

# SOURCE DE BATNA

## WATER SECTOR

### **Société Source de Batna**

Fesdis Batna, Algeria

**Group:** Groupe Industriel Attia Salah

#### ❖ 10,000 BPH PET LINE

- Smiform SR 6 Stretch-blow moulder
- Smiflexi LSK 35F Shrinkwrapper
- Smipal APS 3050P Palletizer
- Smiline air and chain conveyors
- Smipack HA 40 Handle applicator
- High and low pressure compressor, rinse-fill-cap monobloc, labeller, inspection systems, electrical distribution.



GEO LOCATION

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**A**lgeria is a country with unexpected charm.

Overlooking the southern shores of the Mediterranean, it has two strong points: the Roman ruins and the spectacular Sahara landscapes that alternate their beauty thanks to countless archeological sites and unique natural scenery.

The natural landscape is very varied and fascinating: leaving behind the shores of the Mediterranean, there is no need to enter into the heart of the Sahara to be captured by the magic of the desert: it will suffice to cross the region of the Atlas Mountains to discover the beauty of the Algerian territory.

The Atlas Mountains stretch for about 2,400 km across Tunisia, Algeria and Morocco, making up a real natural boundary between the Mediterranean Sea and the Sahara Desert and creating a spectacular natural environment where, nearby ancient Arab villages, there are important sources of wealth for the local and national economy. Water that comes from these mountains is indeed a precious resource, especially because water scarcity is a problem known since ancient times in many Algerian regions.



# BATNA

## BETWEEN HISTORY AND NATURE

In the eastern part of Algeria, east of the Saharan Atlas Mountains, are the Aures mountains, from which water bottled by the Société Source de Batna flows naturally. In order to increase the production capacity of its PET line for filling its 0.33 - 0.5 - 1 and 1.5 liter size bottles, the Algerian company recently turned to SMI for the engineering study and installation of a new 10,000 bph PET line. The new system includes an SR 6 rotary stretch-blow moulder for producing PET bottles of various sizes, a

rinse-fill-cap monobloc, a rotary labeller, an LSK 35F shrinkwrapper, conveyor belts for moving bottles and packages and an automatic APS 3050P palletizing system. For this project, SMI has provided the customer with a turnkey system that includes, in addition to the aforesaid machines, various auxiliary equipment such as the compressor, control systems, etc. The Société Source de Batna manufactures and markets the still and sparkling mineral water with the same name, which is highly appreciated not only for its taste and



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lightness but also for its digestive properties, which arise from a particular chemical composition and which were already known to the ancient Romans. It has many benefits for the kidney and liver functions and in the treatment of obesity; it is also recommended for children, the elderly and pregnant women. Initially the Algerian company was state-owned; in 1990 a devastating fire destroyed the factory, which was rebuilt with major efforts and then sold to private entrepreneurs. Since



2005, the Société Source de Batna is part of the important Algerian industrial Attia Salah group. The Groupe Industriel Attia Salah, based in Batna (Algeria), is an industrial complex operating in the beverage industry with the production of the Batna mineral water and in the construction sector with the production of tiles and wire mesh.



# A NEW LINE

## TO INCREASE MARKET COMPETITIVENESS

**T**he entire PET line for the bottling and packaging of Batna still and sparkling mineral water was designed, manufactured and installed by SMI. Operational flexibility, reduced operating costs and energy efficiency are the three priority objectives SMI received from Société Source de Batna during the study and design of the new production plant, which was added to other SMI machines already in operation in the Algerian bottling facility: an SR 10 rotary stretch-blow moulder, an LSK series shrinkwrapper and a handle applicator. In the "system engineering" study

of the new complete 10,000 bph line and following a careful analysis of its customer's expectations, SMI presented an integrated solution that includes the installation of SMI-produced advanced technology machines and some systems implemented by selected and reliable partners.

Operational flexibility is a characteristic common to all machines chosen by SMI engineers for this project, which will allow Batna to meet the growing demands of the market quite effectively.

In fact, the Algerian company had highlighted the need to be able to





Batna water is widely appreciated for its taste and for its lightness, as well as for its digestive properties ”



### ●●● BATNA ... WHERE TO SLEEP TONIGHT!

Batna is the main city of the province of Batna (or Wilaya of Batna) that, with 286,000 inhabitants (as of 2004) is the fifth largest province in Algeria. It is also a major center of the Aurès region, called like this by the Romans who named it after the highest mountain range in the area.

