

ALKALIVE FACTORY



⇒ SECTOR: WATER

ALKALIVE FACTORY

Doha, Qatar

⇒ PET LINE WITH 24.000 BOTTLES/HOUR

- Integrated system ECOBLOC® 12-48-12 EV
- 2 SK 600F Shrinkwrappers
- APS 1550 P Palettiser
- Conveyor belts



VIDEO



GEO LOCATION

THAT WHAT DOESN'T EXIST, WILL BE CREATED!

A golden jewel, wrapped in desert sand and mystery. A faraway land, uncrowded with tourists and for this, even more fascinating. Ancient cultures, proud people, striking nature, Qatar is just desert and a bit more, or rather it used to be like that. Now, at least in the capital, the beautiful Doha, it is an example of a modern state-of-the-art country. Its name itself Doha is a promise: it means "a place with trees and flowers". To make it like this, man had to do what nature couldn't, tons of soil were brought to cover the sand so that green areas and flowers could

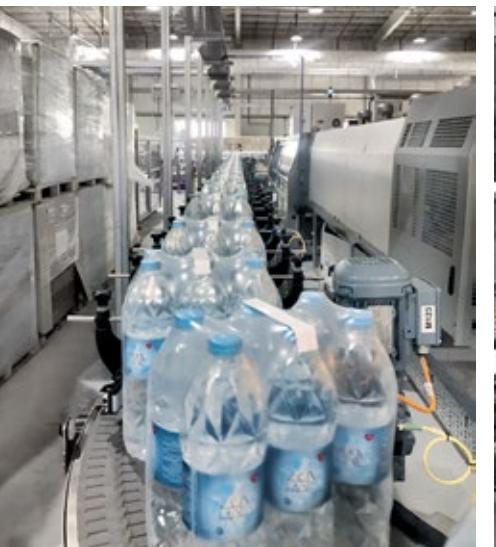
grow. A futurist airport, state-of-the-art buildings, great detail to culture, splendid museums (above all the Islamic Art and Modern Art museums), even the religious architecture, like the beautiful spiral cupola on the Darwish Kassem Fakhroo mosque, one of the country's symbols. And then there's the nature, the coastlines, the islands, the desert.... the future is a great challenge for Qatar. A country that is racing enthusiastically towards tomorrow and that in 2022, in an enormous oasis with climatised stadiums and stands, will host the football World Cup.



WHERE EVERYTHING IS AMBITIOUS AND FUTURISTIC... THEY COULDN'T BE WITHOUT SMI MACHINERY!



In Qatar they are used to ambitious and futuristic projects. Often the desert leaves its place to structures that cannot be found anywhere else. It is near the capital Doha, in the place destined to be "the city of the future", where once there was only desert, that SMI was contacted by the Alkalive Factory to design, build and install the new natural water bottling line with a production capacity of 24.000 bottles/hour (referring to 0,5L bottles in PET). A true turnkey project that SMI was involved in from the very beginning, starting with the plant design (utilities, switchboards, etc,) and the design and installation of a new bottling and packaging centre for water sold under the name of "Alka Live". An ambitious project like many others desired by the owner, the sheikh Nawaf Bin Jassim Bin Jabor Al-Thani who is also the owner of the NBJ Fulad Group, leader in Qatar for the construction of luxury hotels. The Group, which restores old historic buildings to create luxury hotels in the Middle East and in Europe, decided to invest in this new business by building a plant for the production of natural water called the Alkalive Factory for mineral water, starting from nothing. This new structure, built on an area of 5.000 m², contains modern lines for the production of natural alkaline water.



WHY IS ALKALINE WATER GOOD FOR YOU?

