

BADEM PINARI

➤ WATER SECTOR

BADEM PINARI

Mucur, Kirsehir, Turkey

- COMPLETE LINE OF 22,500 bottles/hour
 - integrated system ECOBLOC® ERGON 12-36-12 EV
 - shrink wrapper SK 600 F ERGON
 - automatic palletiser APS 1550 P ERGON
 - conveyors
 - subsupply: rotary arm wrapper, labeller and inspection system.



VIDEO



GEO LOCATION

Badem Pınarı



A maze of towers, crevices, canyons, pinnacles and rugged castles; this is the magical region of Turkey, in central Anatolia. Worthy of a book of fairytales, the enormous stone mushrooms that, funnily enough, are called “the fairy chimneys” were not created by a spell, but by the patient work of Mother Nature. It is in this region, rich with stone mines and marble quarries, that Badem

Pinari, leader in the mining sector, decided to branch out and invest in the bottled water sector, aiming at high quality products and excellent service, to compete and diversify itself among other companies present in this market. To carry out these aims, Badem Pinari turned to SMI for the project, creation and installation of a new production line of 22.500 bottles/hour to bottle and pack 0.33L, 0.5L and 1.5L PET bottles with natural mineral water.

The Badem Pinari company belongs to the Bademler group, which has been in the mining sector since the 1950's, extracting stones and marble which are then exported to 17 different countries, and was founded from the idea of the owner Murat Badem, who wanted to expand his business activities by investing in a new sector: bottled water. Despite the large number of soft drink and water bottling companies present in Turkey, the founder of Badem Pinari decided to become part of this “business” thanks to the results of in-depth market research which highlighted a great opportunity for growth; above all if you put the company's “mission” for product quality and customer service efficiency, in first place.



↓ **BELOW:** ZAFER OZCAN (IN THE CENTRE) SMI AGENT IN TURKEY, WITH THE STAFF OF BADEM PINARI.



THE COUNTRY OF HORSES

Cappadocia, which in Persian means “the country of beautiful horses”, is to be found on a plateau at an altitude of 1000m, in the heart of Turkey, in Central Anatolia, home to the cities of Aksaray, Nevşehir, Niğde, Kayseri and Kırşehir. This region is characterised by its unique geological formation and for its rich historical and cultural heritage, thanks to which, it has been on the list of the UNESCO World Heritage Sites since 1985. Its current geological shape came from millions of years of erosion to the soft layers of lava and ash (tuff)

which characterise the area, and which were formed following a long period of volcanic activity by the Erciyes, Hasandağ and Melendiz mountains. As a result, the erosion to the layers of tuff by the wind and the waters, from the lakes and rivers contributed to its current shape called “peri bacası”, or “fairy chimneys”. Cappadocia has an important historical and cultural past, thanks to its important commercial routes and the Silk Route, as well as its numerous invasions. The inhabitants of the region built underground shelters (some examples can still be visited in the cities of Kaymaklı

and Derinkuyu), which allowed entire cities to shelter underground and to survive for many months safe from their enemies.

THE “FAIRY CHIMNEYS”

Are the strange lava formations in the shape of a cone, hat or mushroom, which characterise Cappadocia. A fairytale landscape which is characterised by a maze of towers, crevices, canyons, pinnacles and rugged castles. These enormous stone mushrooms, that everyone calls “fairy chimneys”, are certainly worthy of a book of fairytales, but the corrugation to the Earth's surface in the middle of the plateau in Central Anatolia, was not created by a spell but as the result of the patient work of Mother Nature with her enormous creative ability. The “chimneys” (called in this way,

because according to the legend the rocks on the top, were placed there by Gods) were often used as shelters by the hermit populations who dug their homes into the tuff and which, can therefore be considered true troglodyte (caveman) homes, the most important are in the Valley of Göreme, once the most populated area of Cappadocia and today a National Park. The soft rocks allowed man to dig into the tuff to create a network of caves, where murales were painted on the walls to embellish and refine them.

Today the Moon-like landscape of Cappadocia is dotted with cavities thousands of years old, many of which are still popular and inhabited. There are even entire underground cities dug into the rock, like that of Derinkuyu which extends over nine floors below ground level and that gave refuge to the population in the case of an enemy attack.



