



## SUPPLY CHAIN INSIGHTS

# ROBOT PICKERS THAT LET THE HUMANS ADD VALUE

One of the most strenuous and time-consuming tasks in a warehouse is the seemingly simple process of order picking. But collaborative warehouse robots that improve productivity and safety – while working alongside humans – are changing that. Find out more.

**DHL Supply Chain – Excellence. Simply delivered.**

We all know how fast and easy it is to shop online. In today's hyper connected world, in just a few clicks we can order almost anything to be delivered almost anywhere. But of course that's the easy part. Behind the scenes, a complex supply chain is set in motion as soon as we click that 'Buy' button. And one of the starting points is the picking process in the warehouse.

While you start to await delivery of your purchase, order pickers push heavy carts up and down the aisles, locating your purchases and ferrying them to the packing station, where they are prepped for shipment. Or at least, that has long been the traditional process. Nowadays though, it's quite possible that your order is being picked by a warehouse robot working in close collaboration with a human picker.

### Picking to meet today's customer demands

The rise of e-commerce has increased pressure on traditional supply chain setups for several years already. And the global pandemic has only accelerated this trend. That's meant the labor-intensive picking process in e-fulfillment has played an even bigger, more critical role in meeting customers' increasingly high demands of having every product available for instant delivery at no cost. In turn, that has sped up the demand, development and introduction of new digital technologies and automation in various industries, but especially in warehousing.

This adoption has been made even more urgent by a double whammy of circumstances. As people sheltered at home and as retail stores closed during the height of the pandemic, we saw a dramatic increase in e-commerce shipments. But at the same time, the supply of labor to handle these volumes got

scarcer and scarcer – also because staff became sick or needed to self-isolate. Collaborative robots have helped to effectively automate facilities and meet the sudden spike in demand.

For humans, order picking is a time-consuming and physically challenging process. Other new digital technologies are already helping to streamline specific steps, but collaborative assisted picking robots truly change the game here by taking over the most repetitive, labor intensive and non-value adding activities – such as autonomously shuttling picking carts through warehouse aisles and onwards to the packing area. Assisted picking robots display images of goods to be picked, calculate optimal navigation routes and reduce required training time. They increase picking efficiency and free up human resources so that humans can do more value-adding work.

### Tipping point in robotics

A conjunction of factors have meant that advanced robotics technologies are increasingly commonplace: lower costs, improved capabilities, and the availability of products tailored to the unique needs of the logistics industry. Innovations such as autonomous driving technologies for both indoor and outdoor mobile assets, and new flexible picking and manipulation systems have also helped robotics to reach a tipping point. Robots are becoming easier to integrate, powered by machine learning and powerful sensors that allow them to adapt rapidly to changing environments and work safely alongside logistics teams.

No surprise then that autonomous mobile robots (AMRs) are being adopted on a massive scale by logistics companies. Operating safely alongside human workers, AMRs can substantially improve



productivity and are also being widely deployed to clean facility floors, conduct inventory counts or carry out property mapping and surveilling.

### **Collaboration is key**

Robotics is a key focus for the DPDHL Group as we work to transform logistics through our digitalization agenda.

In line with our Strategy 2025 goal of delivering excellence in a digital world, we are investing over €2 billion on digital transformation projects from 2021 to 2025 to improve the experience of customers and employees, while also increasing operational excellence.

Tim Tetzlaff, Global Head of Accelerated Digitalization at DHL, explains the advantages of collaborative robots: “The key thing about collaborative robotics is that they don’t replace human beings – we’re not talking about humanoid robots that first dance, then do backflips and then drive a forklift. What we focus on is optimally complementing the unique skills of our human workforce – while using the advancing capabilities of robot to take over repetitive, labor-intensive tasks. Collaborative robots are about working with a human being. You can think of them as like a shopping trolley that autonomously moves through the aisles. They reduce the amount of time that a human picker needs to walk around the warehouse and maximize the amount of time spent on value-adding such as actually picking the specific order items.”

### **Expanded collaboration with Locus Robotics**

At DHL Supply Chain more than 700 assisted picking robots are currently in use at our warehouses in the US, Europe, and the UK and we have recently expanded our collaboration with robotics specialists Locus Robotics, to increase our supply of automated warehouse robots to 2,000 by 2022.

Markus Voss, Global CIO & COO DHL Supply Chain says: “It is particularly important for us to be able to consistently optimize our supply chains – assisted picking robots are very

effective in this respect. The collaborative picking technology has clearly proven its effectiveness and reliability in modern warehousing. More locations have already been identified with concrete implementation roadmaps for the remaining robots, which we will deploy in 2022. However, the overall potential for assisted picking robots in our DHL warehouses is much bigger, so we are confident that we will meet the targets we have set ourselves together with Locus Robotics.”

Implementing these robots is one step in our Accelerated Digitalization Strategy. They can be swiftly integrated into the warehouse IT system landscape via our re-usable integration layer – the DHL Robotics Hub – and are well received by staff. In addition, during peak operational periods they provide an optimal solution for capacity expansion as we can swiftly bring in more robots with minimal onboarding effort to the existing fleet.

As the rise of e-commerce shows no sign of slowing down, bear in mind the next time an online order arrives on your doorstep, that it may very well have been brought to you by a combination of human ingenuity and robotic efficiency.