When you live in a fascinating country like Qatar, where everything is built oversized, there have got to be ambitious projects like building a new bottling factory from nothing, or almost nothing, as the only elements present are desert and seawater. If you decide to invest starting from this point, nothing can be overlooked and everything must be done in the best way possible, aiming only for the outstanding. Thanks to the advanced R&D department led by Dr. Amr Nada, the water produced and bottled at the new Alkalive Factory is in fact unique, it has a lot of health benefits for the consumer. All this started with the owner, sheikh Nawaf bin Jassim bin Jabor Al-Thani, he is

a health enthusiast who wants to become a pioneer, in Qatar and also abroad, in the production of alkaline water which has remarkably rich characteristics and advantages. The natural water produced and bottled by the Alkalive Factory has a pH superior to 7: so it is to all effects an alkaline water and from this, it takes its name Alka Live. Water can be defined alkaline if it doesn't contain any impurities and has a pH superior to 7, on the contrary, contaminating agents in water make it acidic. The biggest part of tap water isn't even pH neutral while the water produced by the Alkalive Factory has a pH between 7 and 8,5 and therefore is considered to be pure crystalline water with considerable advantages to our health.



The most important thing that man needs to do, to remain healthy, is to drink good water, abundantly.

We are what we drink, if we drink acidic water, we become acidic. If we drink alkaline water, we become alkaline. Water is very important for our organism, like the planet where we live, our bodies are 70% water. All our organs are mainly made from water and for this reason, it is extremely important to keep every cell in our body hydrated and healthy. If we drink acidic water, the cells don't receive the necessary minerals and then they will take the alkaline minerals from bones, muscles and other parts of our body, leaving these areas undefended.

The mineral supplies won't be available for other alkalinizing actions (for example, when the mineral taken is calcium, which is necessary to strengthen our bones, it is inevitable that it becomes a health problem). Whilst alkaline water neutralises accumulated acidic waste from the food we eat and our metabolism, if consumed on a daily base together with a healthy diet, it delicately removes acids from our body. Alkaline water can contain alkaline minerals that are good for us, including calcium, magnesium and potassium. It is, in fact, the ideal replenishment for these minerals, because being dissolved in water, they are easily absorbed by the human organism.





THE INTERNAL SEA IS AN ARM OF THE PERSIAN GULF THAT IS COMPLETELY SURROUNDED BY SAND AND IT IS ABSOLUTELY NECESSARY TO GO THERE IN A CONVOY OF THREE TO SIX CARS. YOU CAN'T MISS THE FABULOUS SIGHT OF THE SUN SETTING IN THE DESERT. A LANDSCAPE WHICH IS EXTRAORDINARILY BEAUTIFUL, ONE OF THE WORLD'S RAREST WONDERS, THAT HAS EARNED THE TITLE OF WORLD HERITAGE SITE. LEVELLED DESERT SANDS THAT FOLLOW THE MOVEMENT OF THE DUNES, TO SLIDE SLOWLY AWAY AND DISAPPEAR IN PUDDLES OF WATER THAT SURFACE FROM THE GROUND. A UNIQUE SHOW, WHERE THE HEAT OF THE DESERT MEETS THE COOL OF THE SEAS.



→ ABOUT THE NBJ GROUP

The NBJ Group is a private company with headquarters in Qatar and in the United Arab Emirates. The Group owns a lot of different companies working in varied sectors, in particular in those of real estate, cars, aviation and shipping. The strong points of the NBJ Group are their wide diversification and the ability to employ their various internal resources in a synergistic way. Their continual investment in new products and technical innovations ensure new opportunities and the development in new markets, strengthening their market leadership. The Group is a pioneer at finding new cutting edge solutions to face the continually changing, market requirements and providing an elevated standard of service (as demonstrated at Alkalive Water).



THE CHALLENGE AT DOHA

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he objective of Qatar's capital is to build a true paradise for tourists, the sheik of Qatar, Hamad bin Khalifa Al Thani is investing enormously so as to rapidly make Doha one of the "in" places that tourists want to visit. Qatar has already won its first important battle on this front, it will host the 2022 World Cup, and work for this has already started. Another two great symbols of expansion for this nation are, on the one hand, the national airline Qatar Airways, that is expanding rapidly, and on the other, sport: the international Moto GP, tennis and cycling circuits are already present in Doha and they have already set their eyes on the Formula 1, trying to attract a Gran Prix. However, none of these are as important as the football World Cup in 2022, this will be the country's real showcase.



