

Zebra
Robotics Automation™

Autonomous Mobile Robots Portfolio

Power Your Productivity With Order Fulfillment
and Transport Solutions



Flexible Automation for Distribution and Fulfillment Operations

Optimize Workflows and Adapt Quickly to Changing Needs

Your operations are evolving every day. Shouldn't your automation technology do the same? Versatile Zebra autonomous mobile robots (AMRs) and the Zebra Symmetry™ platform enable you to respond faster and adapt to ever-changing market conditions while delivering fast return on investment (ROI) and long-term growth.

Zebra AMR solutions support a wide variety of fulfillment workflows:

Order Fulfillment Solutions — Page 3

Drive down your cost per unit with up to **30% fewer robots** and a directed workflow for unparalleled picking efficiency.



Order Transport Solutions — Page 7

Significantly reduce unproductive walking and travel time by automating point-to-point transport.



The Zebra Symmetry Cloud Robotics Platform

Whether your operation is simple or highly complex, the Zebra Symmetry Cloud Robotics platform gives you control of your AMRs and optimizes the automation of your unique workflows. Designed specifically for dynamic distribution and fulfillment environments, this comprehensive suite of software and services integrates seamlessly into your existing systems.

Together, Symmetry and the Zebra AMR portfolio deliver a powerful combination of on-demand warehouse automation and next-generation data collection, backed by unified controls and scalable across your entire intralogistics ecosystem.



Quick and Easy Deployment

Leverage your current Wi-Fi network to get AMRs up and running in as little as a few hours. Secure, cloud-based Symmetry software eliminates the need to set up and maintain on-site servers and can be configured to your unique requirements without complex programming.



Easy to Use

An intuitive user interface allows you to manage and monitor your fleet with drag-and-drop simplicity.



Cloud-Based Software

Symmetry's cloud-based platform is accessible from anywhere with an internet connection, making it flexible, scalable and cost-effective.

Order Fulfillment With Zebra Symmetry

Fewer Robots. Faster Profits.

The Zebra Symmetry Fulfillment ecosystem was created specifically to help you realize the full potential of AMR-assisted picking.

A threefold strategy enables workers to pick more items in less time while reducing robot fleet sizes:



Utilization Balance

Achieve more cost-effective accumulation by buffering with inexpensive carts, instead of additional robots or labor.



More Cubic Capacity

Carts boost pick density, reducing your robot count while handling up to 300% more capacity.



Optimized Pick Paths

Workers and robots always have orchestrated work assignments. There's never a robot without a picker or a picker without a robot.

Cart buffering enables you to achieve the same throughput with up to 30% fewer robots compared to AMR solutions with integrated payloads.

Pick More Items in Less Time With Team Intelligence

The Team Intelligence methodology, exclusive to Zebra Robotics Automation, enables workers to pick more items in less time by coordinating each picker with a team of robots in a precise, directed workflow. This innovative approach improves throughput, reduces cost per unit, and empowers operational decision-making.

Team Intelligence is designed to improve AMR-assisted picking in three ways:

- Increase pick density by optimizing pick paths
- Eliminate the time pickers waste trying to find the right robot
- Minimize the time robots spend waiting for pickers to find them



In the Right Place at the Right Time

Team Intelligence precisely directs each picker on an optimized path. Teams of AMRs “leapfrog” to ideal locations ahead of human workers, allowing more items to be picked in less time.

