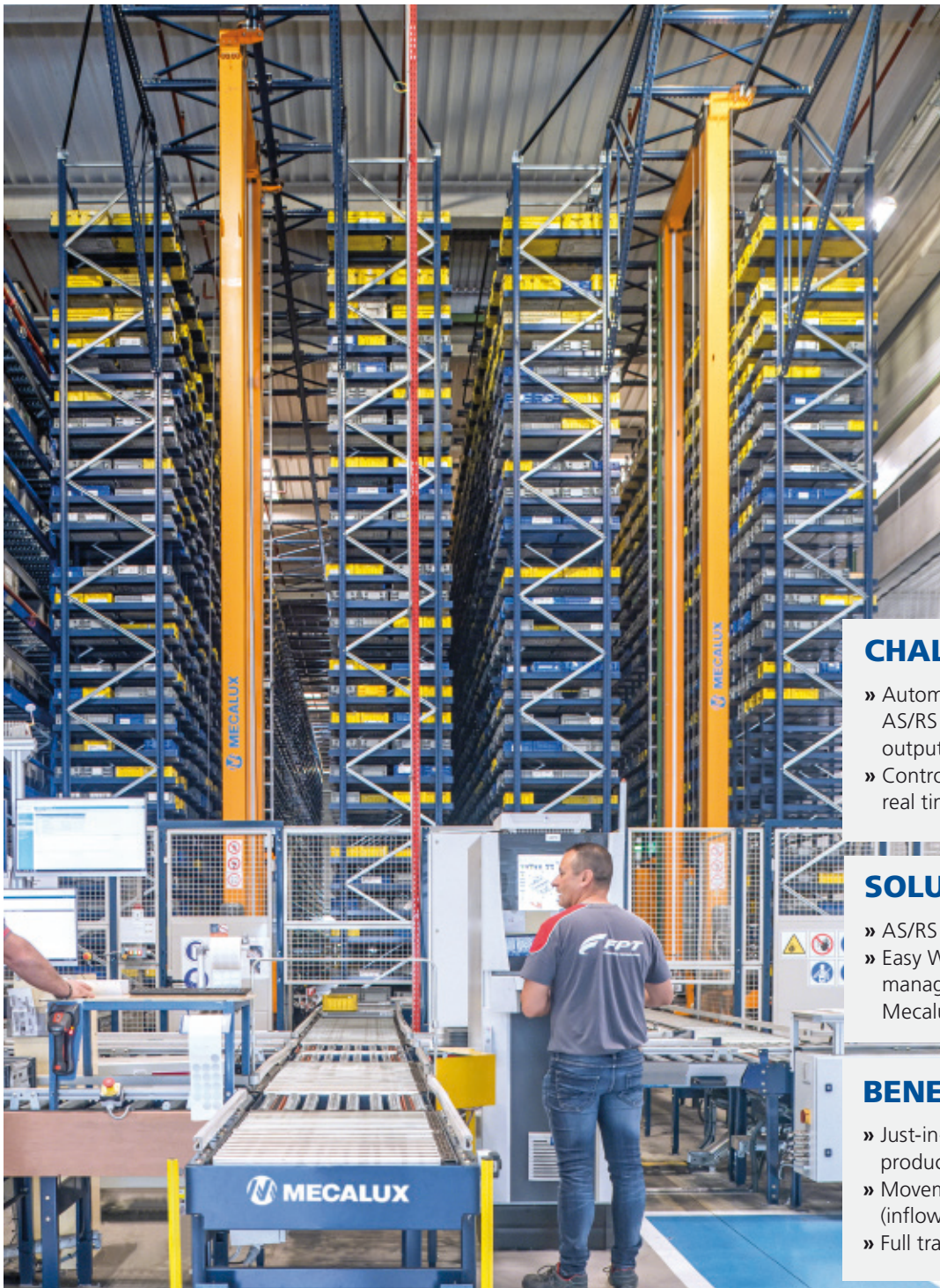


Case study: FPT Industrial

Just-in-time supply of production lines

Country: France

FPT Industrial, a manufacturer of petrol and diesel powertrains for industrial and agricultural vehicles, turns to automation to connect its warehouse with production.



CHALLENGES

- » Automatically connect the AS/RS with production line outputs.
- » Control product traceability in real time.

SOLUTIONS

- » AS/RS for boxes.
- » Easy WMS warehouse management software from Mecalux.

BENEFITS

- » Just-in-time supply of the production lines.
- » Movement of 1,500 boxes (inflows and outflows) a day.
- » Full traceability of 2,800 SKUs.

FPT Industrial (Fiat Powertrain Technologies) is headquartered in Turin, Italy. This IVECO Group subsidiary designs, manufactures and sells engines, transmissions and axles for industrial vehicles. With over a century of expertise, the company is a trailblazer in its sector for introducing technology innovations that enhance the performance of its production and logistics processes, in addition to reducing CO₂ emissions. FPT Industrial manufactures engines for, e.g., IVECO trucks and buses, New Holland and Case IH tractors, and marine vehicles.

