

Case study: Dentaïd

Organisational efficiency in the Dentaïd sectored logistics centre in Barcelona

Location: Spain



The Dentaïd logistics centre in Barcelona (Spain) is sectored into three areas that facilitate proper goods and operational management. Mecalux has supplied the storage systems in this installation: pallet racking with narrow aisles, live storage for picking, as well as a conveyor circuit with an automatic lift that connects the warehouse to the production centre.

About Dentaïd

Active since 1980, Dentaïd is a Spanish business who is a pioneer in the R&D and sale of oral health products for the general public.

The company is present in more than 70 countries and works alongside dentists, dental hygienists and pharmacists to develop new solutions to meet the tough demands of patients.

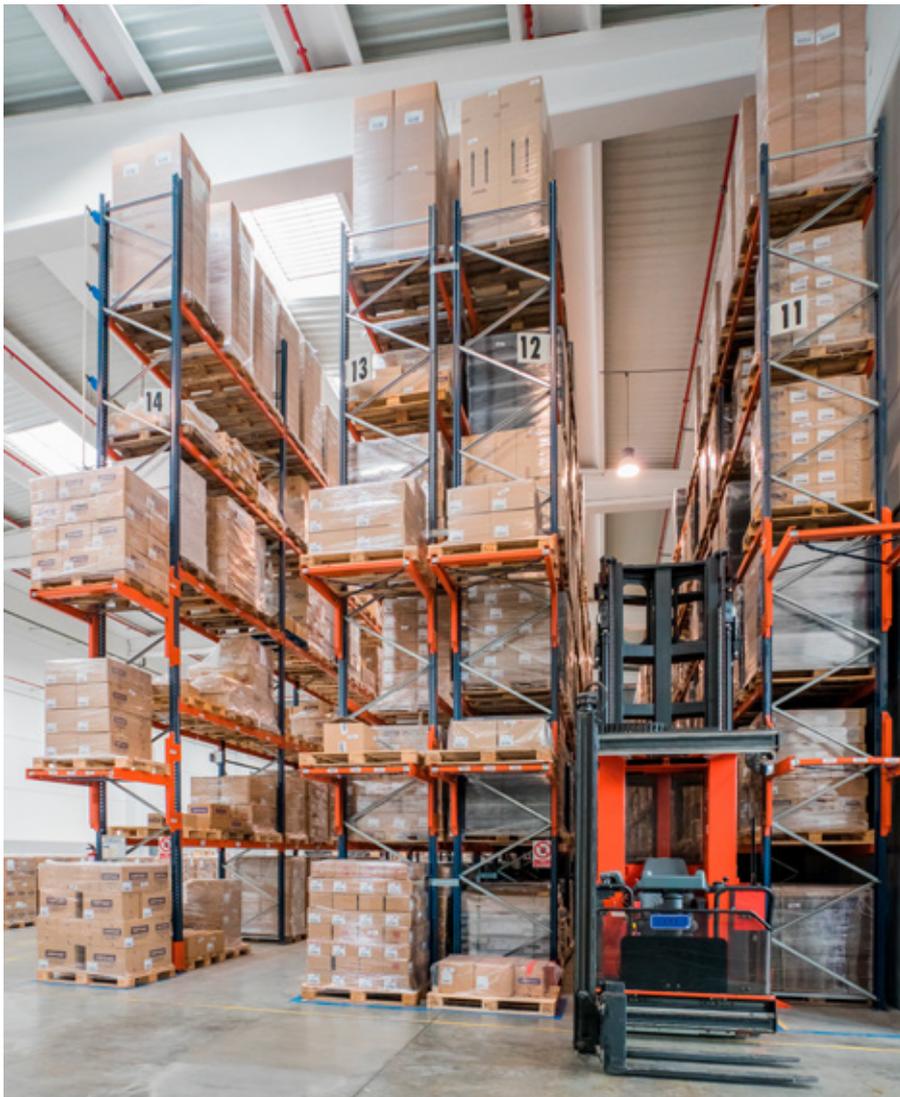
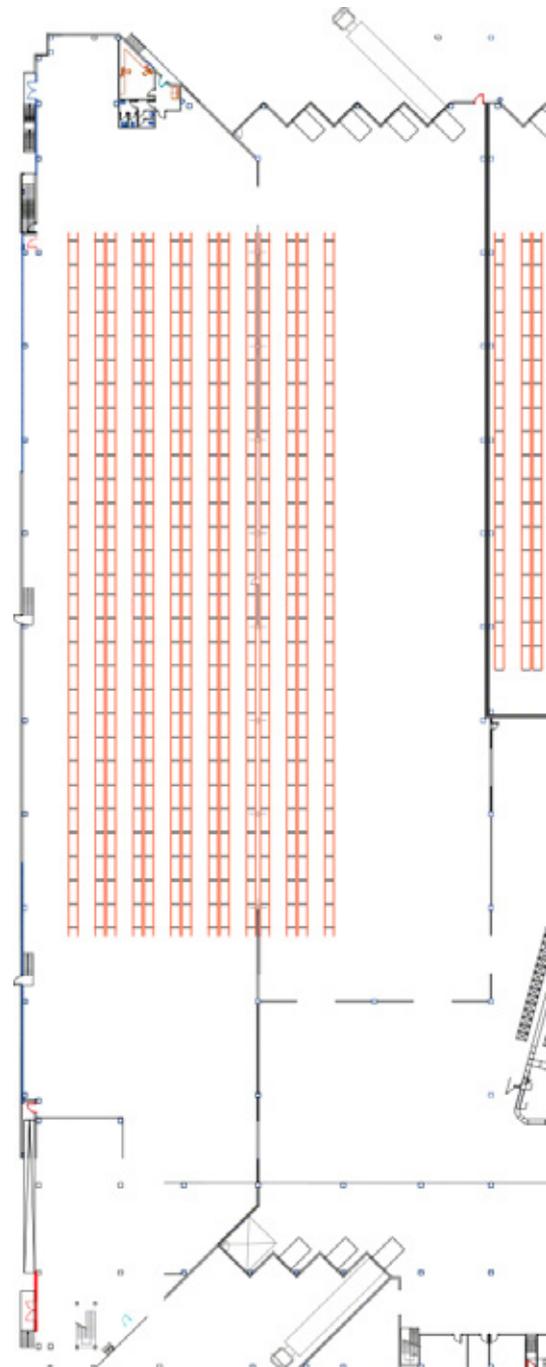
The sectored warehouse