Unleash Optimization With a Fully Directed Workflow

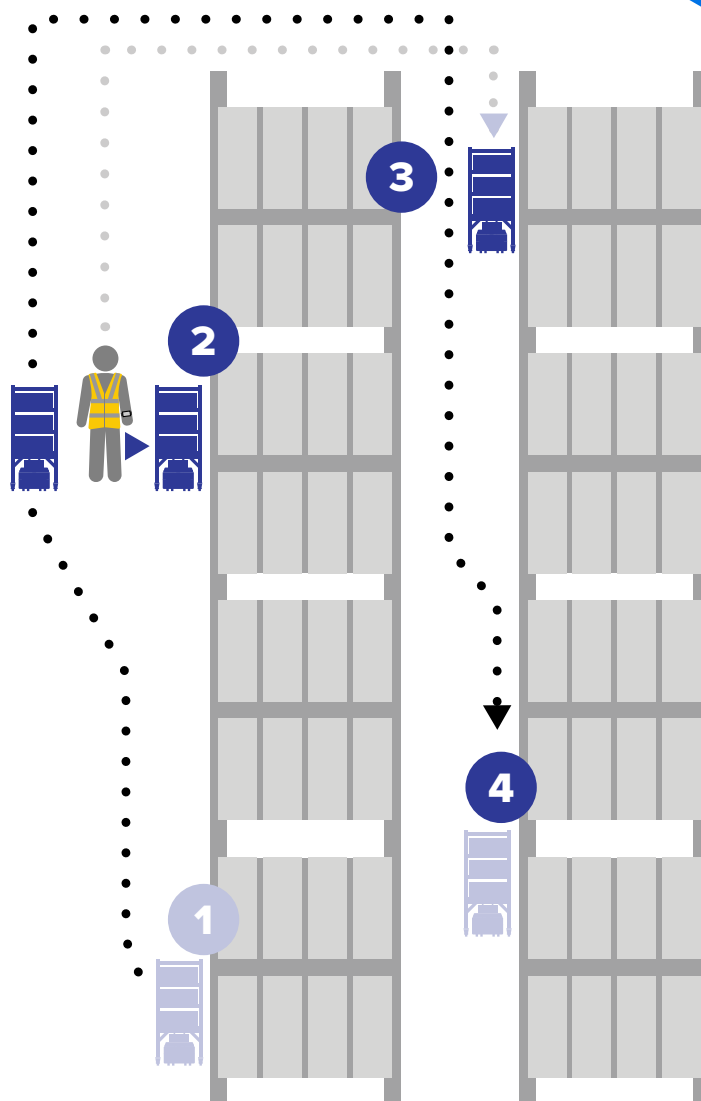
In a typical AMR picking scenario, workers often have trouble finding the right robot in their zone. This search time can add up, leading to unnecessary delays and reduced efficiency.

The Team Intelligence methodology eliminates guesswork by pairing Zebra AMRs with rugged, lightweight mobile computers and data-capture devices. These devices enable hands-free, ergonomic picking. Workers are directed to the precise locations of the items they need while robots move ahead to be in place for upcoming picks.



