

Case study: DENSO

Three storage systems guarantee good organisation

Country: Spain



The technology company DENSO has overhauled its supply chain with the aim of boosting its growth rate. It now handles all the finished products it had previously spread amongst different warehouses at a single distribution centre. To organise the goods properly, Mecalux has implemented three different storage systems: pallet racking, Movirack mobile pallet racking and racks with the Pallet Shuttle system. The company has not only gained in storage capacity (it has space for 3,955 pallets), but has also achieved a very efficient operation.

Automotive technology, systems and components

Founded in 1949, DENSO is a Japanese multinational supplier of technology and propulsion systems used in numerous sectors, from the automotive industry to robotics. It performs research and development of new products that seek to improve customer performance and minimise environmental impact.

The company came to Spain in 1989, when it opened a production centre in Sant Fruitós de Bages (60 km from Barcelona), making electronic products and propulsion systems for the major European car manufacturers. To meet market changes and growing customer demand, these facil-

ities have been expanded nine times (first in 1991, and most recently in 2019). One of its latest projects has been to refurbish its components warehouse, which occupies a total surface area of 13,000 m². It is only 300 m from the production centre, from which it receives 300 pallets each day, whilst distributing a further 315 pallets to its customers.

“With this project we wanted to concentrate the stock we had previously spread amongst different warehouses in the same space,” explains Rafael López, the manager in charge of production control and logistics at DENSO in Barcelona. In addition, the company wanted to improve product management because they were deposit-

ing products on the floor and, in their own words, *“space was limited”*. To achieve this, the company contacted Mecalux *“because of its good reputation in the sector,”* says Rafael López. After analysing the operations and characteristics of DENSO products, Mecalux has installed three storage systems: pallet racks, Movirack mobile pallet racking and racks with the semi-automatic Pallet Shuttle System.

The three systems chosen have greatly benefited DENSO. The racks make better use of the warehouse surface area, providing it with greater capacity. They also make it easier to organise goods effectively, which results in a more efficient operation.

Pallet racks

They are 6 m high and, according to Rafael López, one of the most obvious benefits is that DENSO *“has significantly increased storage capacity”*. In total, 2,275 pallets with high-turnover products are deposited there.

Direct access helps pallets to be introduced and extracted from their slots faster, and provides greater control over the items



These racks offer direct access to the products, which speeds up their entry and exit. They also guarantee perfect stock control, and are prepared to accommodate any type of load, with variable weights and volumes. This was essential for DENSO, as it operates with over 5,000 different SKUs in its warehouse.

On the lower levels, picking is performed directly from the pallets, and the reserve products are stored on the upper levels, with goods remaining ready at all times to prevent interruptions.

Movirack mobile pallet racking

The racks, placed on mobile bases, move autonomously and laterally along the rails when the operator gives the command from a radio control unit.

These are equipped with movement elements, electronic equipment, and safety devices so that their movement is completely safe and both the operators and stored goods are protected.

It is a high-density storage system, which reduces the number of aisles, *“so it makes good use of the available square metres. We can store up to 960 pallets,”* says Rafael López.

It also provides direct access to SKUs every time a working aisle is opened. For this reason, products with a medium turnover are placed on these racks, as they must remain stored for a certain period of time.



Rafael López Manager in charge of production control and logistics at DENSO in Barcelona

