man-machine interface
- Format changeover times reduced to a minimum for the swift transition from one production to another





## LA LAGUNA: THE ORIGINS OF THE LALA GROUP

The origins of the largest dairy group in Mexico date back to 1949, with the creation of the Union of Torreón milk producers, that founded the Pasteurizadora Laguna in 1950. The initial name originates from the locality in which it operates, that is "La Laguna", a region located in the north of Mexico which includes the municipalities of Torreón, Gómez Palacio, Lerdo and others. In this region, in the municipality of San Pedro de las Colonias, state of Coahuila, there is, in fact "La Laguna Mayrán", an endorheic basin in which the Nazas river flows (this originates in the Western Sierra Madre in the State of Durango). The brand, with which the company is famous for throughout America, is therefore a contraction of "La Laguna" (Lala).



➤ THE MAIN STAGES OF LALA'S GLOBAL GROWTH

- 1950:** First pasteurization and distribution plant for dairy products
- 1985:** strong affirmation at national level, which is realized with the establishment of the Lala Foundation to support the marginalized areas of Mexico
- 1987:** first ultra-pasteurization plant in Gómez Palacio, Durango
- 1989:** in order to celebrate its 40 years with the community, the company created the Lala International Marathon
- 2003:** acquisition of the Mexican dairy company NutriLeche
- 2007:** foundation of the Lala Institute, a system that wants to be a guide for promoting a healthy diet in Mexico
- 2008:** expansion begins: in Guatemala with the acquisition of Pasteurizadora Foremost, in the United States of America with the acquisition of a production plant in Nebraska and in 2009 with the purchase of National Dairy Holdings LP
- 2010:** creation of R&D center
- 2011:** spin-off of US operations, named Laguna Dairy (now Borden Milk Products)
- 2014:** the expansion in Central America continues with the acquisition of Eskimo S.A. and in 2016 with the integration of Lácteos La Perfecta, both of them in Nicaragua
- 2017:** acquisition of the Brazilian dairy company Vigor
- 2017:** inauguration of the global service center in Gómez Palacio, Durango, and construction of the first cold meat technology and innovation center in Tizayuc Hidalgo



# FROM MEXICO TO THE ENTIRE AMERICAN CONTINENT

**T**oday the Lala Group is the largest dairy company in Latin America, a Mexican company with interests and presence throughout the continent whose “mission” is, however, deeply rooted in tradition and in the values of its origins, which put good, genuine raw materials in first place. According to Nielsen funds of 2018, Lala occupies the leading position in the milk and cream sector and the second place in the category of yogurt and cheese; to maintain these results, the company continuously invests in new production technologies to ensure high quality levels and offer drinking yoghurt, traditional yoghurt, milk and cream among the best in Mexico. The Lala Group, whose shares are listed on the Mexican Stock Exchange, has grown significantly in recent years, expanding its business even outside its country of origin, especially in Guatemala, Nicaragua, El Salvador, the United States and Brazil. The company strategy of seizing all the growth opportunities in the dairy sector within and out of Mexico, has made it possible to reach important positions in six countries, in which its brands have reached the top places in all product categories.

## LALA IN FIGURES

-  **6:** the countries where it can be found
-  **29:** number of production plants
-  **40,000:** employees
-  **172:** distribution centres
-  **578,000:** consumer sales outlets
-  **80.831 billion Mexican pesos:** sales revenue in 2019
-  **+ 7,000:** distribution network

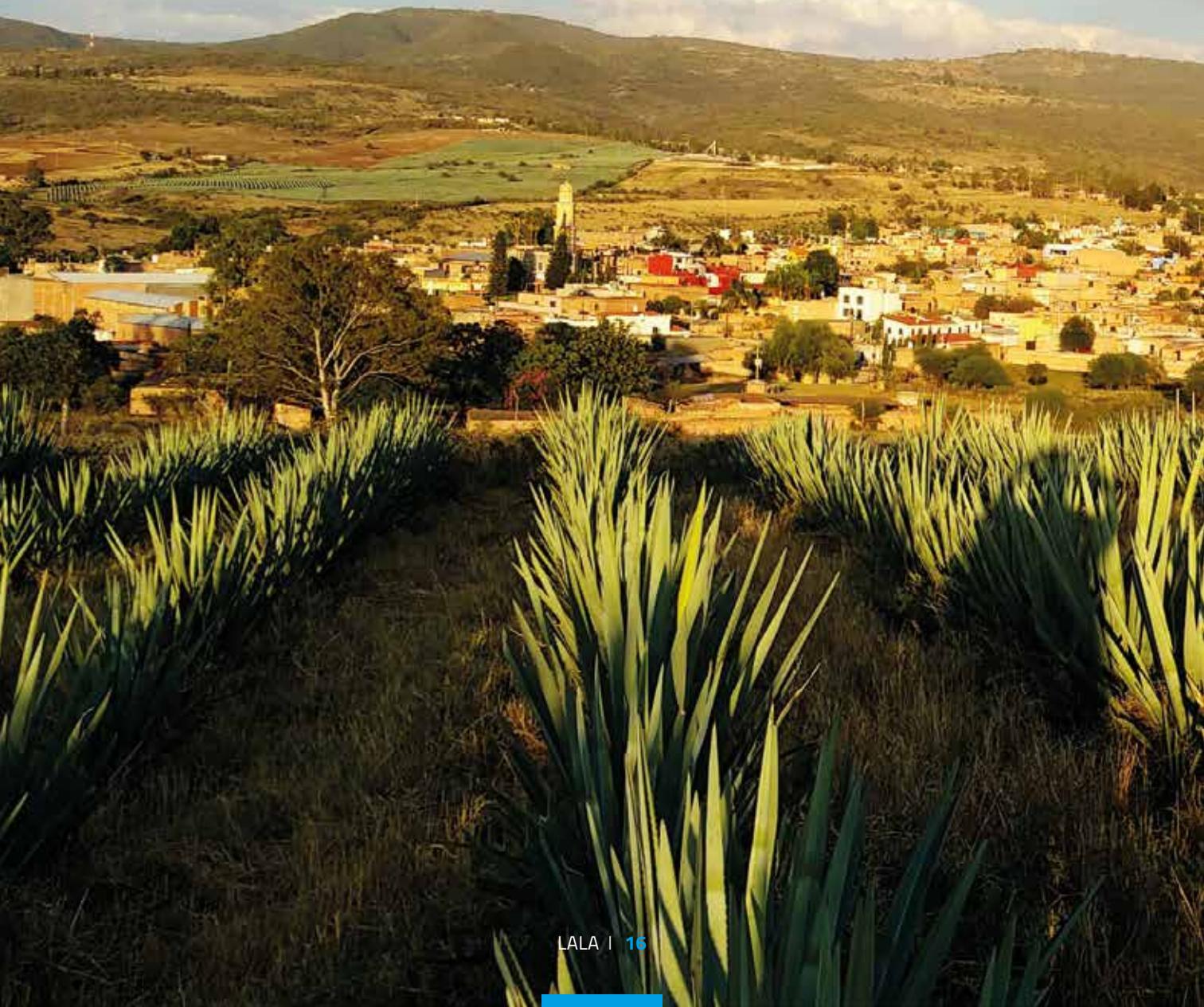




# DISCOVERING GUANAJUATO



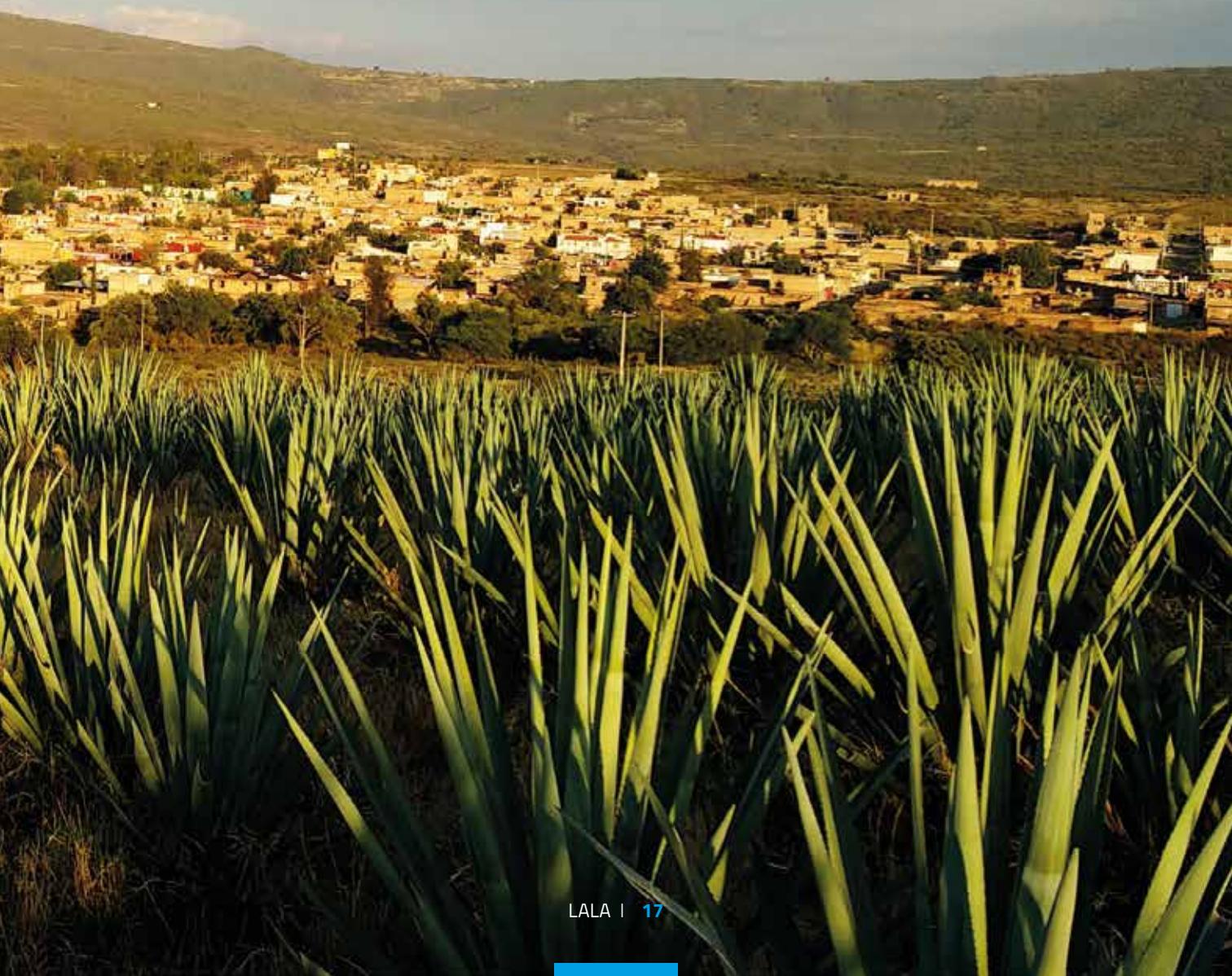
# IRAPUATO: MUCH MORE THAN AN INDUSTRIAL CENTER



**I**rapuato is a large industrial center of half a million inhabitants in the state of Guanajuato (central Mexico), in which, Lala Group, a top-level entrepreneurial reality, a production plant with three SMI SK ERGON series packaging machines currently installed, is located alongside important auto and chemical companies. The city is also very famous throughout Mexico, for its production of strawberries, so much so, that it is considered to be the

“world capital” of this fruit. The center of Irapuato, with the suggestive Plaza de los Fundadores, is an excellent starting point for exploring the area; for example, in the nearby community of Valtierra, everything revolves around the cultivation of “nopal”, the prickly pear, which, thanks to the many uses in cooking, cosmetics and even for special diets, is the basis of the area’s economy. It is also impossible not to have a taste of tequila in nearby Pénjamo, which represents Mexico of the collective imagination: cacti, dusty roads

and expanses of agave. Blue agave or tequila agave is perhaps the best-known variety of agave. Of course, it is not the only one: there are in fact about 400 types of agave known, some of which are used only for decorative purposes. This is not the case with the blue agave, made famous by tequila. Its exclusive use in the production of this drink dates back to the early 1900s, when the German botanist Franz Weber, identified it as the best plant for the production of tequila.



# GUANAJUATO: LAND OF SMALL AND BIG DREAMS



The mines of the golden days and the murals of social denunciation, the artisans and young artists are the places and faces of the state of Guanajuato, in central Mexico, a land that, for centuries, has cultivated small and big dreams. Nestled in the mountains, Guanajuato was the cradle of the independence movement, to free the country from Spanish rule, and which began from here in 1810 and ended in 1821. The city of Guanajuato, the capital of the region of the same name, is characterized by a myriad of multicolored houses lying within a small basin at 2000 meters above sea level, protected by

the mountain peaks. Here you can not only breathe in the nostalgia of the past, but you can look ahead. The future has the face of thousands of students, who attend the local university, especially for art courses, and it could not be otherwise in the hometown of the painter Diego Rivera (1886-1957), famous for his political commitment, his murals and for being the husband of the great Mexican artist Frida Kahlo. The art festivals that take place there are renowned not only nationally, but also internationally, as they host the most important artists of fine arts in the evocative settings of the cities of Guanajuato and San Miguel de Allende.