WT6300 Wearable
Computer

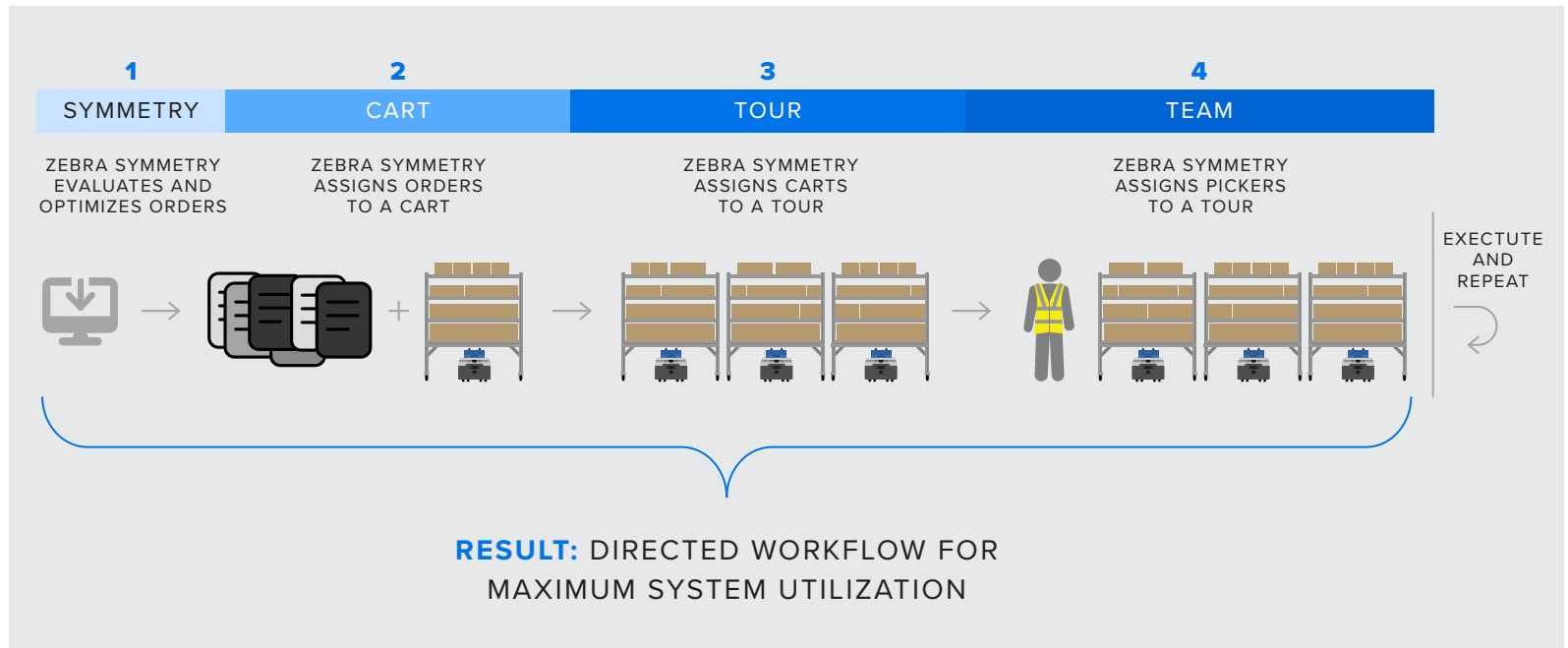
RS5100 Ring
Scanner



Key Benefits

- Engineered for maximum profitability
- Pick more items in less time — increases throughput by streamlining traffic and preventing bottlenecks
- Reduces AMR count by up to 30% and increases cubic capacity up to 300% by buffering with inexpensive carts instead of additional robots or labor
- Optimizes pick tours for the lowest cost per unit without sacrificing accuracy or performance
- Improves picker and robot efficiency by eliminating waiting — pickers spend less time walking; the right robot is always ready at the pick face
- Higher pick density streamlines order fulfillment and enhances throughput while eliminating the congestion and chaos common to legacy picking methodologies
- Precise direction — pickers always know their next tasks and locations
- Balanced utilization — pickers and robots always have orchestrated work assignments
- Adapts to existing facilities with minimal modifications — no need for QR codes or special Wi-Fi

Directed Workflow for Maximum System Utilization



Zebra Symmetry software provides the orchestrating power behind the Team Intelligence methodology by combining the functions of a warehouse execution system (WES) with robot fleet management and powerful analytics. **It can “see” and manage every asset in the system, including pickers, robots and wearables.** It knows where they are at any given time, what work they can do, and when they’ll be free to take on new tasks.

Symmetry integrates seamlessly with your warehouse management system (WMS), evaluating, batching and allocating orders based on size, location, priority and other factors. Optimized tours are then assigned to teams, maximizing pick density while minimizing congestion on the warehouse floor. Performance improves over time in response to data-driven insights and exceptions reported by pickers. The result is a warehouse operation where every movement is purposeful, every task is completed with precision, and productivity reaches its peak.

Key Benefits

- Easily integrate controls and data from other systems and devices to create fully optimized, integrated facilities
- Gives decision-making control and visibility back to operational leaders
- Automates the heavy lifting of work allocations
- Gives managers the flexibility to “override the algorithms” to handle rush orders or complete a shift without incurring overtime costs
- Powerful real-time data and analytics allow operations leaders to monitor and measure the system for continuous improvement, reducing downtime events, driving visibility and accountability, and focusing scarce analysis resources on what matters most
- Symmetry support is included, with 24/7 global coverage

An Evolution in Fulfillment Robotics

Connect Fulfillment AMRs are Zebra's most advanced robots to date. Twice as fast and strong as other pick-assist AMRs, they can run for two full shifts on a one-hour charge, boosting utilization further than ever.