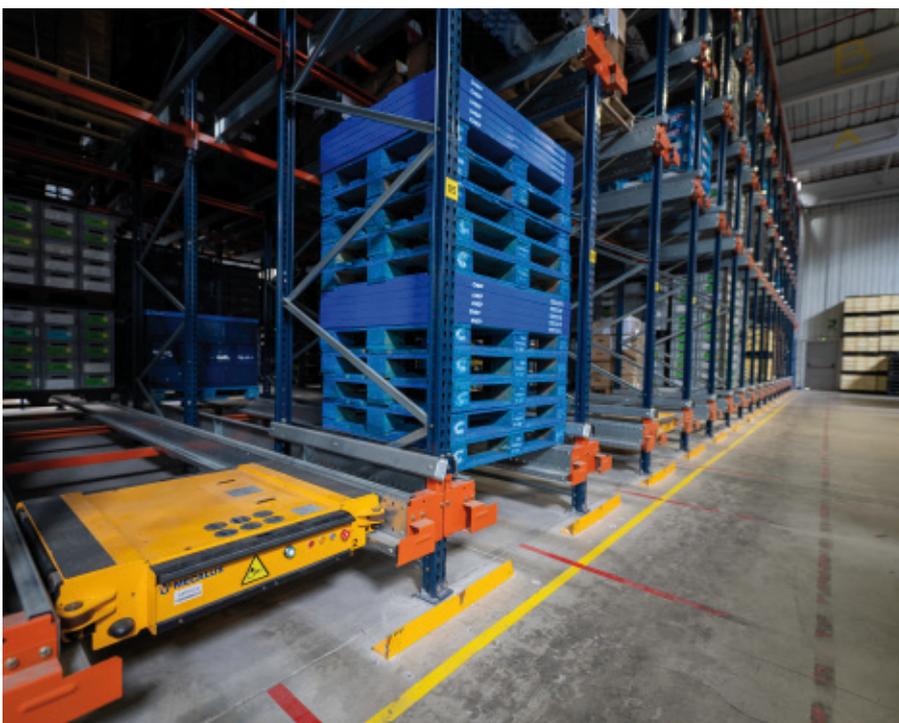
“Our goal with this new warehouse was to concentrate all the stock that we had spread around different warehouses in one single space. To achieve this, we needed storage capacity and good organisation. The Mecalux racking systems have more than solved our problems, and we are very satisfied with the results.”

Racks with Pallet Shuttle

Mecalux has also set up a high-density racking unit with the Pallet Shuttle System. It is possible to store 1,000 pallets, *“mainly empty packaging and low turnover products,”* says the manager in charge of production control and logistics.

The Pallet Shuttle System optimises space while minimising operator manoeuvring. It has a motorised shuttle that is inserted into the channels and moves the pallets to the next free slot, all autonomously.

Operators use a tablet with a Wi-Fi connection to operate any shuttle. The tablet is equipped with highly intuitive software with which operators can perform numerous functions, such as selecting the number of pallets to be introduced or extracted, taking inventory, etc.



All in order

DENSO has completely transformed its warehouse in Barcelona with the incorporation of three Mecalux storage systems. The combination of these solutions helps to organise the goods well, accord-

ing to their size and level of demand, ultimately contributing to make the work of operators more cost-effective. The company uses the advantages provided by each specific storage system to achieve greater productivity and to deposit the most ap-

propriate product therein, based on product characteristics and level of demand. Having such a well-organised warehouse is a springboard for DENSO, as it has enabled it to address its growth prospects and meet the needs of its customers at all times.



Advantages for DENSO

- **Organisation of goods:** each storage system has been designed for a specific type of product, which makes it easier to manage them and minimise errors.
- **Use of space:** the racks occupy all the available surface area to provide greater storage capacity and accommodate all products.
- **Centralised logistics:** DENSO is now able to deposit all the products it had previously spread around different warehouses in a single space. With this decision, productivity has been increased and costs have been significantly reduced.

DENSO
Crafting the Core

Technical data

Pallet racks

Storage capacity	2,275 pallets
Pallet sizes	800 x 1,200 mm
Max. pallet weight	500 kg
Rack height	6 m

Movirack mobile pallet racking

Storage capacity	960 pallets
Pallet sizes	800 x 1,200 mm
Max. pallet weight	500 kg
Rack height	6 m

Pallet Shuttle System

Storage capacity	1,000 pallets
Pallet sizes	800 x 1,200 mm
Max. pallet weight	500 kg
Rack height	6 m

