



HIGH-DENSITY AUTOMATED PALLET SHUTTLE SYSTEM



Interlake
 **MECALUX**



ADVANTAGES

The joint benefits of compact storage and automation

» **GREATER STORAGE CAPACITY**

Up to 131' of storage in depth and 131' in height.

» **AUTOMATED MANAGEMENT**

Stock control, real-time inventory, and optimization of all warehouse movements and processes thanks to Easy WMS.

» **ENHANCED PRODUCTIVITY**

Large increase in the number of cycles/hour, especially in systems with transfer cars.

» **COST SAVINGS**

Lower labor and energy costs and smaller surface area required to build.

» **VERSATILITY**

Possibility of grouping a different SKU in each storage channel and operating with pallets of different sizes and widths.

» **SAFETY MEASURES**

Use of safety devices that reduce the risk of accidents and ensure absolute control of goods, preventing inventory shrinkage.







The automated Pallet Shuttle is a compact storage system that uses electric shuttles and automated handling equipment (stacker cranes or transfer cars) to boost the capacity and productivity of the warehouse. The system executes the orders given by the Easy WMS warehouse management software.

DISTINGUISHING FEATURES

Automation results in the **elimination of errors and a rise in the number of inbound/outbound pallet cycles per hour.**

High traveling speeds: 360'/min unloaded and 230'/min loaded.

The pallet shuttle's **supercapacitors** automatically charge while resting in the cradle of the stacker crane or transfer car.

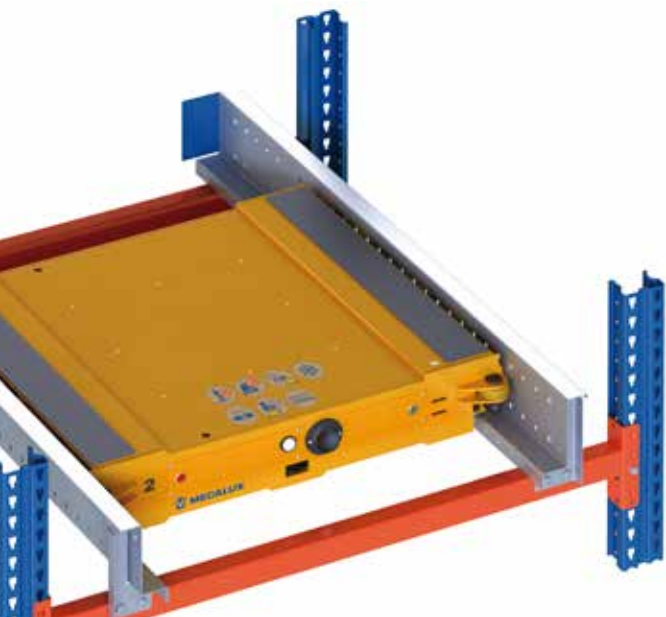
With this system, it is possible to establish **continuous flows** of goods with uninterrupted operations.



The automated Pallet Shuttle system can be **implemented in stages**, tailored to the changing needs of the warehouse.

Its benefits compensate the initial investment with **immediate cost savings** and a fast ROI.

The use of stacker cranes or transfer cars requires a narrower width between aisles (less than 63"), thereby obtaining **greater storage capacity.**



Characteristics of the shuttles

Pallet width	48"
Pallet depth	32" / 40" / 48"
Load capacity	Up to 3,300 lb
Wheels	8
Unloaded travel speed	Ambient: 360'/min / Cold: 249'/min
Loaded travel speed	230'/min
Lift time	2 s
Work temperature	Ambient: +41 °F to +113 °F / Cold: -22 °F to +41 °F
Battery	Supercapacitors

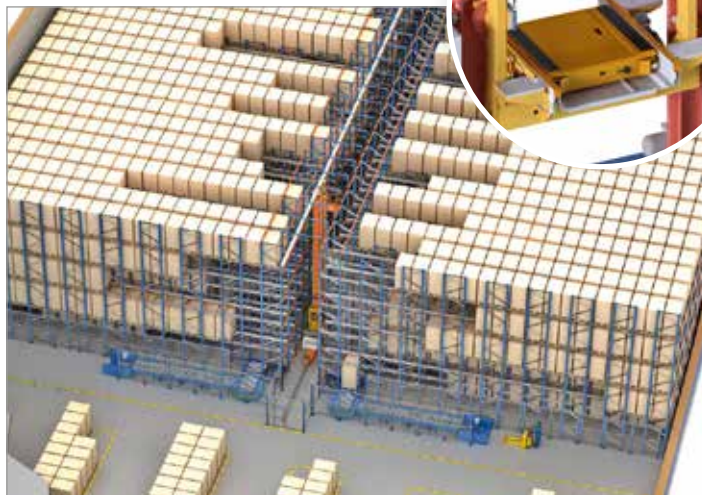




HOW DOES IT WORK?

