

# Logistics 4.0: daily production of over 6 million sterile gauze swabs

Global medical product manufacturer ADA automates the storage of stock produced in its factory with Mecalux's Automated Pallet Shuttle system.

Country: **Portugal** | Sector: **healthcare**



### CHALLENGES

- Connect logistics and manufacturing processes to streamline the storage of medical products.
- Maintain the **utmost quality** of medical supplies.
- Ensure **traceability** of batches from production.

### SOLUTIONS

- Automated Pallet Shuttle with stacker cranes.
- Automatic pallet conveyors and a transfer car.
- Easy WMS warehouse management system.

### BENEFITS

- Logistics operations prepared to absorb the **daily production of 6 million** sterile gauze swabs.
- Real-time **quality and traceability** control of medical stock.

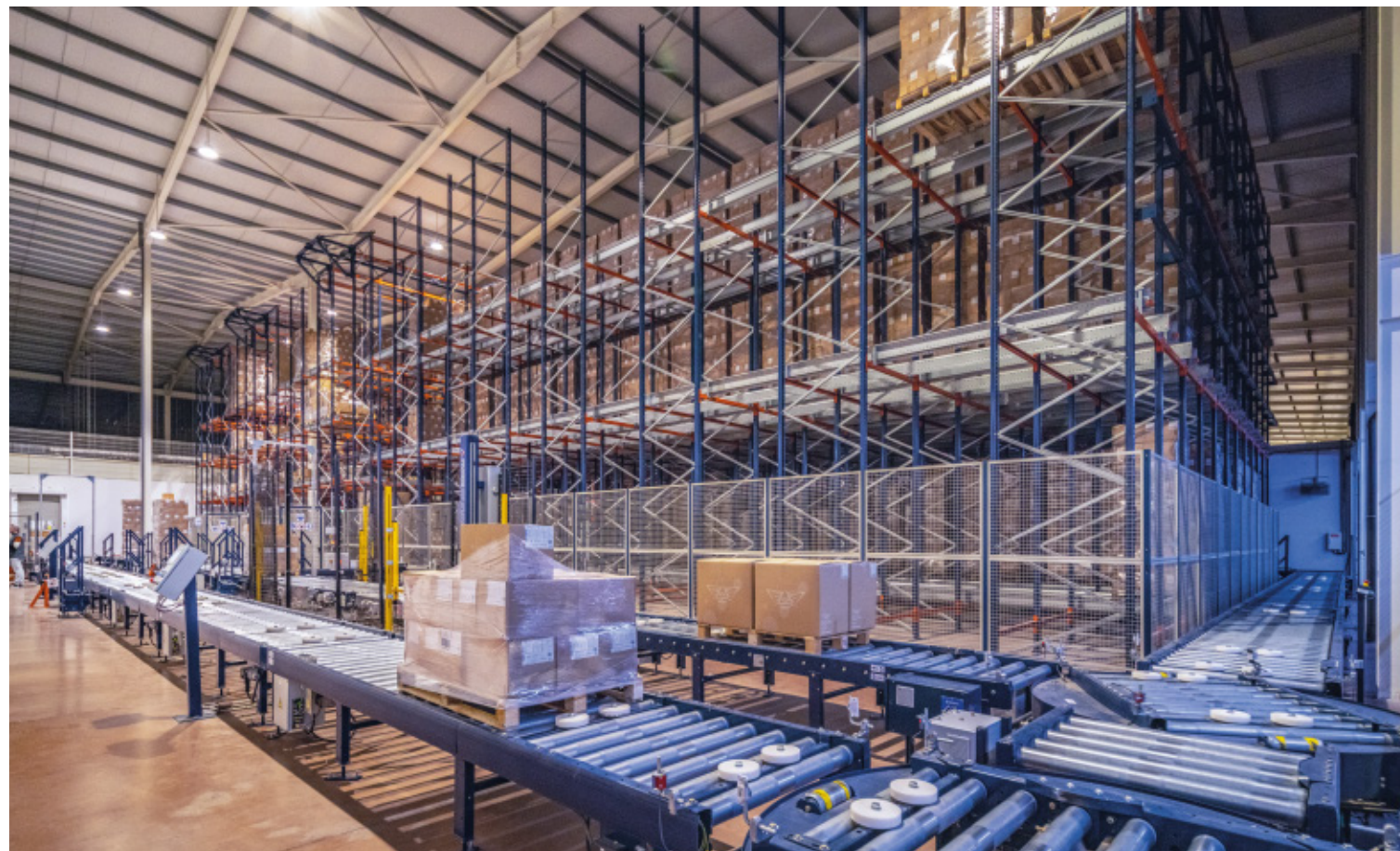


ADA manufactures and markets medical materials such as woven and non-woven gauze swabs, bandages and adult incontinence products. Renowned nationally and internationally for its high-quality standards, the ADA Group consists of the companies ADA S.A., ADA FIOS (the only European manufacturer of woven and non-woven gauze) and ADATEC (responsible for providing the group with the most advanced technology). As a result of the synergy between the three, ADA has mastered all phases of the woven and non-woven gauze transformation cycle.

