

# PINAR SU

smi  
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**P**inar Su is the leading company in Turkey for the production of natural mineral water; since 1984, year in which this company was established, millions of consumers of different generations agree in considering Pinar water as the "Yasam Pinari", i.e. the source of life. This bottling company has developed over the years, basing its business on three essential and indispensable elements: health, taste and innovation. To preserve the qualities and mineral properties of water bottled at the source, Pinar Su uses only systems and machinery among the most modern and innovative in the world and continues to invest in new solutions for bottling and packaging its products. Among the latest projects implemented by Pinar Su, the one that stands out is the one that involved the manufacturing plant of Hendek, a city of 45,000 inhabitants in the province of Sakarya, a few kilometers from the



coast of the Black Sea. This is where the Turkish company decided to install a new bottling and packaging line of 6,000 bph for large capacity containers (3.25 litres, 5 litres and 10 litres). This production system, which is among the most modern, efficient and innovative on the market, was designed, built and installed by SMI. The beginning of the collaboration between SMI and Pinar Su dates back to 2005, when the latter purchased an automatic Smiflexi LSK 30 F model shrinkwrapper for shrink film packaging.

## WATER SECTOR

**Pinar Su Sanayi Ve Ticaret A.S.**

Hendek - Sakarya, Turkey

**Group:** Yasar Group

### 6,000 BPH PET LINE:

- SmiformECOBLOC® 6-18-4HC VMAG integrated system
- Conveyor belts and Smiline divider DV 500
- Smiflexi SK 600 F Shrinkwrapper
- Smipal APS 3080 PR Palletizer
- Smipack HA 60 Handle applicator
- Control systems, rotary labeller, pallets wrapper, pallets labeller



GEO LOCATION





# PINAR

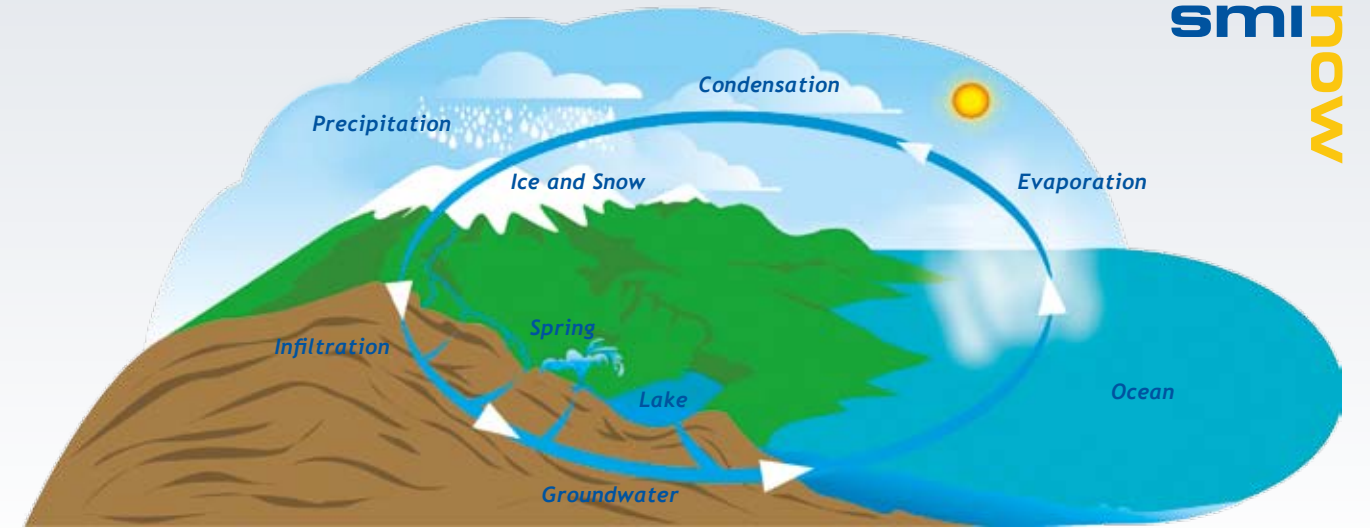
## THE SOURCE OF LIFE

The decision of the Turkish company Pinar Su to entrust SMI with devising and implementing a "turnkey" bottling system stems from the need to be able to rely on the expertise and assistance of a single point of contact, capable of providing technical solutions quickly, to adapt the Hendek

production plant to changing market demands.

