ABI Research Forecasts Revenues from Robotics Deployed in Warehouses to Cross $51B by 2030

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Evolving e-commerce fulfillment operations and technical improvements in robotics tech and AI are rapidly growing the commercial robotics market

The warehousing industry has ramped up its automation efforts considering the increased order volume and labor shortages fueled by the pandemic. In addition to technology solutions such as Augmented Reality (AR) powered smart glasses and handheld devices with enhanced capabilities, autonomous, collaborative, and mobile robots are proving to be the most popular and fastest-growing productivity-enhancing solution in the warehouse workspace. According to ABI Research, worldwide commercial robot revenue in warehouses will have a Compounded Annual Growth Rate (CAGR) of over 23% from 2021 to 2030 and exceed US$51 billion by 2030.

“Mobile robots are at the heart of the warehouse robotics market and account for most shipments and revenue. These robots, made up of Autonomous Guided Vehicles (AGVs) and Autonomous Mobile Robots (AMRs), are being used to move goods within the warehouse and being integrated within wider automated or manual workflows,” states Adhish Luitel, Industry Analyst, Supply Chain Management and Logistics at ABI Research.

Commercially speaking in the warehouse sector, robotics has moved from the early exploration phase to a more mature market in which early adopters are benefitting from live implementations of fully capable technical solutions. As a sign of the growing maturity of the market, a wide number of vendors such as Advantech, Brochesia, Kontakt.io, and RightHand Robotics now offer compelling products and solutions. The surrounding ecosystem of software vendors and systems integrators is also maturing, as software and integration capabilities become increasingly important factors for commercial differentiation. ABI Research has assessed fulfillment and warehousing processes of dominant operators such as Penske, A. Duie Pyle, Amazon, and JD.com to evaluate the efficacy of deploying solutions and friction points that might arise. These companies have been reaping the benefits of enhanced key performance metrics such as shorter dock-to-stock cycles and improved inventory accuracy thanks to successful deployment of various automation and vision-based solutions in their day-to-day operations.

Christian Salvatori, CTO of Brochesia said, "The goods management and handling processes automation today represents a crucial strategic choice to increase the companies’ competitiveness in the logistics sector and not only that. Through the implementation of smart technologies and innovative software - such as B Take, Brochesia solution for logistics support and the optimization of goods management - companies can accelerate the picking, feeding and inventory activities of their warehouses, and improve the overall efficiency reducing the operating costs. Furthermore, the adoption of wearable devices such as Smart Glasses can be a game-changer in this sector: the possibility of viewing in real time all the information about the products in the warehouse, while working hands-free, can give significant benefits in terms of efficiency and speed of execution, as well as reduce the chance of errors and increase the workers’ safety."

Xi Chen, VP, Operations with Geekplus America commented, “Advanced robotics and AI technologies enhance not just business operations, but customer and employee experiences. Order accuracy is increased, goods are delivered faster, workspaces are safer and less labor intensive, and warehouse operational costs are reduced. As these experiences and the resulting expectations continue to rise, so will the businesses that adapt and integrate the ever-evolving hardware and software solutions to meet unprecedented levels of demand with

augmented technology."

"In addition to robots, warehouse operators should be seeking to combine the value of multiple solutions across the fulfillment workflow to achieve desired results. There is also a need for operators to look beyond productivity and assess how technologies affect worker satisfaction and safety, worker comfort, energy consumption, distance traveled, and error rates," Luitel explains.

For example, "Pick-by-vision" solutions from augmented reality vendors such as Picavi demand a mere 15-minute training time and can boast up to 30% efficiency gains and up to 60% in time savings for training. In addition, order storage and automated order dispenser solutions from Alert Innovation help grocery retailers enhance their Return on Investment (ROI) by over 50% versus traditional automated picking systems.

"We can also expect intelligent automation solutions to influence processes across the supply chain. In the future, operators will be venturing further into solutions like Robotic Process Automation (RPA) and mobile warehousing," Luitel concludes.

Bob Bova, President and CEO of AccuSpeechMobile noted, " Many technologies including voice automation, robotics and voice/vision solutions will be advanced specifically due to their ability to automate workflow processes in the warehouse. With the increased challenge of finding workers, organizations are ready to test and deploy solutions that will assist in Robotic Process Automation, train new workers quickly while delivering an ROI that makes sense for the organization. AccuSpeechMobile is the voice/vision automation solution that checks all those boxes."