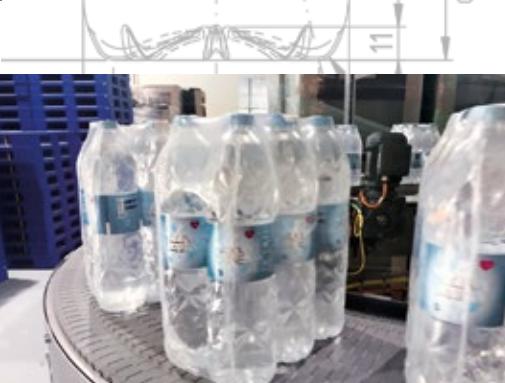
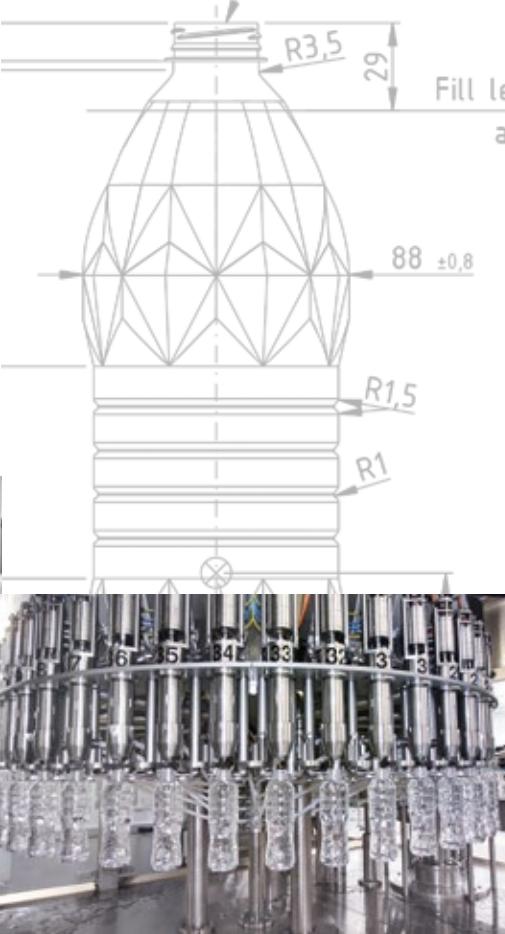
LUSAIL IS HOME TO CHALLENGES



Challenges are also faced on two wheels... those of the Moto GP race! The city of Lusail hosts the circuit of Losail, the first circuit ever to have hosted a night race. This happened in 2008, even if it had been on the calendar since 2004. The track, built in a year, is in the desert and has an extension of 5,4 Km surrounded by synthetic greenery studied to stop the desert sand from invading the track. It cost 58 million dollars and a workforce of 1000 people to meet the target according to plans, opening on 2 October 2004. Another legendary endeavour was the task to light up the track to "daylight", in 175 days, engineers took more than 1300 hours to carry out this project, which became reality thanks to 44,13 thousand watt generators, which were studied to avoid glare for the racers. The electricity which is used to illuminate this track would be enough to supply electricity to 3000 houses and the light produced would be enough to illuminate a road from Doha to Moscow, almost 3600km, or 70 football pitches.

