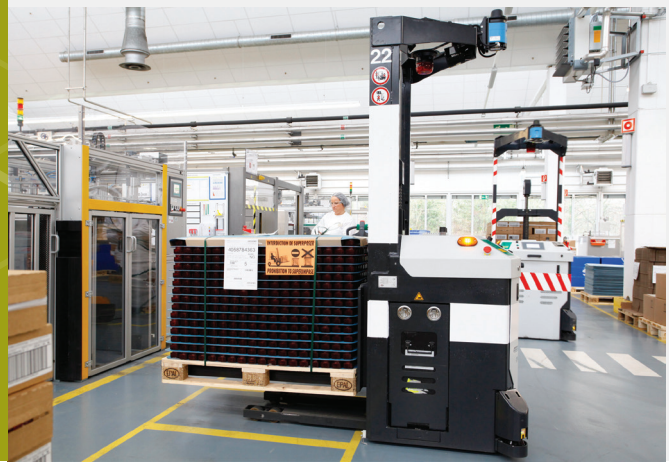
DEMATIC

CASE STUDY

14 Dematic AGVs optimise production logistics at L'Oréal Karlsruhe



L'Oréal

Karlsruhe, Germany

Think global, act local. That is the production strategy of L'Oréal, the famous multinational with numerous sites in Europe and beyond. For Dematic this producer of cosmetics and personal care products is a very important customer. Dematic has automated the internal logistics at six production sites of L'Oréal in Europe and the United States with all together about one hundred automated guided vehicles (AGV). One of these sites is L'Oréal's German plant in Karlsruhe where some 350 people work and 240 million products leave the factory every year. Fourteen vehicles work in production there very day. They supply packaging materials to the production lines for all kinds of skin care products for face and body, sun lotion, conditioners, hair masks and more.

AUTOMATED INTERNAL LOGISTICS

All of Dematics's projects at L'Oréal are based on a similar concept: AGVs transport packaging materials such as jars, bottles, flasks, boxes, as well as lids, caps and labels from the warehouse shelves at the back of the building to the filling lines. After filling, the finished products are collected in boxes and then stacked on pallets by a robot. As soon as a pallet with finished products is ready at the end of the filling line, the AGV will travel to the pick location and transport the pallet to the wrapping line. It is then ready for transport to one of the many distribution centres in neighbouring countries, or a distribution centre nearby for products for the German market.

Dematic started with AGVs for the plant in Soprocos (France) and almost simultaneously automated the factories in Libramont (Belgium) and Karlsruhe. Dematics's AGV vehicles are also used in the production sites in Vichy (France), Florence (USA) and Settimo (Italy), which, among other things, produces

"Because of the automation we now have a much more regular transport flow. It also ensures that the warehouse where packaging materials are stored looks a lot neater."

Markus Moch
Project Manager at L'Oréal Karlsruhe

Fructis shampoo. The AGV also take care of the transport to the warehouse there. The automated reach trucks in Vichy even take care of the storage process themselves in the automated warehouse.

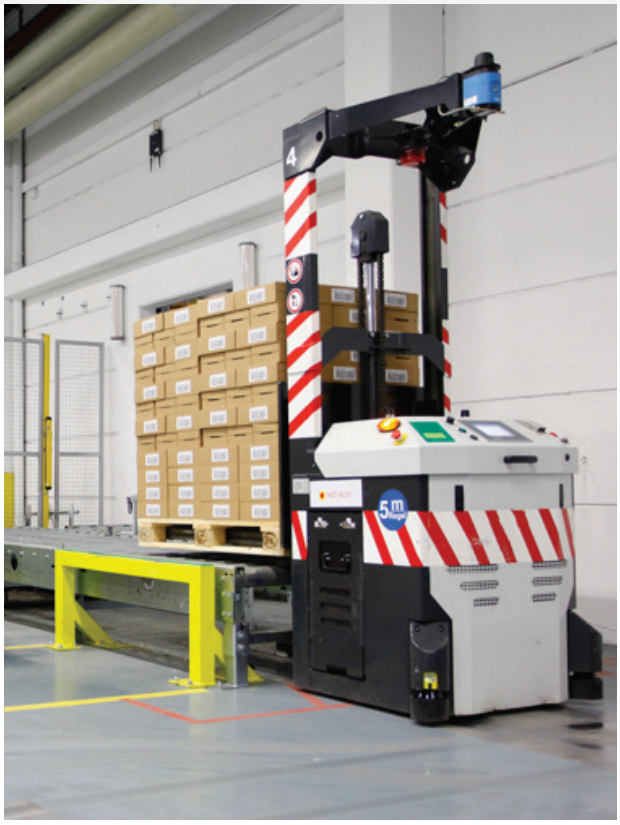
FOURTEEN VEHICLES

“In 2012 we ordered ten AGVs from the FLV2410/NL series,” says Markus Moch, project manager at L’Oréal Karlsruhe. “They can lift loads up to one tonne 2.4 metres high and are equipped with a laser scanner. This scanner detects reflectors installed across the building to allow the vehicle to navigate and manoeuvre accurately. The system is linked to access points suspended on the walls. This allows the vehicles to communicate with each other via wireless LAN. Meanwhile, we have moved a number of production lines between the plants in Libramont, Soprocos and Karlsruhe, the so-called Jupiter project. We therefore ordered two more, slightly heavier AGVs. These are heavy load AGV vehicles of the FLV0712/NL type, which can lift up to 1,200 kilograms.”

