

SAFI SARL



SOFT DRINKS SECTOR

SAFI SARL
Niamey, Niger

- PET LINE for 20,000 bottles per hour:
- Smiform ECOBLOC® 10-84-10 HP LG-VMAG
- Smiflexi SK 400F shrinkwrapper
- Smiline conveyor belts
- inkjet, premix, HP and LP compressor, inspection system, power distribution, labeller



GEO LOCATION



Africa is a place that conjures up spellbinding atmospheres and situations, which call to mind simple and at the same time fascinating, unusual and unique images. West Africa is undoubtedly one of the most incredible areas of the planet, since every single country in this continent has its own historical, cultural, culinary and musical identity. Niger is no exception: it is the biggest country in the Sahel (from Sahil, "the desert edge"), i.e. that strip of land in Sub-Saharan Africa that stretches from the Sahara Desert, which lies to the north, to the Sudanian Savanna to the south and between the Atlantic Ocean to the west and the Red Sea to the east. Crossing Niger means diving into nature with a millennial flavor, that leaves you breathless, but also into a daily reality made of internal tensions that make economic development more difficult.

Nevertheless, Niger's economy includes numerous companies that invest in new businesses, as they trust and confide in the good growth prospects of the market which are favored by the GDP growth rate of recent years. Safi Sarl is one of these companies and recently entrusted to SMI the design, implementation and installation of a complete bottling line of 20,000 bottles per hour, dedicated to the packaging of a new range of carbonated soft drinks in 0.5 liter PET containers in several different flavours (cola, mango, kiwi, pineapple, lemon, orange, apple, fruit cocktail, to name a few). Safi Sarl is a concrete example of the great economic turmoil taking place in the African continent, involving a growing number of local industrial enterprises assisted in their development plans by leading European suppliers of modern technologies.





THE GREAT CHALLENGE OF SAFI SARL

The production of carbonated soft drinks is undoubtedly a great entrepreneurial challenge in a central African country that has a population of 18 million inhabitants

and no outlets to the sea, where 2/3 of its territory is covered by the Sahara desert, uninhabitable and barren. Despite geo-climatic difficulties, Safi Sarl decided to face this challenge by

commissioning to SMI the supply of a new production facility to expand into the bottled drinks market. This is a growing industry, in which the owners of the Niger company have succeeded



in grasping the preconditions for a bright future thanks to the constant growth rates recorded in recent years. The new development project has required massive investments in brand new plants and advanced technologies due to the fact that the "food & beverage" sector is an alternative to Safi Sarl's core business, i.e. transport and petrochemicals. This new bottling plant has created the prerequisites for enabling this African enterprise to quickly become a major player in the food sector in Niger, with the aim of conquering both the domestic market as well as that of neighboring countries.



INSTALLATION / Safi Sarl

THE AÏR AND TÉNÉRÉ NATURAL RESERVES

Niger offers much in terms of landscape: breathtaking natural beauty, multicolored dunes, Tuareg villages and the charm of a multi-ethnic culture.

Niger is the second largest and also one of the most fascinating countries in West Africa, kingdom of ancient peoples like the Hausa, the Germa, the Fulani and the Tuareg.

It is also a land with endless deserts, starting from the desert of deserts, the Ténéré, which offers unique moments for visitors in search of a mystical experience, and remarkable mountain ranges such as the Aïr and Sahel massifs where the Bororo people live.

The Aïr and Ténéré natural reserves, with their 7.7 million hectares, make up the largest protected area of Africa, hosting many species of plants and wildlife and an amazing variety of landscapes, from the mountains to the sand dunes.

The Niger State owes its name to the same-named river running through it, the third longest river in Africa (approximately 4,200 km, of which 500 in Niger territory), and also its only permanent water source.

Niger's capital city Niamey lies on this river's banks, as well as most towns such as Zinder, Maradi and Tillabéri.



THE NIGER RIVER: A VITAL WATERWAY

A great communication route for a very widespread area, a great collector of water for a largely semi-arid region: it is the Niger, one of the most important rivers of the African continent so much so that two states - Niger and Nigeria - have taken their name from it.

The Niger River, boasting a total length of about 4,160 km, stems from the Loma Mountains on the border between Guinea and Sierra Leone.

With its crescent-shaped course, it crosses Mali and Niger, then borders Benin, runs through Nigeria and eventually empties into the Gulf of Guinea with a very wide delta called the Niger Delta or Oil Rivers.

Used, from time immemorial, to join the coast to the inland areas and as first crossing of the Sahara, this river is vital for West Africa.

Much of its importance is linked to its function as a means of communication and to the fact that its waters, which cross very arid regions, make farming possible as well as a very dense human presence.

In Niger State, nearly the entire population thickens around this river that, shortly before abandoning the territory, draws a number of consecutive bends, giving that stretch

a W-shape: this is where one of the most beautiful national parks has been established in West Africa, called the W Park, which is home to rich fauna (mammals, reptiles, birds and fish) and was declared a UNESCO World Heritage in 1996.