The whole region is full of picturesque landscapes and ancient beautiful cities such as Batna; the origin of the name of this town is unknown, although most historians agree that it is a mixed Arab-Berber word that can be translated as "where to sleep tonight".

In 1844, the French turned it into a military garrison with the strategic task of creating a permanent and guarded access to the main road to the Sahara. Initially, the city was called "Nouvelle Lambese" but a year later it was renamed Batna. Geographically, Batna is located on a natural pass of the Atlas Mountains, so well hidden that the Romans themselves were unable to find the passage during the first phase of their invasion.

The Algerian city is located in the north-east of the country, not far from Constantine and from the Tunisian border, and has a remarkable variety of Eastern and Western architecture, all imbued with the local style. Batna is also known as the "City of rest" due to its calm and quiet environment that reflects the character of its inhabitants.



have more versatile and efficient production systems that would be able to quickly change pack formation by means of a few simple operations. All the machines supplied by SMI in this turnkey line, from the SR 6 blow moulder fitted with 6 moulds to the 48-valve filler, from the automatic packer to the palletizing system, are equipped with an automation and control system. This system coordinates the movements and functions of each line, in such a way as to create perfect synchronization among all the machines in the line and an

uninterrupted and linear production flow. In the Batna facility, the existing Smiform SR 10 stretch-blow moulder will be used for the single-size production of only the 1.5 liter PET bottle of still mineral water, while the new bottling line supplied by SMI will process 0.33 - 0.5 - 1 and 1.5 liter PET bottles of still and sparkling mineral water. In addition to all the machines that make up the new production plant, SMI has also designed the shape of the PET bottles for bottling sparkling water.

**LINE MANAGEMENT AND AUTOMATION: HOW TO OPTIMIZE THE SYSTEM**

The automation and control system of the complete line provided by SMI in Batna was implemented with the support of SMITEC, which for years has been involved in multi-axis automation of industrial plants.

Through the careful study of the line layout and the customer's production requirements, SMITEC has designed and assembled a technologically advanced hardware/software integrated system, called VLS (VaryLine System) PRO, for the management, automation and optimization of the new bottling and packaging line.

This is a latest generation PROFIBUS fieldbus-based product, which allows the running of the inverter-controlled motors of the machines in the line and which incorporates, in a single control station, both the PC that controls the conveyor belts and the man-machine multi-language interface equipped with a touch screen and simple and user-friendly function keys.

With its compact size, this control station can also be placed in the production system's most strategic point.



**At the top**

From the left: Emanuele Leggeri, SMI Service Area Manager; Fouad Attia, Société Source de Batna Production Manager; El Hassane Taissat, SMI Sales Area Manager and Lamine Zerghina, Société Source de Batna Technical Manager.

**Above**

Salah Attia, Société Source de Batna Chairman and CEO.



# TURNKEY PLANTS

## THE SOLUTION OFFERED BY SMI



**B**atra mineral water is bottled into 0.33 - 0.5 - 1 and 1.5 liter cylindrical PET bottles by a monobloc that rinses, fills and caps the bottles that are produced by the Smiform SR 6 stretch-blow moulder.

Once labeled, the bottles enter a Smiflexi LSK 35F shrinkwrapper that packs them in shrink film only.

The packs leaving the packer are then conveyed to a Smipack HA 40 handle applicator, which applies a handle to the packs in the 3x2 collation (six 0.5, 1 and 1.5 liter bottles) but lets those in the 4x3 collation (twelve 0.33 liter bottles) pass without applying the handle.

At the end of the line, an automatic Smipal APS 3050P palletizing system palletizes the previously produced packs in 1000x1200 mm pallets



and inserts a cardboard interlayer between one layer and another of each pallet.

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

The use of wear resistant components also reduces cleaning and maintenance, thus cutting overall management costs.

The Smiline conveyor belts, which move the loose containers and finished packs, allow the production cycle to run smoothly and steadily, adjusting its flow to meet customer requirements.

The complete solution provided by SMI makes use of the latest generation automation and control system that, combined with the use of sophisticated sensors, allows to maintain high levels of operating efficiency during the entire production cycle.

