



Warehousing Vision Study 2023

Making Modern Warehousing a Reality

Executive Summary



Today's warehouse leaders face ever-increasing demands for speed and accuracy while contending with tighter labor markets, rising costs and economic uncertainty. Decision-makers are accelerating their investments in technology to increase efficiency across the supply chain and future-proof their operations.

[See what the future holds.](#)

Keeping an Eye on the Future

Despite headwinds, the global warehousing sector is focused on achieving ambitious goals around connectivity, profitability and operational efficiency.

The current global economic slowdown has created markedly changing conditions for warehouse operations and, in many cases, cast a shadow over plans for warehouse expansion. Moreover, fluctuating consumer demand and shifting regulations have made it challenging for warehouses to predict space, labor and inventory requirements accurately. As a result, decision-makers are encountering tremendous pressure to enhance their flexibility and operational efficiency while increasing overall profitability and are exploring technology solutions that enable them to deliver.

Despite the current slowdown in the growth of new warehouses, many operators are accelerating their investments in new technologies with the goal of becoming increasingly connected in the next few years. Embracing this forward-thinking approach, decision-makers have also recognized the importance of leveraging their workforce as an asset. By investing in training programs and enhancing working conditions, they aim to create a career-oriented path for employees while leveraging technology to complement their skills and enable smarter decision-making.



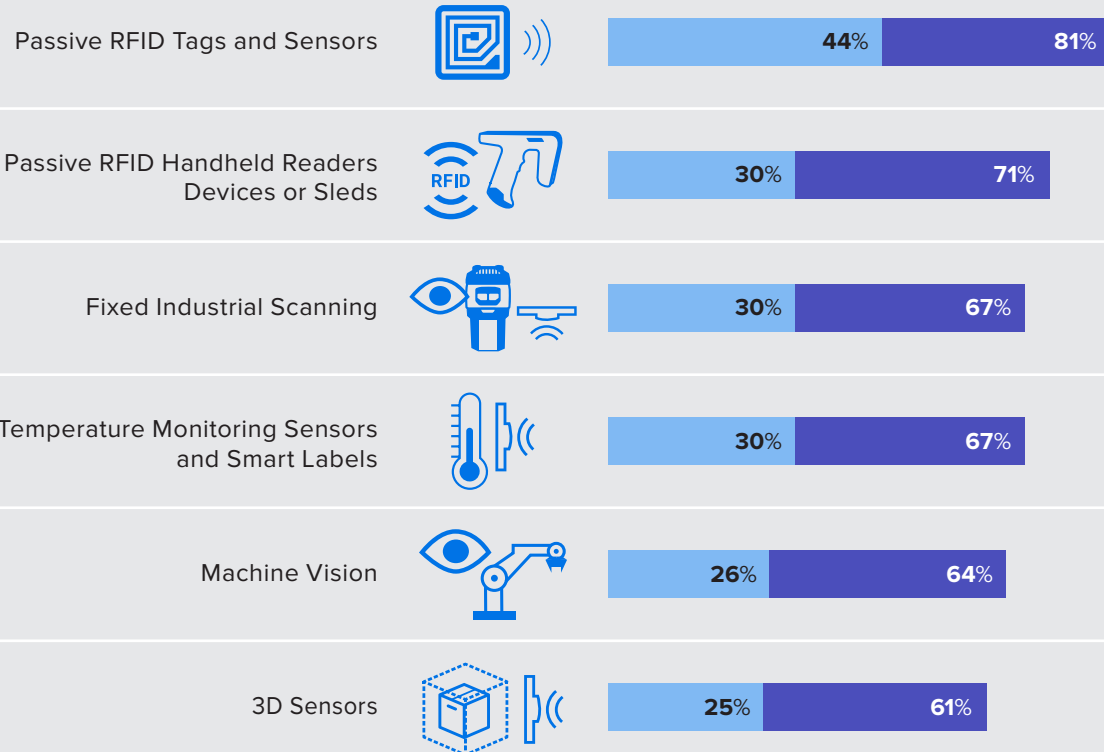
Supply Chain Resiliency and Agility

Warehouse leaders are investing in technology innovation and intelligent automation to increase inventory visibility and resiliency. Enhanced data visibility and analytics allow for dynamic responses to challenges or surges in demand, mitigating the potential ripple effect of disruptions across multiple nodes in the warehousing network.

Despite challenges related to digital transformation, plans to enhance speed, accuracy and end-to-end visibility are crucial, as inventory inaccuracies and out-of-stocks hinder productivity and impact business outcomes. The deployment of sensor-based technology for traceability and automated decision-making is expected to increase in the coming year and beyond.