➤ **WATER SECTOR**

AQUA GEO LTD  
Misaktsieli, Georgia

➤ **KOBI CARBONATED WATER PLANT**

- PET line including ECOBLOC 6-48-8 LG VMAG, LSK 40F ERGON shrink packer, conveyors, labeller and various subsupplies
- Glass line including ENOBERG ELC18-18-6 BA monobloc, LSK 30T ERGON shrinkwrapper, conveyors and various subsupplies

➤ **SNO NATURAL WATER PLANT**

- End of line secondary and tertiary packing of bottles in PET comprising CSK 50F ERGON shrink wrapper, conveyors, APS 1550P ERGON palettiser and subsupplies
- End of line tertiary packaging of bottles in PET comprising conveyors, APS 1550P ERGON palettiser and subsupplies



GEO LOCATION

# AQUA GEO

# THE COUNTRY OF THE FIVE TOASTS. AT LEAST!

IN GEORGIA, IN THE HEART OF THE CAUCASUS, YOU TOAST WITH “KOBI” AND “SNO” WATERS, PRODUCED BY THE AQUA GEO COMPANY IN MODERN, FULLY AUTOMATED, BOTTLING AND PACKAGING SYSTEMS FOR GLASS AND PET BOTTLES SUPPLIED BY SMI THROUGH COLLABORATION THAT BEGAN IN 2011.

**I**n the heart of the Caucasus region, Georgia is one of the richest nations in mineral and thermal waters, even if its large-scale marketing is a fairly recent activity, entrusted to leading companies such as Aqua Geo. In this state of the former USSR, on the border between Europe and Asia, squeezed between the



mountains of the Caucasus and the Black Sea, one is struck by the richness of the waterways and the fertility of the land, which is almost entirely cultivated, with the exception of the highest peaks in the Svaneti region, which reach up to 5,000 meters above sea level. Not surprisingly, the name "Georgia" derives from the Greek term "georg", used to indicate agriculture. Georgia has an ancient history for the cultivation of vines and the production of wine, as evidenced by the archaeological finds of the oldest winery in the world with some traces dating up to 8000 years ago. In the last decade, however, the Georgian economy has come on in leaps and bounds, moving from an almost exclusive dependence on wine production to a diversification into new sectors, such as the production of beverages and carbonated waters. Thanks to considerable investments made by the "food & beverage" companies, Georgia today boasts excellent production of lemonade and beer, while the mineral water sector is constantly expanding. This phenomenon requires the

use of increasingly advanced bottling and packaging technologies, such as those used by the company Aqua Geo Ltd in its carbonated water production plants under the "Kobi" brand and natural water under the "SNO" brand. To automate the bottling and packaging process, the Georgian company turned to SMI for the supply of numerous turnkey plants, which include a line for PET bottles and one for glass bottles in the Kobi plant and two end-of-lines for the secondary and tertiary packaging of SNO natural water at the Misaktsieli plant, near the village of Natakhvari, a few kilometers from the capital Tbilisi.



# KOBI AND SNO, THE TWO LEADING BRANDS IN THE SECTOR

**T**he two brands of mineral water marketed by Aqua Geo, SNO and Kobi, owe their name to the geographical position of the two springs from which the product flows. The carbonated water Kobi, originates in the vicinity of the village with the same name, while SNO water has a more particular history: since the foundation of the Aqua Geo company took place under the auspices of the Georgian Orthodox Church, it was decided to call the natural water produced from it, with the name of the village, SNO in fact, is where the Patriarch of this religious confession, one of the oldest in Christianity, was born. While the production of SNO has been in operation for a decade or so, the Kobi plant is a recent project, officially launched in 2018. The journey between the springs of Kobi and SNO, winds through the inexhaustible beauty of the Caucasian valleys, with astounding views, gigantic mountains, deep gorges, rushing rivers, cities carved into the rock and hidden medieval villages, now a UNESCO World Heritage Site. The surroundings of the village of Kobi are picturesque places; as well as the beauty of nature, one is fascinated by the presence of a large number of historical and cultural testimonies, mostly dating back to the period in which Georgia was part of the Russian Empire. To get to the Kobi plant, take the Georgian military road (\*), which is near the famous ski resort of Gudauri.





**WHILE THE PRODUCTION OF SNO HAS BEEN IN OPERATION FOR A DECADE OR SO, THE KOBİ PLANT IS A RECENT PROJECT, OFFICIALLY LAUNCHED IN 2018**



#### ➔ (\*) GEORGIAN MILITARY ROAD

The Georgian Military Road is one of the communication routes that has lit the imagination and curiosity of numerous writers and travelers. This "road" through the Caucasus Mountains existed before the birth of Christ, but was elevated to the rank of a military road - and therefore equipped to allow the passage of horse-drawn chariots - only in 1783, when King Heraclius II signed the agreement that made Georgia a Russian protectorate. The construction of the road officially ended in 1817, however, in reality, the work continued until 1863. 200 kilometers long, it follows an enchanting and winding path through the Caucasus mountains and connects the Georgian capital Tbilisi to the Russian city of Vladikavkaz, located in the north not far from the border between the two countries.

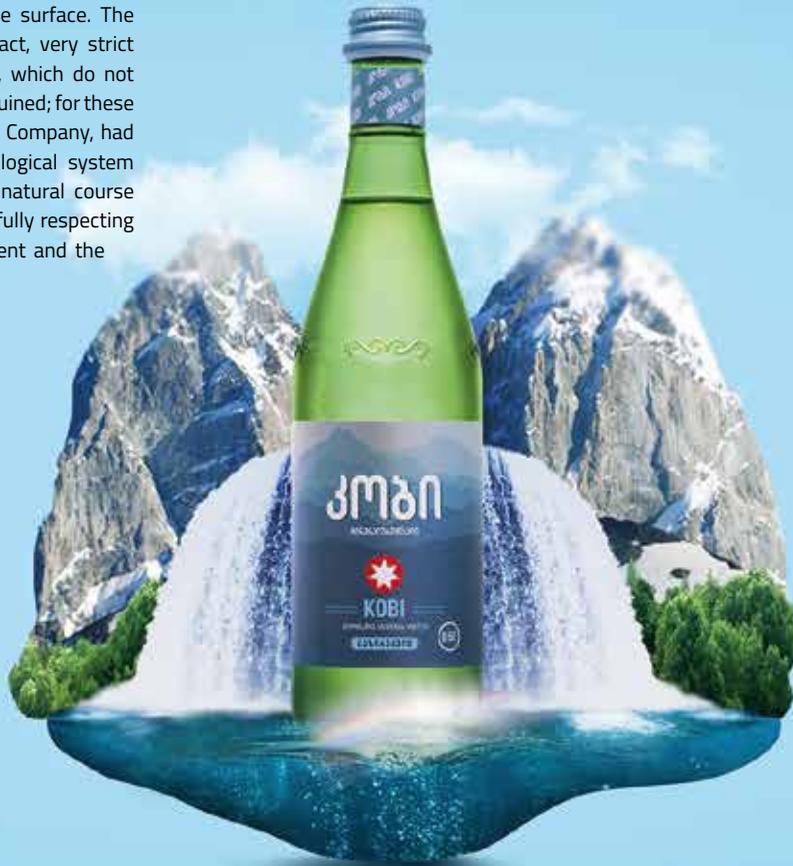
# PURITY AND QUALITY PRESERVED BY TECHNOLOGY

The Kobi spring is located at 2000 meters above sea level in the Caucasus mountains, in the Kazbegi district. In Georgia there are hundreds of natural sources, but Kobi water is characterized by its unique taste and minerals and by a healthy, quality, microbiological composition; this water also has a low level of sodium and contains a large amount of calcium. The carbonation process to which the natural product is subjected, makes this water even more pleasant, making it take on a taste similar to that of the most famous European sparkling waters. The source of Kobi, located at the foot of the mountain, on the right bank of the Terek River, is immediately striking for the lack of pipelines above the surface. The state of Georgia has, in fact, very strict environmental regulations, which do not allow the ecosystem to be ruined; for these reasons the Aqua Geo Ltd. Company, had to create a highly technological system that did not damage the natural course of the spring water, while fully respecting the surrounding environment and the quality of the product.

The Kobi mineral water plant, for the bottling and packaging of glass and PET bottles, is equipped with modern fully automated lines, supplied by the best European producers, which use state-of-the-art technologies to guarantee absolute protection of the quality of the natural product. The water is drawn from wells located near the production area and isolated from the ground surface by 4 impermeable layers, which naturally protect the quality of the water from any type of contamination; from here the water is immediately transferred to the bottling plant through stainless steel pipes, without being stored in tanks.



This process allows the quality and purity of the product to be preserved intact, as certified by the main local and European analysis laboratories.

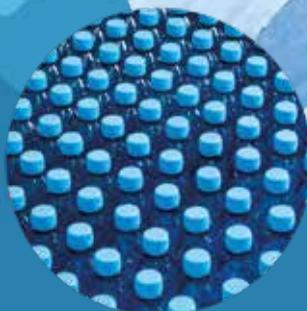


## → ABOUT AQUA GEO

Aqua Geo defines itself as a 100% Georgian company, also from the point of view of the workforce it employs. The company was founded in 2009 with the aim of marketing, locally and abroad, the high-quality mineral water that flows from Georgian springs, thus also contributing to spreading around the world, the knowledge of this extraordinary country and enhancing the progress of its economy. In the design and construction phases of the production plants, Acqua Geo collaborated with both local companies and European partners specialized in the latest generation of bottling and packaging technologies. Today, millions of bottles of mineral water come out of the new plants located in the town of Misaktsieli, marketed through the two main brands of the company: SNO natural mineral water, whose production began in 2012, and Kobi carbonated mineral water, produced and bottled starting from 2018.



