



### Case study: Granja Tres Arroyos

Joined together: the clad-rack system and the Pallet Shuttle in the Granja Tres Arroyos cold storage

Location: Argentina



Mecalux has built a clad-rack cold storage in Argentina for the company Granja Tres Arroyos, specialised in poultry products. In order to maintain and enhance the growth rate achieved in recent years, the warehouse has been fitted with a high-density, semi-automated Pallet Shuttle system. This allows the company to obtain a capacity of more than 3,300 pallets of 1,300 kg in a small space.



### The needs of Granja Tres Arroyos

Granja Tres Arroyos is a renowned Argentine business that focuses on the manufacture and distribution of poultry and delicatessen products.

It was founded in 1965 and since its origins, has always opted for the integration of technology throughout the production process, as well as marketing at the international level. They currently boast an impressive 35% export of manufactured products to other countries.

The company has a traditionally constructed cold storage located next to its production centre, but it proved to be inadequate to meet the market demands. For this reason, they decided to build new cold storage with greater capacity and a faster in-flow and outflow of goods.

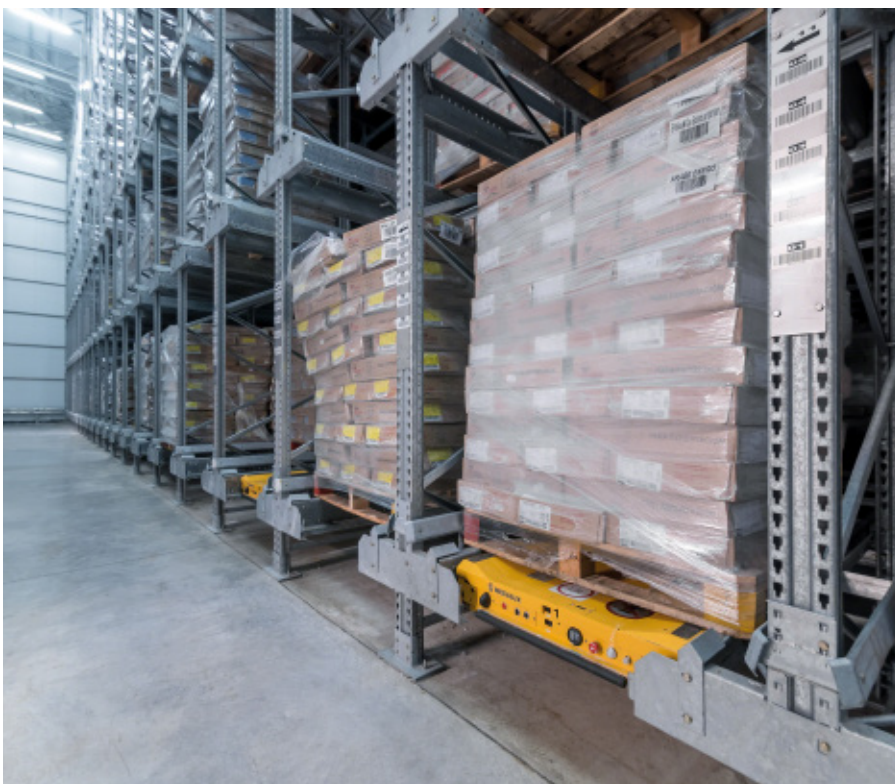
The company sought the advice of Mecalux, who analysed all the operational needs and flows required by Granja Tres Arroyos in detail, in order to find the solution that best met its requirements.

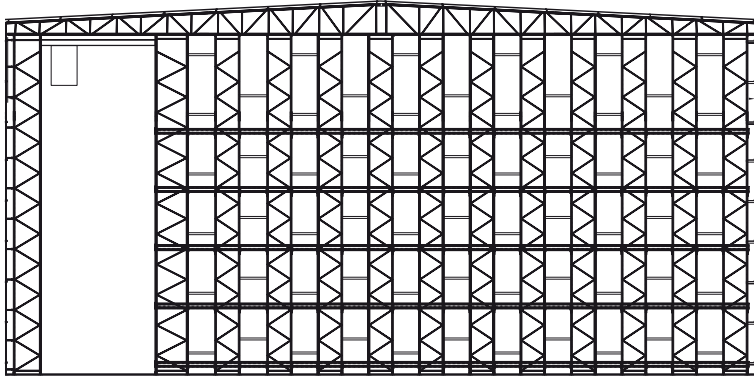
### The solution by Mecalux

Mecalux designed and built a 1,410 m<sup>2</sup> clad-rack cold storage with a capacity for more than 3,300 pallets with a maximum weight of 1,300 kg. Clad-rack warehouses are comprehensive buildings formed by the racks that support their own weight, the vertical cladding and roofing, in addition to the goods. Provision is also made for the external force of the wind and possible seismic movements.

