

Case study: Kern Pharma

Kern Pharma expands its logistics centre in light of record growth

Location: Spain



The new automated clad-rack warehouse of Kern Pharma in Terrassa (Barcelona) has a capacity for more than 10,000 pallets and 9,700 boxes. Warehouse operations are fully automated and ensure maximum agility of incoming and outgoing goods, as well as a higher productivity. With this investment, the company consolidates its expansion in Europe and is prepared to strengthen its growth rate in the future.



Health and wellness

Kern Pharma is a pharmaceutical laboratory that is part of Grupo Indukern. It was founded in 1999 in Barcelona and has become one of the mainstays in the manufacture of generic, inpatient, and over-the-counter medications for women's health.

The company wants to expand internationally, so it has established partnerships with distributors in virtually all countries within the European Union. Its business strategy emphasises ongoing research and development of new solutions for patients, doctors and pharmacists in an ever shifting, innovation-driven market.

The needs of Kern Pharma

Kern Pharma has positioned itself as one of the leading providers of hospitals and pharmacies in Spain, with a production that yearly exceeds 100 million units of medications.

The company needed to expand its manufacturing centre located in Barcelona to efficiently provision all its customers and, in turn, to be prepared to cope with forecasted growth rates.

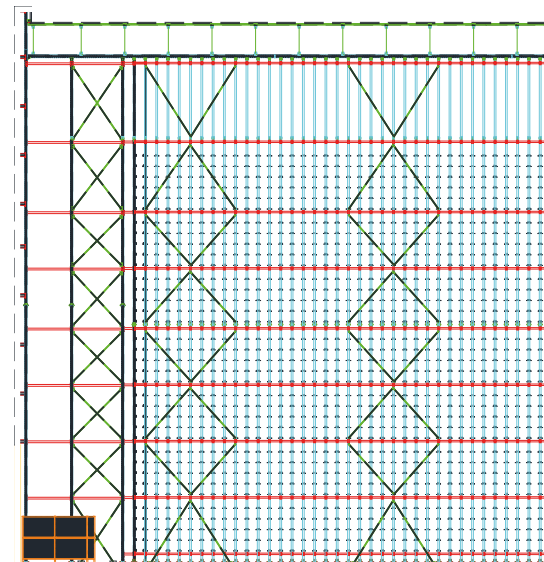
In the same installation, different load units are deposited (pallets and boxes), with distinct turnovers and characteristics that require specific curation. For this reason, the pharmaceutical firm requested the collaboration of Mecalux in finding the solution that would best solve their needs.

Mecalux's solution

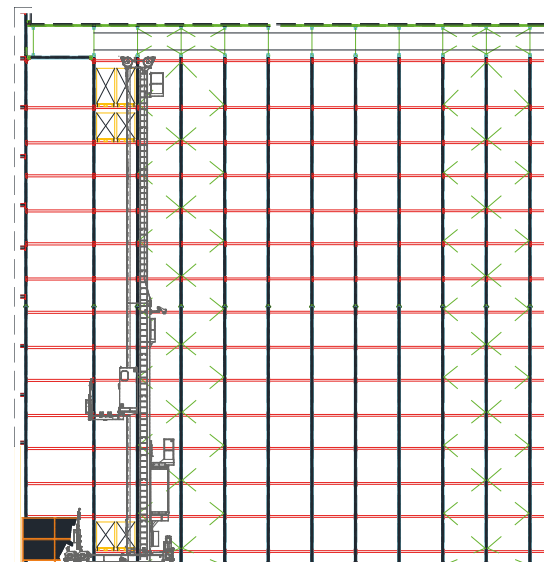
Mecalux built a new, 2,000 m² clad-rack warehouse measuring 26 m high and 84 m long. It consists of five aisles with single-depth racking on both sides with a deposit capacity of more than 10,000 pallets, and another aisle, attached to the existing warehouse, where more than 9,700 boxes are housed.

In each aisle, the stacker cranes are designed to locate and extract pallets and boxes from the racks. The movement of this equipment is managed by the Mecalux Galileo control programme connected to the ERP and warehouse management software of Kern Pharma.