საქს გეო  
კარბონირებული მინერალი



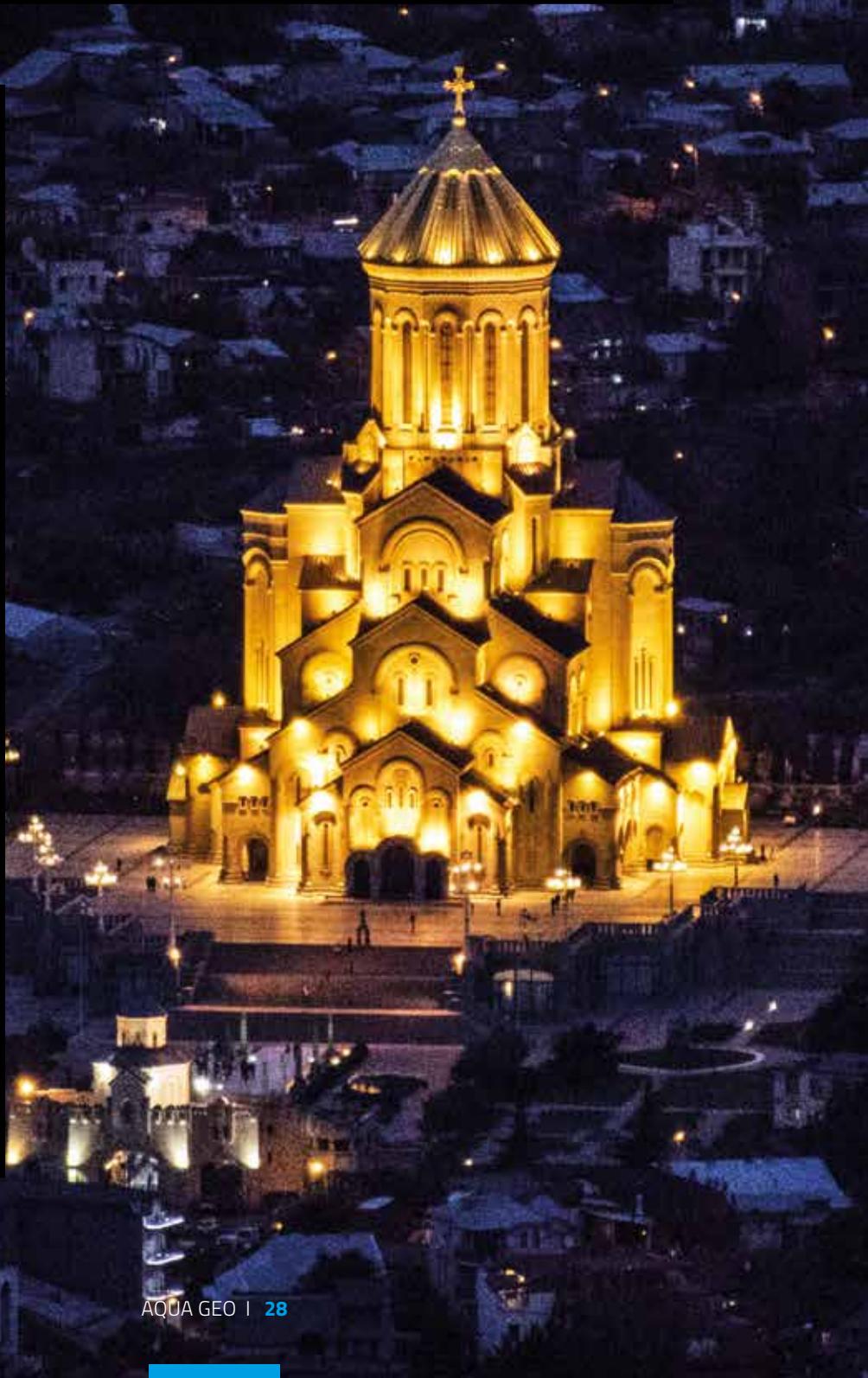
## → SNO MINERAL WATER FOR BEAUTY

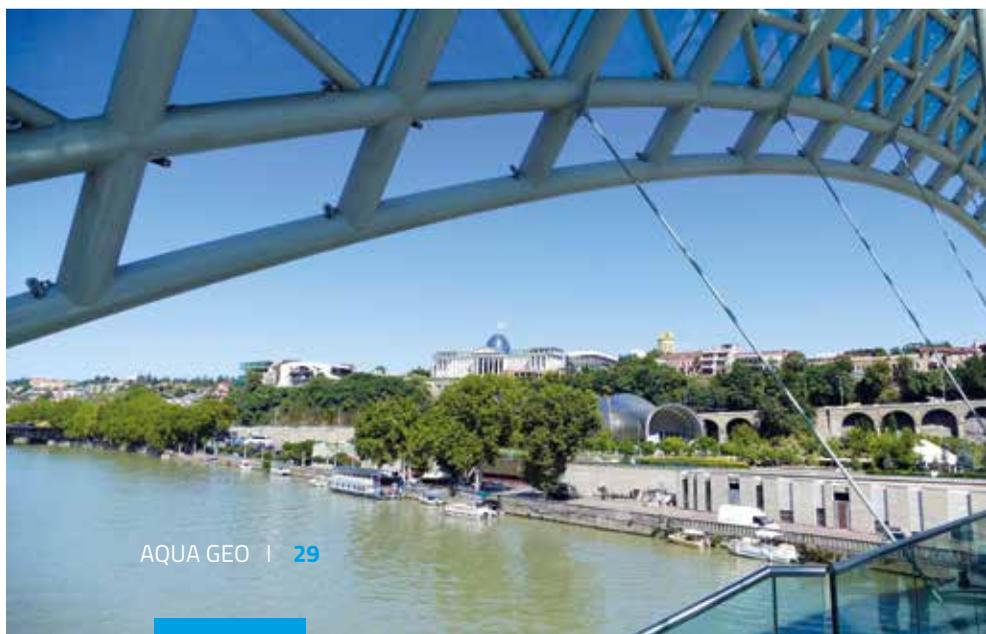
Water is essential for the well-being of every human being, both for the skin and for the body, because it transports nutrients to every cell of the body, eliminates toxins, improves blood circulation and lubricates the joints. SNO water is a fresh, tasty product, which originates in the mountains, on the southern slope of the central part of the Caucasus, at 1700 meters above sea level, and then descends to the valley forming an underground reservoir, from which it is extracted at a depth of 150 meters to be bottled and distributed by the Aqua Geo company. It is curious to discover that the SNO factory in Misaktsieli is located near the inhabited center called "Natakhtari", whose name is used to market the "Natakhtari" lemonade which is widespread in various Russian and Eastern European supermarkets. This town, practically a suburb of Tbilisi (capital of Georgia), is in fact an important industrial area where the production plants of companies belonging to different product sectors are located.



# A SMALL EDEN A STONE'S THROW FROM EUROPE

**T**ucked away in a corner overlooking the Black Sea and the Caucasus Mountains, Georgia's landscape stretches for 500 kilometers along a green, sparsely populated plateau with a pleasant breeze. Georgia is a little Eden; it is a nation surrounded on either side by two seas - the Black to the west and the Caspian to the east - and by two important mountain ranges: the 5,600-meter peaks of the Greater Caucasus, on the northern border with Russia, and those of the Little Caucasus, which mark the southern border with Turkey, Armenia and Azerbaijan. The capital Tbilisi, founded in the 5th century AD. by Vakhtang I of Iberia, has been over the centuries, the capital of various Georgian kingdoms and republics. Between 1801 and 1917, when it was part of the Russian Empire, the city was the seat of the imperial viceroyalty, which governed both the southern and northern Caucasus. Today Tbilisi is an important industrial, commercial and socio-cultural center with 1.5 million inhabitants, strategically located at the crossroads between Europe and Asia along the historic "Silk Road". The historic center of the city offers a set of winding alleys and hidden courtyards embellished with typical wooden balconies; rich in Orthodox and Armenian churches, synagogues, mosques, temples and scenic houses overlooking the Mtkvari (Kura) river, Tbilisi represents the gem stone of Georgia, a country known for the myth that portrays it as the cradle of global wines.





# SMI SOLUTIONS FOR KOBI

The Kobi water bottling plant is a demonstration of the large investments being made in the beverage and natural mineral water industry in Georgia; a great challenge, in a country where history and culture are deeply linked to wine production. Since its foundation, the Aqua Geo company has always had the main aim of equipping itself with the most modern technologies in the sector, to create a high quality product capable of equaling the mineral waters present on the main European markets. This is an objective that the Georgian company is able to achieve everyday thanks to severe laboratory tests on the water from the source and the finished product, modern and sophisticated control systems for the entire production process and continuous monitoring of the packaging and distribution process. SMI, which has been collaborating with Aqua Geo since 2011, has been involved in the important development project of the Kobi brand and has designed, built and installed two bottling lines side by side: one for 0.33 L and 0.5 L glass bottles and the other for 0.5L, 1L and 1.5L PET bottles. The logistic configuration of the two lines side by side allows space and costs to be optimised, due to the fact that both use the same area for raw materials and the same unloading and storage area for the finished pallets ready for distribution.



## PRODUCTION LINE FOR PET BOTTLES

### ➤ **ECOBLOC® ERGON INTEGRATED SYSTEM FOR CARBONATED PRODUCTS – production up to 10,800 BPH**

**Containers worked:** 0.5 L, 1 L and 1.5 L bottles in PET for carbonated water

### ➤ **LSK 40F ERGON SHRINK WRAPPER – production up to 40 packs/minute**

**Packs created:** bundles in film only in 3x2 (1 L and 1.5 L bottles) and 4x3 (0.5 L bottles) formats

#### **Main advantages**

- Bottling line equipped with an integrated and compact system of the ECOBLOC® ERGON series for blowing, filling and capping of PET bottles
- The integration of these functions in a single machine allows to significantly reduce the space occupied and production costs
- This solution does not require the presence of the rinsing machine and conveyor belts between the blow molding machine and the filler
- Reduction of the risk of contamination between the “dry” section of the stretch-blow molding machine and the “wet” section of the filler
- High efficiency rotary stretch-blow molding system equipped with motorized stretch rods, whose electronically controlled operation, does not require mechanical cams
- Precise management of the stroke of the stretch rod, accurate control of its position, significant energy savings
- Blow molds that reproduce the graphic “concept” of the bottle requested by the customer, characterized by special ribs on the bottom of the same
- LSK ERGON series packaging machine equipped with integrated handle applicator (very compact solution)
- Excellent quality / price ratio, thanks to the use of highly reliable components and cutting-edge technical solutions
- Quick and smooth handling systems of empty PET bottles and packs at shrink wrapper outfeed.
- Use of frequency converters (inverters), which optimize the operation speed of all systems.

## PRODUCTION LINE FOR GLASS BOTTLES

### ➤ **ELC MONOBLOC FOR RINSING, FILLING AND CAPPING- production up to 6.000 BPH**

**Containers worked:** 0.33 L and 0.5 L glass bottles

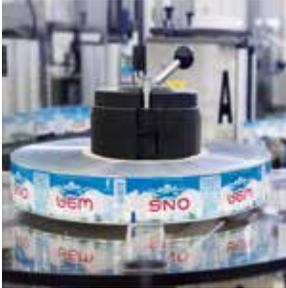
### ➤ **LSK 30T ERGON SHRINK WRAPPER – production up to 30 packs/minute**

**Packs created:** bundles in tray+film in 4x3 (both bottles) formats

#### **Main advantages**

- Extremely compact line solution, with bespoke infeed designed to reduce machine footprints
- Empty bottle labelling: this solution guarantees high quality product and avoids condensation, typical when labelling on full bottles
- Empty bottle labelling does not require a drying tunnel, present on the PET bottle production line, where the full bottles are labelled at the outfeed of the ECOBLOC® ERGON
- Rinsing, filling and capping carried out on the Monobloc of the ELS series, versatile and easy to maintain
- Electro-pneumatic filling system (pneumatic valves operated by solenoid valves) for level gravity filling, which facilitates the automation of all filling functions
- The motors of the LSK 30T shrink wrapper are directly connected to the transmission axes, with the consequent advantage of reducing maintenance, energy dissipation and noise.
- POSYC® control panel, with extremely intuitive graphic interface, which allows easy and efficient use of the packaging machine

# SMI SOLUTIONS FOR SNO



The growing demand for SNO natural water has required new investments, for the expansion and modernization of two end-of-lines at the Misaktsieli plant. Working in close collaboration with the Aqua Geo team, SMI engineers designed an automatic solution for secondary and tertiary packaging optimized for the production needs of the Georgian company's plant; the primary objective of the new intervention was to increase the production efficiency of the lines for the bottling and packaging of 0.5 L and 1.5 L PET bottles of SNO water.





## COMPLETE END OF LINE - PET 24,000 BPH

### ➤ CSK 50F ERGON SHRINK WRAPPER - production up to 50 packs/minute

**Products worked:** 0.5L and 1.5L bottles in PET

**Packs created:** bundles in film only in 6x4 and 4x3 (0.5l bottles) and 3x2 (1.5L bottles) formats

### ➤ CONVEYORS

**Function:** to carry the loose product from the out feed of the filler monobloc, accumulation conveyors before and after the labeller and conveyors to carry the packs between the packer and the palletiser

### ➤ HANDLE APPLICATOR HA 60

### ➤ APS 1550 ERGON PALLETISER with rotating arm wrapper

**Packs worked:** bundles arriving from the CSK 50F ERGON packer

**Pallets created:** europallet 800x1200 and 1000x1200

### Main advantages

- CSK ERGON packer equipped with a motorized system of oscillating guides at the entrance to the machine, which facilitates the correct channeling of loose containers on a conveyor belt equipped with chains in thermoplastic material with a low coefficient of friction
- Grouping of loose containers in the desired format carried out continuously
- Compact design film cutting unit with brushless motor run blade, which makes the cutting operation more precise
- ICOS motors equipped with integrated digital servo-drive (driver), able to simplify the wiring of the machine and ensure greater energy efficiency, less noise and reduced wear of components
- Easy maintenance
- Optimal management of product flow, through an accurate study of the accumulation, distribution and handling dynamics
- Format changeover times reduced to a minimum for the rapid transition from one production to another
- High operational reliability, thanks to the structure and components made of AISI 304 stainless steel
- Some of the lowest noise and friction levels in the industry
- Cleaning and maintenance interventions limited to a few points
- APS 1550 palletiser single-column with two cartesian axes with SCARA technology, extremely flexible to the logistical requirements of the end of line area.
- Compact structure with central column that integrates the functions of feeding the empty pallets, inserting the interlayers between one layer and another and the palletizing operations
- Reduced maintenance costs and low running costs, thanks to the machine's simple mechanics and the use of components of robotic derivation
- Extremely simple automation and management control, thanks to the intuitive and easy-to-use man-machine interface

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## END OF LINE FOR TERTIARY PACKAGING

SMI has also supplied a new automatic palletising system that works bundles arriving from the LSK 35T installed in 2011; this integration to the existing line comprises:

### ➤ APS 1550 ERGON PALLETISER with rotating arm wrapper

**Containers packed:** bundles arriving from the LSK 35T packer in 4x3 and 6x4 (0.33L and 0.5L bottles in PET) formats and in 3x2 (1L and 1.5L bottles in PET) formats

**Pallets created:** europallet 800x1200 and 1000x1200

### ➤ CONVEYORS

**Function:** carry the packed product from the outfeed of the packer

#### Main advantages

- Fluid pack movement from the outfees of the existing LSK packer
  - Simple, intuitive interface man-machine
  - Simplified maintenance
  - Reduced changeover times from one production to another
- 



# IS GEORGIA TRUELY THE CRADLE OF GLOBAL WINES?

For a long time, Georgia has been a very welcome, strategic crossroads, to thirsty traveler. Wine has always been an integral part of the country's culture and is closely linked to its people, who usually grow grapes and produce wine. It is no coincidence that viticulture and winemaking are the most important sectors of local agriculture; here you can find the typical, traditional winemaking technique in "kvevri", that is large underground containers used to exploit the thermal insulation naturally offered by the soil. Over 450 types of local wines are registered in Georgia, making the country one of the oldest places for producing high quality wines in the world. Although we usually associate wine with a Mediterranean lifestyle, historians and archaeologists from all over the world agree, that in these parts, people were toasting with fermented grape juice as early as 8 thousand years ago, as demonstrated by substances attributable to the wine discovered on clay findings dating back to 6 thousand years before Christ.



**IN THE GREEN CANTON OF ST. GALLEN IN SWITZERLAND, WHERE NATURE OFFERS ITS BEST AND OFFERS TRANQUILITY AND VIEWS OF INDESCRIBABLE BEAUTY, THERE IS THE AMAZING COEXISTENCE WITH MODERNITY AND TECHNOLOGY OF HOLDERHOF PRODUKTE, A LEADING FOOD COMPANY IN THE PRODUCTION OF FRUIT JUICES.**

IMMERSED IN LARGE PRISTINE MEADOWS, WARMED BY THE MILD TEMPERATURES OF LAKE CONSTANCE, HOLDERHOF PRODUKTE TURNED TO SMI FOR THE SUPPLY OF A NEW ASEPTIC LINE FOR THE PRODUCTION OF QUALITY JUICES WITH A THOUSAND THERAPEUTIC VIRTUES, DESIGNED ACCORDING TO THE MOST RIGOROUS MEASURES TO RESPECT THE ENVIRONMENT.

