



PARTNER WITH ZEBRA TECHNOLOGIES FOR ROBOTICS AND AUTOMATION.

A GROWTH AREA FOR OEMS. THE FUTURE IS NOW.

Today's supply chain is complex and leaders are now seeking new ways to improve visibility and productivity by increasing digitization. Technology is making significant advances and operators must keep pace. It's not just today they need to consider; they must also create a solid platform to place them in a strong strategic position for many years to come.

The future of warehousing

Robotics and automation have come a long way in recent decades. From the initial creation of robotics for manufacturing in the 1950s – a robotic arm device that transported die castings in a General Motors plant – to today's standpoint, where we can now clearly see that the future of warehousing is in robotics and automation. The following statistics back up this prediction.

- The growth of artificial intelligence could create 58 million net new jobs by 2022 according to a report from the World Economic Forum (WEF)¹.
- McKinsey & Co forecasts that AI could contribute an additional 1.2% to gross domestic product growth (GDP) for the next decade and help capture an additional 20-25% in net economic benefits (equating to \$13 trillion globally) in the next 12 years².
- According to Zebra's 2024 Warehousing Vision Study, 61% of warehouse operators say they will augment people with technologies, and more than three-quarters (77%)³ of decision makers agree they need to modernize operations across the warehouse to remain competitive in the on-demand economy.

¹<https://www.forbes.com/sites/amitchowdhry/2018/09/18/artificial-intelligence-to-create-58-million-new-jobs-by-2022-says-report/?sh=606f46ac4d4b>

²<https://venturebeat.com/2019/06/07/ai-weekly-amazons-robots-could-cut-delivery-times-but-eliminate-jobs/>

³https://www.zebra.com/content/dam/zebra_new_io/en-us/solutions-verticals/vertical-solutions/warehouse-management/vision-study/2024/warehouse-vision-study-en-us.pdf

It was once acceptable for a picker to spend 60 percent of the time travelling and 40 percent of the time picking. However, distribution executives are increasingly looking for more efficient solutions to minimize wasted time between picks and increase the number of orders processed per person. That's why many are embracing a goods-to-person (G2P) fulfillment approach using advanced technology for inventory storage and movement⁴.

Cross-sector benefits

Evidently, robotics and automation are now significant driving forces behind the future success of warehousing. Other sectors are also beginning to experience the transformational benefits associated with robotics. From always-counting inventory robots in retail to disinfecting robots in offices, and from medicine delivery robots to tracking blood samples in hospitals, the benefits of automation and robotics are gradually infiltrating across verticals.

The relationship between worker and robot

Three-quarters of respondents to Zebra's 2024 Warehousing Vision Study⁵ agree that an optimal operational balance in warehousing includes human interaction using either partial automation or worker augmentation. Contrary to some critics' beliefs, staff will remain essential to warehouse operations despite the introduction of robots. The relationship between worker and robot is collaborative rather than one or the other, enabling warehouse operators to reallocate the workforce and increase productivity across the facility. Robotics free up workers to work on other tasks, such as problem-solving to increase customer satisfaction, or upskilling for future promotions.

Assess customers on their digital journey

Find out about Zebra's [Warehouse Maturity model](#).

⁴[https://www.mhlnews.com/technology-automation/article/22048079/what-you-should-know-about-goodstoperson-fulfillment#:~:text=The%20goods%2Dto%2Dperson%20concept,\)%2C%20carouse%20or%20robotic%20systems](https://www.mhlnews.com/technology-automation/article/22048079/what-you-should-know-about-goodstoperson-fulfillment#:~:text=The%20goods%2Dto%2Dperson%20concept,)%2C%20carouse%20or%20robotic%20systems).

⁵https://www.zebra.com/content/dam/zebra_new_la/en-us/solutions-verticals/vertical-solutions/warehouse-management/vision-study/2024/warehouse-vision-study-en-us.pdf



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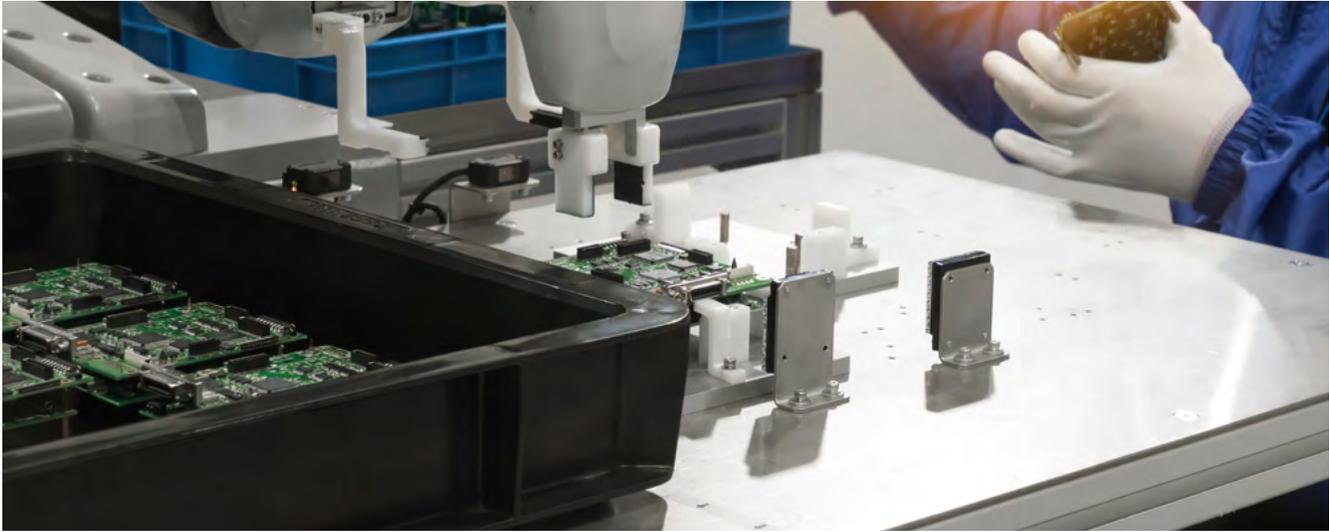


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Meet the robots

Robots can currently be split into five categories.