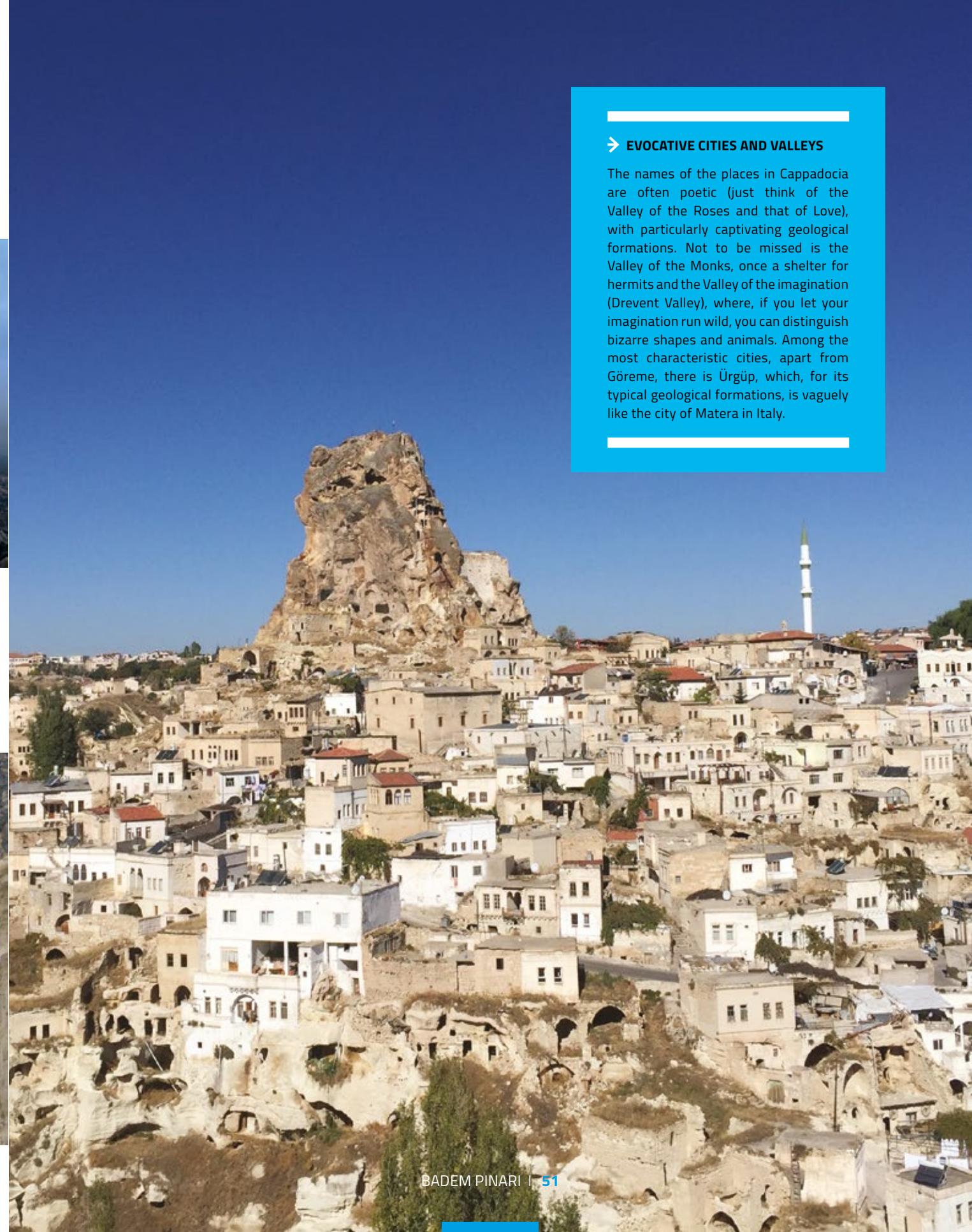
NATURE BEYOND THE IMAGINATION

Cappadocia offers fantastic nature to its visitors, which, together with its refined beauty, go beyond the imagination. The geological peculiarities in tuff, of the region, often causes the landscapes to be described as "lunar". For thousands of years, and still today, this vast area of Central Anatolia has been home to human settlements. Some ancient civilizations flourished there, like the Hittites, or others who came from Europe or from the same regions of Asia Minor, and each of which left their own cultural footprint in Cappadocia. Man built his abodes in the rocks and the holes that can be seen today, were the homes of cavemen, these evocative rocky settlements, some of which are still inhabited, make up the true, unmistakable landscape of Cappadocia. The people of Cappadocia, hid in the caves that were built in such a way that they couldn't be identified, with the aim of protecting themselves from invasions, raids and incursions.

Given that they might have to live there for long periods of time, they built storage for supplies, tanks for water, cellars for wine and temples for prayer. These unique underground cities, were built with such perfect technology, that even today, they amaze visitors with their ventilation systems, the tunnels for air circulation, safety systems, the interesting technology for entering and leaving, the wells and mechanisms for the collection of refuse. Built by Christians, who used them from 300 to 1200 AD to shelter from enemies, they were abandoned until around the mid 1950's, when youngsters of that period using them to play hide and seek, inadvertently helping to contribute to their re-discovery. Among the numerous underground settlements, those of Kaymaklı, Derinkuyu, Mazi, Özkonak, Tatlarin are the most impressive; Kaymakly, for example, is made up of eight underground floors, of which five can be visited, with a depth of 50 metres and a temperature of 15 degrees.