# HOLDERHOF



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➤ **JUICE SECTOR**

HOLDERHOF PRODUKTE AG  
Henau, Switzerland

- ASEPTIC LINE OF 8,800 bottles / hour
- EBS 4 E ERGON stretch-blow moulding machine
  - Monobloc for filling and capping with net weight
  - LSK 30T ERGON packer
  - Conveyors
  - APS 1550 ERGON palletising system
  - SWM control and supervision system
  - Various sub supplies
- 



GEO LOCATION





# ALL THE FRESHNESS OF A MEADOW... IN A BOTTLE!

**C**hristof Schenk was 20 years old, when in 2000, he founded Holderhof Produkte AG with the aim to produce and sell products made from elderberry flowers and berries. The first elderberry trees were planted in 1998 and the first product Elderwood wine, became the object of his graduate thesis in agriculture. The success of this new product prompted the Swiss company to expand the elderberry plantation and at the same time expand their business. At first there were only seven employees, today the company employs 25 people and, apart from elderberry, they also cultivate currants, raspberries, herbs and berries. This allows them to continue their efforts of innovation and diversification that is the basis of their very wide and varied, current production range. Since 2012 this Swiss company has produced syrups, fresh fruit juices and “soft drinks” within the PET container, bottling line at their factory in Henau, in the canton of San Gallo, while the production of syrups in glass bottles dates back to 2017. The great attention paid to the surrounding environment and the desire to protect and preserve it from future contamination, has considerably influenced the company’s production choices.



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➔ DID YOU KNOW THAT...

**Elderberry and fiction:** the elder is often mentioned in literature, as in a passage by Giovanni Verga, which mentions a musical instrument made of elderberry. In the Harry Potter saga, the most famous wizard in the world, the elderberry magic wand is the most powerful.

**Stöppacio:** an old children's game, popular in the Italian countryside. A kind of blowpipe is made from an elderberry branch and it is used to shoot tiny balls. The player who blows the ball furthest wins.

**Origin of the term:** elder comes from the Greek "sambuché", referring to the musical instrument similar to a flute made from the hollow branches of this small tree.

**Natural dyes:** Germanic people collected elderberries, which they then crushed to obtain a natural dye with which they painted their body before going hunting or in battle.

**In the kitchen:** elderberry flowers and berries are also used in culinary recipes. The flowers are used to flavour some drinks, while the ripe berries are used to make jams and jellies. There is a famous digestive liqueur based on a distillate of elderflower and aniseed, Sambuca.

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# SMI SOLUTIONS FOR HOLDERHOF



At the bottom of the success of Holderhof Produkte AG there is a deep love for and great attention paid to nature and to the quality of the final products. There is no reason to doubt the quality of a product that is 100% natural, which results from the use of excellent, organic, raw materials, subject to scrupulous controls, from the gathering, to the production, and the distribution to the consumer. To satisfy the various tastes of the latter, the Henau-based company continuously develops and introduces new products, marketed under its own brand or for third parties, both in Switzerland and in the rest of the world. The aseptic line solution provided by SMI, starts from these considerations: from the need to have an extremely flexible system, to process the many products offered by Holderhof, and from the importance of having hi-tech production systems, that preserve the surrounding natural environment.





### ASEPTIC BOTTLING LINE FOR CONTAINERS IN PET

➤ **EBS 4 E ERGON BLOWER** - production up to **8.800 bottles/hour**

**Bottles worked:** 17 different bottles in PET with a capacity of: 0.25/0.3/0.33/0.5/0.75/1 and 1.5 L.

➤ **NET WEIGHT FILLER AND CAPPER MONOBLOC FOR LIQUID PRODUCTS**

➤ **LSK 30T ERGON PACKER** – production up to **30 packs/minute**

**Packs created:** Bundles in film only in 3x2 and 4x3 (0.5 L and 1 L bottles); 3x2 (0.25L – 0.33L – 0.75L and 1.5 L bottles) formats; Bundles in tray in 5x3 and 6x3 (0.5 L bottles) 4x3 (0.33 L bottles) and 3x2 (0.75 L bottles) formats; Bundles in tray + film in 3x2 (1 L bottles) and 4x3 (0.33 L bottles) formats

➤ **APS 1550 P ERGON PALLETISER**

**Containers packed:** bundles arriving from the LSK 30T ERGON packer

**Pallets created:** europallet 800x1200

➤ **SWM LINE SUPERVISOR**

#### Main advantages

- Solution for an aseptic bottling line including: rotary stretch-blow molding machine for the production of a large number of bottles of various capacities; net weight filler; automatic shrink wrapper to produce various bundles in film-only, tray-only or tray + film configurations and an automatic palletization system to process different palletisation schemes. Net weight filling and capping block of liquid products
- High flexibility to quickly switch from one bottle to another. Considering the production speeds, the customer could have chosen between rotary or linear stretch-blow molding solutions. Holderhof Produkte opted for SMI's EBS E ERGON rotary technology, because it offers the advantage of being more flexible in the production of various types of bottles, of different capacities, which require frequent format changes
- EBS E ERGON stretch-blow molding machine with extremely versatile preform heating oven: it can process different types of PET or rPET preforms. In fact, the Swiss company is increasing its use of preforms made largely with recycled resin
- The SMI solution for stretch-blow molding of containers adopts eco-compatible technologies, such as the two-stage air recovery system, which ensures a significant reduction in energy consumption and related costs



- Filling with weight dosing technology: the ideal solution for filling sensitive products such as juices and syrups
- Reduced and simplified maintenance operations, which also make it possible to optimize the consumption of washing liquids during the cleaning phases of the system
- High flexibility, both in the secondary packaging of the more than 35 formats processed by the LSK 30T ERGON shrink wrapper and in the tertiary packaging created by the APS 1550 palletiser, which allows to quickly switch from one pack format to another and from one palletisation scheme to another
- Simple and quick management of work programs by the machine operator and scheduled maintenance interventions
- Reduced energy consumption, which is a "must" for Holderhof Produkte AG, particularly demanding in adopting solutions that protect the surrounding environment
- Simple and intuitive management and control of the production line, thanks to the POSYC® HMI system dedicated to monitoring line operation and controlling product flow and conveyor speed
- Continuous supervision of the bottling line, thanks to the SWM supervisor system, which ensures rapid and efficient monitoring of line operation, even remotely via smartphone and tablet
- The SWM Supervisor control system, developed according to Industry 4.0 and IoT principles, combines the typical production data collection and monitoring functions with a series of tools to simplify the control and management of the plant and improve its productivity and safety and cost containment



# PRODUCTS FOR EVERY TASTE

The Holderhof Produkte production range is constantly expanding and includes:

- Refreshing drinks: organic drinks based on natural extracts, fruit juices and tea
- Organic and conventional syrups: produced with the best Swiss fruit, 100% organic, available in PET and glass bottles
- Fresh juices, both with fruit and pulp
- Fruit wines: with fresh fruit and with an alcohol content of less than 10%, which makes them particularly suitable as an aperitif
- Organic Energy Drink
- Elderberry syrup, rich in fiber, tannins and dyes, a valuable ally from a medical point of view to prevent heart and circulatory diseases; a natural purifier, rich in vitamins (especially vitamin C) and free amino acids
- Private label products: Holderhof is an ideal partner for the production, filling and packaging of various beverage formats for third parties in PET or glass bottles



## ➤ THERAPEUTIC QUALITIES OF ELDERBERRY

From a nutritional point of view, the elderberry, contains several beneficial substances for our body. Rich in vitamin B, A and C, this fruit is rich in minerals such as potassium, magnesium, zinc, sodium, calcium, phosphorus and iron. Elderberries contain antioxidants (including flavonoids, anthocyanins, tannins, terpenes and glycosides, polyphenols, citric, cinnamic and chlorogenic acids) and many amino acids (including glutamic and aspartic acids, alanine, arginine, cystine, glycine, isoleucine, lysine, proline, serine, tyrosine, threonine, tryptophan and valine). elderberry, is therefore an excellent remedy for treating infections in the respiratory tract, such as colds, coughs, sore throats and asthma, thanks also to its anti-inflammatory properties. The flavonoids contained in elderberry are vasodilators and help unblock nasal congestion and stimulate bronchial secretion. Dried flower and berry wraps relieve the swelling of heavy legs and promote peripheral blood circulation. elderberry has an antibacterial and antiviral action, useful for treating cold symptoms, but also for allergies and sinusitis, as well as supporting the immune system. Bioflavonoids, found in flowers and berries, strengthen the immune system by increasing antioxidant levels and protecting cell walls from virus attacks. Various studies have shown that elderberry extracts, reduce the duration of flu symptoms, on average from the classic 6 days, to just 24 hours, and that the substances contained in it inhibit the replication of viral DNA, not only in influenza but in general in all viruses.

# THE HOLDERHOF ELDERBERRY PLANTATIONS

**E**lderberry trees provide the raw materials that Holderhof Produkte AG needs for its products. The fruit syrups are made with organic, natural, fruit juices, made with fruits from the plantations located between Lake Constance and the Toggenburg district and in which dozens of farmers work. The hand-picked harvest, of flowers and berries, is the most time-consuming work, but at the same time ensures a

high, quality raw material. Only a few hours pass between harvesting and processing, a fundamental aspect to guarantee natural, fresh, tasty, quality products. For centuries, elderberry, together with chamomile, has been one of the main remedies of herbal medicine, appreciated for its wealth of beneficial properties, especially with regards to its antibacterial and antiviral functions. The medicinal-herbal properties are mainly contained in the fruits and flowers. From

the processing of this plant, both the elderberry syrup of the same name and decoctions, herbal teas and cosmetic preparations are obtained. The flowers can be harvested between May and June, while for the berries you have to wait until the end of August when they are fully ripe. Ripe berries reach an almost black colour, very similar to blueberries, while if they are red, they have an unripe taste and can also be irritating.





AT THE BOTTOM OF THE SUCCESS OF HOLDERHOF PRODUKTE AG THERE IS A DEEP LOVE FOR AND GREAT ATTENTION PAID TO NATURE AND TO THE QUALITY OF THE FINAL PRODUCTS



# A CHAT WITH THE CUSTOMER

## → INTERVIEW WITH CHRISTOF SCHENK Owner of Holderhof Produkte AG



**Q: Mr. Schenk, is it correct to say that your passion for elderberry based products, came from your thesis on elderberry wine?**

**A:** Yes, that is correct. It all began with the thesis I prepared for my degree in agriculture which was on elderberry wine. The thesis and the interest in this product with ancient virtues were the elements that prompted me to start the Holderhof Produkte business in 2000.

**Q: How do Holderhof products differ from all others?**

**A:** The fact that most of the raw materials come from our certified, organic farm clearly sets us apart from our competitors.

In this way, we can constantly monitor the quality, starting from the raw material up to the ready drink.

**Q: What were the most important milestones for the growth of your company?**

**A:** Definitely, the construction of the production plant with the first PET bottling line. To satisfy the multiple tastes of consumers, Holderhof, continuously develops and introduces new drinks, marketed under its own brand or for third parties, bottled in PET containers. An increasingly large number of companies, even abroad, are choosing the quality of our products.

**Q: Is the innovation continuing?**

**A:** Of course! In a market that is under continual change, we need to innovate continually, whether with our drinks or with technology. The 8,800 bottles/hour aseptic line that was recently installed by SMI, came from the need to improve continually and have the latest hi-tech production plant, which is extremely flexible and able to efficiently pack the wide range of juices that we produce.

**Q: Your company's production is very varied and is still expanding. What are the advantages offered by the new aseptic filling line supplied by SMI?**

**A:** Since the blow moulding machine, conveyors, shrink wrapper and palletiser were designed, built and installed by a single supplier, we can benefit from optimised management costs and changeover times. The production of the Holderhof company, is in fact very varied and we need to quickly switch from one bottle to another and from one pack format to another. We opted for the rotary solution of the EBS E ERGON blow moulding machine, because it offers the advantage of being flexible in the production of various types of PET containers, of different capacities, and allows simple and quick format changes.

**Q: Holderhof Produkte AG's corporate philosophy is based on the "field to bottle" principle, demonstrating how important sustainability and environmental protection are. What characteristics do your suppliers need to have, to satisfy this principle?**

**A:** Our suppliers must have equally high requirements in terms of quality. Through the use of modern bottling systems, we can improve energy efficiency and make a valid contribution to environmental protection.

**Q: The care and love for nature and the final products are the basis of your success. Do you have your own “organic” elderberry crops?**

**A:** Exact. As already mentioned, we grow various raw materials, including elderberry, at our certified organic farm, located a few kilometers from the bottling plant. At the base of our success there is a deep love and great attention for nature and for the quality of the final products which are 100% natural. For these reasons, it is essential to use excellent organic, raw, materials and subject them to scrupulous controls throughout the production process.

**Q: How do you see the future of the natural drinks industry?**

**A:** The demand for naturally, produced beverages, especially in the organic sector, will continue to grow. Customers are increasingly interested in what the products contain and will become increasingly opposed to the use of synthetic raw materials. The strong investments of Holderhof in organic agriculture, have led to continuous expansions of berry plantations and paying the maximum attention to the activities of harvesting and production, in order to maintain the quality of the raw materials.



smi  
now



# AN IMMENSE OPEN-AIR GARDEN THAT LOOKS TO THE FUTURE

**I**n the Swiss canton of St. Gallen, near the spectacular Lake Constance, an international area spanning Germany, Austria, Switzerland and the Principality of Liechtenstein, everything is surrounded by immense, rolling hills and extensive fruit plantations. The Holderhof Produkte AG company is located in the heart of this fairytale

landscape, where nature and modernity coexist harmoniously and where the love for art, hospitality and “joie de vivre” come together in a single environment. This area of Switzerland is home to numerous companies operating on a global scale, many of which, such as Holderhof, are leaders in their industry. Dominating this extraordinary Swiss territory, is the famous Lake Constance,

a body of water worthy of protection, surrounded by lush vegetation, with plantations of fruit trees and vines that extend as far as the eye can see; a territory to be savored, in the slow rolling of its sweet hills, where villages with ancient charm are hidden, witnesses of a distant history. Glimpses full of charm, in which nature and its rhythms have always been the protagonists.