In comparison with the other AGVs they have the additional task of transporting the large and heavy IBCs (Intermediate Bulk Containers). These are filled with liquids and must be transported from the kitchen to the filling line. Another two vehicles of this type are currently in production at Dematic, so L’Oréal Karlsruhe will soon have fourteen Dematic vehicles in use.

“One of the great advantages of this installation is the general standardisation”

Markus Moch
Projektleiter von L’Oréal Karlsruhe



SAFER AND PLEASANT WORKING CONDITIONS

“One of the great advantages of this installation is the general standardisation,” says Markus Moch. To avoid accidents, the AGV always follow the same route which is clearly marked, and never operate outside the programmed zones. Moreover, they automatically stop when obstacles are detected or when people would walk into their operating range.”

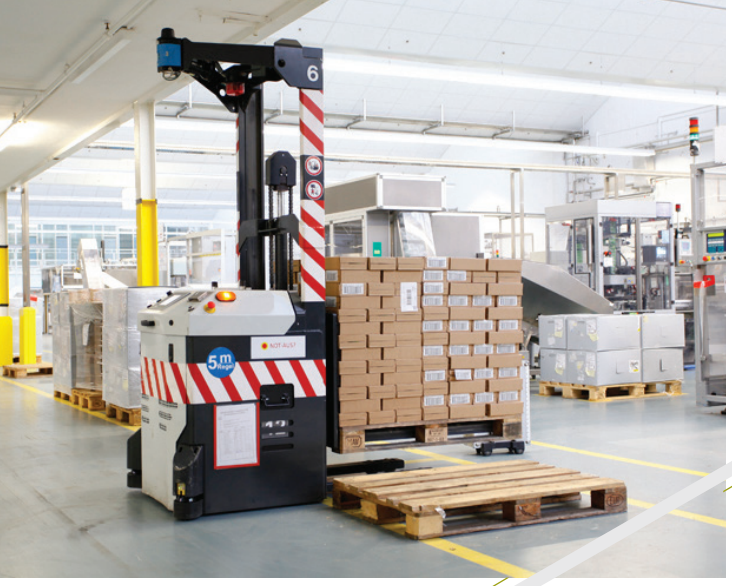
The work is also more enjoyable for the operators working on the production line. Before, they always had to call a colleague to take a pallet with packaging materials to the production line or to fetch a finished product. Today, they use a computer screen to call an AGV to come to the production line using. In no time the AGV will travel to the production line in to perform the requested task.

MULTI-DEPLOYABLE

The production staff can also give other assignments to the AGVs: arrange removal of packaging materials that are no longer needed, transfer of empty pallets to the line or pick up cardboard that can still be reused. Before, four people per shift worked on these tasks. Today these are performed by fourteen AGVs, but as we work in three shifts, the one-on-one comparison holds true.

TECHNICAL DATA

- **Dematic AGV concept: Production logistics**
  10 x FLV2410/NL
  - Lifting height: 2400 mm
  - Load: 1,000 kg
  - Load: pallets
- **4 x FLV0712/NL**
  - Lifting height: 700 mm
  - Load: 1,200 kg
  - Load: pallets + IBCs
- **E‘tricc® Software**



The AGVs are not necessarily faster, but they perform the tasks smoother and safer. On average an AGV takes about eight minutes to transport a pallet with packaging materials from the warehouse to the production line.

L'Oréal is continuously optimising the transport schedules though.This is possible because of the flexibility of Dematic's AGV software, confirms Markus Moch. "In this project, Dematic's E'tricc® software must definitely be mentioned. The system runs very reliable, stable and is also very flexible: I can very easily customise it according to what we need. The software is also very easy to use, we can fine-tune the program effortlessly and do not depend on Dematic for this. We highly value this independence. But if we have questions, we can of course ask them and we are helped quickly."