WHY CRYSTAL? SMI AND THE STUDY OF THE NEW BOTTLE

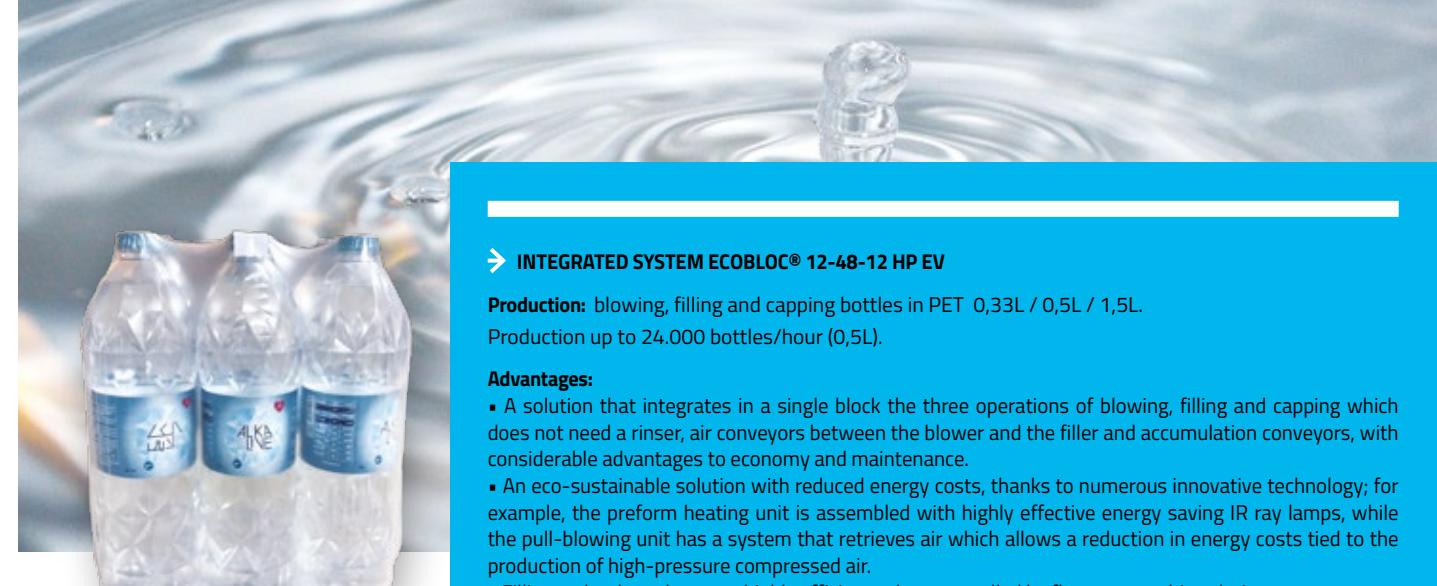
The team at SMI was chosen to take part in the launching of the new alkaline water produced at the Alkalive Factory. This new project, as well as the engineering studies of the new plant and the bottling line of 24.000 bottles/hour, also got the SMI designers involved in the design of the new bottles in PET 0,33 L / 0,5 L / 1,5 L produced, bottled and capped by a new integrated system ECOBLOC® series EV. The bottle's design answers the specific functions and needs of the customer. The basic theme chosen by Alkalive Water for the bottle design was crystal, which symbolises how precious, pure, limpid and transparent the water that it contains is. In mineralogy and crystallography, a crystal (from the Greek "Krystallos", which means ice) is a solid structure made up of atoms, molecules or ions within a regular geometric order that is repeated indefinitely in the three spatial dimensions, called crystal lattice. There is no other element that can transmit the image of clear, pure, transparent water like crystal. A diamond, symbol of a unique, valuable element, is made from a crystal lattice. However, crystal also represents water in its solid state: ice that has a hexagonal crystalline structure.





