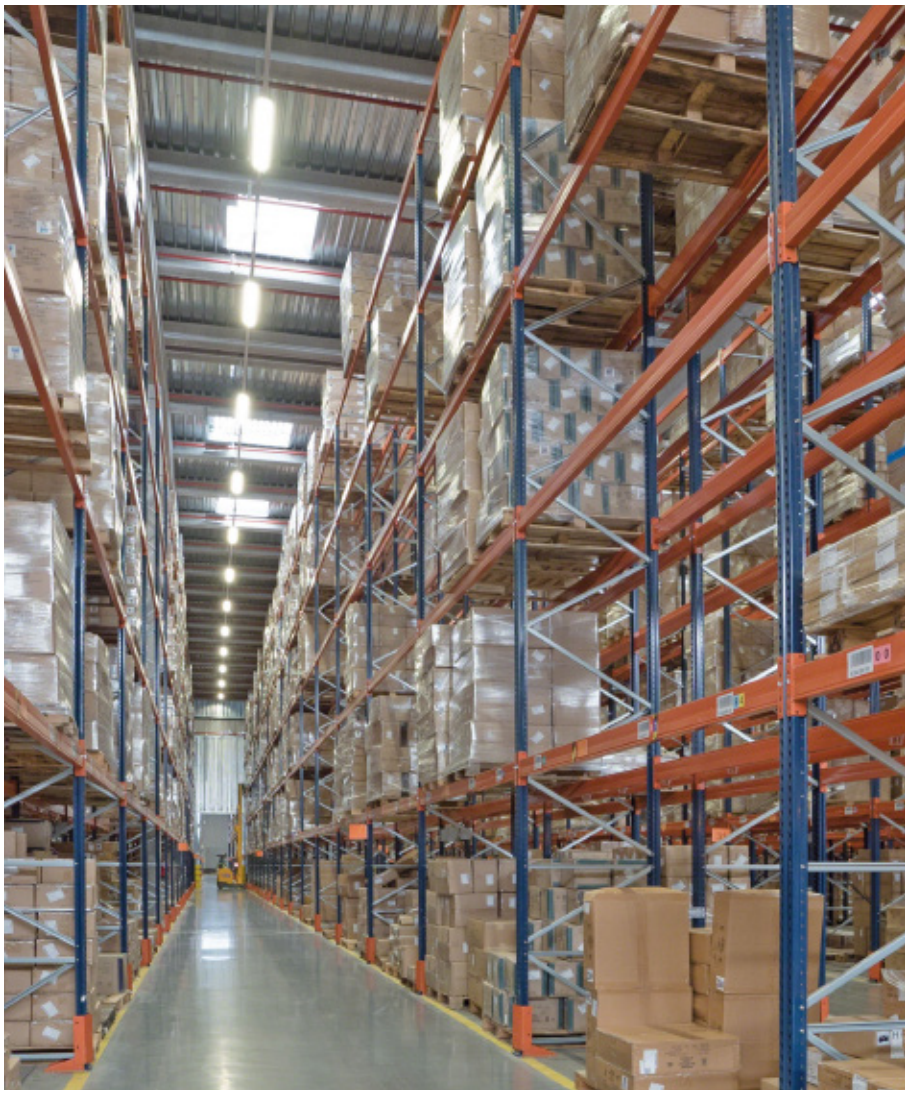
Interlake MECALUX

Case study: DHL

Mecalux outfits a new logistics center for DHL on the outskirts of Madrid

Location: Spain

The warehouse, with a capacity for more than 90,000 pallets, has two areas allocated for palletized products. Another, formed by a two-level mezzanine floor, is earmarked for hanging garments. Its strategic location allows DHL to respond quickly to all its main customers' stores within the Iberian Peninsula (Spain and Portugal).



Storage of products on pallets

Due to the fact that the majority of orders delivered by DHL to these stores are full boxes and the company moves very few pallets with a single item type, it was necessary to allocate the bottom level of the selective pallet racks for picking activities. Reserve palletized goods are stored on higher levels.

Handling equipment used to place the pallets on the racks are reach trucks. However, during order preparation, specific machines are used that have the capacity to transport up to two pallets at a time.

Operators streamline routes inside the logistics center thanks to the warehouse management system (WMS), which divides the facility so that each operator is responsible for a single zone. This means that an order can be prepared by several people at the same time. Once their part of the order is finished, each operator will transfer it to one of the consolidation areas according to the assigned dock.

