

Integrated logistics solution to triple production

Deep-frozen vegetable producer Saar Originia Foods opens a new automated warehouse equipped with the latest storage and traceability control technology.

Country: **Spain** | Sector: **food & beverage**



CHALLENGES

- **Insource** the storage of deep-frozen vegetables.
- **Automate** the internal transport of perishable products.
- **Consolidate and sync** the management of two warehouses to control the traceability of raw materials and finished goods.

SOLUTION

- **Automated warehouse for pallets.**
- **Automated warehouse with high-density racking.**
- **Easy WMS warehouse management system.**
- **Floor-mounted electric monorail system for pallets.**

BENEFITS

- Automated storage of raw materials and finished goods maintained at a constant **-13 °F**.
- **Food safety** through digital systems that keep the cold chain intact.
- Traceability of **22,500 pallets** in two different facilities **managed jointly**.

Saar Originia Foods, part of the agri-food division of SAMCA Group, is dedicated to producing and marketing deep-frozen vegetables sourced from the Ebro Valley's best produce. In its plant in Zaragoza (Spain), the company employs the most innovative individual quick freezing IQF technology. Saar maintains high-quality standards, backed by the most stringent certifications in the market. The business also produces certified organic goods.

» **Founded: 1987**

» **No. of employees: 95**

The food logistics operations of companies like Saar Originia Foods involve moving, storing, and shipping perishable products that must be consumed by a specific date. "We're devoted to producing and marketing deep-frozen vegetables. To do this, we use the best selection of produce from our fields in the Ebro Valley and the most innovative deep-freezing technology," says Fernando Pellitero, Managing Director of Saar Originia Foods.

A few years ago, Mecalux built Saar its first automated rack-supported building at its Ejea plant in the province of Zaragoza (Spain). In addition to streamlining movements and opti-



mizing the facility's floor space, this high-density storage and retrieval system (AS/RS) for 7,000 pallets has cut energy consumption; making better use of space reduces the volume of air to be cooled. Now, Saar has tripled its production pace, yielding up to 26,455 tons of deep-frozen vegetables annually.

The increase in production meant that the automated warehouse could not accommodate all of the company's finished goods. This situ-

ation led Saar to outsource part of its storage temporarily. Aware that this logistics strategy was untenable in the long term, the business opted to implement a second rack-supported building to improve its efficiency and trim costs. With a capacity of 15,500 pallets, the warehouse stores finished goods that need to be kept at a controlled temperature of -13 °F.

"We needed an integrated logistics solution. The outsourced manual facilities were slowing

down daily operations, goods management, decision-making, and information updates. We decided to install an automated warehouse given the high level of activity in our plant and Saar Originia Foods' extensive product catalog. We couldn't operate any other way," says Pellitero.

The deep-frozen vegetable producer has installed the Easy WMS warehouse management system to supervise logistics operations



“Mecalux offered us an integrated logistics solution and comprehensive advice that enabled us to understand the optimization of the investment, its profitability analysis, and its future potential.”

Fernando Pellitero
Managing Director, Saar Originia Foods

and control stock in both facilities. The software coordinates the automated storage and conveying systems, which prevent goods handling errors, ensure full product traceability, and shorten Saar’s response times.

Automation: capacity and throughput

“The new rack-supported building has brought us tangible benefits from the minute it was commissioned. It has streamlined movements, reduced operational costs, and increased our daily storage and retrieval capacity,” says Pellitero.

The warehouse, outfitted with double-deep racking, comprises four aisles spanning 328’

long. In each aisle, a twin-mast stacker crane with telescopic forks deposits and removes Saar’s 200 SKUs. “We store all types of deep-frozen products in different formats, including both Euro-pallets and GMA pallets of different heights. This is an extremely versatile AS/RS that enables us to optimize space,” says Pellitero. Similarly, the use of double-deep racking minimizes energy expenditure, which is highly advantageous in cold stores.

The Saar facility has five infeed and outfeed stations. They are connected to an electric monorail system that links the storage area with production and shipping. “The electric

monorail speeds up the internal flow of pallets without operator intervention. The products arrive at their storage and retrieval positions automatically, and their entry and exit from the AS/RS is much faster and more streamlined,” says Pellitero. Saar decided to implement this internal pallet transport system due to its speed and easy assembly. It moves goods swiftly, continuously, and safely.

Safety for deep-frozen vegetables

Deep-frozen vegetables must be stored at an ideal temperature to guarantee their proper preservation. Therefore, the walls of automated cold storage warehouses are built with sandwich panels (insulating elements that

prevent the transfer of cold air to the outside). The flooring is also insulated to avoid condensation and the formation of ice.

Saar's facilities are outfitted with all of the necessary cooling equipment: compressors, condensers, expansion valves, and evaporators. In the center's various areas (production, storage, and shipping), Mecalux has installed secure airlock systems. These consist of anterooms with two high-speed doors that are never open at the same time. Their purpose is to prevent sudden temperature changes, loss of cold, and condensation.

"Automation ensures complete safety and zero errors in goods handling. Plus, it allows us to monitor stock comprehensively and maintain the cold chain while reducing storage and retrieval times," says Pellitero. The AS/RSs also facilitate the tasks of operators and avoid their prolonged exposure to the cold.

Two warehouses, one WMS

"Thanks to Easy WMS, we have thorough knowledge of all our activity, with data updated instantly and optimized, perpetual inventory. In the frozen food business, the storage buffer is an important asset. And having control over the goods in terms of SKUs, storage times, and condition is key to preventing the cold chain from breaking and guaranteeing food safety," says Pellitero.

Easy WMS manages Saar's two automated warehouses simultaneously and jointly. The minute the products arrive, the software sorts them by batch. Using algorithms, it assigns each pallet a suitable location. Easy WMS provides complete control and traceability of the goods. It knows all their details: size, batch, weight, characteristics, production and expiration dates, inspection checks undergone, and more.

All-in-one solution for performance and safety

Saar's international expansion is in full swing. It currently exports over 60% of its production, primarily to Europe, North Africa, the US, and Japan. The company — fully aware of the need for automation to satisfy an increasingly demanding market — has continually relied on Mecalux as a partner in its growth. "Mecalux is a benchmark for storage solutions, with experience both nationally and globally. They've been part of the team since day one, offering personalized advice that demonstrates an understanding of our business, operations, and way of working," says Pellitero.