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## ➔ LAKE CONSTANCE

Fed by the Rhine, Lake Constance consists of two parts that are connected to each other: the Untersee (lower lake) and the larger Obersee (upper lake). This large body of water, which forms a triple border between Germany, Switzerland and Austria, is a destination that is rich in beautiful natural landscapes, a place characterized by a romantic atmosphere that offers emotions at any time of the year. In summer it is an ideal destination for sailing, windsurfing and swimming. The beautiful Bodensee-Radweg cycle path runs around the lake. The climate, which combines the influences of the lake and the nearby mountains, the pure and transparent waters and the uncontaminated habitat, offer an unforgettable spectacle to visitors: many natural wonders just waiting to be discovered, a continuous alternation of alpine panoramas, covered hills of vineyards and delightful towns where life flows quietly. Among its many jewels, there are historical places of interest, such as Constance: in this German city the so-called Peace of Constance (1183) and the Council of Constance (1414-1418) took place and it was here that Count Ferdinand Von Zeppelin, builder of the famous airships was born and he based his enterprise in the nearby town of Friedrichshafen (now home to an aviation museum).





**A PEARL  
SURROUNDED  
BY  
GREENERY**





Imagine being surrounded by rolling hills dotted with small typical houses and lots of pastures, interrupted by the presence of stupendous and steep limestone mountains, which shine with gold as the sun goes down. The gentle grassy slopes become real grass slides, which, in autumn, take on warm colours with great charm. Here nature has been vastly modified by man, many areas, especially the more hilly and flat ones, have been cleared to make way for pastures, while maintaining the harmony of a relaxing and evocative landscape. Near the mountain range of the canton of Appenzell Innerrhoden, the gentle hills become more rugged and you find yourself walking along comfortable and relaxing paths, which then become steep and death defying, until you discover the suggestive limestone spiers. At the foot of these steep slopes, in the meadows of the valley floor of the Toggenburg district, where a few scattered huts surround this fairytale landscape, the products of hi-tech companies such as Holderhof Produkte, become magical for many consumers, especially elderberry syrup, a drink with remarkable healing properties and a symbolic product of the company itself.



# GRISI HERMANOS





**FOR GRISI HERMANOS, A MEXICAN CHEMICAL AND PHARMACEUTICAL COMPANY, THERE IS A DIRECT RELATIONSHIP BETWEEN HUMAN WELL-BEING AND NATURE. BEING NATURAL, IS A GOAL THAT BENEFITS EVERYONE AND GRISI OFFERS ITS CONTRIBUTION TO ACHIEVE THIS THROUGH A WIDE RANGE OF PRODUCTS DEDICATED TO PERSONAL CARE.**

THE WILL TO KEEP UP WITH CONTINUOUS MARKET CHALLENGES AND THE STRONG ORIENTATION TOWARDS CUSTOMER SATISFACTION, ARE THE BASIC PRINCIPLES THAT ALLOW THE MEXICAN COMPANY TO MAINTAIN THE HIGH LEVEL OF QUALITY OF GRISI BRAND PRODUCTS, WHICH, AS IN THE CASE OF SOME BOTTLES OF SHAMPOO, ARE PACKED IN CARDBOARD BOXES BY AN SMI WRAP-AROUND CASE PACKER OF THE LWP 30 ERGON SERIES.

➤ **DETERGENT SECTOR**

GRISI HERMANOS SA DE CV  
Ciudad de México, CDMX, Mexico  
[www.grisi.com](http://www.grisi.com)

➤ **LWP 30 ERGON wrap-around case packer**



VIDEO



GEO LOCATION



# TRADITION REWARDED OVER TIME

**G**risi Hermanos, a 100% Mexican chemical and pharmaceutical company, makes an important contribution to improving the quality of life of millions of individuals, thanks to a wide range of products for health, beauty and personal hygiene that this company from Mexico City has continued to develop since 1863. For Grisi it is essential to be consistent with the principles of their origins and to follow the philosophy of growth and development introduced

by the founder José Grisi. Based on this philosophy, which has become a tradition over the 158 years of the company's activity, the best results are obtained by skillfully mixing the involvement of people, the pursuit of continuous challenges, creativity and excellent service to consumers. The awards and acknowledgments received, both locally and internationally, testify the success of Grisi Hermanos, which continues to look to the future and face new challenges because, as the founder said in 1863,

"being natural is a difficult challenge, made up of personal efforts but for the benefit of everyone ". Advanced scientific research and constant market analysis, together with investments in cutting-edge





production technologies, are indispensable activities for the Mexico City-based company, thanks to which Grisi Hermanos is able to continue to expand commercially and offer quality products for the more varied consumer needs.

➤ **HELPING IS NATURAL, WITH THE GRISI FOUNDATION**

Thanks to the presence of important natural ingredients, Grisi Hermanos products have improved the quality of life, health and well-being of several generations of Mexican families. With the motto “helping is natural”, and in accordance with its values, the company created the Fundación Grisi AC, through which it has become a reference point for providing a better quality of life to people living in critical and / or vulnerable situations, working to create a better future for the benefit of everyone. Grisi considers the human being to be the ultimate beneficiary of its activity and nature as a source for active ingredients that provide man with health, beauty and well-being. The products that come out of its plants exert beneficial therapeutic, nutritional and cosmetic effects on consumers, thus also contributing to national development and progress.



# BEING NATURAL

**I**n 1863, when there was still no talk of natural products and sustainability, José Grisi, a pharmacist of Italian origin, began the long tradition of producing high quality products for health, beauty and personal hygiene. He settled with his family in the town, that was then San Ángel, near Mexico City, here he founded the first pharmaceutical laboratory to produce a new medicine called Emplasto Monópolis®, an ointment with great properties based on natural ingredients that, in a very short time, became a “must” for millions of Mexicans, to the point that today, it can still be considered the symbolic product of the Grisi Hermanos company. The ointment was also one of the first Mexican medicines to obtain a patent and its growing popularity is the basis of the success of the company, thanks to which the latter was able to move to Mexico City in a short time. Here José Grisi opened the Laboratory of the Monopolis® Emplasto and began to

produce other pharmaceutical preparations, such as Friction Balm, Rambelli syrup and cough tablets. The founder passed on his passion for medicinal products, to his sons Blas and Leonardo, who later took over the laboratory, dealing respectively with the commercial and pharmaceutical parts. In 1890 the Grisi brothers founded one of the most famous emporiums of the time, the Drugstore El Factor, which within a few years, obtained recognition at the 1889 Universal Exposition in Paris. Between 1900 and 1918, with exports to the USA, Cuba and Guatemala, the Mexican company experienced the first of many stages of splendor in its history, while the economic growth of the post second world-war period pushed Grisi Hermanos to experiment with new toiletry products based on plants and natural extracts, which in that period were produced only at an artisanal level. The division of hygiene and beauty products grew further in 1950 with the launch of the chamomile shampoo (Shampoo Manzanilla Grisi®) and the Organogal line of hair beauty products. Thanks to all these natural extract innovations, introduced on the market during the second half of the twentieth century, Laboratori Grisi are considered to be the Mexican pioneers of this sector. Over the following decades, the Mexico City

based company, also signed several agreements for the distribution of various leading brands, including the licensing agreement with Procter & Gamble, the alliance in 2010 with Merisant, specialized in the production and marketing of low-calorie sweeteners and the recent 2020 agreement with GSK for the acquisition of three major brands.





“BEING NATURAL IS A DIFFICULT CHALLENGE, WHICH IN THE END WILL ALWAYS HAVE A SHARED GOAL, MADE UP OF GREAT PERSONAL EFFORTS, BUT FOR THE BENEFIT OF EVERYONE. BEING NATURAL MEANS BEING CONSISTENT WITH WHAT IS SAID AND WHAT IS DONE; FIGHT AGAINST EVERYTHING THAT BREAKS THE BALANCE; OFFER THEIR CONTRIBUTION SO THAT OUR GOAL IS THE STARTING LINE FOR A NEW GENERATION ”

*JOSÉ GRISI, 1863*



# EFFICIENT SYSTEMS FOR THE PERSONAL CARE INDUSTRY

**T**he Grisi Hermanos company, takes care of the consumer not only through the supply of a wide range of quality products, but also through the monitoring of health and safety. Pharmacovigilance is, in fact, responsible for monitoring the safety of medicines, from their development and throughout their life cycle. It carries out a large number of activities for the identification, evaluation, understanding and prevention of adverse events that can

occur with the use of drugs. The concept of product quality is fundamental for Grisi Hermanos, who also pays particular attention to the quality of the "packaging" and to the entire packaging process. The company, like the rest of the personal care products industry, produces a wide variety of consumer goods used for beauty and personal hygiene. This market is driven by continuous innovation and change; in fact, every year new products are introduced, the existing ones are

reformulated with the addition of new ingredients, fragrances or chemical compositions, new containers, new pack sizes, etc. are launched. The companies in this sector therefore, strive to implement production plants capable of quickly adapting to the changes imposed by the market, in order to meet the ever changing packaging needs and offer cutting-edge and competitive packaging solutions.



# THE ROLE OF PACKAGING

The detergent sector as a whole, is growing worldwide and to face growing competitiveness, it focuses on product promotion and innovation. According to a survey by the International Chamber of Cosmetic Product and the National Association of the Household and Personal Hygiene Product Industry (CANIPEC), Mexico is among the top 10 markets in the world, for the production of cosmetics and personal care products and continues to be the second reference market for beauty products in Latin America. Experts estimate that this sector has grown annually by about 8% over recent years, thanks to the strengthening of the internal economy, the growth in consumption and the international affirmation of some brands. Plastic is the most used material in general for various bottles used in this sector, which on the shelves in stores are available in a large number of shapes and formats. It is therefore, essential for every manufacturing company to have very flexible packaging machines, that adapt quickly to the new formats to be packaged. SMI offers original and innovative packaging solutions, bespoke according to the specific needs of the products to be packaged and the marketing and logistics requests of the manufacturer. For example, the plant supplied to Grisi Hermanos, for packaging in wrap-around cardboard boxes, offers the advantages of attractive "packaging" which, thanks to the graphic



## GRISI HERMANOS IN NUMBERS

-  **1863:** year it was founded
-  **105:** 2019 turnover in millions of USD
-  **513:** number of employees
-  **28:** foreign markets where Grisi can be found
-  **40+:** product brands

customization of the box, allows you to differentiate your brand from that of the competition and to attract the attention of consumers. This is why we speak of "strategic packaging", as, in the case of the wrap-around box, it serves the purpose of not only preserving the products throughout the production and distribution process, but also and above all, to increase sales.





# SMI SOLUTIONS FOR GRISI HERMANOS



For the Mexican company it is essential to always be at the forefront, remain a leader in the markets in which it is present, and increase its popularity in new ones, showing a professional image and service towards the customer. These objectives are more easily achievable, thanks to the continuous and growing investments in the latest generation of packaging technologies. In fact, faced with a continuous growth of new products, new formulations, new containers and formats, it is essential to have an extremely flexible production system, which allows you to quickly adapt your marketing strategies to the latest market trends. There are many factors that influence the way consumers perceive a "brand" and the "packaging" of the product is certainly one of them. In particular, in beauty products, the function of the packaging goes far beyond the traditional function of protecting the content, as an elaborate and captivating "package" makes it possible to stand out on the shelves of stores, which are crowded with dozens of different brands. Sometimes, in a split second, customers judge the quality of the product simply by looking, so for manufacturing companies like Grisi Hermanos it is important to pay close attention to the graphics of their products.





### ➤ LWP 30 ERGON WRAP-AROUND CASE PACKER – production up to 30 packs/minute

**Containers worked:** oval/rectangular HDPE bottles in 0.09 L -0.23 L – 0.4 L – 0.5 L and 0.75 L

**Packs created:** wrap-around cases in 3x10 (0.09 L) – 2x5 (0.75 L) and 3x5 (0.23 – 0.4 and 0.5 L) formats

#### **Main advantages**

- end-of-line secondary packaging solution designed to meet the needs of versatility and efficiency
- machine suitable for packaging various types of containers, even with particular shapes (typical of detergent and personal care products)
- the wrap-around packaging system forms the cardboard box and encloses the containers inside with the use of a single machine: the case packer
- solution with an excellent ratio quality / price, compact and suitable for any logistic configuration of the production plant
- the corrugated cardboard wrap-around boxes are very resistant to shocks and are therefore the ideal solution to preserve the integrity and quality of the products they contain
- a wrap-around box is an excellent marketing tool, thanks to the wide possibilities of graphic customization that transform the package into a valid promotional vehicle for the marketed product
- packages made with the wrap-around system are more stable
- the cardboard blank is folded and carefully wrapped around the products simultaneously with their grouping in the desired format, without making machine stops.