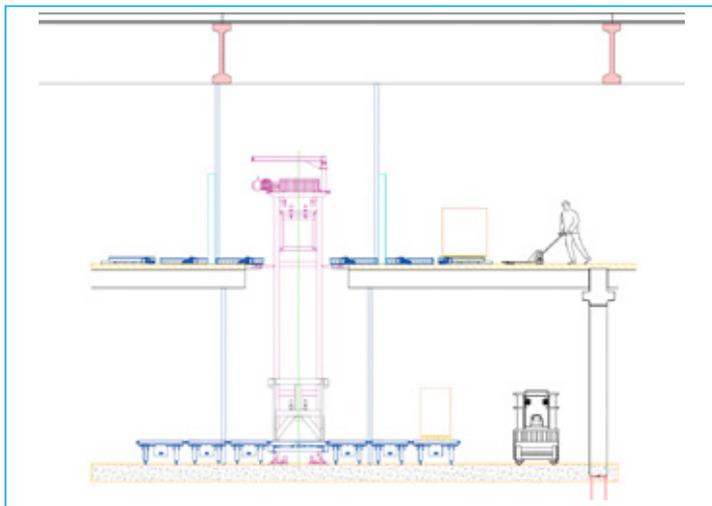
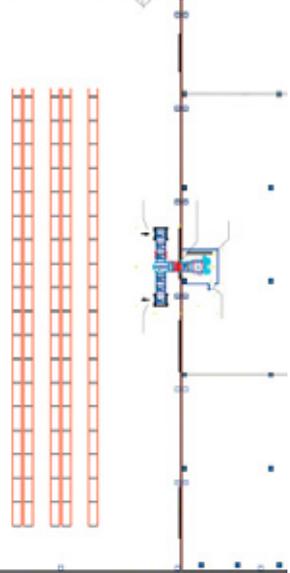
The company owns a 18,000 m² high-tech logistics centre in the town of Llinars de Vallés (Barcelona). It was constructed in phases and the storage capacity was enlarged to deal with the increase in sales achieved internationally.

