

Planmeca, Finland



Planmeca is one of the world's leading dental equipment manufacturers. The Finnish high-tech company has now been using Rocla's automated guided vehicles (AGVs) in their Helsinki warehouse for six years with success. The AGV system consists of two VNA AGVs supported by the Rocla MetRo warehouse management system (WMS). Rocla has tailored the AGVs to meet Planmeca's needs, for example by applying advanced mast technology. The vehicles are equipped with design covers supporting Planmeca's brand identity.

The Planmeca warehouse in which the AGVs operate shares the same space with the tooling and painting units. The environment is quite challenging. The aisles between the shelves are narrow and shelves are quite tall – the maximum lift height is 10 meters. The warehouse has 1800 pallet places and Planmeca uses a number of different pallet types and sizes. "When the AGVs pick up the incoming pallets from the conveyor the system already has information about the size of the pallet, the weight of the product, the FIFO date, and it also knows how many units are on the pallet. Based on this information the system makes a decision about the optimal shelf space allocation", explains Development Engineer Teemu Silander at Planmeca Oy.

Intelligent warehouse management

Planmeca uses Rocla's MetRo warehouse management system to control, monitor and optimize the movement and storage of the materials within the warehouse and production. Job orders to the AGVs are sent from the MetRo workstations wirelessly. Metro works seamlessly with our ERP system and it is easy to check the stock balance as we have two systems to compare, says Silander.

On a busy day the AGVs are moving between the conveyor, shelves and the tooling and painting units almost all the time. "They usually move the pallets about 50–70 times a day. The MetRo WMS automatically allocates the jobs for the AGVs, but of course the system also allows the priority of the jobs to be manually altered if needed", says Silander.

Several benefits

Both Teemu Silander and Tomi Mikkola, see that the AGV system has brought several benefits for the company. When people working at the tooling and painting units feed an order into the MetRo system, it hands the job out to one of the AGVs. The AGV then picks up the pallet from the shelf and delivers the materials to the processing unit in a few minutes – no need to call around to get a forklift driver to do the work, Silander says with a smile on his face. The AGV system is easy to operate and it does not require a lot of maintenance. Batteries need to be topped up with water regularly – in addition to that you only have to wipe the dust off every now and then. Rocla does a scheduled on-site maintenance visit three times a year, and that's all, explains Silander.

"The main reasons for the AGV investment at Planmeca were lower staff costs and improvements in logistics efficiency. There has been a significant reduction in both stock count discrepancies and lost units. The payback time has been closer to two than three years".

Tomi Mikkola, Production and Purchasing Manager, Planmeca



Bring, Norway



Bring Logistics, a leading third-party logistics provider in the Nordic region, uses Rocla's automation solution in their warehouse in Berger, near Oslo. Nine Rocla VNA AGVs handle the pallets in the very narrow-aisled racking area.

The 32,000-square-metre, highly automated Skedsmo Logistic Center opened in the spring of 2010. Nine Rocla VNA units, automated guided vehicles designed for facilities with narrow aisles, handle the pallets in the very narrow-aisled racking area. Automating such processes in the warehouse increases safety and reduces the operation costs.

The racking area where the vehicles operate contains, in total, 81,200 pallet places, extending to a height of 10.65 metres. The automated trucks pick up and leave their loads at a conveyor when transporting pallets into and out of the racking area. The transport capacity is 173 pallets an hour, with a maximum lifting capacity of 1,000 kg per pallet.

Safe load handling

Using Rocla AGVs in VNA warehouses minimises the risk of incorrect load handling. These AGVs handle the loads in the same way every time, and the risk of pallets falling is very low. Automation also reduces the need for personnel working in the same area, which limits the risk of a serious incident. The temperature in the Bring Logistics racking area is lower and there is less light than in a traditional warehouse with human-operated VNA trucks, factors that reduce energy consumption.

Rocla's automated guided vehicles use multi-method navigation in the Bring Logistics warehouse: laser navigation in the master aisle and inductive wire navigation in the narrow aisles. The AGVs are equipped with triplex masts and sideways telescopic forks as used in Rocla's manual narrow-aisle truck. Thanks to Rocla's modular design and use of standard components, the delivery time was shorter than in traditional automation projects. The time to return on investment in three-shift operation is less than two years.



"Automating pallet handling was a more cost-efficient solution than using a manual solution. We chose Rocla because Rocla was able to offer a proven technology concept to fit our demands related to safety and function." **Geir Nielsen**, Logistics Director, Bring Logistics