In automated storage and retrieval systems (AS/RS) with the Pallet Shuttle system, forklifts are replaced by automated handling equipment: stacker cranes or transfer cars. This considerably reduces the time needed for each operation. The pallet shuttle is placed inside a specific high-density structure in an automated warehouse. The type of handling equipment chosen will depend on the number of input and output movements, the number of SKUs, and the quantity of pallets per SKU or batch.

Automated Pallet Shuttle system with stacker crane



The stacker crane executes movements from the AS/RS input and output positions to any storage channel. The pallet shuttle is tasked with moving the pallets from the cradle of the stacker crane to the location in the corresponding channel. Generally, two compact storage racking units are installed, one on each side of the working aisle.

Automated Pallet Shuttle system with transfer car



Instead of a stacker crane attending to all levels of all the storage channels, a walkway-type structure is set up to enable a transfer car to move on each level. So, if the AS/RS is five levels high, five transfer cars are used to perform the movements from the lift to the storage channels on each level. This way, the number of movements (i.e., cycles/hour) is multiplied by the number of levels in the AS/RS.

This is the most efficient compact storage system for combining both high capacity and a large number of movements.



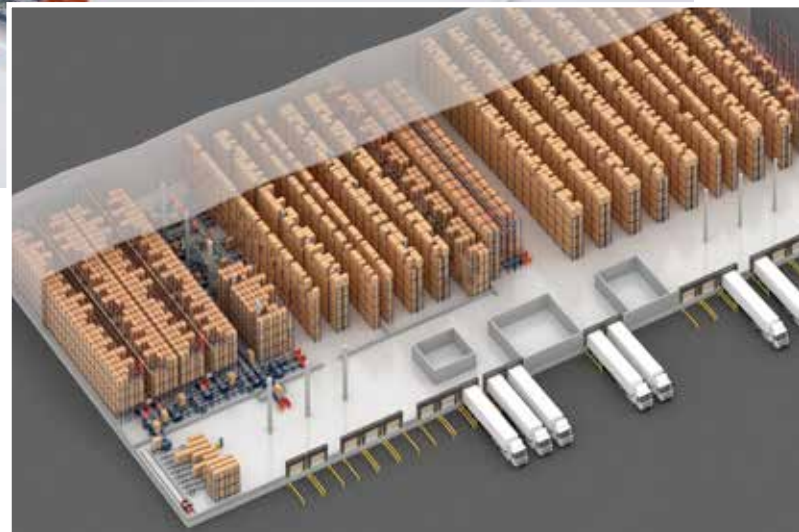
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CASE STUDY



SUCCESS STORY HAVI LOGISTICS

HAVI has invested in a high-tech logistics center in Portugal that supplies its food service customers in the country. The center is divided into three areas that operate at different temperatures: -4 °F, refrigerated, and ambient. Mecalux has supplied all the storage systems, featuring two AS/RS, pallet racks, drive-in racks, and the Pallet Shuttle system. In addition, it has deployed the Easy WMS warehouse management system, which has been interfaced with the HAVI WMS to align stock control and the goods dispatching sequence.

Automation increases warehouse safety because **77% of pallet movements in the freezer warehouse are performed totally automatically**. What is more, ergonomics are enhanced when handling goods, and physical effort is decreased. The system also allows operators to spend less time working in the low-temperature environments, simultaneously reducing energy consumption by 10% thanks to a lower number of freezer door openings and better insulation of the chamber. The frozen area is equipped with the modern automated



Pallet Shuttle system operated by two stacker cranes and managed by Easy WMS software. The **automated Pallet Shuttle system optimizes storage space and reduces the volume to be chilled**. This not only maximizes storage capacity but also saves on power costs for keeping the facility's temperature below zero.

In the cold-storage warehouse, Mecalux has installed a drive-in racking unit, an optimal solution for storing homogeneous products and a large number of pallets per SKU. The ambient temperature area features an AS/RS. A twin-mast stacker crane is responsible for moving products down the aisle, from input conveyors to the locations assigned by the WMS.

In short, HAVI is ready to supply restaurants promptly and on demand. **Automation has not only streamlined warehouse flows, but also reduced logistics costs and improved the working environment for operators**. Just as importantly, the equipment allows HAVI operators to learn new skills.



AUTOMATED PALLET SHUTTLE

PERFECT SOLUTION FOR HIGH PRODUCT TURNOVER

Generally, this system is ideal for the following:

- » **Facilities requiring high throughput**, with high product turnover and where maximum use of space is imperative.
- » **Companies with mass storage of products**, with medium- and high-demand SKUs, or with a large number of pallets per SKU.
- » **Cold storage**: the volume to be cooled is reduced, and it is not necessary for operators to be present in low-temperature environments.
- » **Buffer** (for temporary storage).

Ask for more information or an obligation-free quote
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