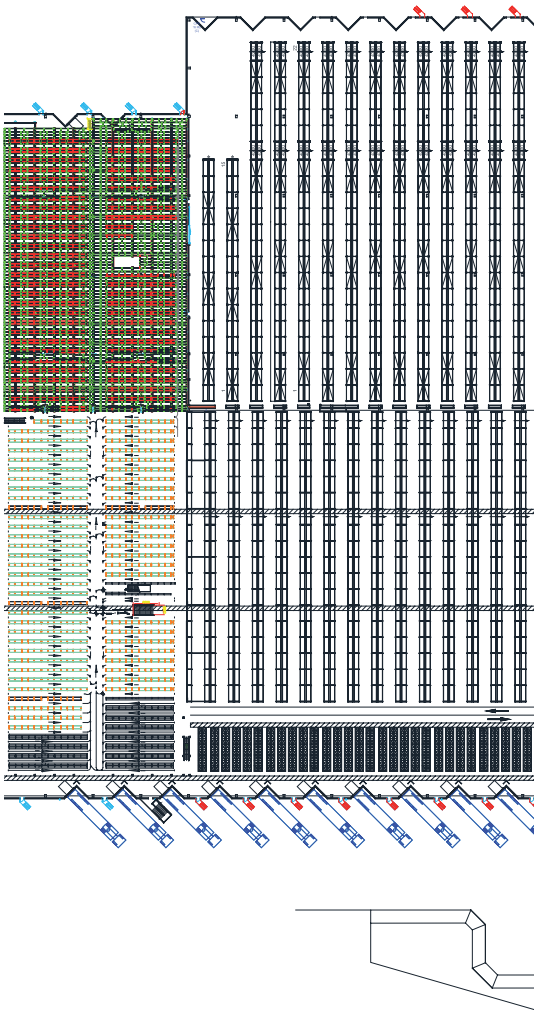
Full use of the racks was made to install fire protection system pipelines and sprinklers. These coincide with the rack beams or girders to waste the minimum possible space.

Selective pallet racks are an ideal system to quickly replenish locations that have been left without product

Assembly by phases

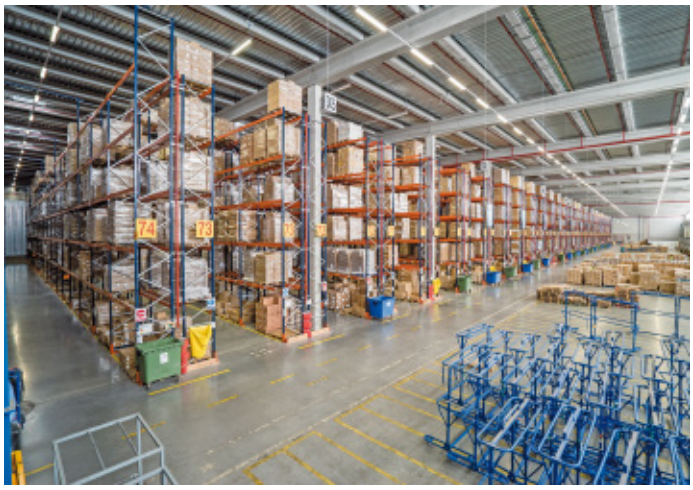
Mecalux adapted to the company's needs, building the warehouse in phases. This enabled DHL to make a tailored, gradual investment as it ran each project phase.