Needs that keep posing new challenges to water bottlers, who are forced to continuously adapt their production lines to customers' new tastes and trends.

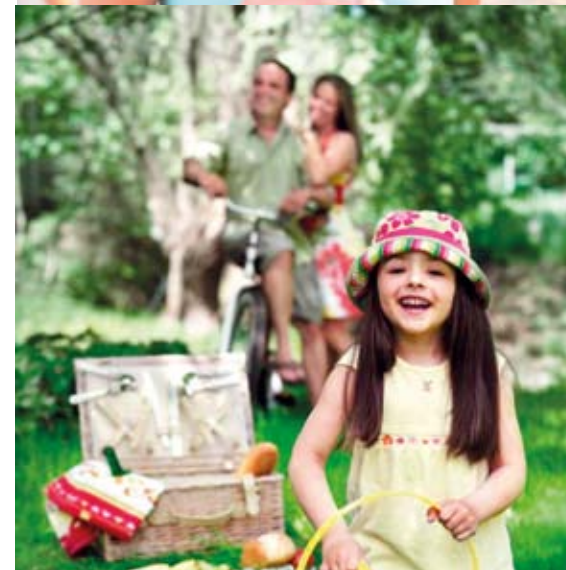
To successfully handle these challenges, SMI offers its customers modular and integrated solutions for their bottling and packaging plants, providing only highly automated machines that rely on high operating efficiency, rapid format changeovers and cost-effective management (TCO - Total Cost of Ownership).



The latest generation technology proposed by SMI blends well with Pinar Su's imperative need to provide its customers with only highest quality products.

Quality that means perfection in production and distribution and support services throughout the territory in which the company's products are sold. Pinar Su was the first company to bottle and market natural mineral water in Turkey.

Pinar Su water is bottled at the source in accordance with highest quality standards and is marketed in Turkey and abroad under the name "Pinar Yasam Pinarim", which means "Pinar: my source of life".







The natural sources of Pinar water are located in three different areas in Turkey, unpolluted and far away from industrial or highly urbanized places. The bottling plants of Bozdogan (Aydin province), Eğridir (Isparta province) and Hendek (Sakarya province) feature latest generation technologies for the bottling and packaging of pure spring water.

For example, the filling operations take place in hygienically perfect environments and the water is subjected to continuous chemical, physical and microbiological controls to test its quality during the various stages of the production process.

The Hendek plant has an annual production capacity of 607,000 tons, and bottles the Pinar natural water in 0.33 litre, 0.5 litre, 1 litre, 3 litre, 5 litre and 10 litre PET containers. The choice to install an “ad hoc” line dedicated to large capacity containers was dictated by the sharp increase in sales of these collations, the marketing of which joined the already consolidated one of traditional bottles from 0.33 to 1 litres.

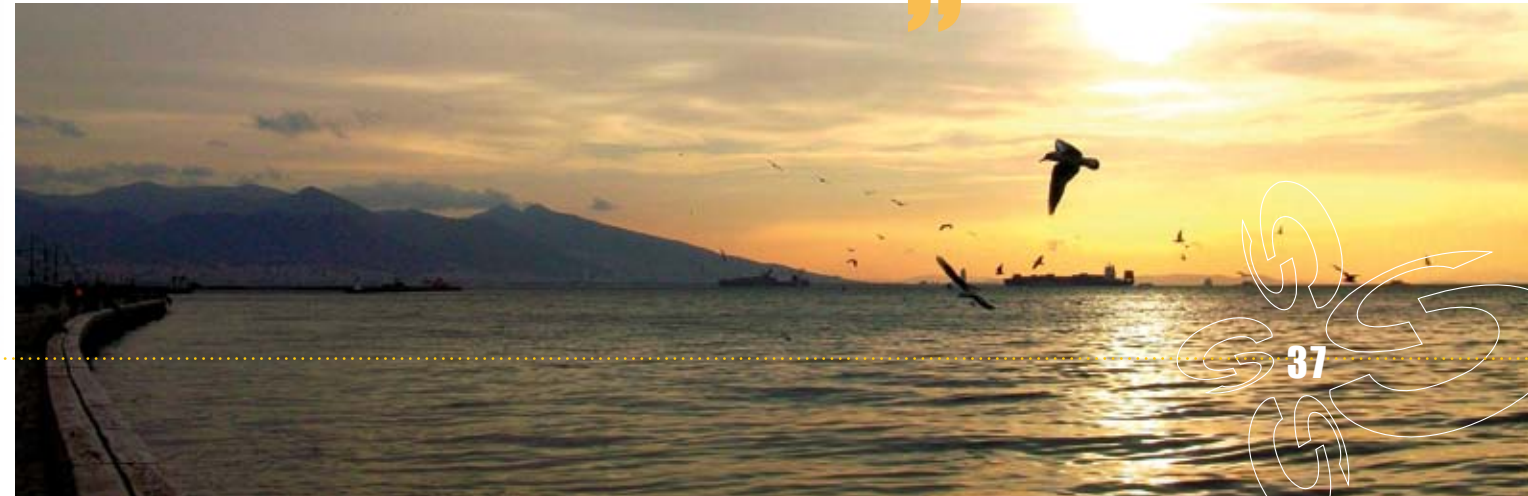
Pinar Su's success began in 1984, the year the Turkish company was founded, and was consolidated in the following years thanks to the expansion of the output and its product range, the strengthening of the sales and logistics network and its huge investments in new systems and machines.