These days, it is set up for continued growth and for increased storage capacity down the road.



The centre is sectored into three different areas, which helps classify goods according to their characteristics and the operation being carried out. One of the areas is set aside to store raw material, another the finished products and a third where orders are prepared.

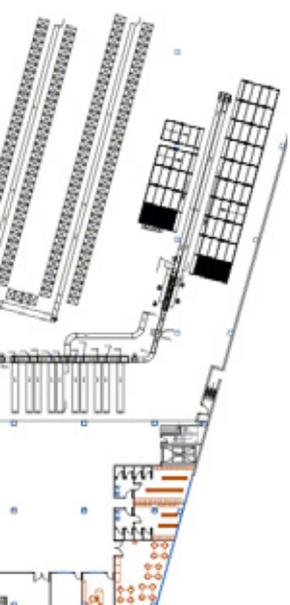




Automatic lift

In addition, this sectorisation fulfils the local regulation regarding fire safety and prevention.

A conveyor circuit with an automatic lift connects the warehouse to the production centre, located on the upper floor. It is tasked with providing the production centre with crucial raw materials day in, day out, as well as moving finished products to the warehouse.



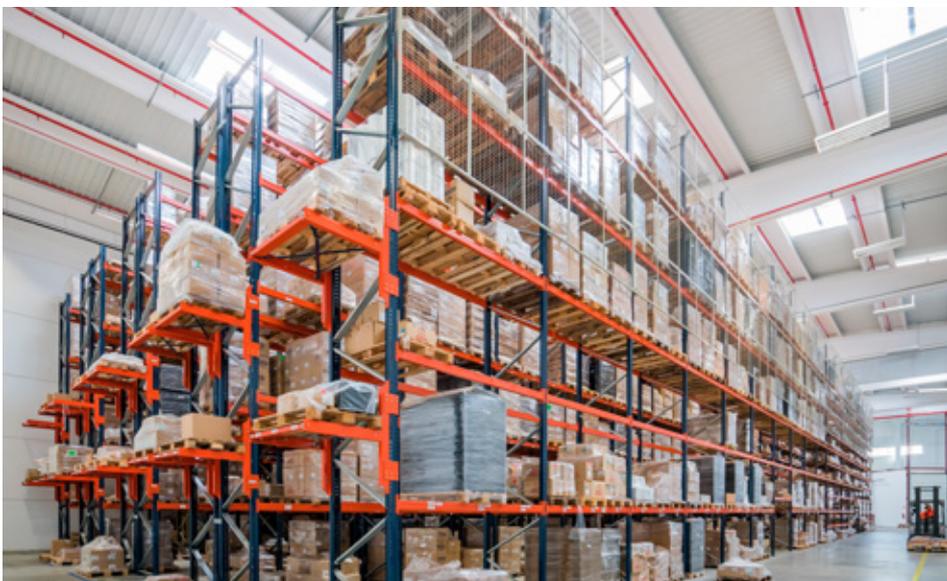
Racks with narrow aisles

The two storage areas are very similar. Both have pallet racks and narrow aisles, which makes full use of the warehouse surface area to deliver a higher storage capacity.

They operate by Very Narrow Aisle (VNA) trucks that insert and extract pallets from their corresponding locations.