The inhabitants could spend up to six months there, the poorest lived in the lower floors, while the richest were nearer to the surface.



➤ EVOCATIVE CITIES AND VALLEYS

The names of the places in Cappadocia are often poetic (just think of the Valley of the Roses and that of Love), with particularly captivating geological formations. Not to be missed is the Valley of the Monks, once a shelter for hermits and the Valley of the imagination (Drevent Valley), where, if you let your imagination run wild, you can distinguish bizarre shapes and animals. Among the most characteristic cities, apart from Göreme, there is Ürgüp, which, for its typical geological formations, is vaguely like the city of Matera in Italy.

IN A HOT AIR BALLOON, ON HORSE BACK OR BY "QUAD"? HOW TO DISCOVER CAPPADOCIA

To discover the fairytale beauty of Cappadocia you can take an exclusively pleasurable ride in a hot air balloon, which takes flight early in the morning from the Valley of Göreme. Equipped with instruments to make it rise higher or fall lower, and also thanks to the skill of the pilots, the balloons sometimes reach 1000m in altitude, and sometimes fall so low

that they seem to touch the treetops. Offering the opportunity of a fantastic trip, blown by the local wind or by the winds at high altitude, to admire and discover from above, the magical Cappadocia, the incredible "fairy chimneys", the settlements of Ürgüp, Avanos, Çavuşin, Zelve, Göreme, Uçhisar, the sun rise and its setting at dusk. Cappadocia can also be admired on horse back, an enjoyable group ride, organised towards creating harmony

between nature and man, to discover the valleys that still maintain their simplicity and villages that live according to their traditions. An alternatively comfortable and fun way is by "quad", in this way you can admire a varied number of valleys – which on foot would take hours or days – and stop in the more interesting places to explore on foot.



➔ AN OPEN AIR MUSEUM

The most suggestive place in Cappadocia is Göreme with its open air museum, where you can visit a number of churches, chapels and monasteries dug into the rock. Not far from Göreme, is the village of Uchisar, with its enormous summit of tuff perforated by thousands of holes, it is one of the most fascinating places in the region. This enormous rock with its numerous caves is visible even from far away and looks like a beehive, it is the most photographed natural monument and the one that best represents Cappadocia.





SMI SOLUTIONS FOR BADEM PINARI



The bottling and packaging line at Badem Pinari was designed and created to satisfy the specific requirements of flexibility, control and management of a modern "smart factory". The installations supplied by SMI can be easily and automatically adapted to market demand for production flow and to switch quickly from one bottle format to another.

The proposed solution, includes an integrated system from the ECOBLOC® range, an automatic labeller, a shrink wrapper from the SK 600F range and an automatic palletising system, which reply to the requirements of this Turkish company to have a functional production line which is able to produce high quality products for a high demanding market.



➤ INTEGRATED SYSTEM ECOBLOC® ERGON 12-36-12 EV

Functions: stretch-blow moulding, filling and capping of 0.33 L / 0.5 L / 1.5 L bottles in PET with natural mineral water Badem Pinari, and a production capacity of up to 22,500 bottles/hour (0.5 L).

Main advantages:

- The primary packing is carried out in an efficient and flexible way thanks to the integrated compact solution for stretch-blow moulding, filling and capping bottles in PET.
- Production of simple, light-weight bottles, that fulfill the need to reduce the cost of prime materials and the creation of an eco-sustainable product.
- Dual air recovery system, which allows to reduce costs tied to the production of high pressure compressed air.
- IR lamps mounted on the preform heating module to guarantee high energy efficiency.

➤ SHRINK WRAPPER SK 600 F ERGON

Packed products: 0.33 L / 0.5 L / 1.5 L bottles in PET.

Packs worked: the 0.33 L and 0.5 L bottles in PET are packed in 4x3 and 6x4 film only; the 1.5 L bottles are packed in 3x2 film only.