Decision-makers plan to dramatically increase the implementation of sensor technology throughout warehousing facilities within the next year.



2023

2024



Visibility Is Vital to Unlocking Improved Efficiency

(Percentage of Decision-Makers)

82%

agree that improved operational visibility means more decisions can be automated for better staff and asset utilization.

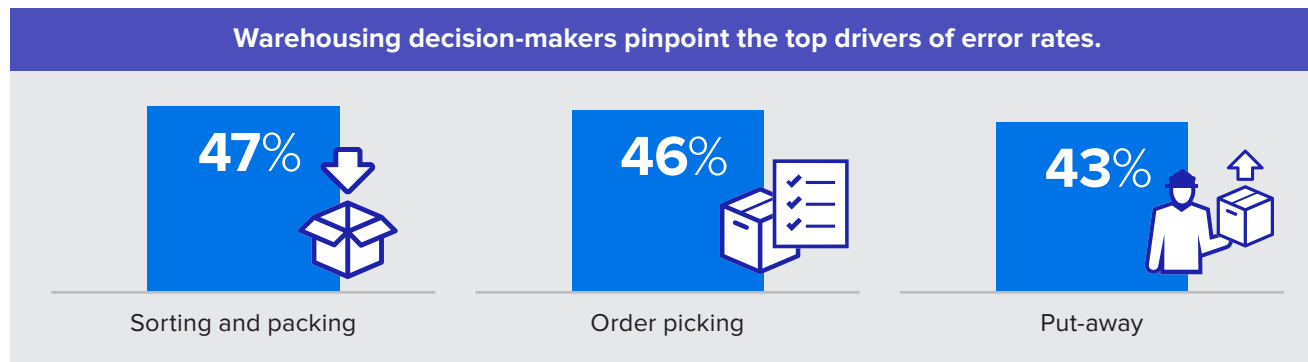
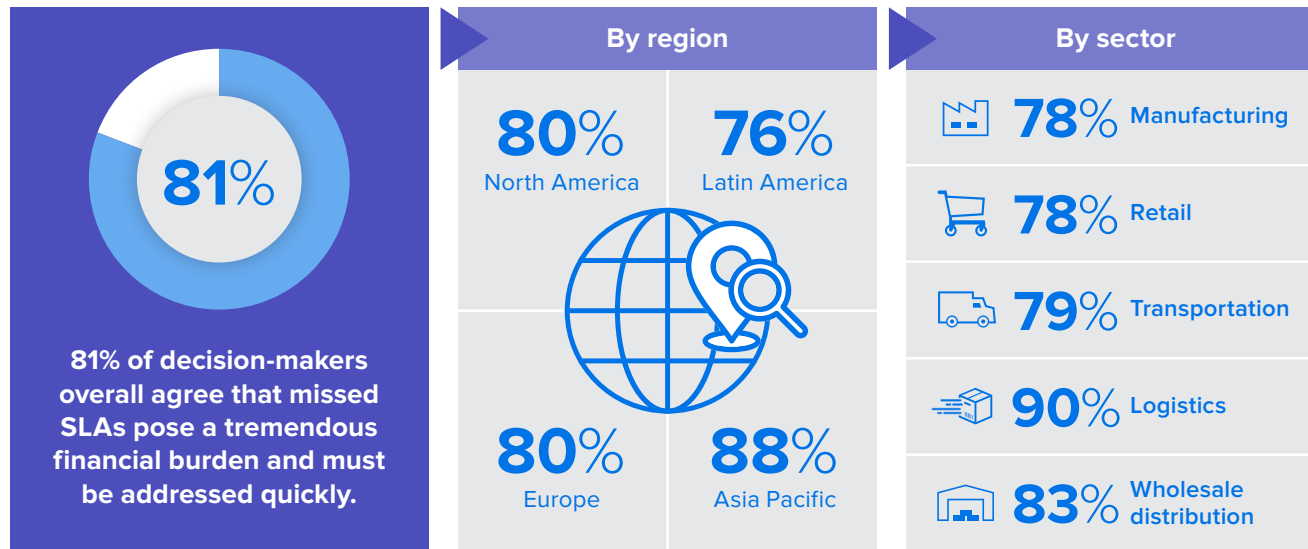
73%

report they are under pressure to implement new technologies.

