

Warehouse Automation: Are Your Shelves Robot Friendly?



With the limit on the human capacity for picking and other operations reached, as well as that for machinery assisted activities, a new solution was needed. As a result of this need, most modern warehouses and supply chains are rapidly moving towards robotic automation.

AMRs (short for Autonomous Mobile Robots) are now being widely employed by major e-Commerce companies and traditional retailers. They are instrumental in reducing labor costs while dramatically improving the efficiency of warehouse operations.

In order to introduce AMRs to a warehouse, however, it is essential that the [metal storage shelves](#) and other industrial storage solutions used there be robot friendly. But for the moment, and for the span of this article, we would like to focus on the several most prominent robotic solutions employed today.

Transportation AMRs

Most transportation robots employ the tech of self-driving cars as their base and add other functions such as picking arms to further their efficiency. Those can be used in two primary ways:

1. Robots that pick items from industrial shelving systems and carry them to pick up stations. There they will be handled by human crews or other types of robots as part of the warehouse's modernized industrial storage solutions.
2. Robots that move entire metal storage shelves to pickers, also saving human travel across the warehouse floor. Needless to say, this requires industrial shelving systems specifically adapted to this need.

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Automated Picking Vehicles

A variation of the former method, this is also a self-driving vehicle but it is not fully autonomous. It does not pick the products from the shelves but rather follow the human employee that picks the products into the cart. This saves multiple back and forth trips by the employee who can now focus on picking and has the carry weight transferred to an automaton. This solution works just as well with traditional metal storage shelves provided that there is sufficient aisle space for the automated picking cart to travel through.

Autonomous Lift Vehicles

This solution does indeed require an adapted industrial shelving system due to the need to employ vision guidance for the vehicle's AI. Once implemented, it can take on full pallet operations for entire warehouses, eliminating the need for professional human forklift operators. This improvement can dramatically reduce the labour costs in high traffic distribution center areas where pallets put away and replenishment is often performed.

Those are of course just a few of the emerging solutions for warehouse automation. There are a lot more and many more to come as the world slowly but surely moves in this direction.

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