

# DARIDA



## WATER & SOFT DRINKS SECTOR

**Private Enterprise Darida**  
Zhdanovichi, Minsk Region, Belarus

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



VIDEO



GEO LOCATION



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

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

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

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





# HIGH-QUALITY BEVERAGES TO SUIT ALL TASTES

Private Enterprise Darida specializes in the production of bottled mineral water and carbonated drinks, whose trademark is among the most popular in the

Republic of Belarus and also in neighboring countries. Among the more than 50 kinds of soft drinks and water produced by this Belarusian company, the lodiner water is its most

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



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

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



INSTALLATION / Darida



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

### ABOUT PRIVATE ENTERPRISE DARIDA

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

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

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

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

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

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



# BELARUS THE BOTTLED WATER MARKET



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



THE CITY OF MINSK

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



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



# THE WHEEL OF LIFE

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

Although landlocked on an area of 207,600 km<sup>2</sup>, thanks to a good geographical location, more than 11,000 lakes and numerous waterways, Belarus can boast many favorable factors to the development of trade and tourism.

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

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



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



INSTALLATION / Dorida



# MODERN TECHNOLOGIES TO SUPPORT ENERGY CONSERVATION

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

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

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

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

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

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

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

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

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

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

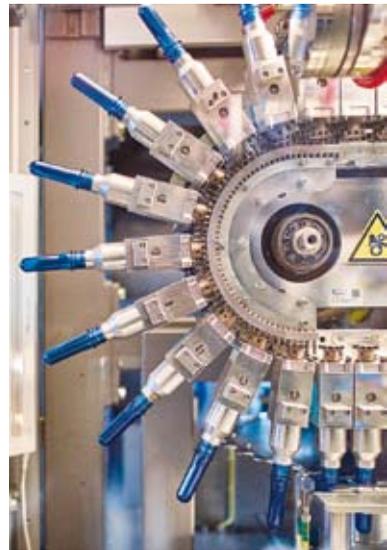


The final stage of the packaging process is managed by an automatic Smipal APS 3050P palletizing system that places the packs, arriving from the shrinkwrapper, on the 800x1200 mm pallets, inserting a cardboard interlayer pad between each layer of the pallet to improve its stability and withholding capacity.

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



# HOW TO OPTIMIZE LINE MANAGEMENT AND AUTOMATION

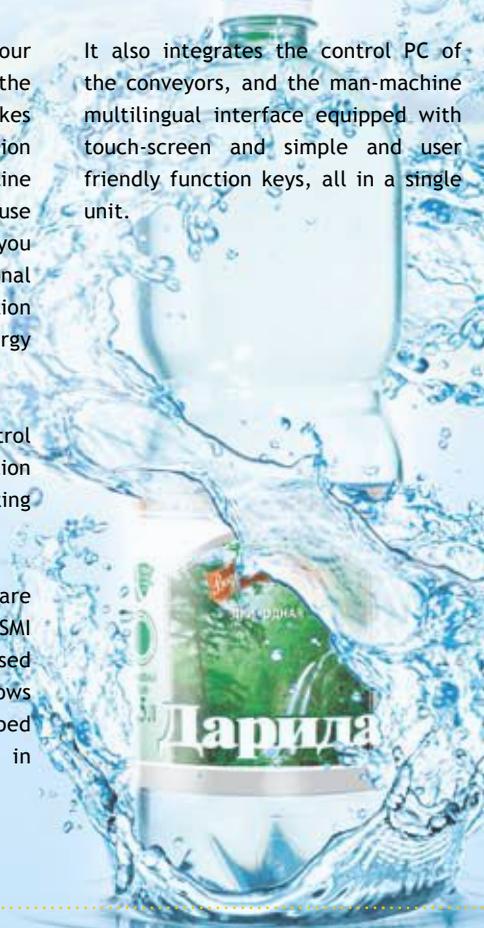


The 12,000 bottles per hour bottling line installed in the plant in Zhdanovichi makes use of a latest generation automation and control system called VaryLine System® that, together with the use of sophisticated sensors, allows you to maintain high levels of operational efficiency throughout the production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

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

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

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



## VERSATILE SYRUP ROOM FOR FLEXIBLE PRODUCTIONS

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



# THE WORD TO THE CUSTOMER

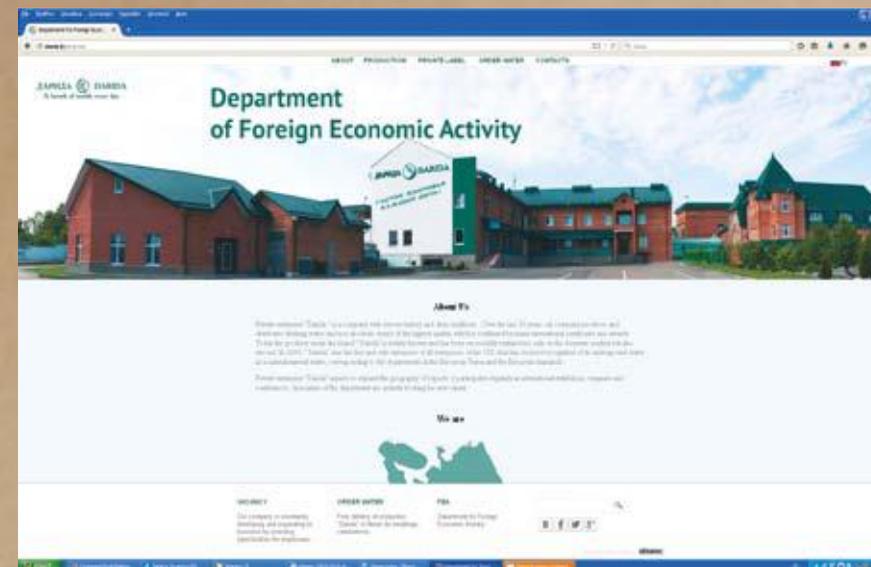
## Interview with Vladimir Delendik, Founder of Private Enterprise Darida



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

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

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



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

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

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

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

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

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

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

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

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

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