» **Founded: 1974**

» **No. of employees: 400+**

» **Production: 6+ million sterile gauze swabs a day**



ADA is a renowned manufacturer and distributor of medical materials. As such, its supply chain requires a storage and internal transport system that ensures the quality of its products. ADA's priority is to offer its clients the best possible service.

"With 50 years of experience and a staff of 400 professionals, we strive every day to be a benchmark in our sector. Quality control is intrinsic to every stage of our manufacturing processes. We have our own laboratories, which perform all the necessary physi-

cal-chemical and microbiological testing autonomously," says Paulo Andrade, CEO of the ADA Group.

Founded in Portugal in 1974 and recognised in the global market for its quality standards, ADA has maintained steady growth over the last few decades. "In 2016, we opened our headquarters in Paços de Ferreira, outside Porto. A few years later, we built three additional production units. By modernising our facilities and adapting them to emerging market needs, we've tripled our production

capacity and reduced customer lead times. We've also seen a notable improvement in working conditions," says Andrade.

The ADA Group CEO explains what sets the company apart from its competitors: "We're one of the only businesses in the European sector that comprehensively monitors our production processes. First, we purchase the fibres. Then, we have our spinning, weaving and bleaching department. We even have a unit dedicated to manufacturing the gauze swabs. This guarantees top-quality products."

Technology has been fundamental for achieving the levels of efficiency, throughput, safety and quality that ADA requires to manufacture its medical materials. To manage finished goods in its plant in Paços de Ferreira, the company has installed Mecalux's Automated Pallet Shuttle, one of the most effective high-density storage solutions in the market. According to Andrade, automation has made the medical supply manufacturer more productive. "We ship more than six million gauze swabs worldwide, in addition to supplying the national and European markets with



bandages and adult incontinence nappies and underpads.”

Traceability is another key characteristic of ADA’s supply chain. All logistics operations are optimised with Mecalux’s Easy WMS warehouse management system. This software rigorously monitors the medical products from their arrival in the warehouse through to their delivery to customers. “We ensure total traceability of our transformation, production and storage processes — spanning the raw cotton selection to the shipment of the final goods — to maximise the quality of our products,” says Andrade.

### Automatic storage and shipment of medical supplies

The automated storage and retrieval system (AS/RS) from Mecalux — with a capacity for more than 4,800 pallets — is vital for absorbing ADA’s high production pace. “Every day, we manufacture millions of sterile gauze swabs tailored to each client’s specific needs,”

says Andrade. A conveyor system connects the AS/RS with the production line outputs. The Automated Pallet Shuttle system employs a motor-driven shuttle to store medical materials from production. As directed by Mecalux’s Easy WMS, stacker cranes move goods along the aisles to their storage channels. Each stacker crane is capable of performing 54 combined cycles per hour. The AS/RS locations have been personalised to accommodate merchandise with heights of 1.5 m and 2.4 m.

In addition to productivity, another advantage of the Automated Pallet Shuttle system is that it makes the most of available space. To increase the number of locations, Mecalux installed the AS/RS in a 2-metre-deep pit. On one side of the storage solution, it set up two pick stations, where operators prepare up to eight orders simultaneously.

Pallet shipping was also customised to raise throughput and avoid interference with other

warehouse activity. A transfer car supplies 12 live preload pallet channels, each with a capacity for eight unit loads. Following the sequencing established by Easy WMS, it deposits the medical materials ordered by customers in the corresponding channels.

### Warehouse under control

One of ADA’s priorities was for the WMS software to integrate with its ERP system. The two programs exchange information to coordinate the movements of goods from production to the warehouse and during order fulfilment. “We’re thrilled with Easy WMS because, through the interfacing with our ERP, we can monitor all information relating to stock,” says Andrade.

The ERP system informs the Mecalux software in advance of the medical materials scheduled to arrive in the AS/RS from production. Easy WMS identifies the pallets the minute they cross the checkpoint, verifies that they meet the requirements established for storage, and



*“The AS/RS from Mecalux is the culmination of our strategy to automate our manufacturing and storage processes. The Automated Pallet Shuttle system managed by Easy WMS has helped us maintain the quality of our medical materials.”*

**Paulo Andrade**  
CEO, ADA Group



calculates the best slotting strategy in line with product demand levels.

### Future-ready logistics operations

“At ADA, we ensure the maximum quality of our medical supplies to meet our clients’ present and future needs,” says Andrade. In the healthcare sector, automation stands as an essential strategy for expediting logistics processes. The Portuguese manufacturer has turned to this technology to increase product flows, expand its storage capacity, and effectively manage all its warehouse processes and operations. With automation as the connecting link, in ADA’s Industry 4.0 factory, logistics and manufacturing processes go hand in hand.