



A TINY PENINSULAR COVERED BY DESERT DUNES AND SURROUNDED BY THE WATERS OF THE PERSIAN GULF, WHERE LIFE CONTINUES UNDER THE SHADE OF THE ANCIENT SOUKS AND FUTURISTIC SKYSCRAPERS. QATAR IS A LAND OF CONTRASTS, WHERE HISTORY AND TRADITIONS LIVE HAND IN HAND WITH INNOVATION. IT'S THE IDEAL PLACE TO RELAX ON LONG, GOLDEN BEACHES, TO GO ON EXCURSIONS IN THE ARID, SANDY AND ROCKY HINTERLAND TO DISCOVER THE THOUSAND-YEAR HISTORY OF THIS MAGICAL LAND, THAT ANTICIPATES THE FUTURE WITH AMAZING SPEED. THE MAIN ENTRANCE TO QATAR IS DOHA, THE CAPITAL, A COSMOPOLITAN CITY WITH 1 MILLION INHABITANTS SQUEEZED BETWEEN THE DUNES OF THE DESERT AND THE WATERS OF THE PERSIAN GULF WHERE IMMEDIATELY, YOU FEEL THE STRONG BOND BETWEEN TRADITION, INNOVATION AND TECHNOLOGY.

AL ETIHAD REFRESHMENT FACTORY

➤ **WATER SECTOR**

AL ETIHAD REFRESHMENT FACTORY
Doha, Qatar

- COMPLETE LINE 20,000 bottles/hour
 - integrated ECOBLOC® ERGON 10-36-9 EV
 - case packer LWP 30 ERGON
 - film shrink wrapper LSK 42 F ERGON
 - conveyors
 - subsupply: high pressure compressor, labeller, inspection systems and coder



