

**Case study: Finieco**

Automated management of 1.5 million paper bags a day

Country: Portugal



**Finieco has revamped its logistic systems with the start-up of a new warehouse in Santo Tirso, Portugal. It is connected directly with the production area, where 1.5 million paper bags are made every day. Mecalux has equipped the facility with the automatic Pallet Shuttle system served by a stacker crane. This solution maximises space, speeds up goods movements and provides storage capacity for almost 5,000 pallets. Mecalux's Easy WMS warehouse management system supervises all operations, providing greater stock control and ensuring fast, error-free order preparation.**

**Finieco's new project**

Headquartered in the Portuguese city of Santo Tirso, Finieco is one of Europe's largest paper bag manufacturers. It has been in business since 1998 and is present in Germany, Spain, France, the UK and Switzerland, among other countries.

The bags serve not only to move, store and handle products, but also to set apart the brands that use them. Over the past

few years, the pace of work at Finieco has steadily increased. Currently, it manufactures more than 1.5 million paper bags a day.

To meet this rise in demand and, thus, production, the company needed to boost its storage capacity and improve inventory control. Since its installation for finished products could not store all the goods, Finieco decided to expand its stor-

age capacity, automate operations and update all its processes to make them more efficient.

**Warehouse features**

Finieco is a company that relies on automation and technological advances. Its objective was to maintain its competitiveness and guarantee the utmost quality and sustainability of its products and services. As Finieco boasts 16 fully automat-



ed production lines for paper bags, it was clear to the firm that its new installation needed to have automated operations and management.

On this basis, Mecalux proposed equipping the warehouse with the automatic Pallet Shuttle system served by a stacker crane. This solution leverages all the available space to provide greater storage capacity in addition to speeding up workflows.

The result is an installation comprised of two high-density racking units measuring 10 m long and separated by a single, 45-metre-long aisle in which a stacker crane operates. One of the units is five pallets deep and the other, 33. In total, they provide storage for 4,990 pallets with a maximum unit weight of 600 kg. The stacker crane picks up the pallets and brings them to the corresponding storage channel. An electric shuttle then moves them to the deepest available location in the channel.

One of the advantages of automating the installation is the high accessibility this offers. The company is now well prepared to deal with high peaks in demand. The conveyors and stacker crane can establish continuous goods flows and operate 365 days a year if necessary. Normally, how-

## Mecalux's WMS is the system that manages all the logistics processes: from the time the goods are received directly from production until the orders are distributed to the customers

ever, Finieco's warehouse runs 16 hours a day, divided into two work shifts.

For this installation to function properly, the following elements are essential: conveyors, a stacker crane, an electric shuttle and a warehouse management system (WMS). This last component is charged with assigning the goods a location according to their characteristics and demand level.

Furthermore, in the warehouse design phase, future expansion was taken into account. The facility's capacity can be increased if the company's growth prospects require this. When the time comes, a second stacker crane will be added, duplicating the number of movements. This enlargement will be carried out without interrupting the installation's daily activity.

Another aspect that has helped to cut costs is the connection of the storage area with production via a conveyor circuit.

Automating this process streamlines the movement of 240 pallets a day arriving at the warehouse from the production centre.

### Goods distribution

The installation has a vast and complete dispatch area where the pallets to be distributed every day are prepared (and subsequently divided between 10-12 lorries). With a view to optimising the lorries' load volume, a pallet placing device that stacks one pallet on top of the other has been set up.

A transfer car has also been installed. This sorts the pallets into 11 live preload channels based on whether they correspond to the same order or transport route.

The live channels are slightly inclined so that pallets flow via gravity from the highest to the lowest point (which faces the docks). At the exit point, the rollers are split so that operators can remove the pallets by means of pallet trucks.

### Easy WMS: a key role

Previously, the company produced on demand, leaving some reserve stock in an auxiliary warehouse. There, an operator would make a note of the products received on a piece of paper and later enter them in the ERP. By renovating its logistics systems, Finieco set out to improve this process and eliminate any risk of error.

It is now equipped with Easy WMS, the nerve centre that manages all warehouse processes and contributes towards obtaining better results and stepping up productivity.

To achieve this, the software carries out extremely strict control of the products from the moment they arrive at the installation. Easy WMS assigns the goods a location based on their turnover (A, B or C): products with the highest turnover are deposited at the ends of the aisles to expedite their entry and exit and, at the same time, optimise the stacker crane's movements. The WMS knows the inventory status and location of each item at all times. This way, the company can know whether it has enough goods to prepare pending orders.

Easy WMS plays a central role in dispatches, as it orders pallets to be sent to the live preload channels and subsequently sorted by order or route.

To know which products customers have requested, Easy WMS has been integrated with Finieco's ERP. This system noti-

fies the WMS 12 to 24 hours in advance of the goods that need to be dispatched. Consequently, exit orders can be left prepared to save time.

### Finieco's smart warehouse

The Pallet Shuttle is a high-density system designed to store products with a large number of pallets per SKU. It is particularly suitable for installations with high goods flow movements, as is the case with Finieco.

The version deployed in the company's warehouse is fully automated, as it includes a stacker crane that transports the goods between the warehouse entry and exit points and the storage channels. The motorised shuttle quickly carries out the goods movements in the storage channels, transferring pallets to the first free location. Likewise, the implementation of Easy WMS is vital for exploiting the facility's possibilities, controlling stock and ensuring the timely delivery of orders to customers.



### Advantages for Finieco

- **Control of operations:** Mecalux's Easy WMS knows the status of all the products, from the time they arrive at the installation through to their delivery to the customers.
- **Future prospects:** the warehouse will be expanded at Finieco's request, without interrupting operations.
- **Maximum use of surface area:** the installation optimises all the available space, attaining a storage capacity of 4,990 pallets in just 1,700 m<sup>2</sup>.



### Technical data

Storage capacity	4,990 pallets
Pallet sizes	800/ 1,000 x 1,200 mm
Max. pallet weight	250
Racking height	12 m
Racking length	45 m