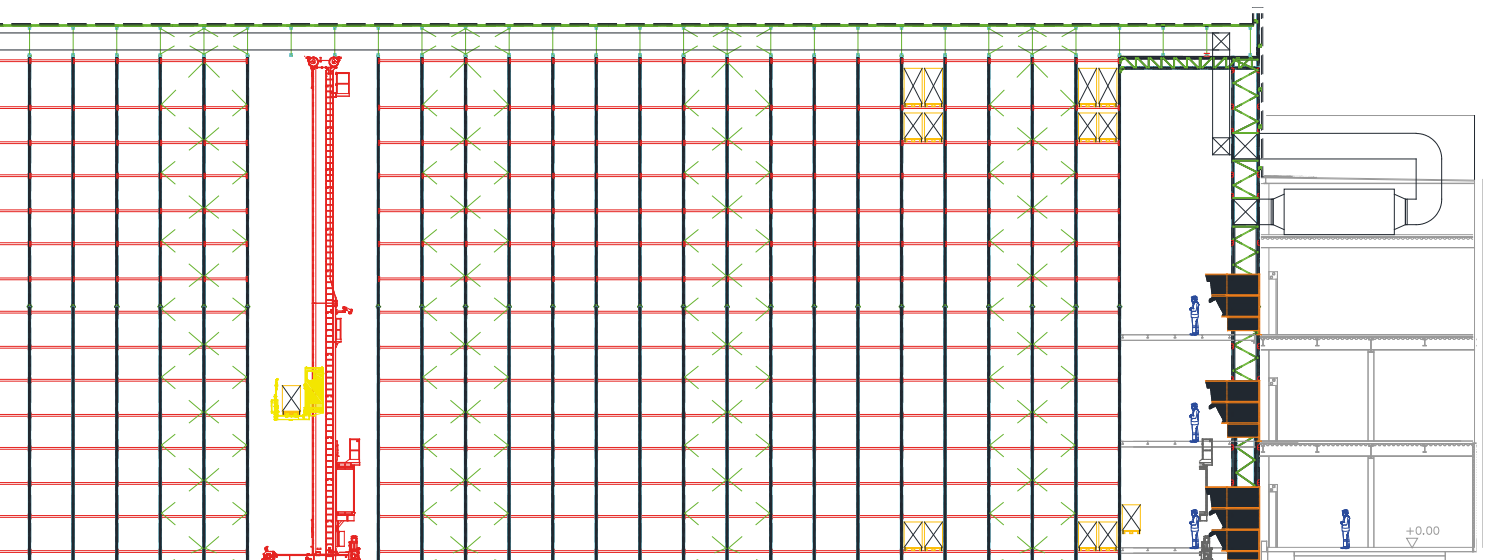
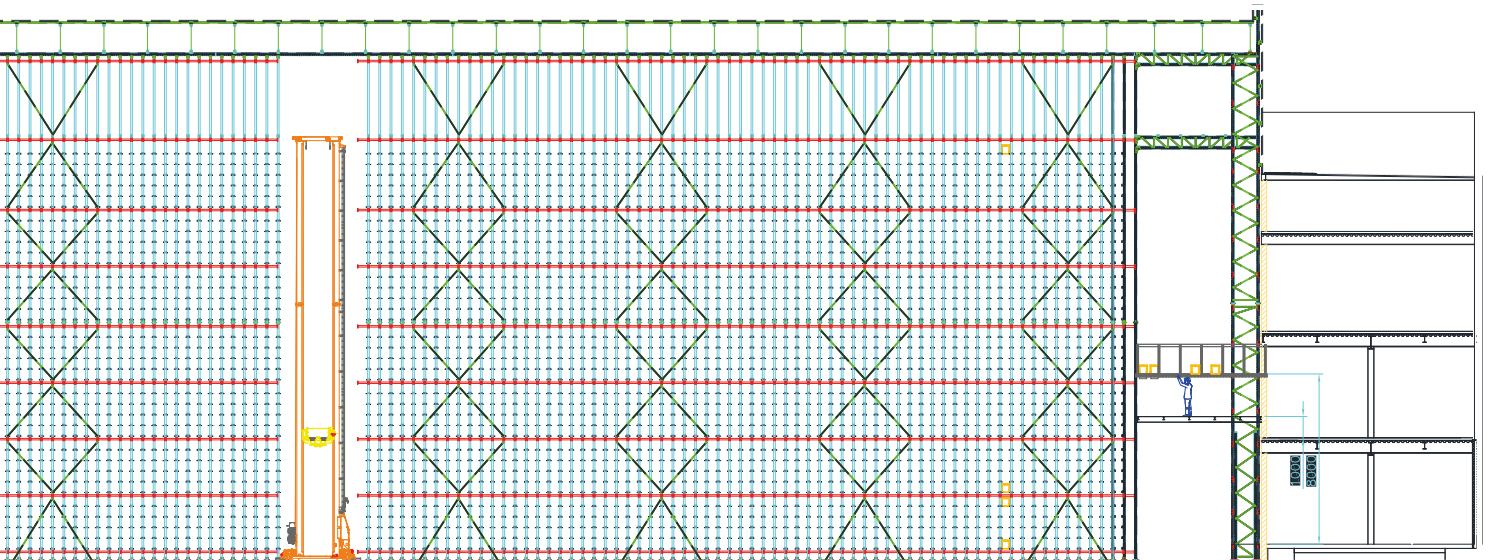
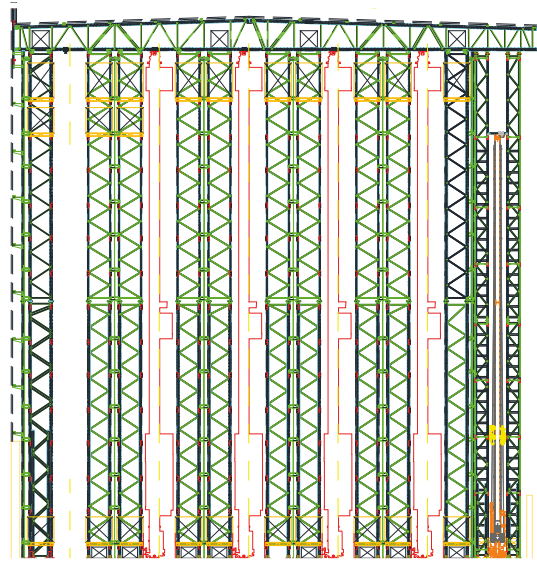
The clad-rack warehouse is an integral construction formed by the racking themselves on which the outer sheathing is fixed. When calculating the structure, experts take into account its own weight, that of the stored goods and external forces such as the wind, snow, the thrust of the stacker cranes and even the degree of seismicity corresponding to each territory, as well as local regulations in the country. The advantage of this type of facility is the height optimisation to achieve massive storage capacity.