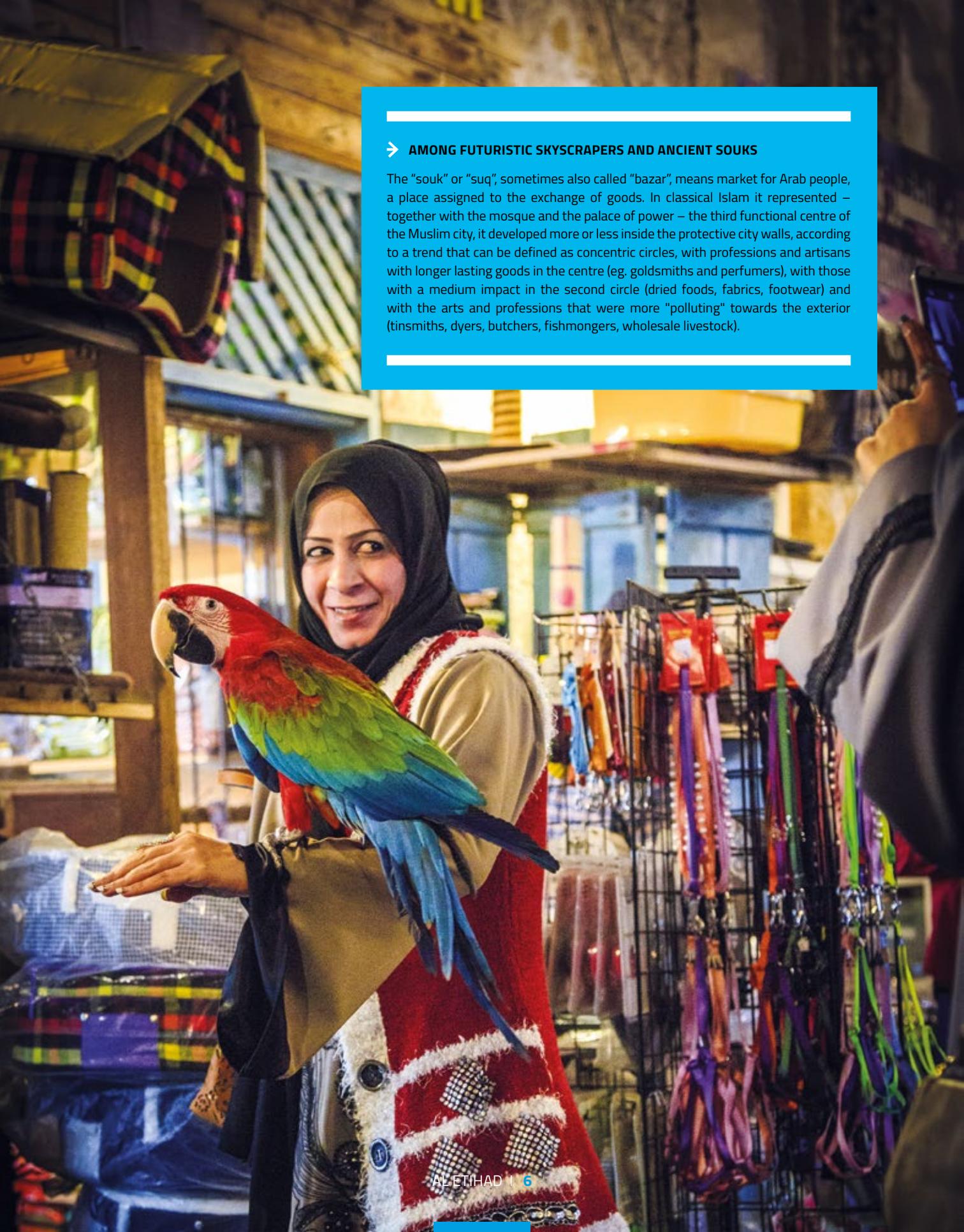
VIDEO



GEO LOCATION

➤ **AMONG FUTURISTIC SKYSCRAPERS AND ANCIENT SOUKS**

The "souk" or "suq", sometimes also called "bazar", means market for Arab people, a place assigned to the exchange of goods. In classical Islam it represented – together with the mosque and the palace of power – the third functional centre of the Muslim city, it developed more or less inside the protective city walls, according to a trend that can be defined as concentric circles, with professions and artisans with longer lasting goods in the centre (eg. goldsmiths and perfumers), with those with a medium impact in the second circle (dried foods, fabrics, footwear) and with the arts and professions that were more "polluting" towards the exterior (tinsmiths, dyers, butchers, fishmongers, wholesale livestock).



THE FUTURE IS NOT ALWAYS PREDICTABLE

In Qatar everything is projected towards the future, above all the companies which, in preparation of growing market demand, continually invest in new technology and in cutting edge production installations. As the future is not always predictable the winning choice is that of concentrating on the customers' current needs without losing sight of future objectives. This is the only way that companies can gain the maximum economic benefits from their activity and optimise resources and investments. One example of success of this development strategy is Al Etihad Refreshment, which, thanks to its collaboration with SMI, has installed a new water bottling and packaging line for the Doha Water brand. This installation, with a current production

of 20,000 bottles/hour, can easily be adapted to double the production without changing the line layout, or replacing the machinery that is currently used.



READY TO INCREASE PRODUCTION! THE LINE WITH EXPANDABLE PRODUCTION

To create the new water bottling and packaging installation for the Doha brand, Al Ethiad Refreshment turned to the experience of SMI, who proposed a bespoke solution for the current production requirements but with a truly innovative aspect, the possibility to quickly and easily adapt to growing future market demands, without compromising their investment.

The idea of an expandable production line was devised, a line that right from the start could face an increase in production of up to 40,000 bottles/hour without having to change any machinery in the

installation, which is currently producing 20,000 bottles/hour, because they only need to add a new integrated ECOBLOC® ERGON system to double the installation output in very little time.

The flexibility of the SMI equipment also gives the customer another option, he can decide if he wants to maintain his current production speed of 20,000bph and use the new integrated ECOBLOC® ERGON system to bottle another product or to run new bottle formats.