SMI SOLUTIONS FOR ALKALIVE FACTORY

The turnkey project supplied by SMI to the Alkalive Factory began with the request from the customer who wanted to build a bottling plant for drinkable water able to produce 24.000 bottles/hour. SMI proposed itself as sole supplier to manage each phase of design, build, and installation of the plant, with the objective to provide first class products within the technical process fields of filling, storage and distribution (including all management and control systems). The multi-sector experience that SMI has gained in 30 years of activity allowed it to propose a complete solution to the Alkalive Factory, a solution, which thanks to latest generation automation, was able to balance the needs of the machinery installation, the logic of the procedure, technical sizing of the utilities, logistics and technology needed for storage. For the bottling line of 24.000 bottles/hour the Qatar company chose a compact system of stretch-blown, filling and capping from the ECOBLOC® series EV, because this gave them the ideal solution to gain high production efficiency with contained costs.



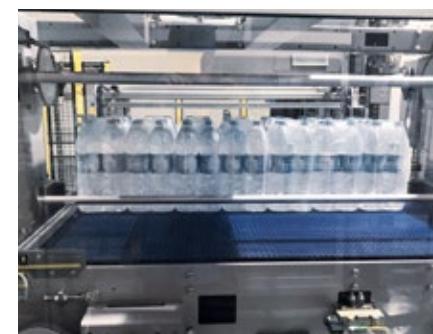
→ INTEGRATED SYSTEM ECOBLOC® 12-48-12 HP EV

Production: blowing, filling and capping bottles in PET 0,33L / 0,5L / 1,5L.

Production up to 24.000 bottles/hour (0,5L).

Advantages:

- A solution that integrates in a single block the three operations of blowing, filling and capping which does not need a rinser, air conveyors between the blower and the filler and accumulation conveyors, with considerable advantages to economy and maintenance.
- An eco-sustainable solution with reduced energy costs, thanks to numerous innovative technology; for example, the preform heating unit is assembled with highly effective energy saving IR ray lamps, while the pull-blowing unit has a system that retrieves air which allows a reduction in energy costs tied to the production of high-pressure compressed air.
- Filling technology that uses highly efficient valves controlled by flowmeters; this solution ensures a very precise and fast procedure thanks to the electronic control of the operations.
- The time needed for machine preparation for cleaning is minimum, thanks to the use of dummy bottles.



→ SK 600F SHRINKWRAPPER

Packaged products: bottles in PET 0,33L / 0,5L / 1,5L.

Packages worked: packs 6x4 film-only (bottles 0,33L); packs 4x3 film-only (bottles 0,5L) and packs 3x2 film-only (bottles 1,5L).

Advantages:

- The machine is equipped with an electronic separator, automatic format change-over, film reel trolley, centring system for printed film.
- An ideal solution to quickly switch from one packaging format to another, alternating the production of bottles of 0.33L / 0.5 L / 1.5L.
- This shrinkwrapper also has an innovative accessory installed, the so-called "auto-splice system", this allows the two edges of the reels of shrinkwrap film, pre loaded on the machine, to be joined without having to stop production. This device creates a considerable reduction to energy use and maintenance as it is not necessary to keep the joining reels at temperature. The precision of the reel splicing on printed film or registered clear film is also more precise, thanks to the positioning of +\ - 10 mm from the register mark. The system can also be used without problems also for splicing "non-fusion" film.

→ AUTOMATIC SYSTEM FOR PALLETISING APS 1550

Packed products: packs in film-only formats of 6x4 (bottles 0,33L); 4x3 (bottles 0,5L) e 3x2 (bottles 1,5L) that arrive from the SK 600F shrinkwrapper.

Pallet obtained: 1000x1200 mm.

Advantages:

- A mono-column system with two cartesian axis and SCARA technology, extremely flexible and easily adaptable to any logistics condition within the fine line area of numerous industrial sectors.
- A reduction in maintenance and energy costs, as well as lengthening the plants lifecycle, thanks to the mechanical simplicity of the machine and to the use of robotic components.
- The automation and the control of the APS systems assembled on the machine are entrusted to innovative technology based on Sercos fieldbus, thanks to which the operator, through a simple and intuitive man-machine interface (HMI), can easily and quickly manage all the end-of-line palletising operations.