Pinar source water is not only sold in Turkey but also in 26 foreign countries with a market share that keeps growing and with promising sales results in all segments where it operates.



During the 30-year history of this company, the bottling plants of the Madran, Gökçeada and Aksaağaç sources have been continually expanded and subjected to technological modernization, which have allowed Pinar water to be the first to achieve the TSE (Turkish Standard Institute) quality certificate among all bottled water in Turkey.

Perfection in production and service: these are Pinar Su priorities





# AN ESTABLISHED PARTNERSHIP ESSENTIAL FOR THE SUCCESS OF A "TURNKEY" PROJECT

**T**he optimal operation of a bottling plant as that of Pinar Su is made possible by cutting-edge production technologies and a highly efficient management of the flow of the materials used.

As such, the design of a production line requires a very accurate and detailed analysis of the technical, logistical and economical aspects associated with an investment of this magnitude.

In commissioning the new project to SMI, Pinar Su demanded special attention to the dynamics of the initial investment and operating costs of the new plant, with the overriding objective of achieving the maximum return in the shortest possible time from the new production facility.

All this, of course, without giving up essential aspects such as operative flexibility of the machines installed, reduced environmental impact of the industrial processes implemented



and advanced automation of the production cycles.

The "line engineering" project developed by SMI, taking into the utmost account the parameters specified by Pinar Su, has led to the creation of a new bottling plant for

natural mineral water of 6,000 bph. The "turnkey" line provided to the Turkish company for its Hendek plant includes a compact ECOBLOC® Smiform system for stretch-blow moulding, filling/capping of PET containers of large capacity (3.25 litres, 5 litres and 10 litres), a Smiline DV 500 divider, a Smiflexi SK 600 F model shrinkwrapper, a Smipack HA 60 handle applicator and a Smipal APS 3080 PR model automatic palletizing system.

The supply also comprises the connecting conveyors among the system's various machines and ancillary equipment such as a rotary labeller and a loop winder with airtight cycle for the protection of the pallets.

## YASAR GROUP

Pinar Su is part of the Yasar Group, one of the largest industrial companies in Turkey.

Founded in 1945, today the Yasar Group consists of 20 companies, directly employs around 6,750 people and has leading brands in the food & beverage sector, such as Pinar, and in the coatings sector, such as Dyo.

This Group also works in the paper production, trade, tourism and services sectors, making a significant contribution to Turkey's economic development. Environmental protection stands out among Yasar Group's priorities: in fact, each and every activity of the companies part of this Group is conducted with great attention to the eco-sustainability of the production processes, saving resources and energy and the use of advanced technologies.



## The bottled water market in Turkey

Driven by an increasing attention to health and physical well-being, Turkish consumers have boosted, in recent years, the demand for bottled natural mineral water that in 2011 reached a record 9.3 billion litres.

The per capita consumption, equal to 126 litres each year, is today very similar to that seen in major European countries, evidence of the high level of development and well-being that Turkish economy has now reached.





# A WINNING SOLUTION:

## INVESTING IN NEW TECHNOLOGIES

The advantages of an integrated solution for stretch-blow moulding, filling/capping operations:  
**ECOBLOC® 6-18-4 HC VMAG**



**S** miform's integrated system installed in the facility of Pinar Su produces 3.25 litre and 5 litre PET containers at the speed of 6,000 bph and 10 litre containers at 4,200 bph.