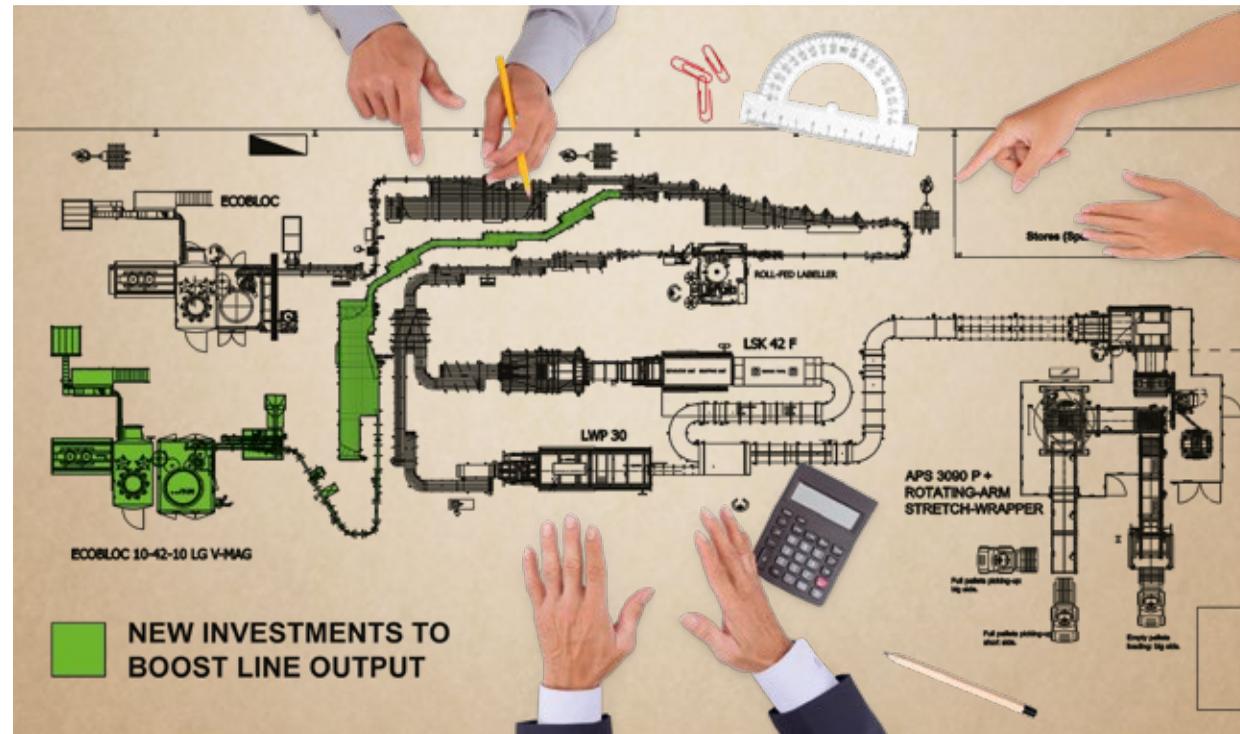
Even in this case, no modifications to the line are necessary as the conveyors and automatic wrappers from the LSK and

LWP range are so flexible that they will allow the simultaneous management of numerous products and/or formats.



In the era of Industry 4.0 machines and installations need to be flexible, intelligent and interconnected. Men, machines and systems communicate constantly among themselves, creating networks of added values and automated production processes that guarantee the optimal use of the resources available. More and more often, companies need to face rapid organisational and production changes to satisfy constant changing market demands, these can be, the type

of product, packaging format, packaging material and so on. To be able to have the availability of more slender, flexible, versatile bottling plants is without a doubt, an important competitive advantage, which allows companies to maintain and gain market share, and to successfully face the most demanding challenges that come from fickle consumer habits. A practical example of this reality can be seen by the "expandable" production line supplied and installed at the Al Ethiad Refreshment Factory.