Miniload aisle installation



Automated warehouse for pallets





Miniload aisle installation

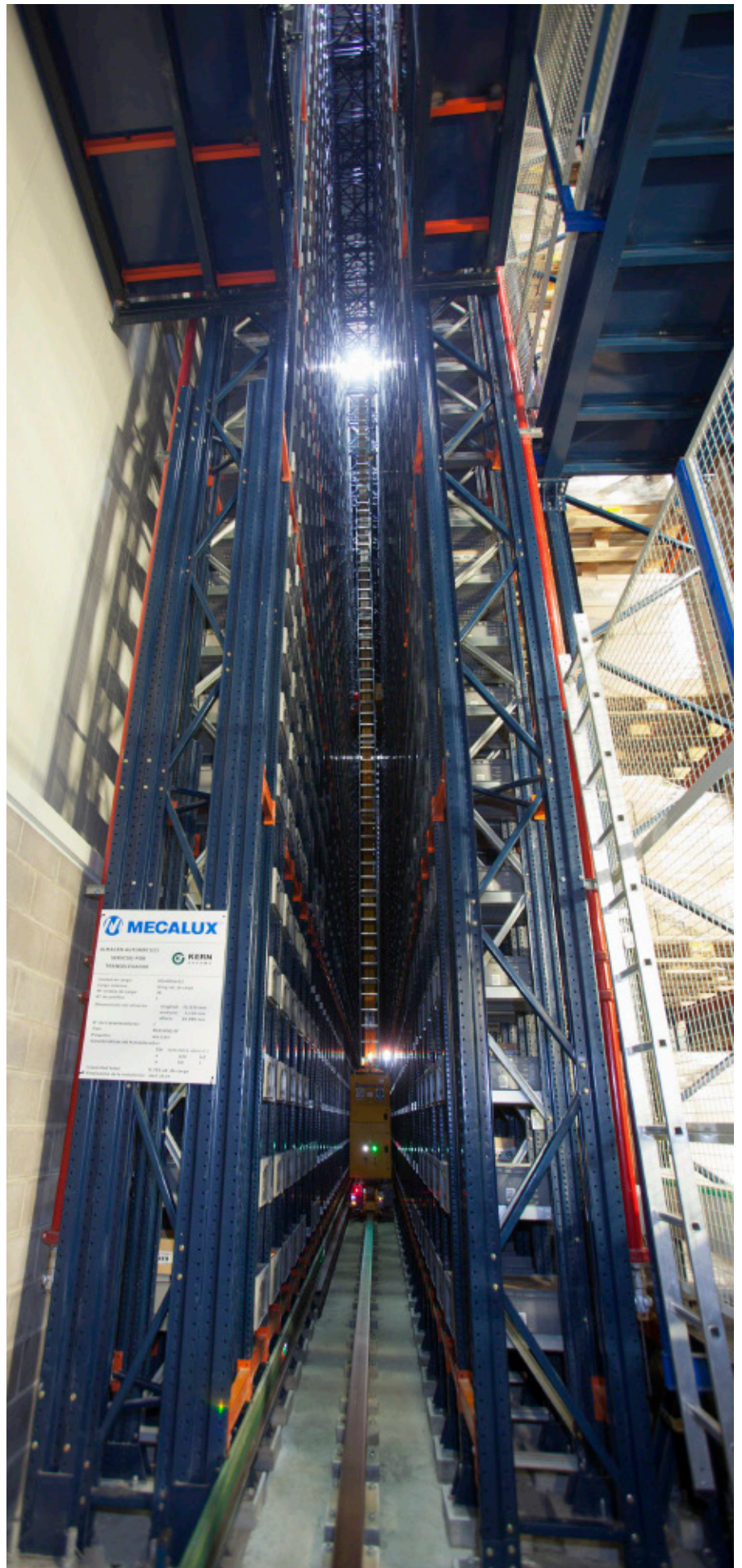
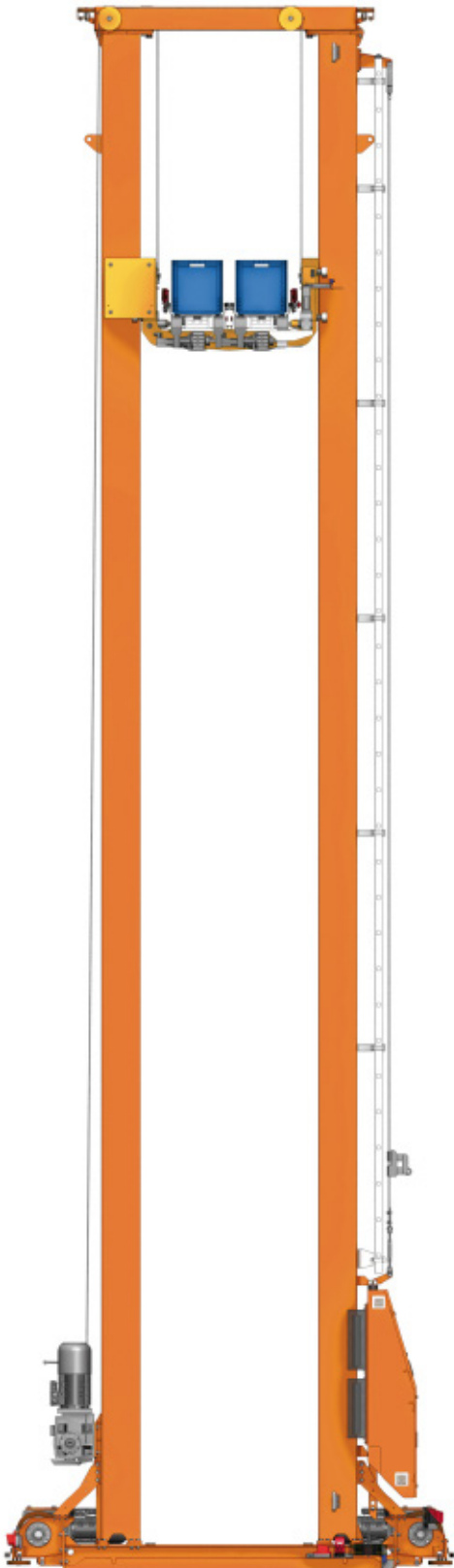
In the warehouse, an aisle was enabled and set aside to deposit boxes of Kern Pharma products. Single-deep racks consist of 36 levels, reaching 20 m in height.

