

# E-commerce logistics: 8,000 online orders a day and capacity for 80,000 pallets

E-business Aosom has centralized its logistics operations with a new e-commerce warehouse equipped with seismic racking.

Country: **Italy** | Sector: **e-commerce**



**Aosom**

## CHALLENGES

- Prepare and ship online **orders within 24 hours.**
- **Centralize** goods previously stored in 6 different facilities.
- Install an **earthquake-resistant** storage system.

## SOLUTION

- **Pallet racks.**

## BENEFITS

- Preparation and dispatch of **8,000 online** orders within 24 hours.
- **Logistics** operations **centralized** in a warehouse with capacity for 80,000 pallets.
- Pallet racks designed to withstand any **seismic activity.**



Aosom is a leading e-retailer of patio and garden furniture, toys, fitness equipment, and home decor, entertainment, and pet products. Headquartered in Ningbo, China, the company is present in the US, Canada, and almost all European markets (the UK, Ireland, Germany, France, Spain, Italy, Portugal, the Netherlands, Poland, and Romania, among others).

» **Founded in: 2009**

» **International presence: Europe and North America**

» **Product catalog: 200,000+ items**

Aosom is a leading e-commerce retailer with a large catalog of items including patio and garden furniture, among others. In recent years, it has experienced enormous growth, increasing its turnover by a whopping 70% during the COVID-19 pandemic. This development forced Aosom to consolidate its logistics operations, building a 12.4-acre e-commerce warehouse in Belgioioso, Italy, to cut costs and improve efficiency.

“Our main need was to bring together under one roof everything we’d been managing in six different facilities — four owned by us and two subcontracted. The new logistics center is strategically located: it’s close to the country’s main highways and can be easily accessed from our offices in Assago,” says Liviu Chitu, Head of Logistics at Aosom Italy.

An e-commerce warehouse such as Aosom’s should have agile fulfillment operations. That is, all processes that take place from the time customers make a purchase until they receive the order have to be carried out as quickly as possible: these include product storage and order processing, packaging, and distribution (in addition to returns management).

Besides flexibility, Aosom needed a strong, robust, and versatile system to be able to store very varied goods of generally large dimensions, such as patio furniture and fitness machines.

With all these logistics constraints, the Chinese e-commerce giant chose two types of pallet racks: selective and narrow-aisle racking. “We decided to go with narrow-aisle racking to make the most of the warehouse space and, thus, reach a higher storage capacity. We’ve also installed selective pallet racks to store bulkier goods,” says Riccardo Traverso, Logistics Manager at Aosom Italy.

The last requirement that Mecalux was charged with fulfilling had to do with the

  
***“We’re really pleased with our new logistics centre. The work was done professionally, and it was assembled very quickly. We chose Mecalux to equip our new warehouse because we know we’re getting guaranteed quality and safety — which is essential in a large facility like ours.”***

**Ricardo Traverso**  
Logistics Manager, Aosom Italy

safety of the facility as a whole. This Aosom warehouse was built in an earthquake zone, so the racks had to be designed to meet the highest safety standards.

In this regard, the racking was calculated taking into account the indications of Italian standard NTC 2018 and European standard EN 16681. This means that they were reinforced to support any possible ground motion that could occur in the region.

### **Warehouse characteristics**

The new Aosom facility stands out for its high storage capacity: 80,000 pallets. To bring together in a single site all the goods spread out among the company’s six warehouses, the new facility’s surface area was optimized while maintaining operational agility. This was achieved by equipping most of the logistics center with narrow-aisle racking, as more racking units could be installed, thereby increasing the storage capacity.

The operators use trilateral turret trucks to insert and remove pallets from their locations. As these machines only operate inside the aisles (spanning 492’ long), they do not interfere with other operations, allowing operators to perform storage tasks in an agile way. The

trilateral turret trucks move by means of a wire buried in the floor that produces a magnetic field; the machine detects this and uses it as a guide, avoiding possible impacts against the racking structure and the merchandise.

The racks, which stand 37.7’ tall, store a wide variety of products of different sizes and weights. “Currently, we manage 4,000 SKUs, but we’re not even exploiting the entire warehouse yet,” says Traverso.

### **Order preparation**

“One of the many benefits we’ve obtained with this new facility is the practicality of storage tasks. Installing all the racks under one roof facilitates good management tremendously,” says Chitu.

In Aosom’s e-commerce warehouse, agility is fundamental for the company to prepare and dispatch up to 8,000 orders a day. The direct access offered by the pallet racks is key for being able to keep up with the fast pace of the operations. Likewise, the warehouse itself was designed to increase the speed of the main activity carried out in it: order picking.

The operators work in zones with specific aisles assigned to them, pulling the SKUs that





make up each order. As a result, the optimal distribution of the goods prevents several workers from coinciding in the same aisle while picking.

High-consumption products are stored on the ends of the aisles, closer to the loading docks, while items with a lower demand are slotted in the middle. This distribution optimizes the movements of the operators and the handling equipment. Due to the warehouse's large dimensions, an underpass has been opened. It runs crosswise through the racking, facilitating the movement of the operators and serving as an emergency exit.

Lastly, when designing the warehouse layout, two extensive docking areas were set up for goods loading and unloading. The loading docks are key access points at the Aosom center. On Mondays, the day with the highest flow of movements, the company can receive and dispatch close to 2,000 pallets. To this end, space has been set aside in front of the docks for a preload area, where goods are stacked on the floor.

### **Benchmark e-commerce warehouse**

The new Aosom warehouse in Belgioioso is a model for agility and efficiency in the e-commerce sector. Thanks to the Mecalux warehousing solutions, the company has maximized its storage capacity, sped up operations, and improved its stock control.

“Our aim is to have a solid logistics infrastructure that enables us to manage all operating cycles independently. We’ve seen enormous growth over the past few years, and we want that to continue,” says Traverso. E-commerce is growing by leaps and bounds, and Aosom — a reference and leader in the online sale of patio and garden furniture — now has logistics operations prepared to take on any challenge efficiently and satisfy its customers with fast, quality service.