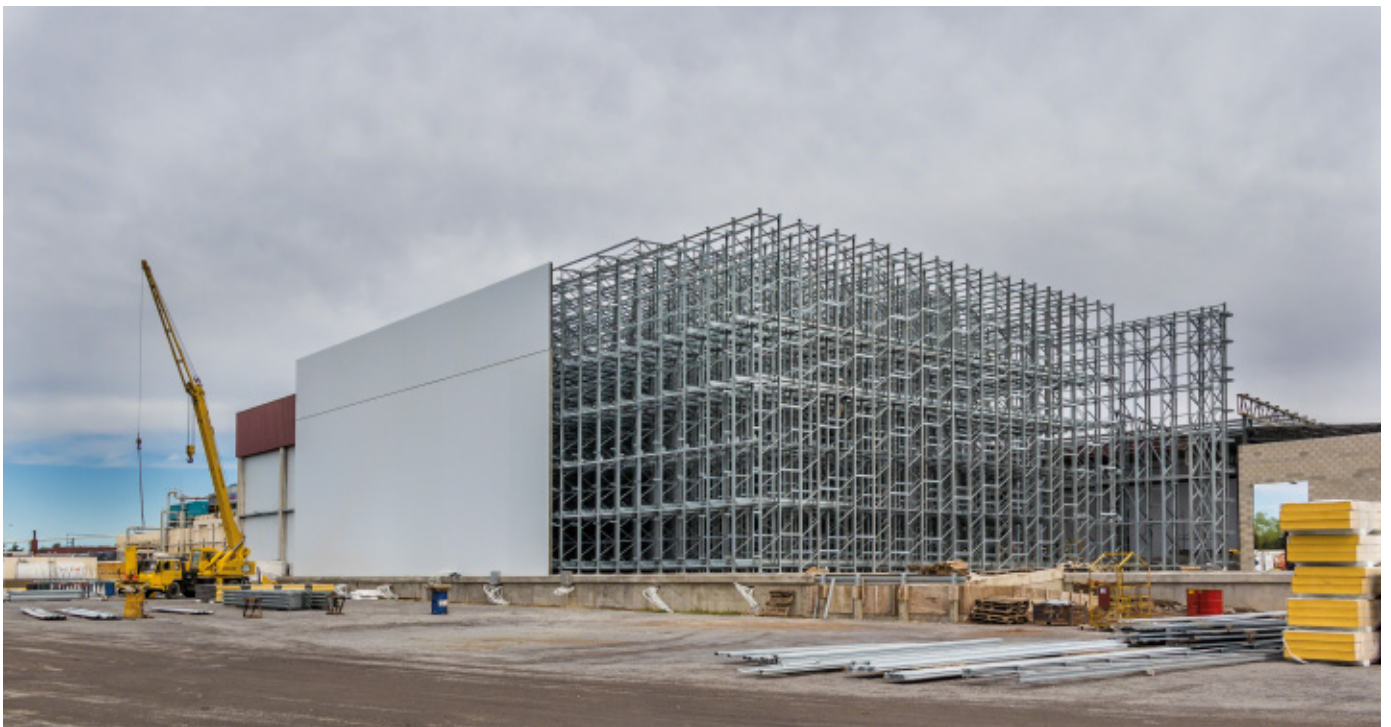
The facility is 14 m high and equipped with the high-density Pallet Shuttle system, with 150 storage channels that have the capacity to deep-store 22 pallets. The loading and unloading of goods are carried out thanks to four electric shuttles that move autonomously along rails inside the racks. It is worth noting that although Granja Tres Arroyos' clad-rack warehouse is not very tall, it is nevertheless the most cost-effective option for the company, since the storage channels have been designed with the depth that is strictly necessary, calculated according to their functional requirements.

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Layout: height of the Granja Tres Arroyos clad-rack warehouse