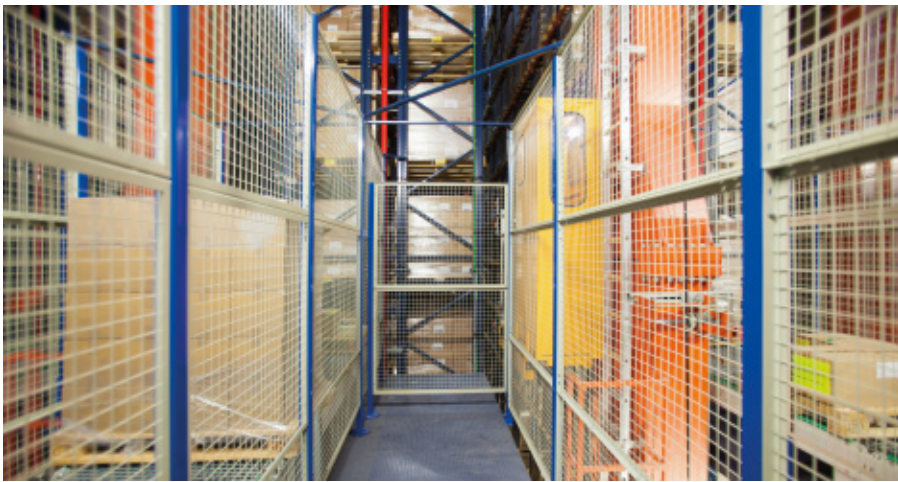
The miniload installation provides the functions that best meet the logistical requirements of the company. It has a twin-column stacker crane that operates at a speed of 220 m/min and 60 m/min when raised, obtaining an optimum flow of incoming and outgoing goods in the warehouse.

The stacker crane incorporates an extraction system with forks, the most widely used in the market. These are inserted through the bottom of the boxes and removed or placed in locations on