### ➤ AN INCREASINGLY WIDE RANGE PRODUCT PORTFOLIO

For the production and marketing of products of natural origin, Grisi Hermanos uses four main divisions: Hygiene and Beauty, Specialized Products, Pharmaceuticals and Cosmetics. With companies located in Mexico, the United States, Spain and Costa Rica, the Grisi Hermanos group is today, a leading multinational company for the supply of quality products nationally and internationally, including:

- The Ricitos de oro brand of baby products, is the number one brand in Mexico and includes six different product lines based on natural ingredients
- Grisi kids brand products, suitable for children of various ages, characterized by an original packaging that reproduces funny characters and cartoons
- a wide range of natural products for hair and skin care
- a line of products for men
- a line of products for pet care.

The range of the Mexico City company is enriched year by year with new brands, this is also thanks to international agreements; for example, in April 2020 an agreement was signed with GlaxoSmithKline (GSK) for the acquisition of the brands Hinds (body creams), Eclipsol (Sun protection) and Capent (anti-rubbing ointment for babies), through which, the Grisi group has reaffirmed its commitment to invest in Mexico, create jobs and develop brands that help improve the lifestyle of Central American consumers.

# MEXICO CITY. WHERE EVERYTHING IS EXPANDING

With as many as 300 neighborhoods, known as “colonias”, and a population of around 20 million, Mexico City is one of the largest urban agglomerations in the world, whose contrasts can overwhelm first-time visitors. Its immensity is undoubtedly bewitching, and if you arrive at night by plane, you will be enchanted by the carpet of lights that the city creates; the metropolis is an ever-expanding universe, offering an infinity of attractions. To understand the immensity, it is sufficient to go up to the panoramic terrace on the famous Torre Latinoamericana, a 44-storey skyscraper built in the 1950s.



This building which is 183 meters high in the historic center of the city, has been declared a World Heritage Site by UNESCO and is famous all over the world for being unscathed by the three disastrous earthquakes that hit the capital of Mexico in 1957, 1985 and 2017. Another excellent point of observation to understand the size of the city, is the Plaza de la Constitución, called "El Zócalo", an area of 5 thousand square meters, that houses the second largest public square in the world after Tiananmen Square in Beijing. The ancestor of Mexico City was called Tenochtitlán, a city founded in 1325 by the Aztecs on Lake Texcoco, which was later destroyed in 1521 by the Spanish conquistadors.

The remains of the canals that made up the ancient capital can be found in Xochimilco, a town in the far south-east of the city, considered to be the "Mexican Venice", and which can be navigated aboard the "trajinera", a particular type of wooden boat. In Mexico City there is also the Basilica of Our Lady of Guadalupe (one of the most visited religious sanctuaries in the world), second in size only to St. Peter's Basilica in the Vatican. Another spectacular monument is the Castillo de Chapultepec, dating back to the eighteenth century, which stands in a beautiful park at 2,325 meters above sea level and is known for being the only castle in all of South America.

Another great testimony of the history of Mexico is the National Palace, now the seat of the federal executive power, which stands on an area of 40,000 m<sup>2</sup> in Constitution Square, in the historic center. The building was built in 1563 on the land previously occupied by the house of Hernán Cortés, the Spanish conqueror infamous for having destroyed the Aztec empire. The walls of the inner central courtyard are completely covered with five spectacular murals by Diego Rivera, which show the Mexican world in every aspect, era, history. They represent, as the title of the work says, the "epopeya del pueblo mexicano" and you could look at them for hours.

# SK ERGON



**SK SERIES**

VIDEO

scan this QR code

## ➤ SK ERGON

- 4 lane infeed with automatic guides and oscillating system to channel loose product
- Product separation by electronically synchronized pins
- Vertical or horizontal Easy-Load magazine (according to the model)
- Rotary cardboard blank picker
- Tray former with automatic timing
- Film unwinding controlled by the brushless motor on the reel holder
- Automatic setting of film winder
- Posyc 15" sliding
- Double reel holder equipped with brushless motor as standard

## INCREASE PRODUCTIVITY AND EFFICIENCY WITH THE NEW SK ERGON PACKERS

The industrial world in general, and the bottling and packaging sector in particular, is experiencing a rapid evolution triggered by the upheavals caused by the pandemic, which can be tackled efficiently and sustainably thanks to the advantages offered by digitization and automation.

SMI continuously invests in the development of packaging solutions, suitable to meet the needs of greater production efficiency and energy saving of

production plants, offering a wide range of high-tech automatic machines capable of ensuring more flexibility, reliability and eco-sustainability.

In keeping with this goal, SMI has decided to renew the "historic" range of the SK series shrink film packaging machines, which, with the 2021 version, is enriched with new hi-tech solutions to improve the entire packaging process and reduce the costs of production and management of the plant.

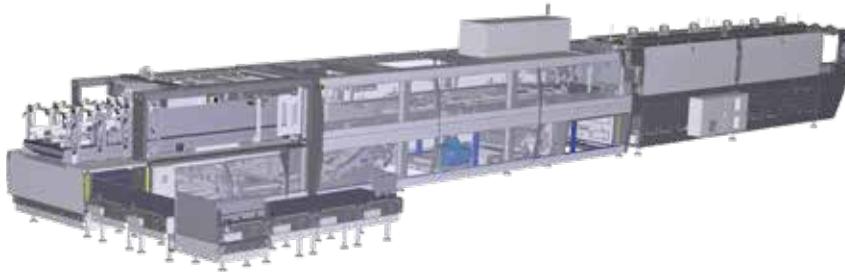


## MAXIMUM LEVELS OF FUNCTIONALITY WITH THE INNOVATIVE "EASY-LOAD" MAGAZINE

The P and T models of the SK ERGON twin lane shrink wrappers, suitable for processing pack formats in flat cardboard + film and tray + film, are fitted with the "Easy-load" device as standard, i.e. an automatic system for loading cardboard, consisting of a series of motorized belt conveyors dedicated to feeding the carton magazine on the packaging machine. The advance of the cartons along the conveyor belts and their loading into the machine magazine, in order to optimize production efficiency, are managed by the automation and control system of the same. The "Easy-load" carton magazine is the ideal solution for packaging multiple types of containers in various pack formats,

quickly passing from one configuration to another, because it ensures greater efficiency and precision in the management of dies of different thickness and guarantees greater tolerance in the variations of the same. From an operational and functional point of view, the horizontal positioning of cardboard and the ergonomic design of the entire system allow the operator to easily load the stacks of blanks onto the magazine feed belts, placed externally to the machine at a working height congenial to this operation (instead of below it as in more traditional solutions). By simply pressing a button, the magazine automatically loads the stacks in the stripping area.

The magazine is made up of modules, so it is possible to increase its autonomy by configuring more modules, to further simplify the work of the operator and optimize the production process to the maximum.



## MOTORS WITH INTEGRATED DIGITAL SERVO DRIVES

The new SK ERGON shrink wrappers are fitted with Smitec ICOS motors equipped with integrated servo-drives as standard, designed to guarantee high performance and remarkable results in terms of energy savings. Thanks to the distributed "DC share" architecture, these servo-drives make it possible to exploit the energy generated by the motors during the deceleration phase, sharing it with the other devices installed on the packaging machine. Optimized to meet demanding applications on modern machinery, the brushless servo motors with integrated inverter, installed on the SK shrink wrappers offer extraordinary flexibility thanks to a rich set of on-board I / O, real-time fieldbus and sophisticated control algorithms. They also represent a space-saving solution, thanks to the decentralization on the machine, which allows to reduce the size of the electrical panels and the relative air conditioning system. Furthermore, using a specific power supply, it is possible to connect up to 32 devices without the need for expensive shielded cables.



## NO MAINTENANCE THANKS TO SELF-LUBRICATING CHAINS

The new generation SK series of shrink wrappers boasts an important innovation, which allows maintenance operations to be minimized, achieve maximum performance and eliminate the use of lubricants that could come into contact with the packed food product.



The new SK ERGON 2021, are fitted with special self-lubricating chains as standard, the particularity of which, is that they do not require the use of lubricant, which is necessary for standard chains, thus representing a long-lasting solution without maintenance.

This innovative solution offers two important advantages: on the one hand, it eliminates the danger of altering the packaged goods with the lubricant during their handling on the machine conveyor belt; on the other, it does not require the periodic maintenance required for classic chains, which consists of lubricating the chain links which are in continuous friction with each other.

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## SEMPLIFIED FORMAT

The latest generation SK ERGON series packaging machines are fitted with new sides on the infeed belt as standard, these are equipped with side guides with new rollers and profiles that vastly simplify format changeover activities, reducing the time required to switch from one pack configuration to another. This solution is particularly useful for companies that need to process containers of different diameters,



in different pack configurations, passing quickly and easily from one format to another and maintaining high production efficiency. The SK series can be equipped with special optional devices to further reduce format changeover times when the user has to switch from processing loose products to packaging pre-made bundles.

# SK ERGON

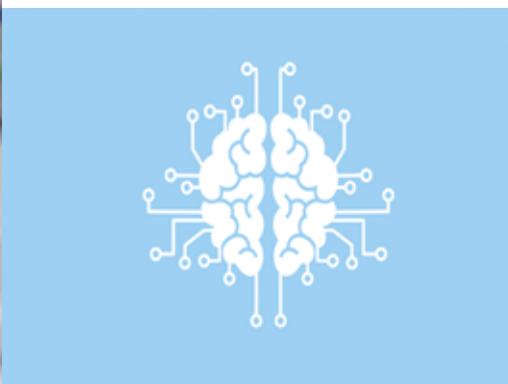
## INTELLIGENT DATA ANALYSIS

**W**e cannot talk about the SK ERGON series without talking about the “smart factory” in general and “smart production” and “smart service” in particular. In a context where it is essential to continuously monitor and intelligently manage production, the choices adopted by SMI in terms of advanced automation and “IoT-embedded” applications play a fundamental role in achieving the

sustainable growth objectives of a wide audience of companies. The new SK ERGONS have their own digital intelligence, which allows the installation of a SWM line supervisor to record, analyze, optimize, automatically modify the production and operating parameters, exchange data and information with other machines and systems within a bottling and packaging line, to carry out self-diagnostic activities to detect and solve faults or anomalies,

to notify the operator of the need for ordinary or extraordinary maintenance and so on. Thanks to this innovative system, companies of SMI customers can easily identify the main causes of “downtime” of the production line, obtain an improvement in the overall efficiency of the same and reduce the time for plant maintenance and format changes. It is also possible to obtain a structured “report” to perform cross-functional analyzes.





## ➤ MAINTENANCE WHICH IS MORE AND MORE PREDICTIVE

Today, in the era of Industry 4.0, in the business environment we hear, more and more often about predictive maintenance, which is added to the now consolidated, preventive maintenance. Thanks to the digital intelligence they are equipped with, the latest generation SK ERGON shrink wrappers can benefit from the SMYIOT platform developed by SMI for predictive maintenance, which has the task of constantly checking the health of the machinery in order to prevent breakdowns and malfunctions. A modem and special software is all that is needed to manage the large amount of data, the so-called "Big Data", collected by the sensors installed on the machines. This information then becomes the basic building blocks of the control and management system that oversees the improvement of the efficiency of the production plants, the reduction of the risks associated with a potential malfunction, the prevention of any "downtimes" and the reduction of maintenance costs. SMYIOT is basically a powerful monitoring and analysis program that, through the intersection of data of different nature and origin, builds an "input" and "output" information model that allows to intervene on the plants, only when it is really necessary. More specifically, the digital platform developed by SMI analyzes, archives and translates the operating data of the machines into information that is immediately accessible to the specialized technicians in charge of their management, who, thanks to special automatic "alerts", are able to plan maintenance interventions on the production line based on the predictive analyzes generated by SMYIOT, replacing a certain component about to break before this event occurs.



# ASW ERGON



## ➤ ASW ERGON

- Single lane infeed
- 90° product introduction
- Compact structure
- Rapid, simplified format changeover
- Easier maintenance
- Film unwinding controlled by progressive brake, which ensures constant and optimal film tensioning
- Automatic setting of film winder
- Posyc® control panel with 7" colour touch screen

Among the numerous innovations made to its product portfolio, SMI has decided to expand the ASW ERGON series of compact packaging machines for shrink film packaging with single lane infeed and 90° product introduction. The range of this type of machines, has in fact been enriched with 6 new models, dedicated to the packaging of a wide range of containers with a cylindrical, oval or square / rectangular base at the maximum speed of 30 (ASW 30) and 40 (ASW 40) packs per minute. The ASW ERGON series was designed two years ago, from the desire to offer a compact version with single lane infeed, suitable for production needs from 50 to 80 packs per minute, of the "historic" range of SK series automatic packaging machines, marketed by SMI with great success since the mid-nineties. The favorable market reception of the ASW 50, 60 and 80 has led SMI to extend the



range of these machines also to those who need lower speeds, introducing the new ASW 30 and ASW 40 ERGON models. The latter combine the best of the SK ERGON series with some innovative technical solutions present on the models of the LSK ERGON series in terms of modular assembly, space saving, process simplification, advanced ergonomics and latest generation automation. The various models of the ASW ERGON series allow packaging in shrink film only, in pad + film and in tray + film.