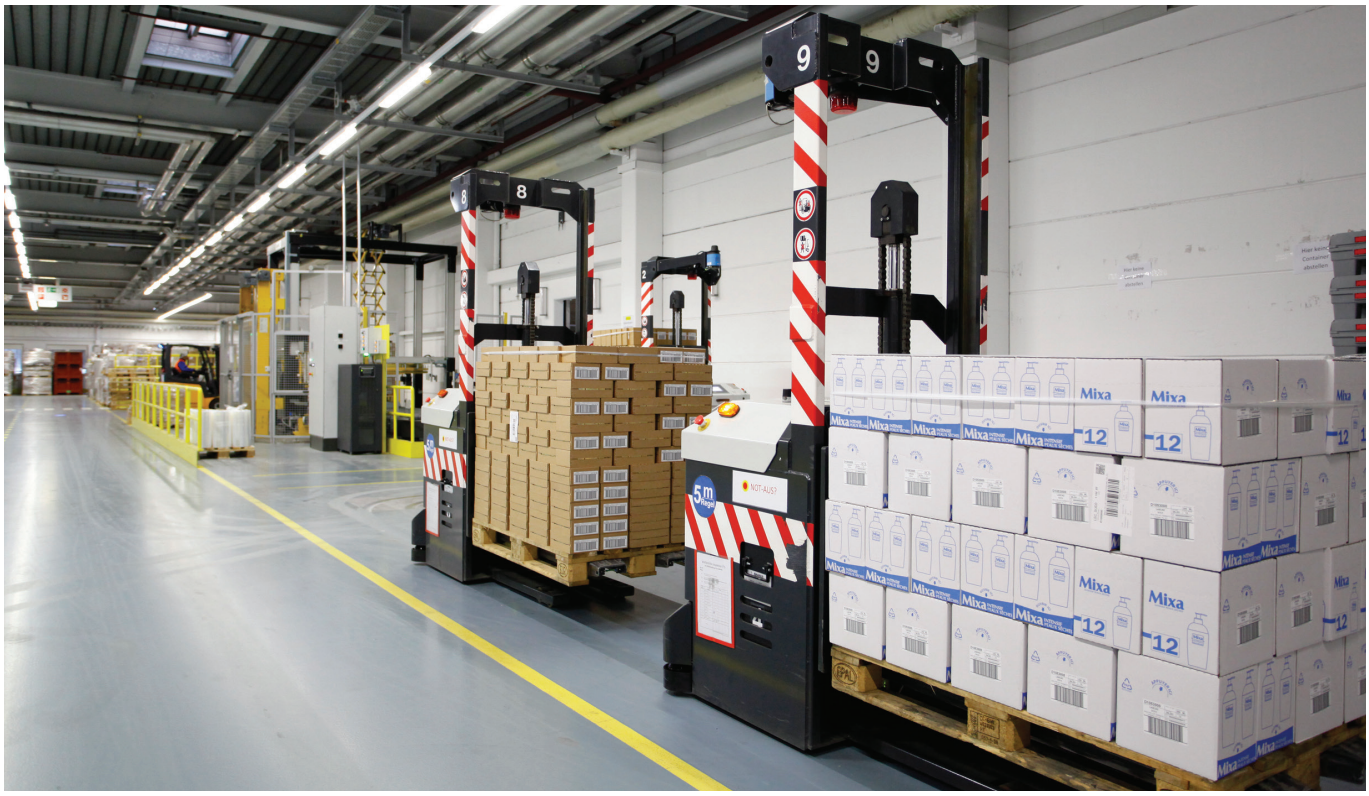
LESSONS LEARNED

When asked what he would do differently, Markus Moch answers: "I would no longer have two floors for the racks where the packaging materials are stacked, because it requires more time to retrieve the pallets. I would also organise the location of the racks differently.

Moreover, the width of the tracks is a bit too narrow, the AGVs would go faster if the aisles were wider. Finally, it is very important to immediately involve a layout engineer in the process. This will avoid misunderstandings about what is possible and what not. Whether it concerns hanging up reflectors or installing safety sensors and zones."

FUTURE PLANS

In the near future, L'Oréal Karlsruhe will also use the AGVs in its factory to transport the raw materials from the weighing stations to the production hall. After all, the transport distances between both locations are way too long for manual handling. The AGVs will also take care of the transport of waste from production to the waste collection zone.



THE FLOW AT L'ORÉAL KARLSRUHE

The material flow at L'Oréal Karlsruhe is as follows:

- Packaging materials on a pallet such as jars, bottles, flasks, boxes, lids, caps and labels are placed in the manual packing warehouse by a fork lift operator.
- L'Oréal's ERP software sends a command to the E'tricc® software. This order contains the pallet ID and the source and destination location.
- The E'tricc® software sends the most suitable AGV to the warehouse location to pick the pallet (floor or rack location).
- The AGV takes the pallet to the correct production line and the corresponding destination location.
- If not all packaging materials have been used, the pallet will be returned to the packaging warehouse.
- Pallets with finished products are taken to the wrapping line by the most suitable AGV and delivered to the conveyor.

CUSTOMER BENEFITS

- **Standardization enables more consistent flow**
- **Greater security for employees**
- **AGV take over unproductive tasks**
- **Flexible software solution allows easy adaptation of processes**

ABOUT L`ORÉAL

The L'Oréal Group is a French stock-listed company that is active in cosmetics and beauty care. L'Oréal has development activities in the field of cosmetics, with a focus on hair colour, skin care, sun protection, makeup, perfume and eau de toilette and hair care. It is headquartered in Clichy, France. L'Oréal has production facilities in Europe, USA and Asia. L'Oréal employs 1,100 people in Belgium, mainly in the production plant in Libramont, by far the largest of the group.

Power the Future of Commerce.

If you are interested in learning more about this topic and how we can help, please contact us.

Dematic.com **+49 69 583025-0**

DEMATIC

Order-No. EU_CS-1055-EN | 12/22