- **Automated Guided Vehicles (AGV)**
AGVs are now commonly found in factories and warehouses where repetitive movement of items is required. These vehicles follow a guide route and stop when there is an obstacle in the way. They have now been developed further to create Autonomous Mobile Robots (AMRs), with the ability to navigate around obstacles. These are now beginning to become more prevalent than AGVs.
- **Autonomous Mobile Robot (AMR)**
AMRs carry out the same tasks as AGVs yet they are easier to use, more affordable and more advanced. They can work side-by-side with people, increasing productivity through reducing the time it takes to fetch or move items. An AMR uses powerful sensors and on-board computers to understand its operating environment. It can navigate dynamically using a map, allowing it to plan its own paths, travel quickly and efficiently, and react to people, cars, forklifts, and more.
- **Cube Automated Storage & Retrieval Systems (cASRS)**
cASRS are usually storage facilities or 'hives' where robots move around to store and retrieve items for delivery to a pick/put station. They are popular in areas where high storage density is required.
- **Automated Storage and Retrieval System (ASRS)**
are high-performance solutions using shuttles/ robots to store and retrieve high volumes of loads goods from defined storage locations. Some ASRS can perform up to 1,400 bin presentations per hour⁶ and are used in a wide variety of industry sectors.
- **Piece Picking robots**
A piece picking robot picks goods from various goods to person (G2P) storage systems. Robotic piece-pickers are ideal where companies find it difficult to hire and retain warehouse staff or they need to improve the cost-efficiency of warehouse operations. They play a key role in improving the accuracy, timeliness and predictability of moving products into, through, and out of the warehouse.

⁶<https://www.styleintelligence.com/products/market-report-goods-to-person-ecommerce-fulfilment-robotics-2020>

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Zebra, robots and automation

As an OEM, you may be considering robotics and automation innovations to meet your customers' changing needs. Getting any new robotics products off the ground can be time-consuming and expensive and this is why OEMs partner with Zebra Technologies. We make it faster, more cost effective and easier to get your products to market, helping you meet your customers' needs before your competitors do. We are able to supply scan engines and technologies for multiple robotics and automation uses cases, including:

- Embedding scan engines and RFID readers into robotic arms for picking
- Adding mobile printers to robots to deliver labels to packers
- Heads-up display (HuD) integrations telling robots where to go and what to do
- The use of RFID and barcode labels for robot floor guidance
- Automated inventory using RFID on robots
- Using mobile computers as a robot controller or Human Machine Interface
- Data capture solutions for product induction purposes
- Software decode – a camera-based solution for scanning from a robot
- Locating and transporting materials of all shapes and sizes within warehouses, factories and distribution centers
- Scan engines for piece-picking robots designed for ecommerce order fulfillment Integrating mobile devices as part of a complete automation solution
- Gathering data frequently and accurately within industrial and commercial environments



Support your customers with robotics and automation

By enabling your customers to implement robotics and automation technologies, they will benefit from:

- The ability to scale up or reduce capacity to meet peaks and troughs in demand Increased productivity without increasing the payroll
- Technology that is quick and easy to implement and use - no training required
- Reduced repetitive tasks for human workers and reduced associated fatigue and injury
- Technology that can easily adapt to a constantly changing fulfillment center
- Reduced hardware costs and maintenance fees for an excellent return on investment
- Staff that are able to focus on more complex tasks or dedicate their time to customer services

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Why Zebra for OEM technologies?

Zebra is a proven, time-tested technology partner that has a long history of making businesses as smart and connected as the world we live in. Zebra commits to partnering with OEMs to deliver scan engines for your custom requirements. Imagine Zebra engineers working hand-in-hand with your engineering team to maximize the performance of your robotics or automation solution.

Our global presence and existing relationships also enable us to support you with making introductions to partners in this space, leveraging their knowledge, products and capabilities to help you succeed in this sector.

Extend your brand

Put your brand on Zebra Technologies white label products to extend your or your customers' brand image and drive consistency across a family of products.

Reduce costs

Our OEM customers have proven that by working with Zebra, their support costs reduce. This is because they deal with one family of products, a consistent interface and operational characteristics, versus each customer making a different decision on peripherals and coming back to the OEM for support when something goes wrong. A comprehensive OEM-based solution drives quality consistency, compared with ad hoc solutions that don't.

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Access to experts

During your robotics or automation phases, you have access to our subject matter experts in the manufacturing, and transport and logistics industries, with engineering, optical, mechanical, software or regulatory disciplines, to support every aspect of the development process.

Custom products

If there are any custom requirements, our engineers can perform requested enhancements. This is usually a fee-based service.

Support

Our OEM product support is second to none, in terms of our field pre-sales engineers, product documentation, and more.

Interested in finding out how we can support you with robotics and automation solutions?

Contact our team of specialists:

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