Zebra Connect Fulfillment AMR Specifications	
Base Footprint	Without Cart: 20.8 in. (52.8 cm) width; 24.1 in. (61.1 cm) length With Cart: 24 in. (61.0 cm) width; 48 in. (121.9 cm) length
Max. Cart Payload Weight	220 lbs. (100 kg)
Max. Cart Payload Width	21¼ in.
Max. Cart Payload Length	45¼ in.
Max. Cart Payload Height	45 in.
Turning Radius	Turn in place
Run Time	Up to 16 hours
Charging Time	1 hour with automated charge management
Max. Speed	3.9 mph (1.75 m/s)
Visible Indicators	Yes, visible from all sides
Audible Indicators	Yes, up to 100 dB
Environment	Indoor
Network Connectivity	Wi-Fi 6

Applications



Order picking



E-commerce fulfillment



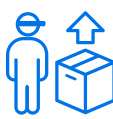
AS/RS induction



AS/RS to drop-off



Post-pick transport



Receiving and put-away



Replenishment



Returns processing



Floor-illuminating LED indicates motion and direction.

The Zebra AMR Portfolio for Order Transport

Zebra offers the industry's most advanced AMRs to move, track and expedite just about anything. With on-demand automation, Zebra robots can be deployed into almost any facility in just hours. Diverse form factors are available to enhance the productivity and profitability of a wide variety of fulfillment workflows, including:

- Manual pick locations
- AS/RS goods-to-person (GTP) stations
- Vertical lift modules (VLMs)
- Carousels
- Cube systems
- Other high-density storage
- Replenishment



Zebra Connect Series

Automatically pick up and drop off carts up to 180 lbs. (81.6 kg)



Zebra Flex Series

Highly configurable transport solution with adjustable shelving



Zebra Roller Series

Integrate with existing fixed-conveyor infrastructure



Flexible Automation for Order Transport Solutions			
	Connect	Flex	Roller
AS/RS Induction	X	X	
AS/RS to Drop-off	X	X	X
Post-pick Transport	X	X	X
Quality Assurance		X	X
Receiving and Put-away	X	X	
Replenishment	X	X	X
Returns Processing	X	X	X
Rush Orders		X	X

Key Benefits

- Deploy safe, reliable and versatile AMRs within hours, with no additional warehouse or IT infrastructure
- Easily integrate controls and data from other systems and devices to create fully optimized, integrated facilities
- Symmetry support is included, with 24/7 global coverage

Zebra Connect Series

Collaborative Automation for Manual Cart Workflows



Zebra Connect

Automates cart movement for high system productivity

Warehouse Carts

Zebra carts are available in three sizes: standard, tall, and a flexible cart base option that allows you to customize the cart to suit your specific payload.



Zebra Cart
(standard)



Zebra Cart
(base)



Zebra Cart
(tall)

Key Benefits

- Keep workers focused on picking instead of manually moving carts
- Streamlined integration with existing automated picking engines such as VLM, carousel, cube system and AS/RS
- Easily automate existing manual cart workflows; eliminate walking/pushing
- Highly configurable to optimize your unique order profiles and picking areas
- Simple to deploy — no integration required
- Operator can pick to cartons or totes on cart
- Seamless integration with existing WMS, WCS, WES or PLC installations
- Lower maintenance costs

Key Workflows



Order picking



E-commerce fulfillment



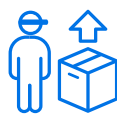
AS/RS induction



AS/RS to drop-off



Post-pick transport



Receiving and put-away



Returns processing

Zebra Flex Series

Flexible Automation for Each, Batch and Case



Zebra Flex Guide

Adjustable shelves accommodate a variety of totes, bins and boxes

Zebra Flex Guide Dual

Twin touchscreens and scanners allow higher put efficiency from either side



Key Benefits

- Optimize productive hours by minimizing touches and travel time
- Keep workers focused on picking from GTP stations
- Transport multiple totes, bins or cartons at once
- Support a variety of tote/bin/carton sizes with adjustable shelving
- Eliminate manual walking or cart pushing
- Increase accuracy by validating totes and items using touchscreens and built-in barcode scanners
- On-demand, operator-triggered work via HMI screen or tablet; press a button to request a robot or use touchscreen prompts to send it to its next destination
- Seamless integration with existing WMS, WCS, WES or PLC installations