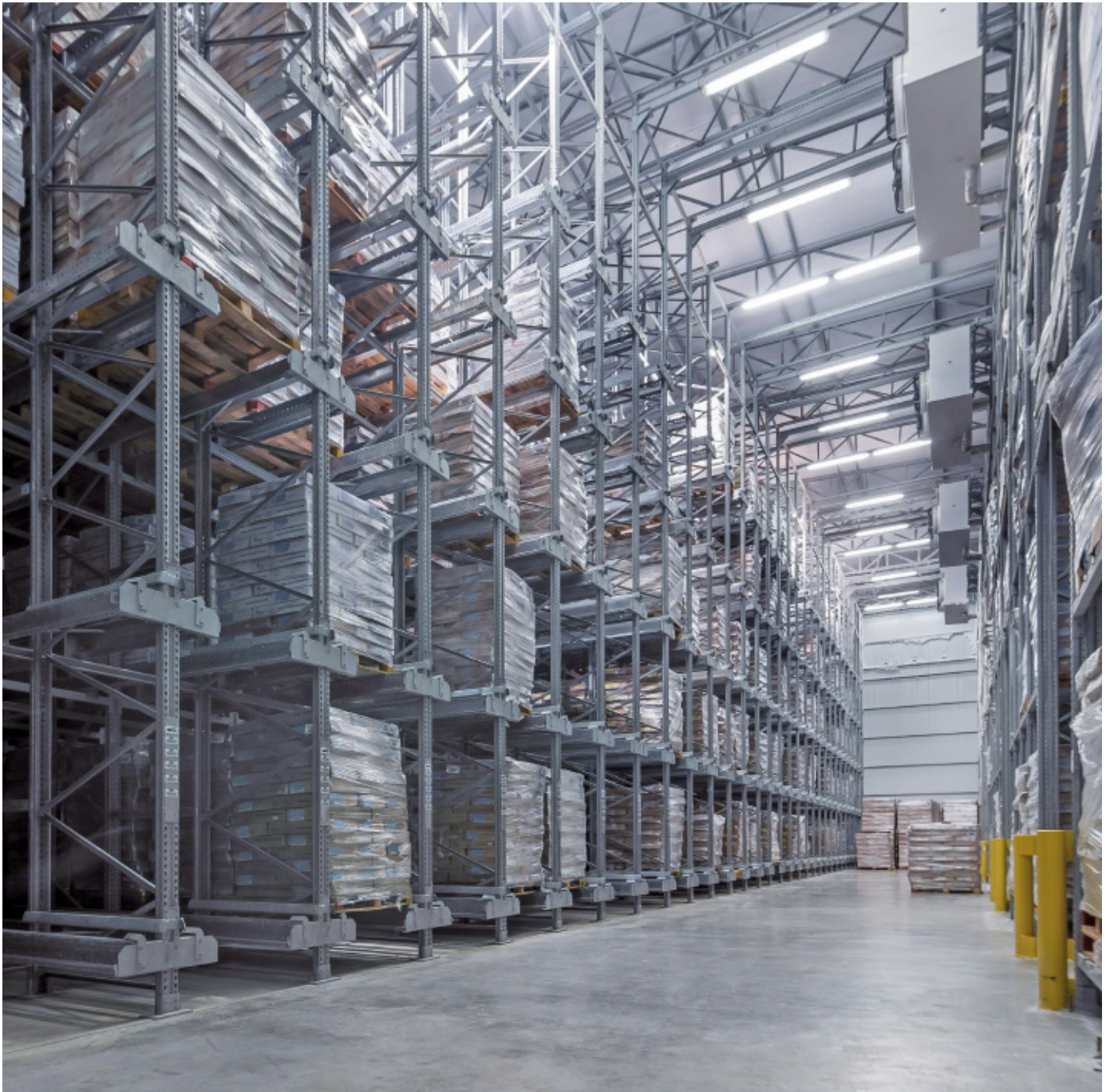
### The Pallet Shuttle system

The Pallet Shuttle shifts the load from the inside of the channels until it reaches the first open location where it is deposited.

Forklifts do not need to enter into the aisles, thereby avoiding the risk of accidents and damage to the racks.

The operators give orders to the Pallet Shuttle via a RF remote control. They must enter a numeric code and the shuttle performs the desired functions. Mecalux has also developed cold adapted tablets with Wi-Fi connection, which communicate the orders through an intuitive user interface.





This system minimises the number of movements performed by the operators who, with the help of reach trucks, only bring the pallets to the entrance of each channel and change the Pallet Shuttles position when necessary



### Clad-rack cold storage

Clad-rack warehouses are a very useful solution in cold storage due to optimisation of the surface and the available height.

In addition, they are much simpler constructions than traditional buildings, which are implemented in a very short time and with minimal civil works.

The entire structure is interior and is erected on a resilient concrete slab that favours the connection of the floor insulation with the sides of the building.

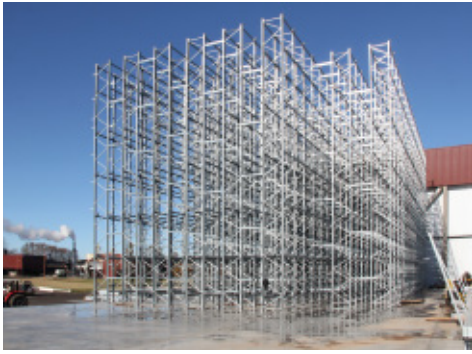
It also allows the set-up of cooling equipment without having to drill and in a way that is accessible for maintenance tasks.

In the following images, you can see the ongoing development of construction of the new cold storage next to the old one.



Racks only occupy the space that is necessary. This translates into savings in energy costs seeing that the facility is kept constantly at sub-zero







### Advantages for Granja Tres Arroyos

- **Optimisation of space:** the clad-rack warehouse is built using only the strictly required surface area, reducing its volumetric and energy consumption.
- **Maximum storage capacity:** the new Granja Tres Arroyos cold storage has a capacity for more than 3,300 pallets in just 1,410 m<sup>2</sup>.
- **Increased productivity:** the Pallet Shuttle performs movements automatically and very quickly within the channels, so that operators only stay a short time in the interior of the warehouse at sub-zero.
- **Stepped up safety:** not having to insert a forklift inside storage aisles reduces the risk of accidents to almost none.



### Technical data

Storage capacity	3,400 pallets
Pallet size	1,000 x 1,200 x 1,800 mm
Maximum pallet weight	1,300 kg
Warehouse weight	14 m
Warehouse length	47 m
No. of Pallet Shuttle	4
No. of channels	150
No. of pallets for channel	22
Constructive system	clad-rack warehouse