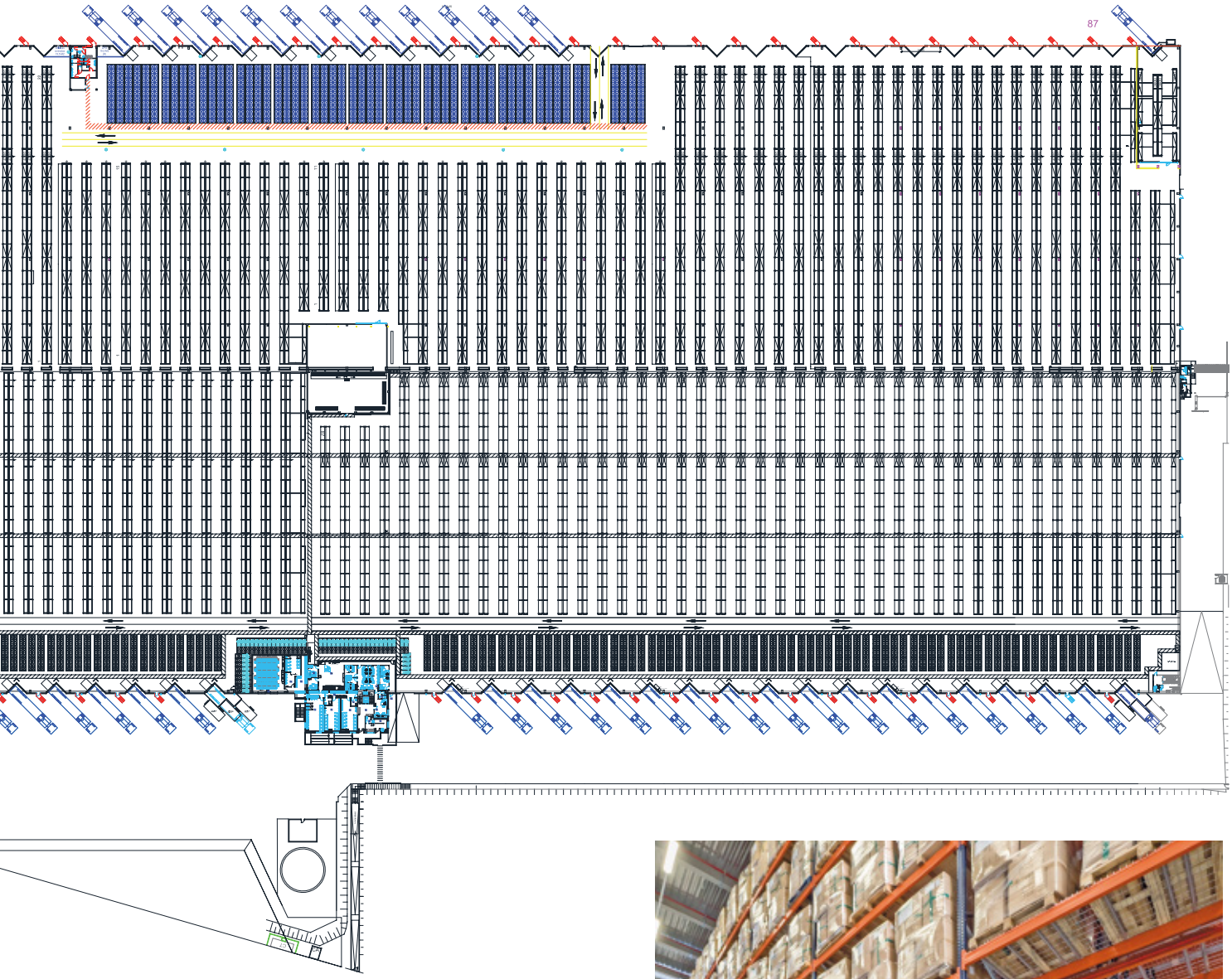
Aisle length compelled DHL to build intermediate passageways wide enough to give two pieces of handling equipment the ability to cross each other at the same point.



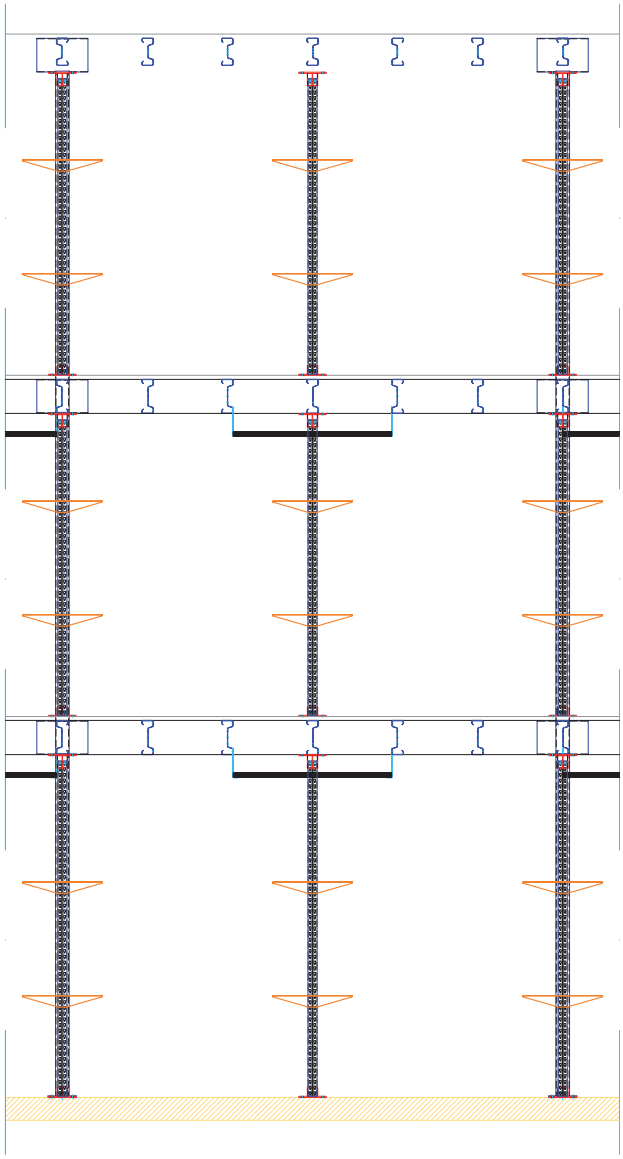
Each section of the warehouse has its own loading docks in order to avoid long trips and significantly reduce operating costs. The warehouse is also compartmentalized for security reasons.