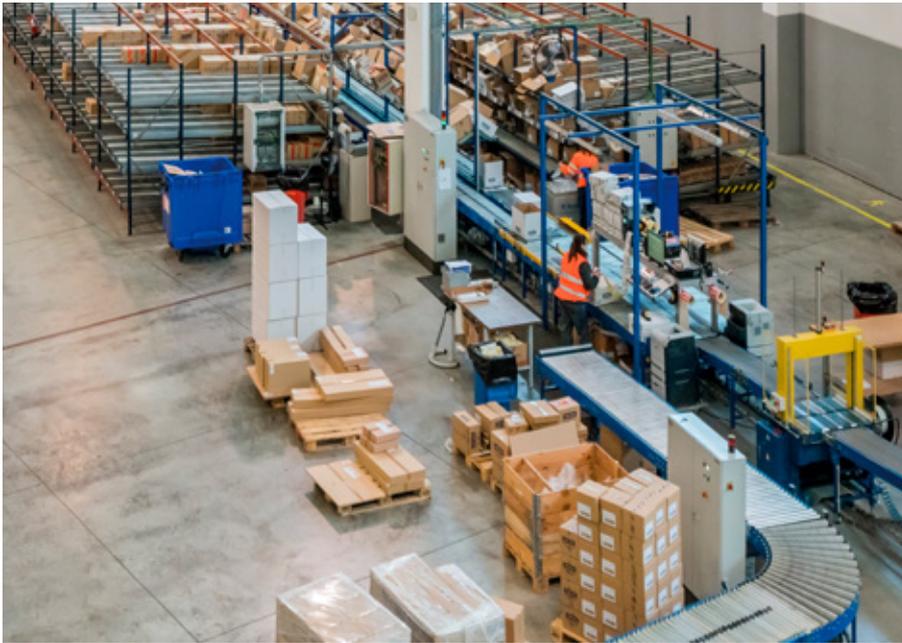
These machines run exclusively in the aisles and operators bring or take away goods from the aisle ends.

The trilateral machines run along guide-wires, i.e., a wire embedded in the floor produces an electromagnetic field that the forklifts detect and use as a guide. This way, they can safely run inside the aisles, avoiding accidental damage to the rack structure.



Both the finished product warehouse and the one for raw materials are set up to be enlarged in the future, expanding as Dentaid grows





Picking area

Mecalux also installed two blocks of live storage for picking, divided by a conveyor circuit that shifts the boxes, either to the positions that have articles needed to fulfil the order or straight to the classification area if the order is already completed.

The two blocks are subdivided into sectors, and each one is assigned a number of operators. These solutions provide streamlined order picking, since operators do not need to go all over the warehouse collecting items for each order. Instead, they only work in one specified zone.

Attached to the racks, a free rolling, non-motorised conveyor acts as a prep table, letting operators move boxes manually to the most comfortable position.





The rack locations include pick-to-light devices that guarantee top picking workflows. The displays show the exact number of products that must be extracted from each box. Next, the operator presses a button to confirm they have completed the task.

Replenishment takes place in the loading aisle, located opposite the one used for order picking. Operators insert boxes into the different levels, and these move to the opposite end. With this system, reserve product is always available to be picked.

The live storage for picking gives direct access to the first row of boxes and stores reserves behind. Moreover, it facilitates simultaneous order picking and stock replenishment, avoiding interference between the two operations





Advantages for Dentaïd

- **High throughput:** the distribution of the logistics centre stands out for its optimal organisation of activities, and goods classified as per their characteristics.
- **Optimised space:** pallet racks make full use of the entire available surface area, yielding a large capacity to house many SKUs.
- **Direct access to goods:** pallet racking and live storage racks offer direct access to the deposited SKUs, which facilitates stock management and picking tasks.



Technical data

Pallet racking

| | |
|--------------------|----------------|
| Storage capacity | 10,356 pallets |
| Pallet size | 800 x 1,200 mm |
| Max. pallet weight | 800 kg |
| Racking height | 9 m |

Live storage for picking

| | |
|--------------------|--------|
| Racking height | 2.5 m |
| Racking length | 21.2 m |
| Max. racking width | 4.5 m |