ONE STATE, MANY CULTURES

The people of Niger are highly differentiated and preserve among the most varied customs and traditions.

The Tuareg, a nomadic people, wander constantly in search of grazing land, water and salt like all other farmers in Niger.

More vibrant is the life of the Bororo sub-ethnic group (also known as Wodaabe), who loves dances and festivals.

Their most important festival is the "cure salée" (salt cure) or "nomads



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festival", an annual event celebrated in September when shepherds gather in the very green area of Ingall so that their cattle can be nourished by this grass that has a very high salt content. The Bororo are a "vain" people and the meeting becomes an opportunity

to stage some sort of beauty contest attended only by men who take advantage of this occasion to wear make up, show off shiny ornaments and, thanks to stimulating beverages, dance like crazy for hours.

When these dances (called Yaake) are

over, the women choose their future husband.

Another challenge young males undergo is the Soro, an endurance contest in which participants have to endure with a smile the strong beatings inflicted on them.



A TECHNOLOGICALLY ADVANCED TURNKEY PROJECT

The new plant in Safi Sarl is located in the city of Niamey, Niger's capital and first city of the country in size and cultural & economic importance. Nestled along the Niger River, Niamey is among the least populated capitals of West Africa; it is a quiet city of one million inhabitants, struggling to cope with the new needs of an economy in turmoil and getting equipped

with latest generation services and infrastructures. The owners of Safi Sarl decided to build from scratch a soft drink bottling plant in this area, capable of producing 20,000 bottles per hour, and entrusted this project to SMI's professionalism and experience. The intervention began with SMI designers' careful research and inspections, and it was clear from

the outset that the new plant would represent a major engineering challenge: to design, build and install an actual turnkey system comprising the entire process, filling, storage & distribution technology as well as all the relating management and control systems of the production line. SMI proposed itself as the sole supplier to manage all the major stages regarding the design and

construction of the plant, with the primary objective of providing to the customer a first-class production facility, by implementing its technical and managerial skills. The full line of 20,000 bottles per hour was designed from the outset to be controlled by a single operator,

who can easily handle the loading of the raw materials and the unloading of the finished products. Plant management was further facilitated by placing the area, intended for sorting the raw materials and finished products, in the vicinity

of the Smiform ECOBLOC® stretch-blow moulding, filling and capping integrated system and the Smiflexi SK shrinkwrapper.

From the left: Tahiri Nouredine, Safi Sarl Plant Manager, El Hassane Taassat, SMI Sales Area Manager and Luigi Galizzi, SMI Project Engineer.



INSTALLATION / Safi Sarl



ECOBLOC®

THE ADVANTAGES OF SMI'S INTEGRATED SYSTEMS

The ECOBLOC® 10-84-10 HP LG-VMAG integrated system represents the ideal solution for the bottling of carbonated products marketed by Safi Sarl. In fact, thanks to this compact solution that integrates blow moulding, filling and capping modules, the bottles exiting from the stretch-blow moulding module are conveyed to the filling carousel

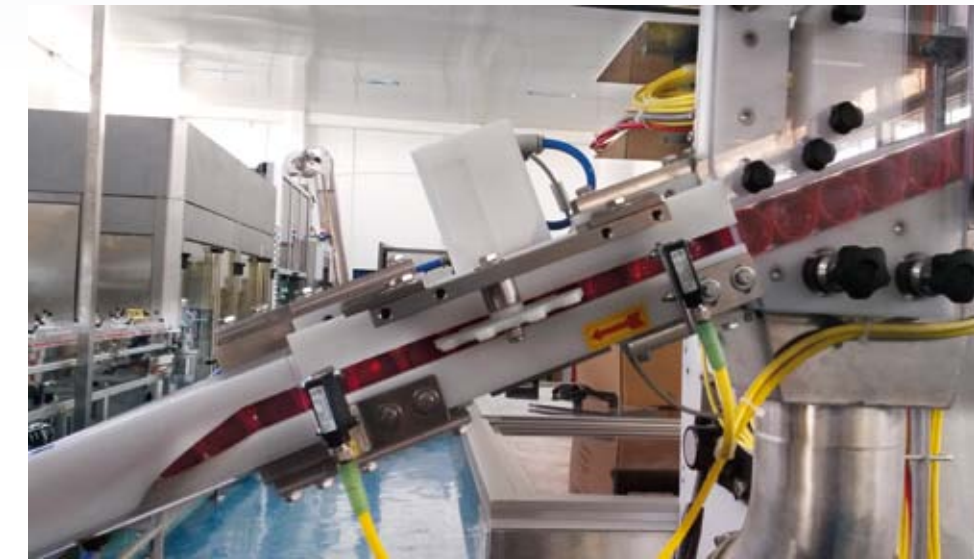
through a "neck handling" system, made up of transfer stars equipped with grippers acting on the bottle's neck. In the filling module, a sensor detects the presence of the bottle at machine inlet and starts the bottle's isobaric filling phase by means of an electronic volumetric process, via magnetic flow meters, which counts the amount of product passing through the valve.