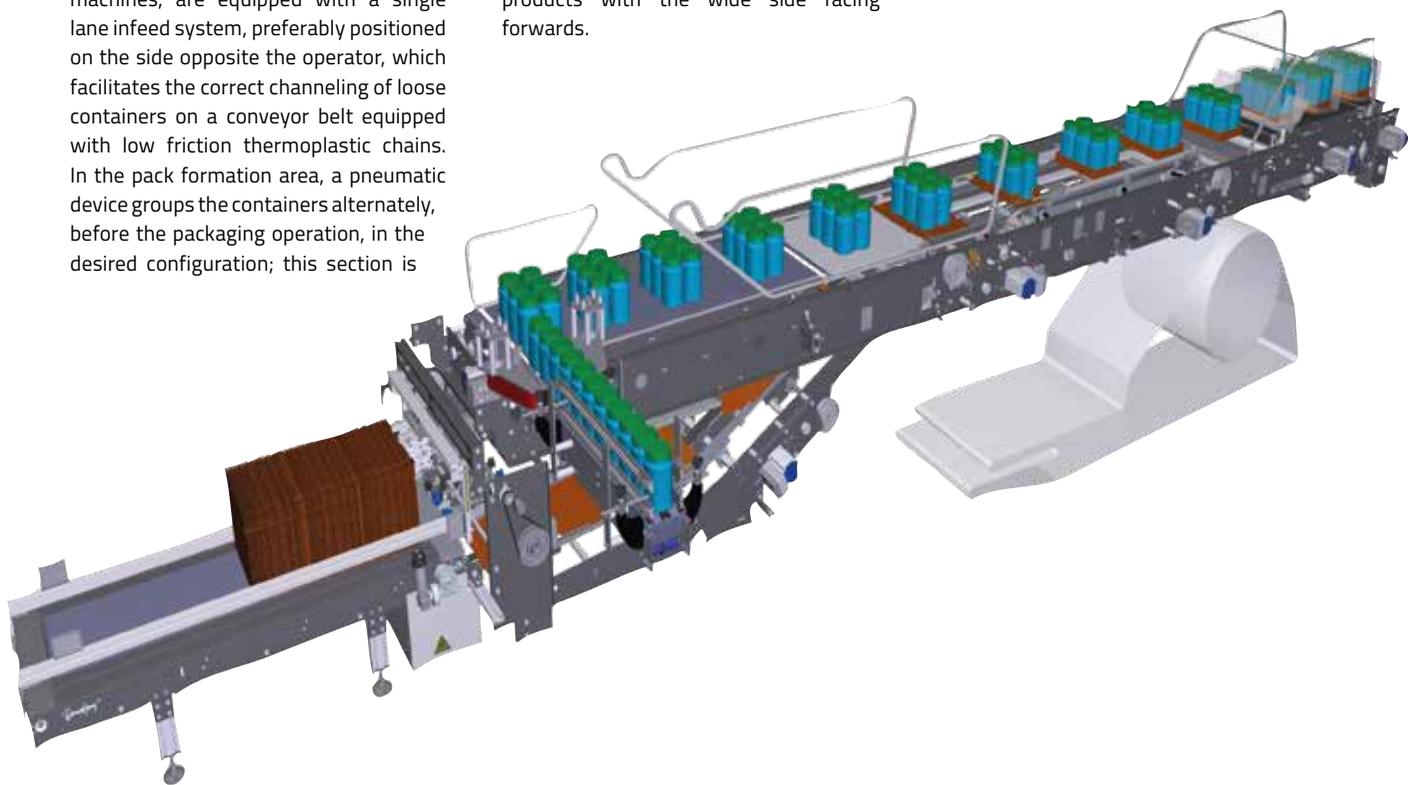
# ASW ERGON

## NEW MODELS OF COMPACT SHRINK WRAPPERS WITH 90° INFEED

**T**he ASW packaging machines, equipped with a single-lane infeed belt, have the considerable advantage, also in economic terms, of not requiring the presence of a divider for channeling loose products; moreover, the format change operations are completed quickly and in a simplified manner, because it is possible to process different types of containers, of various sizes, without having to resort to additional equipment. This compact solution easily adapts to the logistical conditions of the end of line of any production plant; in fact, in the infeed section, the ASW ERGON SMI packaging machines, are equipped with a single lane infeed system, preferably positioned on the side opposite the operator, which facilitates the correct channeling of loose containers on a conveyor belt equipped with low friction thermoplastic chains. In the pack formation area, a pneumatic device groups the containers alternately, before the packaging operation, in the desired configuration; this section is

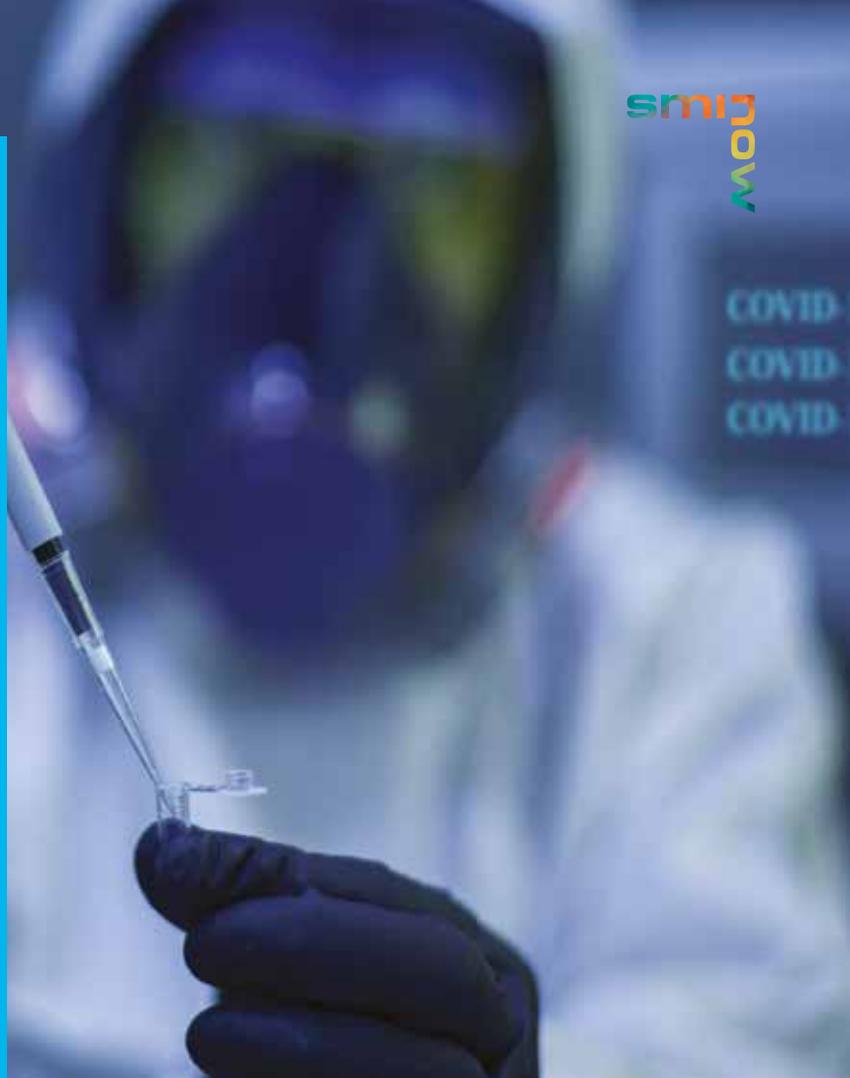
characterized by a double belt system, which, through an electronic cam, separates the products according to the format to be processed. Subsequently, thanks to the rotary feeder, the loose products are moved from the single lane conveyor to the multi-way conveyor belt at the machine infeed. In the ASW P and T models, the carton magazine is located under the infeed belt; from here the corrugated cardboard pads or trays, taken by means of an alternating motion picker equipped with a group of suction cups with pneumatic suction system, run along the cardboard ramp and are positioned under the group of incoming products with the wide side facing forwards.

The unwinding of the film reels, positioned in the lower part of the machine, is controlled by a progressive brake, which ensures optimal film tensioning. The splicing of the film at the end of the reel, takes place via a manual sealing bar. The reel-holder spindles have pneumatic locking and when the reel film is running out, a special device intervenes to stop the machine. Before the pack enters the shrink tunnel, the film is cut by a motorized blade knife, wrapped around the group of containers and superimposed on the bottom of the pack.



## ➤ PLASTIC PACKAGING IN THE CIRCULAR ECONOMY AND DURING THE PANDEMIC

Over the last few years, plastic has been the subject of numerous criticism that have made us forget the considerable advantages in terms of hygiene, safety, practicality and functionality that a functional packaging such as plastic can offer. Faced with the growing objections of global public opinion on the validity of the economic model based on the massive use of plastic, few have had the courage to explain that the problem of pollution associated with it, does not lie in the material itself, but in the erroneous abandoning in the environment by its users; in fact, it would be sufficient, to properly dispose of the plastic objects that billions of people use every day, to have an available material that, in some cases, saves our lives, as we have seen since the beginning of the coronavirus pandemic. In fact, disposable plastic has found wide use in healthcare facilities, especially in intensive care departments, as it is used in filters for respirators, oxygen masks, in sterile packages that wrap disposable instruments, in gloves and masks but, even more simply, in sealed water bottles, which, in delicate health conditions, drastically lower contamination and contagion.



# IS PLASTIC SUSTAINABLE?

CONTRARY TO PUBLIC OPINION, PLASTIC IS MUCH MORE SUSTAINABLE THAN OTHER PACKAGING MATERIALS, BOTH FROM AN ENVIRONMENTAL AND AN ECONOMIC POINT OF VIEW, IN MOST CASES WHEN USED RESPONSIBLY AND RECYCLED AFTER USE.

IT IS THEREFORE USEFUL FOR HUMANS AND THE PLANET TO INVEST IN TECHNOLOGIES AND SOLUTIONS THAT REDUCE THE IMPACT OF PLASTIC ON THE ECO-SYSTEM, MAKING IT MORE SUSTAINABLE, BUT IT IS EVEN MORE USEFUL TO CHANGE ATTITUDES TOWARDS PACKAGING, TO LEARN HOW TO RECYCLE ANY CONTAINER.



**I**f we compare the different packaging materials, from the point of view of their production and their post-use disposal, we can say that plastic has several advantages over glass or metal:



plastic is very light; therefore a PET bottle can be transported more efficiently than a glass one, with less CO2 emissions into the environment



if disposed of correctly, with efficient systems, plastic does not end up in the sea, but rather becomes an excellent raw material that can be easily and infinitely recycled and with low consumption of resources



thanks to improved materials, advances in manufacturing techniques and container design, plastic packaging has become lighter (about 25% from 1991 to today), allowing a reduction in the annual plastic production



plastic meets the functional requirements of hygiene, safety and storage of food and beverages during the production, transport and distribution phases, even for very long periods of time



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## ➤ SMI SOLUTIONS FOR SUSTAINABILITY

Lots of studies and research show that the production, use and trade of plastics has not stopped growing, so much so, that international organizations such as the EU are distinguished by the increasingly frequent use of policies and initiatives, aimed at preventing the problems associated with the incorrect use of this material in many economic sectors, for example, with the new EU Directive 2019/904 that comes into force in 2024 for “tethered” caps, which, compared to traditional ones, remain fastened to the bottle even after it has been opened, will become the reference on the beverage market. Furthermore, for some years the industries of the food sector have increasingly made use of rPET containers (a type of 100% recycled PET) and invest huge resources to make their plants increasingly efficient, sustainable and eco-compatible. SMI is constantly committed to creating packaging solutions that implement these characteristics right from the study and design phase, offering a complete portfolio of technologies with reduced environmental impact:

- rotary stretch-blow moulders, to produce rPET containers of different capacities
- compact systems for producing, filling and capping rPET containers of different capacities, suitable for still and carbonated liquids, milk and oil
- a wide range of automatic packaging machines for secondary packaging in stretch film, recyclable shrink film, corrugated cardboard and kraft cardboard
- automatic palletizing systems capable of optimizing palletizing schemes, number of packs on each layer, use of the available logistic space, storage and transport efficiency and management and maintenance costs.

# ARCWISE®

## THE BOX THAT FOLLOWS THE SHAPE OF THE PRODUCT

The Swedish company SCA Forest Products has developed Arcwise® technology, which makes it possible to produce a type of cardboard characterized by high environmental sustainability and significant weight reduction, compared to other traditional packaging solutions. Arcwise® cardboard, which can also be used on case packers and packaging machines in wrapping bands produced by SMI to make wrap-around boxes or cardboard clusters, uses a raw material entirely derived from renewable sources, allowing companies that use it to improve the eco-compatibility standards of their productions. This raw material, also has the considerable advantage, of being able to be folded more easily than the classic corrugated cardboard, assuming without any problem, the rounded shape of the product around





which it is wrapped during the packaging phase. This high ductility also makes it possible to exploit the surface of the box as an exceptional advertising vehicle, as the graphic appearance of the package is uniform and continuous, without the unsightly interruptions that in all other boxes are due to right angles. The technology developed by the company SCA Forest Products solves the question "Why interrupt your brand with an edge, if you can use a cardboard box or a cardboard die that follows the shape of the product?" By combining Arcwise® technology with the technology of the SMI WP series case packers, companies in the "food & beverage" sector can create a wide range of carton packages with very attractive graphics, able to attract the attention of consumers on the shelves of the points of sale. Even the Arcwise® cardboard dies used on the SMI MP series packaging machines combine the robustness of this packaging material with the design of the rounded shapes, offering maximum product protection and maximum brand visibility, even in the presence of 30% lighter packaging, about compared to the standard.