Main advantages:

- Automatic machine suitable for packing different types of rigid containers.
- Rounded, anodised aluminium, sliding, protection doors, which allow all the motors (with low energy consumption) to be placed on the outside of the mechanical groups that they run.
- Infeed conveyor with a thermoplastic, low friction belt and a motorised system of oscillating separator guides.
- Film reel unwrapping controlled by a brushless motor which guarantees precise, constant film tensioning.
- Machine equipped with an innovative system of film splicing with a heated blade, this allows the ends of the two reels of shrink film to be spliced without stopping production.
- Reduced energy consumption and low maintenance costs.
- Compact knife group with film cutting blade run by a brushless "direct-drive" motor.
- Shrink tunnel with cutting edge technology to contain energy consumption and guarantee maximum environmental compatibility.
- High quality of final pack, thanks to the uniform distribution of hot air flow on all the pack surface inside the tunnel.



➤ **AUTOMATIC PALLETISING SYSTEM APS 1550 P**

Packed products: packs in film only in format 6x4 and 4x3 (0.33 L and 0.5 L bottles) and 3x2 (1.5 L bottles) coming from the shrink wrapper SK 600 F.

Pallets worked: 1000x1200 mm and 800x1200 mm.

Advantages:

- Single column with two Cartesian axis with SCARA technology, extremely flexible and easily adapted to any end of line logistic condition within multiple industrial sectors.
- Reduction of maintenance and energy costs, as well as lengthening the life cycle of the installation, thanks to the machine's mechanical simplicity and the use of components derived from robots.
- The automation and onboard management of the APS system is entrusted to innovative technology based on sercos fieldbus, thanks to which the operator, using a simple, intuitive, man-machine interface can quickly and easily manage all the end of line, palletising operations.

➤ **CONVEYORS**

Function: carrying loose and packed bottles in PET, in particular: moving bottles from the outfeed of the integrated system ECOBLOC® ERGON, moving in infeed/outfeed to the shrinkwrapper SK 600 F ERGON and moving in infeed to the palletiser APS 1550 P ERGON.

Main advantages:

- Constant, fluid no hitch movement of loose and packed bottles in PET.
- Format changeover times reduced to a minimum for the quick switch from one batch to another.
- Modular, ergonomic structure, which can easily be adapted to different sizes of containers or production flows.
- Energy consumption and running costs among the lowest on the market.
- Low running and maintenance costs.
- Product guides made from stainless steel and anti-friction UHMW plastic, which maintain the quality of the container.



A WORD WITH THE CUSTOMER

→ INTERVIEW WITH MURAT BADEM,
Owner of Badem Pinari



Q: Which factors drove your company to invest in a new bottling line supplied by SMI?

A: We all know that if we want to have a high quality product, we need to work with the best partners possible who offer solutions specific to our requirements. When we began this new activity in the bottled water sector, initially we contacted Zafer Ozcan, SMI partner in Turkey; he offered us excellent assistance, showing us the advantages of the new generation bottling and packaging installations produced by SMI, studied for the "smart factory" of the XXI century. Then we went to SMI HQ in Italy, where we saw the technology that had been

proposed to us and where we met Paolo Nava, Manager and CEO of the company. On that occasion we understood that, if we wanted a high quality product, the line solution proposed by Zafer Ozcan and SMI was the best choice. However, this still wasn't enough for Badem Pinari, we also wanted to count on an efficient and qualified team of technicians for after-sales and SMI also convinced us of this.

Q: What is the key to the rapid success of Badem Pinari in Turkey and abroad?

A: Before we began our activity in the bottled water sector, we carried out in-depth market research to evaluate the practicality of our idea and ambition to expand our company business. We knew that there were numerous companies working in the bottled water sector, but even so we decided to begin this new activity, because we strongly believe in product quality and excellent service. It was only thanks to these two elements that we would be able to have rapid success in Turkey and abroad. And so it was.

Q: What role must a supplier have to support the company growth of Badem Pinari?

A: The suppliers must be able to provide the best technical solutions that satisfy our requirements in terms of operational efficiency, energy savings and contained production costs. SMI helped us to choose the installation that was most suitable for reaching our aims and today we are able to create 0.5L bottles in PET for still water, that weigh only 9 g. They are very light containers that consumers are beginning to appreciate for their practicality, recycling and eco-compatibility and which will slowly take the place of the heavier, more rigid bottles that Badem Pinari are still using to bottle water.

Q: How important is innovation to the development of your company?

A: If we can't grow and develop, we can't compete. That makes us losers. Having said that, I believe that innovation is a determining factor for the success and growth of Badem Pinari and for any other company that is looking to the future. Therefore, the collaboration with a reality such as SMI, which produces machinery and installations inspired by the principles of Industry 4.0 and IoT, will in that sense certainly bring tangible benefits.

↓ **THE MANAGEMENT OF BADEM PINARI DURING THE FAT IN SMI – FROM THE LEFT: MURAT BADEM, ZAFER OZCAN (SMI AGENT IN TURKEY) HALIL IBRAHIM BADEM AND YIGIT BADEM.**