both sides of the aisle. The cradle has the capacity to handle two cases at once.



In the warehouse, they deposit more than 9,700 Euroboxes of 400 x 600 x 412 mm with a maximum weight of 30 kg each





Pallet storage aisles

Currently, there are four, 72 m long aisles in operation.

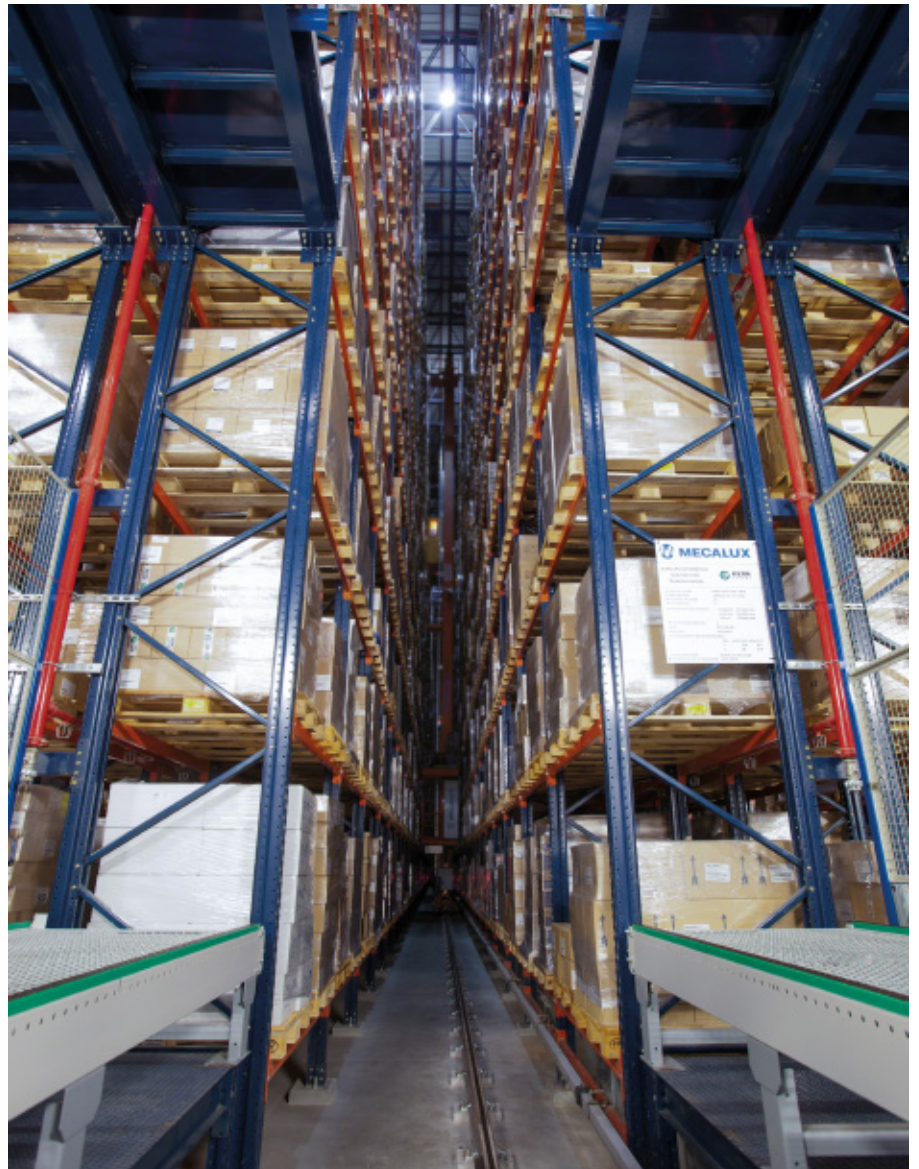
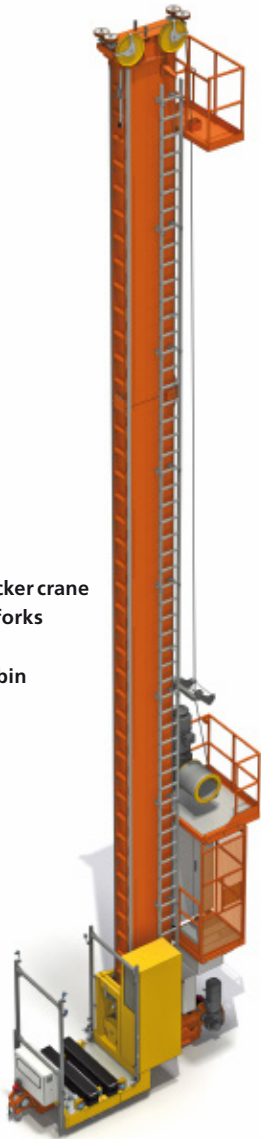
The single-deep racks, on both sides, accommodate more than 8,000 pallets of 800 x 1,200 x 1,350/1,800 mm with a maximum weight of 1,000 kg.