At the end of the filling process, the filled bottles are transferred to the capper by a star equipped with appropriate grippers and, finally, to the conveyors at outfeed to be transferred to a rotary labeller. The engineering study performed by SMI enabled the optimization of the conveyor stretches to ensure correct build-up and ensure efficient production.



The plant supplied to the Niger company also includes a new generation rotary labeller from reel, suitable for the application of labels of different materials applied to containers by means of hot glue. The end of line secondary packaging is performed by a SK 400 F model shrinkwrapper that packs the 0.5 liter PET bottles in 4x3 film only packs.

The final palletizing stage will soon be implemented in the production line by means of an automatic palletizing system of the Smipal APS series in PACKBLOC version (i.e. integrated with the shrinkwrapper), in order to reduce the system's overall dimensions and optimize running costs and maintenance.



INSTALLATION / Safi Sarl

THAT WHICH DOES NOT EXIST: THE TÉNÉRÉ DESERT

A bright white expanse stands out in the center of West Africa, enclosed by the dark spots of the Hoggar mountains to the north, by the parched Aïr and Tibesti highlands to the east and west, and by the Termit massif to the south: this is the Ténéré desert, "that which does not exist" according to local tradition, one of the souls in the sand of the Great Sahara. This is a vast, barren expanse of over 400,000 square kilometers, at times flat, at times full of dunes inaccessible half of the year due to extreme temperatures and raging winds. It is a destination that is well worth the trip to Niger, both for its beauty and its mystical aura, a place that preserves evocative and abandoned medieval locations as well as enormous dinosaur cemeteries such as that of Gaudoufoa, discovered by an archaeological expedition more than thirty years ago. Many call the Ténéré the "prototype" of the desert, the "desert of deserts" for its wide, parched and inhospitable expanse; its name comes from the Tuareg language and means "desert". Likewise, the Arabic word for "desert", i.e. sahara, has been used as the name for the entire region.

The Ténéré desert is quite sparsely populated, even though it was a fertile land in prehistoric times, inhabited by humans until Paleolithic times, about 60,000 years ago. During the Neolithic period, about 10,000 years ago, hunters had created engravings and paintings which can still be seen in several places, but the population then moved away due to the drying up of the Sahara, and by 2500 BC this area was entirely desertified. Today the lords of this land are the Tuareg, a nomadic people, who never show their face because they wear a "tagoulmust", the veil of cloth wrapped around their head that leaves only the eyes uncovered. This stretch of sand is also renown for the Ténéré Tree, an acacia tree that used to be the most isolated tree in the world as it stood 400 km away from all other forms of vegetation. Unfortunately, that tree was destroyed by mistake by a truck in 1973 and replaced by a metal sculpture, although maps still list it as a point of interest. Just for curiosity's sake: since the eighties, the Japanese company Yamaha produces a motorcycle called Ténéré precisely because it adapts to the long raids in the African deserts like the Dakar Rally.

“ The Aïr and Ténéré natural reserves, with their 7.7 million hectares, make up the largest protected area of Africa ”



THE WORD TO THE CUSTOMER

Interview with Tahiri Noureddine, Safi Sarl Plant Manager



What are the strengths of your company?

"The success and strength of our organization mainly depend on the people who work in it.

The professionalism and dynamism of our staff allow us to face the market's new challenges and give us the strength to start-up new businesses, which also require a deep knowledge of the domestic market, as well as that of other African states, in order to capture all opportunities.

Another aspect of crucial importance for Safi Sarl is the focus on consumer health and welfare.

To do this, we decided to use only raw materials of excellent quality, in line with strictest food safety standards".

What must be the supplier's role to help this process of growth?

"Since our company was born during the economic growth period, it must be able to respond adequately to the demands and needs of the market that are often changeable, heterogeneous and subject to sudden changes.

For these reasons it is essential to establish a close working relationship with our suppliers, who must be able

to quickly and effectively satisfy our needs in terms of volume, flexibility, new formats, etc.

Successful companies like SMI, that for nearly 30 years has been providing automatic machines for the bottling and packaging of food and beverages, which can offer us valuable support in achieving our development goals".

How do you see the future of the bottle beverage market in Niger?

"Undoubtedly a rapidly growing market, otherwise we would not have invested such considerable resources in this sector".

Below: Ait Oufkir Abdellatif, Safi Sarl Production Manager.



Which are the factors that prompted Safi Sarl to invest in a new production line that includes an ECOBLOC® 10-84-10 HP LG-VMAG and an SK 400F shrinkwrapper provided by SMI?

"Customer demand first of all, which was not satisfied due to an insufficient supply of carbonated soft drinks on the Niger market.

The growth rates in this sector bode well for a sustained development of activities related to the consumption of

bottled drinks which, to be produced, require modern, automated, environmentally sustainable and energy-efficient plants: all features we found in SMI systems, known worldwide for technological innovation and operational reliability".