## ➤ CIRCULAR PACKAGING IN FORM AND SUBSTANCE

- Arcwise® cardboard is biodegradable and comes from renewable sources
- Reduction in the weight of the package by approximately 30% (depending on the type of application and the shape of the packages), which is achieved by adding rigidity to the curved carton
- Consequently lesser amount of material required for the same protection
- Greater resistance than traditional box models
- Very attractive graphics, which attract the consumer
- Greater brand visibility on the shelves
- Surfaces free of defects and imperfections



**ARCWISE®**  
VIDEO  
scan this QR code

# AIR MASTER

## SAVE ENERGY AND HELP THE ENVIRONMENT

The production process of PET and rPET containers by means of stretch-blow molding systems, requires the use of high pressure compressed air, produced by a compressor powered by electricity.

All SMI rotary stretch-blow moulders of the EBS ERGON series are designed to ensure high energy efficiency.

In particular, the latest generation machines use cutting-edge technologies such as the AIR MASTER double-stage air recovery system, which allows to reduce the consumption of compressed air by up to 40% (\*) compared to systems without it, and which operates as follows:

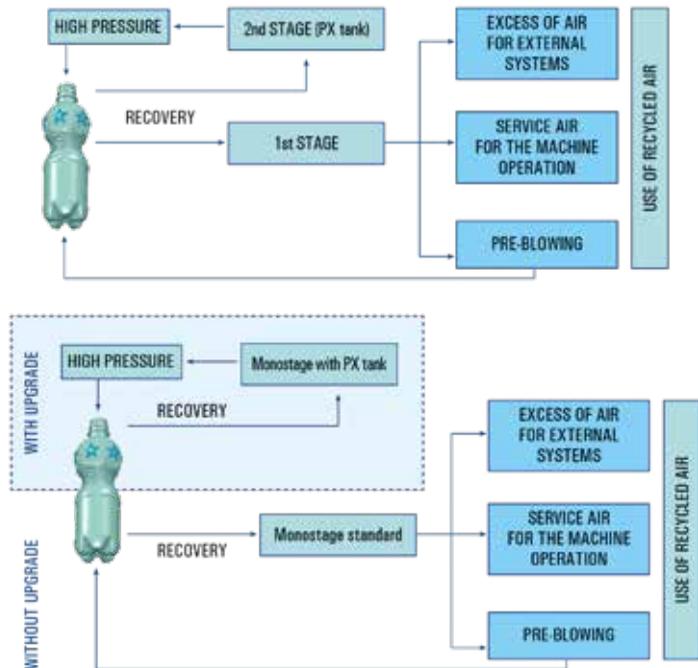
1. the first stage recovers the air which is then used for the pre-blowing and service phase of the machine
2. the second stage joins the first and takes part of the exhaust air and uses it exclusively for the stretch-blow molding phase.

In particular, the reuse within the high pressure stretch-blow molding process of the recovered air, allows to reduce the use of the high pressure compressor, with consequent benefits in terms of lower electricity consumption.

\* Savings vary according to production conditions and local electricity costs.

### ➤ MAKE YOUR PRODUCTION PLANTS EFFICIENT

SMI offers a wide range of “upgrades” to benefit from greater efficiency, eco-compatibility and energy saving of machines and systems; in fact, by means of special update kits installed by specialized technicians, most of the existing systems can make use of the most recent technologies through the implementation of new applications, additional format changes and new accessories. The “upgrades” therefore, represent an economical way to extend the useful life of the machine, increasing its performance.



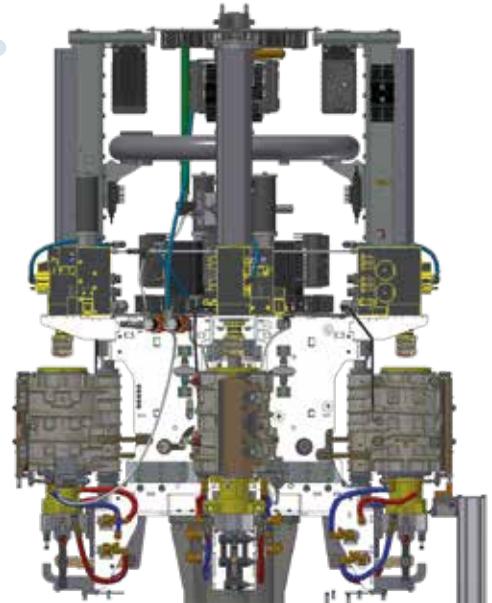
# AIR MASTER

## HOW IT WORKS IN DETAIL

- 1) Two discharge valves are mounted on each stretch-blow molding station: the first feeds the recovery system, introducing air into the recovery line, while the second discharges the air that cannot be recovered
  - 2) The recovered air is taken to feed the pre-blowing and service circuit of the machine
  - 3) Any excess air is used to feed the low pressure line of users external to the machine
  - 4) The second stage allows for further savings, because it uses the exhaust air for the sitro-blowing phase.
- recovery of compressed air which would otherwise be dispersed into the environment
  - reuse of air for the stretch-blow molding process
  - reduction of high pressure air and electricity consumption due to less compressor use up to 30% (\*) compared to systems without them
  - eco-sustainable solution
  - less wear and reduced compressor maintenance costs.
- \*Savings vary according to production conditions and local electricity costs.*

Even SMI customers who own stretch-blow moulders belonging to previous generations can benefit from the advantages offered by this recovery system by installing an "upgrade" package, which ensures:

The following image shows an example of savings that can be obtained by installing the Air Master upgrade on an 8-cavity stretch-blow moulder for the production of 1.5L PET bottles at 2,250 bph, with a blowing pressure of 33 bar and production of 4000 h / year.



# SMI RUSSIA

## *A new headquarters for the Moscow branch*

THE OOO SMI RUSSIA BRANCH, HAS RECENTLY MOVED TO A LARGER AND MORE MODERN OFFICE, LOCATED IN THE SOUTHWESTERN SUBURB OF MOSCOW, A FEW KILOMETERS FROM THE VNUKOVO INTERNATIONAL AIRPORT, WITH THE AIM OF SERVING THE CUSTOMERS OF THE SMI GROUP EVEN BETTER AND FURTHER DEVELOPING THE SERVICES OFFERED.



The new headquarters is located inside a brand new, Class A, business center, a building that offers technological solutions of excellence in terms of environmental sustainability, functional design and quality of working life.

The new SMI Russia headquarters, has an area of approximately 145 m2 and consists of two main offices: one entirely dedicated to the sales and after-sales service personnel, the other reserved for administrative offices and spaces for meetings, training and client reception.

The Moscow branch of the SMI Group, also has a large spare parts warehouse, equipped with a vast assortment of basic necessities, so as to be able to respond promptly, to the needs of numerous local customers.

Kirill Maximov, head of the OOO SMI Russia branch explains that " Within the large spaces of the new headquarters, we will first of all be able to strengthen the sale of machines, spare parts and equipment, responding to the needs of many companies interested in purchasing modern, bottling and packaging systems made in Italy by SMI and providing widespread support on site, for any type of commercial request and technical assistance. In the new offices we also have the possibility to organize training courses in the use and maintenance of SMI systems".



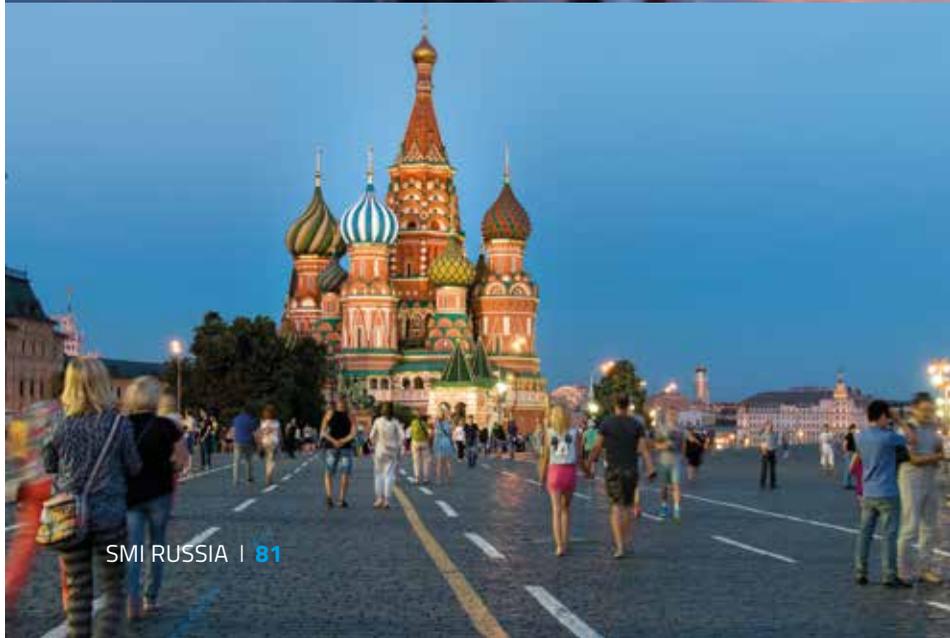
The SMI Russia branch has been operating in Moscow since 2002 and was set up with the aim of quickly replying to the requests, of an ever-increasing number of customers, spread across the immense Russian territory.

In recent years, the branch's range of action has significantly expanded and has also reached the neighboring countries of the former USSR, a vast territory served, thanks also to the support of a growing number of specialized employees in charge of assistance and maintenance activities.

"Currently 8 people work in the Moscow branch and we plan to expand the staff with another 2-3 employees for technical support activities - continues Kirill Maximov - Russia has been a historic market for SMI, since the first packaging machines were installed here in the early 1990s.

To date we cover the assistance and spare parts supply activities for the more than 500 packaging machines present within the borders of the Russian Federation.

The move to this new, larger and more modern site, will also serve to enhance the services offered to customers in neighboring countries, such as the Aqua Geo company in Georgia; the latter has recently installed a new complete line supplied by SMI, which was also started up by the branch's technicians" (see the article in this issue of SMI NOW).



# RESEARCH, TRAINING AND INNOVATION: PRINCIPLES THAT UNITE THE ACTIVITIES OF SMILAB AND THE MARIO NEGRI PHARMACOLOGICAL RESEARCH INSTITUTE

## MARIO NEGRI

Since the beginning of 2020, Italy and the rest of the world have been committed to facing the frightening Covid-19 pandemic, a situation of great difficulty, that has prompted researchers from all over the globe to combine their knowledge to solve the health emergency created from the coronavirus. The Mario Negri Pharmacological Research Institute, a private non-profit organization that has been operating in Lombardy (the Italian region most affected by the virus) in the

field of biomedical research since 1963, immediately got to work by participating in a series of studies and research on Covid-19; this momentum was immediately appreciated by many local companies and institutions, including the CRTT SMILAB which made a donation of € 200,000 to be allocated to anti-covid research. The first important work by the researchers of the Negri Institute allowed them to identify a forecast growth model of COVID-19 infections, which was greatly considered, by the scientific

authorities in Great Britain during the crucial moments that preceded the first "lockdown".



**The research activity of the Lombardy Institute is carried out in ten departments, which today have about 700 researchers, of which 60% are women, and which operate in three offices:** one in Milan, in the modern complex of the Bovisa district, and two in Bergamo: the first at the Kilometro Rosso Science and Technology Park and the second in Ranica, where the Aldo and Cele Daccò Clinical Research Center for Rare Diseases is located. The research activities of kidney diseases, organ transplantation and rare diseases make Mario Negri, the national and international reference point for these medical and health activities. The Institute also focuses on research on cancer, cardiovascular disease, neuro-degenerative diseases, public health and environmental pollution.

**S**ince the beginning of the pandemic, the Mario Negri Institute, run by Prof. Giuseppe Remuzzi, has been at the forefront on several fronts: from emergency units to the study of the genes involved in the COVID-19 disease. At the Milan office, a group of researchers studied the virus markers, that is, the proteins that signal the presence of SARS-CoV-2, in blood samples of people who are positive for Covid. Based on the amount of markers present in the blood, the study allows us to deduce whether the disease will be more or less severe, in order to find the best cure. Still in the context of coronavirus research, a team of researchers from the Bergamo office, worked on understanding the true circulation of the virus in the Bergamo area, which unfortunately recorded the greatest number of infections and victims during the terrible first wave, between February and April 2020. The study made it possible to verify the validity of a new rapid "thumb prick" serological test, which proved to be an extremely effective and valuable tool for identifying, within a few minutes, if you have come into contact with the virus. Furthermore, thanks to this study, it was possible to focus on the importance of quantifying the extent of the viral load of swabs, a fundamental fact for determining how the contagious an individual is.



## ➤ SCIENTIFIC KNOWLEDGE MUST BELONG TO EVERYONE AND BE FOR EVERYONE

Man and his needs are at the center of every piece of research of the Mario Negri Institute. Each study begins by observing the needs of the patient, and continues in the laboratory, where - using experimental models - a solution is sought to improve their health. Finally, the results obtained, are made available to the patient through their clinical practice. But research also means sharing knowledge; for this reason, the Institute does not patent its discoveries but, by means of a strong dissemination activity, it makes them immediately accessible to everyone. This is how the Institute contributes to spreading scientific culture in the biomedical field, the same way in which SMILAB has always believed and invested in the training of young people, both in Italy and abroad. In fact, since 1963 the Institute has provided 8,300 scholarships, of which 850 to foreign researchers.



## ➤ ONLY BY WORKING TOGETHER CAN RESEARCH PROGRESS



The research path, of the Mario Negri Institute, which began 60 years ago, is based on the choice of supporting itself with resources obtained independently, with funds deriving from competitive tenders and from Italian and European funding. A precious voice for its resources is represented by donations from private citizens, foundations and companies, and by the choice of each citizen to allocate the 5x1000 to scientific research.



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