LUSAIL CITY: THE CITY THAT STILL DOESN'T EXIST

Rich and technologically advanced, the State of Qatar has already started to prepare for the challenge that is awaited in 2022, when it will host the FIFA World Cup. This will be the first "winter" World Cup, as it will be held from the 21 November to 18 December. All this would be very nice if it weren't that Lusail, the city where the final will be held still doesn't exist! Lusail is in fact, a city that is still being built, 15 kilometres from Doha, the capital of Qatar. In 2022 Lusail won't be just any city, but one of the most modern, luxurious, futuristic urban centres in the world. Without a doubt a very ambitious project, but one that is already underway. Seven years might seem a short time, but, thanks to the strong will that animates Qatar it's more than sufficient. The real estate project tied to Lusail City began in particular to host the Qatar World Cup in 2022, the final of which will be held at the Lusail Iconic Stadium. The futuristic structure designed by the famous Iraqi architect Zaha Hadid will not be the only attraction worth noticing in the town: they are talking about building two golf courses, an enormous theme park and even a lagoon! It will be without a doubt a new

luxurious district, that apart from having entire residential areas with luxurious villas with sea-views and apartments in splendid skyscrapers, will also have numerous areas to accommodate the tourists that will arrive to watch the World Cup matches and go shopping in the most prestigious famous brand shops in the world, or in the gigantic shopping mall called Place Vendôme; this will be a super mall and has already been widely publicised by the local media as the new fashion house of Qatar.

THE QUEEN OF ARCHITECTURE

ZAHA HADID WAS THE FIRST WOMAN TO WIN THE PRITZKER PRIZE, WHICH IS THE EQUIVALENT TO A NOBEL FOR ARCHITECTURE. BORN IN BAGDAD IN 1950, AND DYING PREMATURELY AT ONLY 64, SHE HAS LEFT HER TRACE, SHAPES, EVERLASTING FOOTPRINTS AND DESIGNS IN THE FUTURE IN THE MAIN CITIES OF THIS PLANET, AMONG WHICH LUSAIL CITY.



INNOVATION AND TRADITION

The cubic geometry of the Museum of Islamic Art, conceived by Ieoh Ming Pei also stands out in the Arab Emirates of Qatar: it's a building of pale stone that rises on an artificial island close to the bay (Doha Corniche). The face of a veiled woman is traced on the outside, but the real grandeur is safeguarded on the inside, in the maze of courtyards and rhythmical fountains, arches and balustrade or in the dark rooms structured along an itinerary taking you towards the discovery of rare Islamic art from three continents. Especially interesting is the "Fire Station Artist", an old fire station, that represents a project to support young, international, creative people, who can develop and showcase their art, from design to photography.



On the edge of the desert dunes, framed by the blue of the Persian Gulf, rising buildings and complexes are anticipating the future. But the future in Qatar has a precise date: 2022, when Doha – capital of Qatar – will host the FIFA World Cup and see the end of the first phase of work in Lusail City, the new eco-friendly city in the port area and elective territory of this futuristic building site. Without a doubt the Star will be the desert-hyacinth shaped skyscraper designed by Zaha Hadid. However, the small, (just 11,000 km²) kingdom, characterised by the highest income per head on the planet and by almost two centuries of underground gas supplies, is astonishing also for the fantastic National

Museum by Jean Nouvel, looking like a gigantic desert rose, with walls that recall crystallised sand, it displays international works of art that converse with local recollections. The most elegant building is the Doha Tower, again designed by Nouvel, winning awards by the Council on Tall Buildings and Urban Habitat, for its architecture of sensual technology: a cylinder of forty-six floors on the West Bay promenade (the administrative and financial centre), in cement covered by glass and embroidered with metallic roses, that open and close according to the strength of the sun's rays and change colour at night, in a shimmering kaleidoscope of reds and yellows.

THE FUTURE HAS A PRECISE DATE: 2022