INDUSTRY 4.0 SOLUTIONS THAT INCREASE PRODUCTION PROFITABILITY





SMI SOLUTIONS FOR AL ETHIAD FACTORY

The current bottling and packaging line supplied by SMI, was designed and created to satisfy all the principles of Industry 4.0. It has the innovative characteristics of expandability and flexibility in line with the most advanced parameters of the "smart factory", capable of easily adapting to production flows caused by market demand. Ethiad Refreshment can reply efficiently and rapidly to these variations, adjusting its production cycles, with the minimum supplement required by the installation of a new integrated ECOBLOC® to blow, fill and cap, to increase the number the production capacity of Doha natural mineral water or to add a new product or new bottle formats.



➤ INTEGRATED ECOBLOC® ERGON 10-36-9 EV SYSTEM

Functions: stretch-blow moulding, filling and capping of 0.2 L / 0.35 L / 0.5 L / 1.5 L PET bottles of Doha natural mineral water, with a production capacity of up to 20,000 bottles/hour (0.5 L).

Main advantages:

- Compact and flexible solution for stretch-blow moulding, filling and capping PET bottles with mineral water.
- Precise and quick operation, thanks to the electronic operations system, to the motorised stretch rods and the use of high efficiency valves controlled by flowmeters.
- Reduced energy consumption: the stretch-blow moulding module has a dual air recovery system that allows the reduction of energy costs tied to the production of high pressure compressed air.
- High energy efficiency, thanks to the IR lamps fitted on the preform heater module.
- High operational flexibility, making it easy for promotional demands such as applying different colours to the bottles of Doha water.

➤ SHRINK WRAPPER LSK 42 F ERGON

Packed products: 0.2 L / 0.35 L / 0.5 L / 1,5 L PET bottles

Packs worked: the 0.35 L bottles are packed in 4x3 and 5x4 film only, the 0.2 L bottles are packed in 5x4 and 6x4 film only, the 0.5 L bottles are packed in 4x3 film only, while the 1.5 L PET bottles are in 3x2 film only, in twin lane.

Main advantages:

- Extremely flexible shrink wrapper, already geared to double the current production of 20,000 bph in the 0.2 L / 0.35 L / 0.5 L formats so that it can satisfy any future greater market demand.
- Automatic machine suitable for packing various types of rigid containers.
- The packer is fitted with an optional device to work packs in twin lane, film only, offering the customer greater flexibility when packing the current 3x3 bundles of 1.5L bottles and the future 4x3 for 0.35 L and 0.5 L bottles, if there is an increase in production.
- All LSK ERGON models are equipped with a mechanical product grouping system. The version installed at the Al Etihad Refreshment Factory has an automated regulation system for changing format to switch quickly and easily from one format to another.
- The LSK ERGON wrapper has reduced dimensions and represents the most suitable solution to satisfy the needs of customers who don't have much available space.
- Excellent comparison quality/price: despite having cutting edge technology and highly trustworthy components, the LSK ERGON series has highly competitive prices.
- The knife unit is compact and the blade is controlled by a brushless motor with "direct-drive" transmission, making the cutting operation much more precise and facilitating maintenance.

➔ WRAP-AROUND PACKER LWP 30 ERGON

Packed products: 0.2 L / 0.35 L / 0.5 L / 1.5 L PET bottles.

Packs worked: The 0.2 L and 0.5 L bottles are packed in wrap-around corrugated cardboard in 4x6 and 6x8, the 0,5 L bottles in 4x6, the 0.35 L bottles in 5x8, while the 1.5 L bottle is packed in 3x4 wrap-around boxes.

Main advantages:

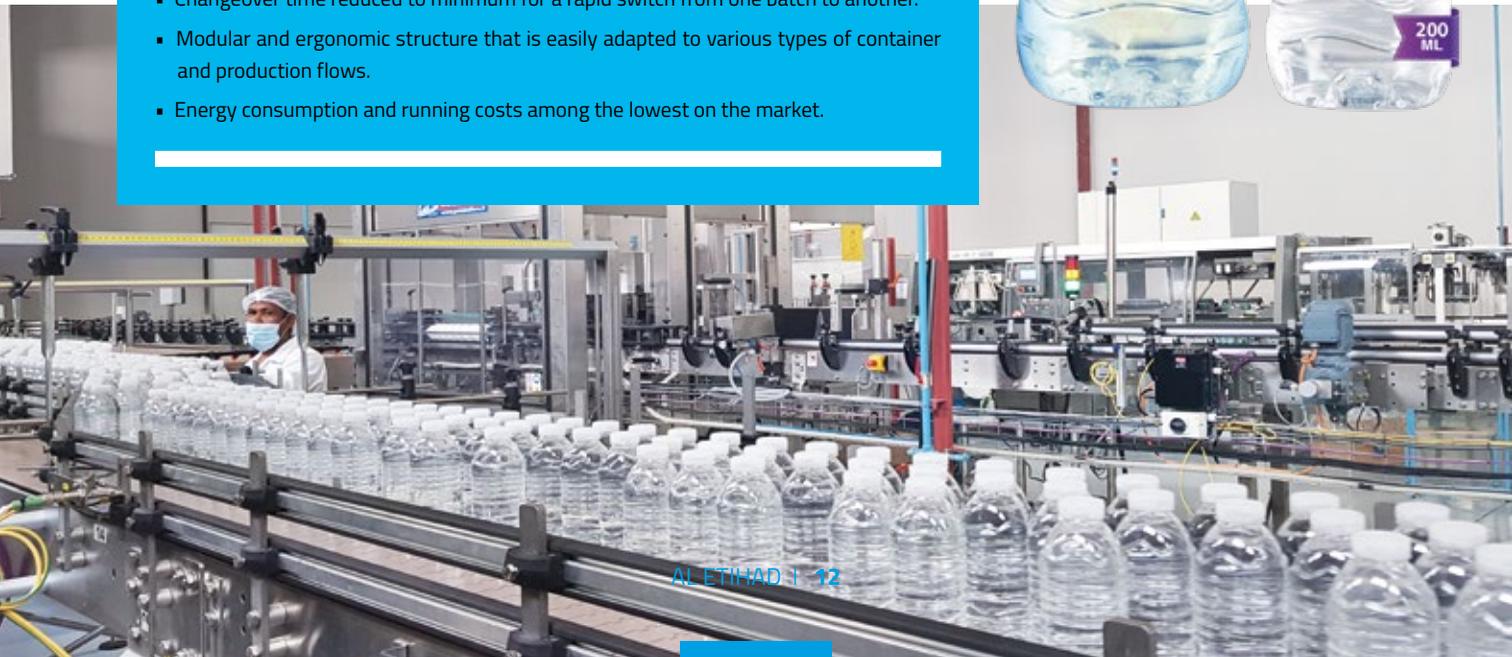
- Packaging process with wrap-around system equipped with a mechanical device which groups the product, with the advantage of forming the cardboard box around the transiting bottles without having to stop the machine.
- Ideal solution for a package that is resistant to impacts and protects the product during transport.
- The LWP ERGON packers are equipped with fixed guides at the machine outfeed which keep the sides of the box pressed together, this system guarantees that the box will keep its perfect long-lasting shape, compared to other pressing systems with rotating chains that are not able to maintain the same level of quality.

➔ CONVEYORS

Function: transporting loose and packed bottles in PET, in particular: transporting the bottles from the outfeed of the integrated ECOBLOC® ERGON system, onto the LSK 42 F ERGON and LWP 30 ERGON packer infeed.

Main advantages:

- The conveyors installed at Al Etihad Refreshment guarantee that the loose and packed PET bottles move smoothly and constantly, without any hitches.
- The use of innovative technical solutions that satisfy the installation's present and future demands. The conveyors have been sized so that in a very short time, they are able to manage greater volumes of production without needing any further modification to the present layout.
- Changeover time reduced to minimum for a rapid switch from one batch to another.
- Modular and ergonomic structure that is easily adapted to various types of container and production flows.
- Energy consumption and running costs among the lowest on the market.



AUTOMATIC MACHINES THAT ADAPT TO CONSUMERS

One of the greatest challenges that is faced in the production of beverages, is that of finding the correct balance between production and flexibility. To reduce costs, a high level of efficiency is needed, together with the best specialised installations. Knowing for certain that consumer demands will change over time, companies in the "food & beverages" sector need vast operation flexibility from their production lines so that they can modify production recipes, and bottle and packaging formats. As flexibility has a cost and meeting new demands means down time on machinery, it is essential to choose machines that right from the start, are designed to reduce minimum down time and to be able to immediately adapt to the new production demands, improving the efficiency of all the plant.