The large consolidation areas and the placement of preloads on the floor just in front of their assigned docks allow for speedy loading of transportation vehicles.





The total storage capacity of more than 90,000 pallets and more than 98,000' of profiles used to hang garments on the racks



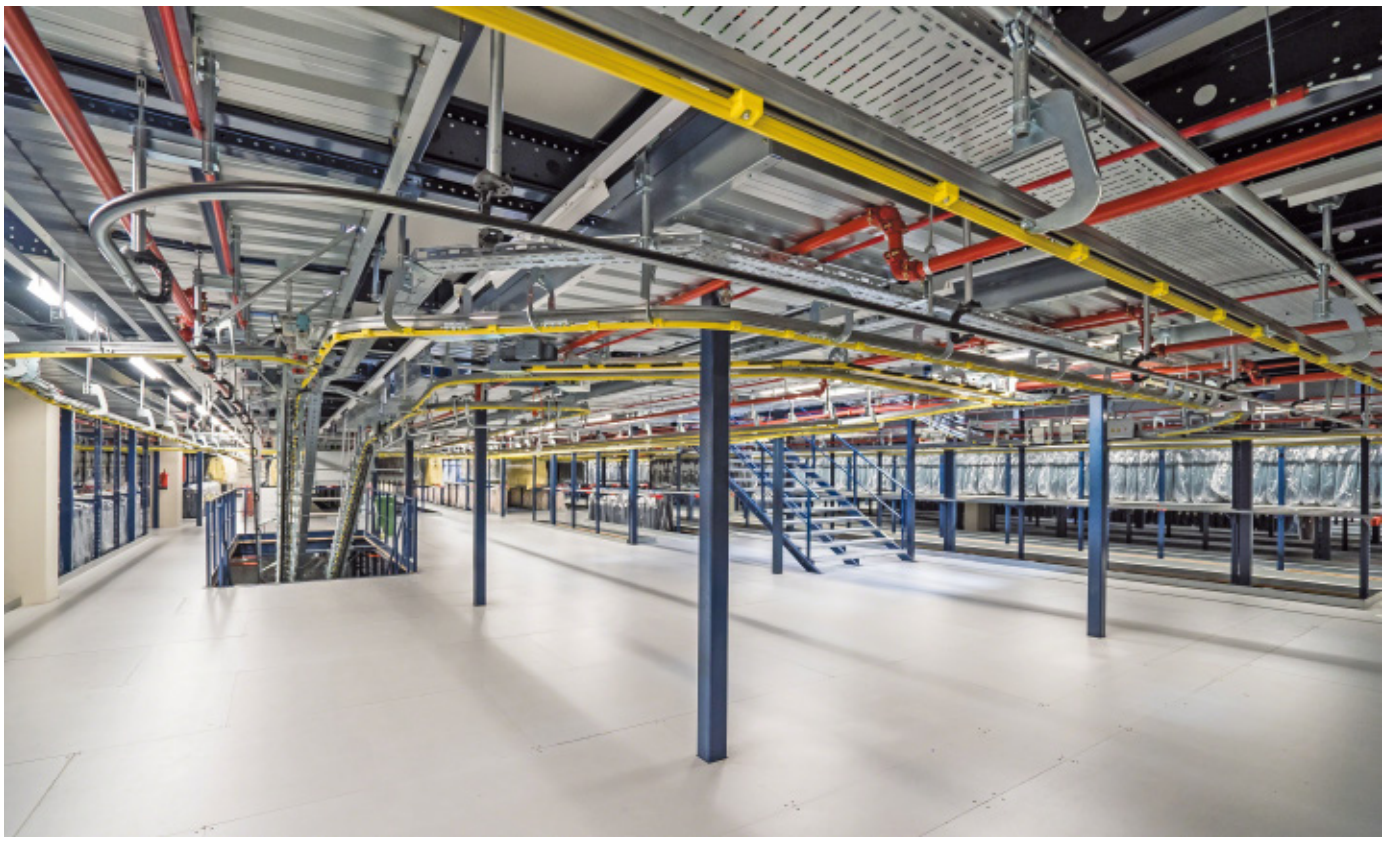
Hanging garment area

Racks specifically for hanging garments are on the mezzanine floor and are two fully interconnected levels high. On each floor, a space has been left without racks to allow for the circulation and classification of garments.

Thanks to the mezzanine floor, the productive surface area was multiplied, adding two extra floors that are perfectly suited to the space available.

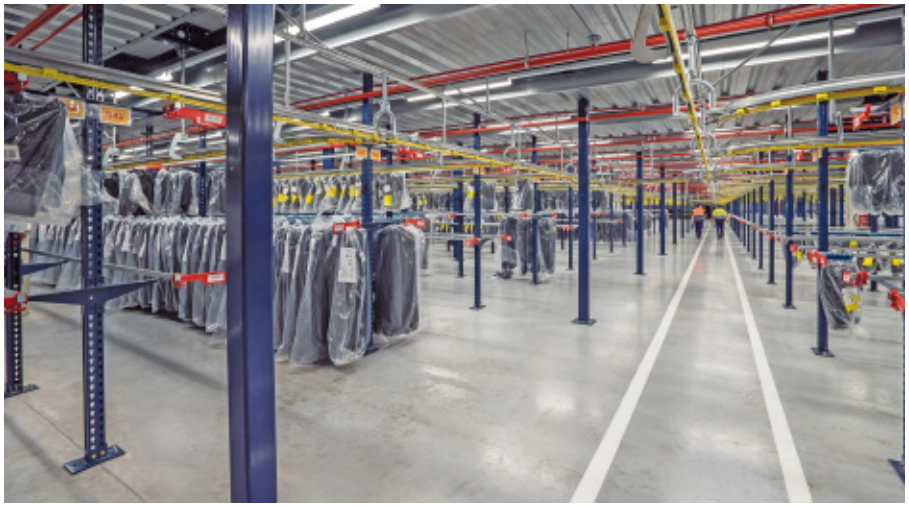
Operators move between the different warehouse floors via a pedestrian access staircase. The conveyors, meanwhile, have stairs and spaces specifically for automatic access to the overhead trolleys that transport hanging garments.

The Sigma profiles used for the mezzanine floor construction system join all the uprights in the installation, in addition to attaching the rails of the overhead conveyor system to the hanging garments



The tubes used for hanging garments on the racks are located at an optimum height from an ergonomic point of view. Although they have bearings every 7.2', the hangers slide and are grouped by SKU without producing any interference.

Furthermore, spaces between pedestrian aisles are protected to prevent garments from falling from one floor to another.The fire safety system tubes, sprinklers, and the warehouse lighting are attached to a structure located in the central area of the aisles. This structure also supports the rails for the overhead trolley conveyor.



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Advantages for DHL

- **Streamlining the space:** the DHL warehouse is set up to store more than 90,000 pallets and more than 98,000'of hanger profiles.
- **Increased productivity:** the compartmentalization of items, the breadth of consolidation areas, and the location of the preloading zones are some of the factors that help increase the volume and efficiency of product movements.
- **Cost savings:** each zone has its own loading dock, thus avoiding long trips and notably reducing operational costs.
- **Efficient service:** thanks to this new logistics center, DHL has met the high level of service demanded by its customers and is capable of offering fast delivery without errors in orders shipped.

Technical data

Selective pallet racks	
Storage capacity	90,000 pallets
Pallet size	31.5" x 47.2" 39.4" x 47.2"
Maximum weight per pallet	2,205 lb
Handling equipment	reach truck
Order picker	ground floor with forks for 2 pallets

Hung garment area	
Surface area occupied	32,292 ft²
Surface area of the 3 floors	96,875 ft²
Hanger profiles	>98,000 linear feet

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