Key Workflows



AS/RS induction



AS/RS to drop-off



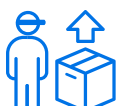
E-commerce fulfillment



Order picking



Quality assurance



Receiving and put-away



Returns processing



Rush orders

Zebra Roller Series

Coexist With Current Conveyor Infrastructure

Zebra Roller

Automate transfers to and from existing fixed conveyors



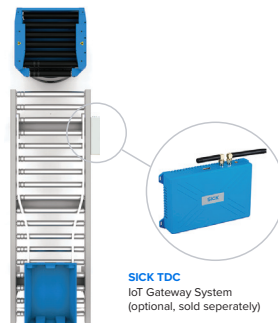
Zebra Roller Guide

Integrated touchscreen provides additional guidance and control options



SICK TDC (Telematic Data Collector)

IoT gateway system (optional; sold separately)



Key Benefits

- Automate loading and unloading of totes and bins from conveyors or AS/RS
- Reduce cycle times for rush orders by transporting individual totes or cartons quickly
- Eliminate manual walking and cart pushing
- Keep workers focused on picking
- Increase accuracy by validating totes and items using touchscreen or built-in barcode scanner
- On-demand, operator-triggered work via HMI screen or tablet; press a button to request a robot or send it to its next destination
- Seamless integration with existing WMS, WCS, WES or PLC installations
- Simple to integrate with existing conveyor controls with Symmetry using optional IoT smart gateway

Key Workflows



AS/RS to drop-off



Post-pick transport



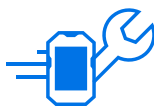
Order picking



Quality assurance



Returns processing



Rush orders

Uncompromising Safety

Deploy AMRs With Confidence

Zebra AMRs are designed first and foremost for safety. They're packed with advanced sensors and navigation software that allow them to operate safely alongside human workers, warehouse vehicles and other machinery. In addition to 3D cameras that give them a wide range of vision, they're equipped with LiDAR sensors; industry-leading, obstacle-avoidance technology; plus a certified safety system.

Zebra Robotics Automation has worked diligently to ensure our entire commercial AMR product line meets or exceeds the world's leading safety requirements for industrial mobile robots, including the Association for Advancing Automation (A3) R15.08 standards, the EU Machinery Directive, 2006/42/EC_EU_Machinery_Directive_2006 and UKCA. You can confidently deploy on-demand automation knowing your workforce and facility will be safe and in compliance with the latest regulations.

While many AMR manufacturers comply with the safety standards for their base robots, most have yet to ensure that their modular tops and other system components meet the standards as well. With Zebra Robotics Automation, you can be sure that your entire system truly addresses safety in your facilities and allows full collaboration with humans.