The warehouse has safety and control devices to ensure optimum performance of the entire system

Moving elements (conveyors and stacker cranes) are protected by metal enclosures and optical barriers that prevent access by unauthorised personnel.

In each aisle, the stacker cranes are responsible for transferring the pallets between input and output conveyors and their corresponding location on the racks in the same motion (called combined cycle), which increases the productivity of the installation.

Single-mast stacker crane with telescopic forks and an onboard maintenance cabin in the cradle





Warehouse inputs and outputs

The entry and exit of warehouse goods are carried out on two different levels to avoid interference between the two operations.

Receptions are on the same level as the manufacturing plant. Automatic Guided Vehicles (AGV) collect and deposit pallets on incoming warehouse conveyors.

AGVs are forklifts that emit a signal that bounces off laser deflectors placed at points along the route and thus determine its trajectory.

The management system knows its exact position and orders it to go to the charging stations when the battery level reaches a set limit. Being a fully automatic connection, human intervention in this process is not necessary.

The dispatch area is located on the upper level, next to the loading docks, to expedite the distribution of the company's medications.

Operators, with the help of front loading forklifts, remove pallets from the outgoing conveyors. These are protected by specialised structures to prevent any damage or blow that could undermine the smooth running of the system.

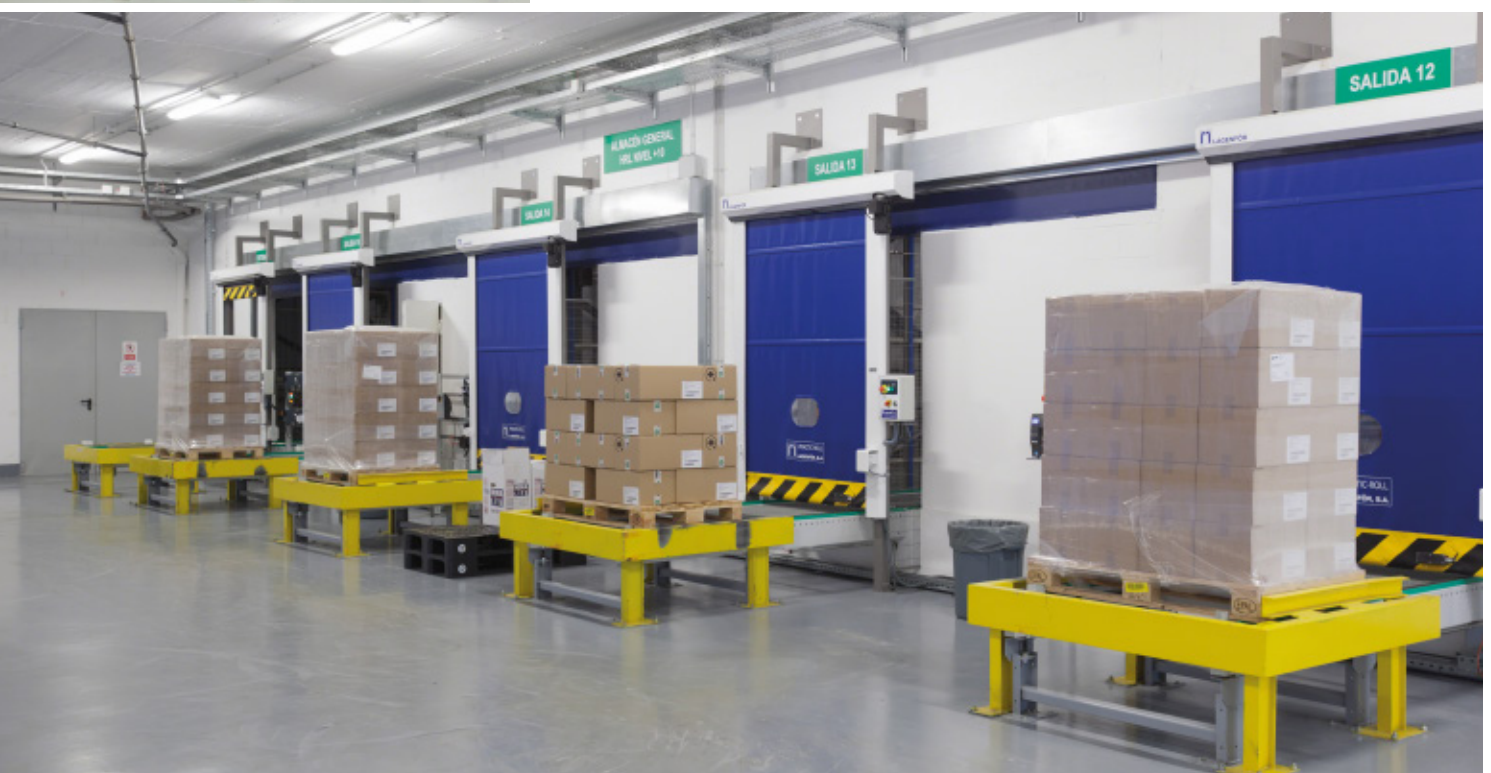


Several software together

The warehouse is equipped with different software that work concurrently to improve the throughput of all processes that take place inside it, including the receipt of goods, storage, dispatch and output of the products.

The Galileo software's mission is to control the movement of unit loads within

the warehouse. It gives orders to the various devices within the installation and also monitors compliance with safety measures. It gives orders to the various devices within the installation and also monitors compliance with safety measures. It is in direct and permanent connection with other programmes involved in the installation to optimise all logistics processes conducted.





Advantages for Kern Pharma

- **Greater capacity:** with the expansion of the logistics centre, the company has increased the storage capacity to over 10,000 pallets of 1,000 kg and 9,700 boxes of a maximum weight of 30 kg.
- **Streamlined operations:** the construction of an automated clad-rack warehouse meets the logistics requirements of Kern Pharma, applying a very straightforward and quick operational system with minimal personnel.
- **Optimal oversight:** the organisation of goods and automated management ensure efficient service, increased warehouse productivity and savings in logistics costs.



Technical data

Automated warehouse for pallets

Storage capacity	10,080 pallets
Pallet sizes	800 x 1,200 x 1,350/1,800 mm
Max. pallet weight	1,000 kg
Racking height	26 m
Racking length	72m
Levels high	14
No. of aisles	5

Automated miniload warehouse

Storage capacity	9,792 boxes
Box size	400 x 600 x 412 mm
Max. box weight	30 kg
Racking height	20 m
Racking length	72m
Levels high	36
No. of aisles	1