The hourly output of the new plant fully meets this bottling company's needs, since with only one machine they can achieve the production capacity achieved previously by

using two linear blow moulders with relating filling/capping machines.

Therefore, from an economic point of view the ECOBLOC® solution proposed by SMI offers numerous benefits, seeing that: the machine's structure is modular and compact; the integration of multiple modules in a single block allows the elimination of the rinsing machine and the connecting belts between blow moulder and filler;

the fewer motors and mechanical components required, as compared to a traditional solution, reduce the consumption of energy and running & maintenance costs; the use of eco-friendly technologies allows the managing of industrial processes fully complying with the environment; the excellent quality/price ratio optimizes the initial investment.

Also, some optional energy saving

devices, such as the high pressure compressed air recovery system installed on the blow moulder, for example, further improve the efficiency of the entire bottling line.

Smiform's ECOBLOC® integrated systems use only filling technologies of the latest generation, which offer many advantages, including: fully electronic running of the filling cycle; high filling precision (+/- 0.2% compared to set point); selection of the filling parameters directly via the operator panel, according to product, container and speed; filling valves that feature great simplicity and high cleanliness; easy and quick format changeovers that do not require the replacement of mechanical parts.



The hourly output of the new plant fully meets Pinar Su needs





# LINE END

## AUTOMATED AND “DUSTPROOF”

There is a Smiline DV50 model divider at Smiflexi SK 600 F shrinkwrapper inlet that sorts containers with a square base; this divider receives bulk products in single row, divides them over multiple rows and channels them into the secondary packaging machine to be packaged in shrink film only.

More specifically, the 3.25 litre bottles are grouped in the 2x1 and 3x1 collations while the 5 litre containers are grouped in the 2x1 collation and the 10 litre ones in the 1x1 collation. At SK 600 F shrinkwrapper outlet there is an automatic Smipack HA 60 handle applicator that applies a handle to the 2x1 and 3x1 packs of 3.25 litre bottles, while the larger packs containing the 5 and 10 litre bottles pass by without being “fitted with handles”.



The foregoing packages are then conveyed by Smiline belts to the inlet of the Smipal APS 3080 PR automatic palletizing system, that gathers them on 800x1200 mm and 1000x1200 mm Euro-pallets.

The palletizer installed by Pinar Su is a single-column system with two Cartesian axes with movements from the bottom.

The vertical axis is made up of a fixed column along which the horizontal beam slides on guides with recirculating ball bearings.

The horizontal working axis consists of the beam on which the gripper-holder arm slides on guides with recirculating ball bearings.

The gripping head picks up the layers of packs from a conveyor belt at

operator height and places them where required on the pallet with fast and accurate movements.

The beam's vertical movements and the horizontal ones of the head-holding arm are driven by brushless motors, which ensure perfect trajectories during all palletizing phases.

Besides, the APS 3080 PR system is equipped with a pads magazine and a pad-inserter for inserting the flat cardboard inter-pads between the pallet's layers.

The functionality of the Smipal palletizer is expanded by a device that allows the gripping head to rotate around its own vertical axis so as to achieve configurations that are not only orthogonal.

SMI's supply for end-of-line operations is completed by a loop winder with semi-airtight cycle that applies a special “dustproof” protection when the pallet is wrapped.



### CUSTOM LABELS AND HANDLES

Pinar Su has chosen to label its mineral water bottles produced at the Hendek facility with reel-fed labels applied through hot glue by a machine manufactured by PE Labellers.

The labeling station is equipped with a servomotor, making it mechanically independent from the bottle carousel; this solution allows the automatic phasing of the machine with the label-application station, avoiding operator errors during format changeover. All operations are controlled by a PLC, which processes the work parameters set by the operator through a control panel or a touch-screen.

Pinar Su has also decided to equip the 5 and 10 litre PET containers with a specific plastic handle applied by a specific machine installed downstream of the PE rotary labeller.

Instead, the 3.25 litre bottles transit “idle” through the aforesaid machine but are then “fitted with a handle” by an automatic Smipack HA 60 model handle applicator, installed downstream of the Smiflexi SK 600 F shrinkwrapper that wraps them with shrink film in 2x1 and 3x1 collations.