➔ FROM THE LEFT: HECTOR, LINE OPERATOR; PIERRE ANID, GENERAL MANAGER AT NOVADIM; KHALIL MASRI, GENERAL MANAGER AT AL ETIHAD REFRESHMENT AND WASSIM MANSOUR, SALES MANAGER AT NOVADIM.

➔ THE FIRST STADIUM IN THE WORLD THAT CAN BE "DISMANTLED"

Innovation can be seen everywhere in Qatar and now the curtain will be lifted on the first stadium built globally, that can be "dismantled". The structure is called the Ras Abu Aboud Stadium and will be the feather in the cap at the football world cup to be held in 2022 in Qatar. Made in blocks and removable pieces, the Ras Abu Aboud Stadium can be dismantled at the end of the event, to be later rebuilt in part or completely. With a capacity of up to 40,000 people it will host the matches up to the semi - finals of the World Cup 2022, and will be built on 450 thousand square meters of sea front. Of the eight stadiums, that will be built especially for Qatar 2022, because of how it is built, the Ras Abu Aboud Stadium is the one that will catch the most attention from the mass media and visitors, not only for its module architecture, but also for the sustainability of the project: less impact on the environment, a reduction in the quantity of carbon caused by construction and also the amount of waste products. Revolutionary, daring, pleasant to use and well connected, with lots of aquatic taxis on site, the Ras Abu Aboud Stadium sums up in a few but significant characteristics, the intentions of the organizers of Qatar 2022.



QATAR : “SMART CITIES” WITH SUSTAINABLE DEVELOPMENT

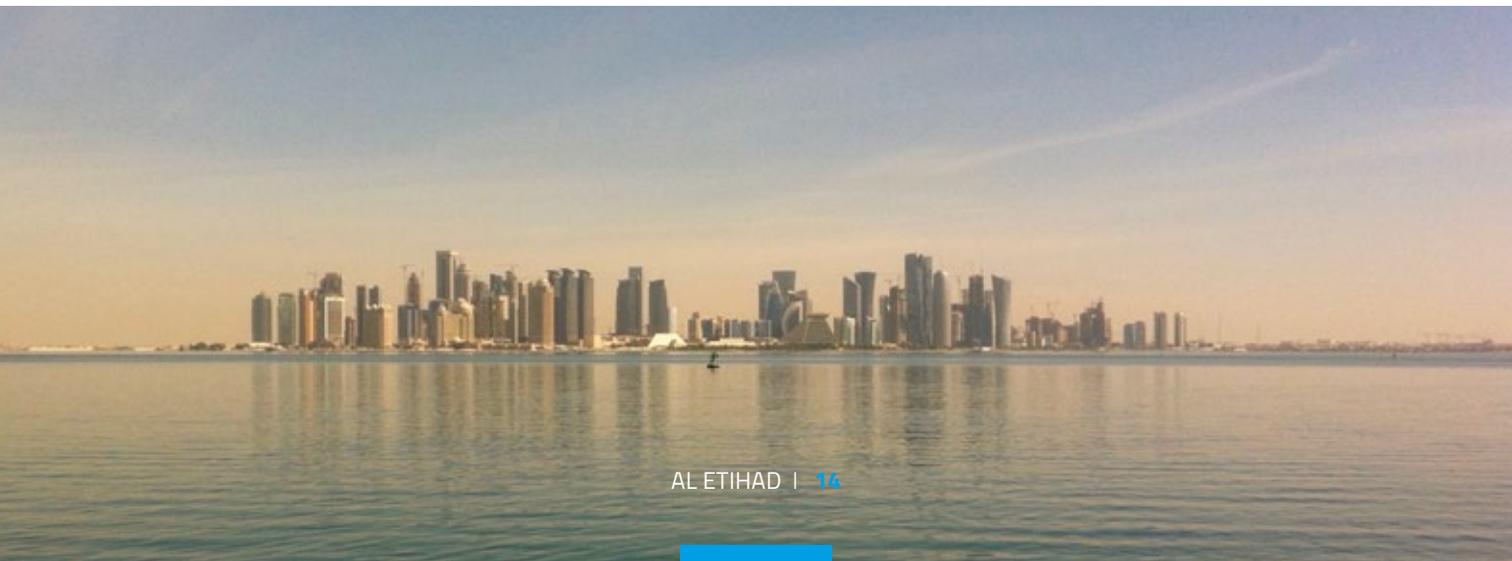
As yet unknown as a tourist resort, Qatar is emerging with its growing commitment towards environmental safeguard and eco-sustainable development. Apart from it being fascinatingly modern, it is causing interest for its commitment towards the protection of the environment, of the biodiversity and of the ozonosphere. In Doha, the capital, a skyline of skyscrapers and ultra-modern buildings can be admired among the most traditional suuks. A great deal of money has been invested in the city centre for the “Msheireb”, the first urban renovation project with an eco-friendly point of view, which respects the traditional historical and cultural heritage of the emirate, bringing the oldest part of the city back to life, thanks to the use of the most innovative criteria of bio-construction and sustainable development. Qatar has also adopted a plan of action to promote the development of renewable energy through significant investing in photovoltaics (PV). The qualities of this national plan are those of saving the desert’s eco-system and to favour the regeneration of cities from a “green” point of view. An excellent example of this sustainable development strategy can be seen at Lusail City, the most eco-sustainable “smart” city, that 15 Km from Doha, envisages useful expedients to reduce environmental impact caused by humans, starting from the