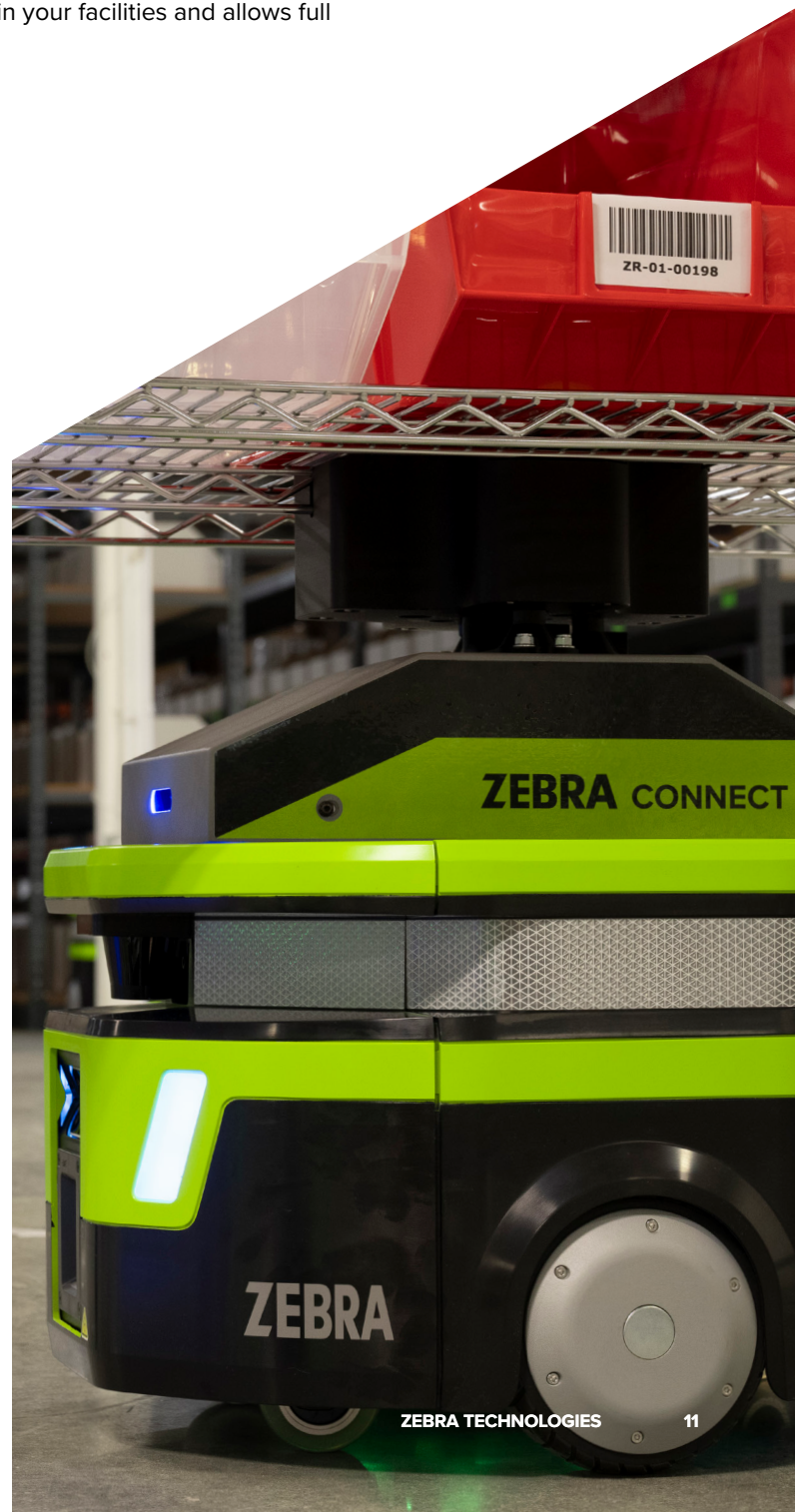
ANSI/A3 Zebra AMRs conform with R15.08 safety standards
R15.08 published by ANSI/A3.

CE Zebra AMRs carry a CE mark and meet regulatory
requirements for product safety.

UK
CA Zebra AMRs are compliant with applicable
UKCA requirements.



WARNING: This product uses components which emit invisible laser radiation. Incorrect use or observing the safety laser scanner through optical instruments (such as magnifying glasses, lenses or telescopes) may be hazardous for the eyes.



Engineered for Profitability and Productivity

Your automation investment should deliver value on a day-to-day basis, shift after shift. That's why Zebra Robotics Automation solutions are designed to be implemented quickly and scale as your needs evolve.

Zebra Symmetry Fulfillment delivers fast ROI by giving you real-time visibility into workflow progress across your facility, optimizing operations, identifying bottlenecks, and driving continuous improvements — all guided by advanced insights and reporting. You'll also benefit from maximizing your WMS investments, eliminating redundant costs and freeing up cash flow for other uses.

Zebra Order Transport solutions offer you robust and flexible automation options to help eliminate long walks between workstations, allowing workers to stay focused on higher-value tasks.

Whichever solution you choose, our goal is to maximize your internal rate of return, ensuring that Zebra AMRs make positive contributions to your overall financial health and operational efficiency.

Discover how Zebra Robotics Automation can work for you at zebra.com/automation-solutions



NA and Corporate Headquarters
+1 800 423 0442
inquiry4@zebra.com

EMEA Headquarters
zebra.com/locations
contact.emea@zebra.com

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