Founded in: **2005**
No. of employees: **1,300**
Production capacity:
52,000 engines/year

FPT Industrial is a manufacturer of petrol and diesel powertrains for industrial vehicles. With a production capacity of some 52,000 engines a year, the company's production centre in Bourbon-Lancy, France, stands out for its operational excellence. In fact, it has received the Gold Level designation from the World Class Manufacturing programme, international recognition for applying standards that promote continuous improvement.

If there is one thing that characterises FPT Industrial's production plant in Bourbon-Lancy, it is sustainability as a way to boost business. The company frequently overhauls all its manufacturing and logistics processes to improve efficiency and minimise its environmental impact. Recently, the business made use of automation to effectively connect its storage and production zones. "We used to house the goods we sent to production on shelves for boxes. The operators would remove the items from their locations and move them to the corresponding assembly lines," says Malaurie Faivre, Logistics Manager at FPT Industrial.

As the pace of work picked up, manual management of the products became inefficient. "We wanted to ramp up productivity in our operations, make the most of the available space to increase our storage capacity, and ensure ergonomic order picking for operators," says Faivre.

FPT Industrial decided to automate its logistics processes to ensure just-in-time

(JIT) supplies to the production lines. With the automated storage and conveyance systems, the assembly lines always have the components they need, avoiding interruptions and delays in manufacturing processes. To achieve this, the company sought the cooperation of Mecalux. "They listened to and understood our requirements, and they offered us an advanced solution at a competitive price," says Faivre.

Advantages of automated logistics processes

Mecalux equipped FPT Industrial's centre with an automated storage and retrieval system (AS/RS) for boxes, which houses all the components used to manufacture engines. Two pick stations have been set up on one end of the AS/RS. There, operators automatically receive the goods they need to fill the orders.

When the items leave the AS/RS, most are transported to the order fulfilment and kitting areas, while the others are moved to the assembly lines by automated guided vehicles (AGVs).

Thanks to the new AS/RS for boxes, the company has reduced the movements of both operators and products. "The stacker cranes and box conveyors run continuously 24/7 to ensure non-stop inflows and outflows of goods," says Faivre.

In the beginning, FPT Industrial's AS/RS for boxes was made up of a single aisle. Re-

cently, the company installed an additional aisle, doubling the throughput and capacity of the AS/RS. In an area of just 460 m², the system now houses 28,500 boxes of three different sizes that hold components for manufacturing engines, thus increasing the storage capacity by 26%.

Easy WMS: product traceability

All AS/RS operations are fully automated. In each aisle, a stacker crane for boxes inserts and removes boxes from their locations as directed by the Easy WMS warehouse management system from Mecalux. Approximately 1,500 boxes enter and leave the AS/RS on a daily basis. FPT Industrial installed Easy WMS to monitor its goods in the AS/RS for boxes. "The software has become an essential tool for us because it updates inventory in real time and controls product traceability," says Faivre.

How does it do this? The software assigns a location to each product received based on its characteristics and turnover rate; thus, it knows its exact location in real time. At the same time, it organises and sorts dispatches in line with the FIFO (first in, first out) method.

JIT order picking

The main operation of FPT Industrial's logistics centre is order picking to supply the production lines just in time with the raw materials required. Through JIT, the raw material is supplied only when needed with the aim of keeping inventory levels down. The advantage of this method is that, by hav-





Malaurie Faivre
Logistics Manager,
FPT Industrial



“The AS/RS for boxes from Mecalux meets all our logistics needs: it leverages the available surface area to accommodate the largest possible number of products. In addition, now that we’ve automated our processes, we can supply the production lines with raw materials at the right time. The Easy WMS management software monitors the goods in real time, so we know the status of our inventory instantly.”

ing minimal stock levels, FPT Industrial reduces the risk of inventory obsolescence. Likewise, thanks to JIT, the company has a greater capacity to react to unforeseen changes in production processes.

Inefficient operations would jeopardise the rest of FPT Industrial’s supply chain. Therefore, and to prepare a larger number of daily orders, the business is very strict when it comes to the organisation and distribution of its goods.

“Our priority is to cut delivery times to the assembly lines, and we know this means we have to minimise product handling,” says Faivre. Orders are prepared according to the goods-to-person strategy, whereby the automatic handling equipment — i.e., conveyors and stacker cranes — systematically brings the items to the operators putting together the orders.

Two pick stations have been set up at the front of the AS/RS. Operators remain there as the goods are moved to them automatically by stacker cranes and conveyors, based on orders sent by Easy WMS.

The software directs this operation, indicating the items and quantities needed to complete each order, so that workers can prepare a higher number of orders in less time. “By following instructions from Easy WMS, the risk of operators making mistakes is practically non-existent,” says Faivre.

Commitment to automation

FPT Industrial has benefited from automated logistics operations connected to its manufacturing processes. Thanks to the automatic handling equipment, components are moved to the production lines swiftly and safely. With the Easy WMS warehouse management software, the company can control the traceability of its materials.

“This is the first time we’ve installed an automated storage system. Given the performance we’ve seen, and to optimise our warehouse efficiency, we’re considering the possibility of automating more of our logistics processes. This would enable us to facilitate future integrations of our products by 2024,” says Faivre.