➤ A LEAP INTO NATURAL WONDERS

Just outside Doha there are numerous places to discover the country’s nature and traditions. The desert is the greatest protagonist for trips and excursions, first and foremost is “Khor Al Adaid” (which means “inland sea”), one of Qatar’s most spectacular wonders of nature. Situated about 60 km from the capital, it is one of the few places in the world where the sea encroaches deep into the heart of the desert, creating a natural reserve with its own eco-system. The area is home to unique examples of fauna, including some species which are internationally rare, and/or risking extinction, such as turtles. For its remarkable landscape, Khor Al Adaid is protected by UNESCO. Other experiences to try in the desert, a safari by Jeep through the sand dunes or a night excursion to admire the magnificent sunsets in the total silence of this immense place.



drastic reduction of squandering water. This futuristic city has great expectations and all eyes will be focused on Qatar, especially in 2022, when the Arab emirate hosts the football world cup.



DOHA WATER IN PREPARATION FOR THE FIFA WORLD CUP 2022

In Qatar, where everything is possible and where water under the brand Doha Water, bottled and packed thanks to the new production line supplied by SMI, aspires to become a product of success in view of the 2022 World Cup, which, for the first time in history, will be held in this country. In view of this very important world event, the El Ethiad Refreshment Factory decided to be prepared and invested in a modern bottling line capable of 20,000 bottles/hour, expandable to 40,000. Challenges are a part of the nature of this company, which over the years, has understood how to reap market opportunities and consequently, increase their market share. The Al Ethiad Refreshment Factory is relatively new to the production and bottling of mineral water and was devised from a pre-existing company called Al Rashid Ice Water

Factory, specialized in the production and supply of ice in food and industrial sectors. All this came from an idea thought up by the owner of Al Rashid Ice Water Factory, the surgeon Dr. Khalid Al Rumaihi, who wanted to start up a collateral business activity and decided to become part of the “business” created by selling bottled water. At the beginning, production was carried out in a second-hand plant, producing 0.33 L, 0.6 L and 1.5 L bottles under the brands Al Saaqee Water and Doha Water, which were packed by an SMI packer from the WP series. Experience gained in the bottled water sector and the growing demand for their products, created the presupposition for this company’s most recent challenge, which involved SMI for the supply of a complete new line for bottling and packing water under the brand Doha Water.

