

How Robots are Upgrading the Supply Chain Industry?

Warehouse robots and AI-powered systems are enabling distribution centres to meet the demands of quick and accurate delivery.

When an order is placed online today – whether it's for a new pair of shoes to be delivered to your doorstep, or inventory for your real-world store – a faster-than-ever delivery is expected.

In order to fulfil such demand, the team at distribution centre has to move merchandise out quickly and efficiently than ever.

Companies with [warehouses](#) are increasingly looking to innovations like robotics and systems powered by artificial intelligence and machine learning. It is also partly due to a changing and aging workforce and changing customer demands.

In a 2021 survey of 50 retailers conducted by the Retail Industry Leaders Association and McKinsey & Company, 80% of respondents said they plan to concentrate their 2022 supply chain spending on addressing e-commerce fulfilment. Another 64% of retailers surveyed said that automating warehouse roles was a priority.

Here's a look at some of the latest innovations in automation revolutionizing the supply chain industry.

Mobile robots that can sense their surroundings

One of the fastest-growing automation solutions for distribution centres happens to be one of the smallest in size.

Enter autonomous mobile robots – AMRs for short – which can be set up and learn their surroundings in short amounts of time, often in just a few hours. These robots navigate on their own and can respond to changes without human intervention. For example, the robot can detect if their original path in a [warehouse](#) is blocked it will find another route on its own.

In distribution centres, AMRs can be used to move pallets or carts through the space. The picking times can be reduced by nearly 50% when mobile robots take over transport tasks alone.

Robots that handle labour-intensive tasks

The loading and unloading pallets of goods in one of the most repetitive, injury-prone tasks in distribution centres. Robots can perform these tasks and free your employees from the risk.

An example is the smart flexible depalletizer, a robot that uses computer vision, machine learning, artificial intelligence and gripping technology to load and unload pallets automatically and without any pre-programming.

AI-powered solutions

Traditionally, workers in e-commerce distribution centres hand-pick and return inventory. The future is [automated](#) storage and retrieval systems based on artificial intelligence (AI) and machine learning algorithms. It will achieve accurate orders without any manual intervention. Compared to manual picking methods, the automated storage and retrieval systems can deliver a 30% - 40% increase in throughput.

From warehouses to storefronts, retail companies are using technology to upgrade every aspect of the shopping experience.