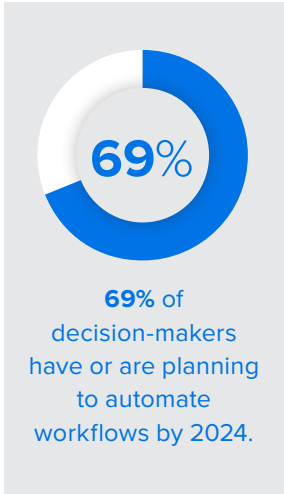
Achieving the Perfect Order Profitability

In today's warehousing business, accuracy is currency. Decision-makers face widening pressure to improve performance amidst changing customer expectations, while challenges like returns, inventory management and order accuracy escalate year over year. As customer expectations heighten and regulatory requirements grow more stringent, the pursuit of achieving the perfect order has become increasingly challenging. To meet these demands profitably, warehouses must undergo transformative changes.

Vital concerns include managing associate workloads, meeting productivity goals and financial burdens from missed service level agreements (SLAs). Plans include facility expansion, real-time tracking, and improvements in location-level accuracy, facility layout and flexible automation to address the growth of e-commerce in the coming year.



Automation, Augmentation and Labor Planning



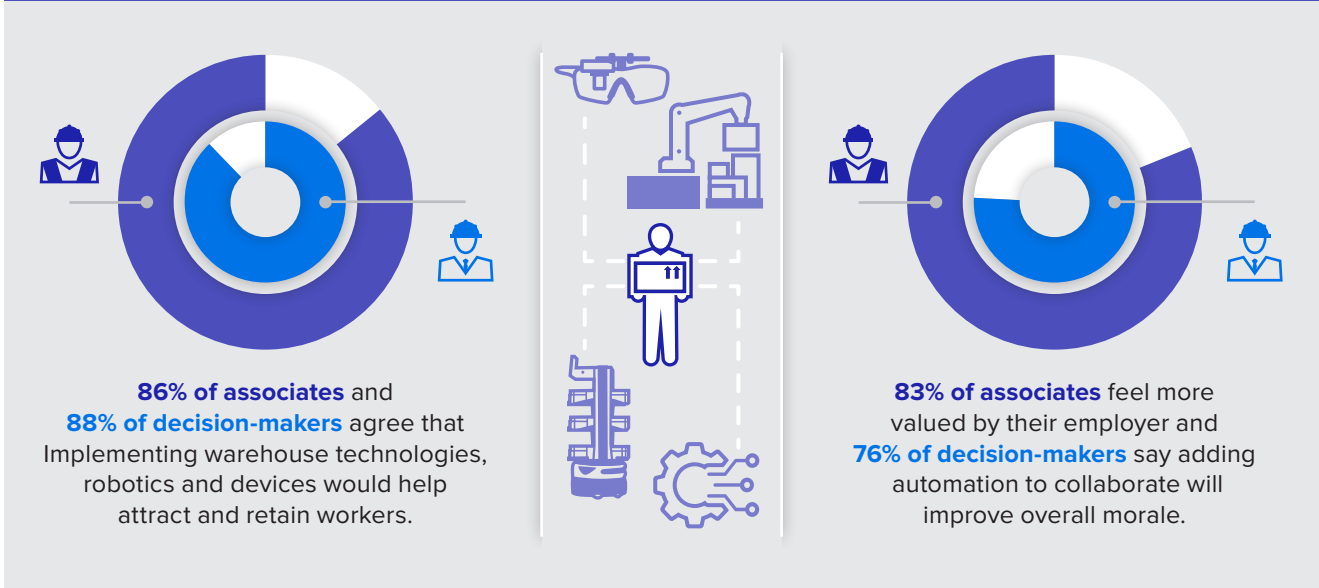
Warehouse leaders recognize the benefits of human-centered automation for workers, customers and the organization’s overall success – particularly amidst continued labor challenges across sectors. In response to mounting customer expectations, intensifying competitive pressures, and ongoing labor availability challenges, warehouses are reassessing their operations and actively investing in worker enablement and operation enhancements.

Collaborative robots are seen as a valuable solution, helping to extend the capabilities of front-line workers and shift them towards more customer-centric, high-value tasks. What’s more, an operation equipped with cutting-edge technology, devices and robotics can help attract, onboard and retain workers more effectively.

Warehouse decision-makers identify the process of attracting qualified candidates and effectively training them as their most pressing labor challenges. These hurdles are accentuated by the need for skilled personnel who can adeptly handle the sophisticated technologies and equipment prevalent in modern warehouses.



Technology tools and automation make associates feel more valued.



Associates Decision-Makers



Biggest Labor Challenges According to Decision-Makers

55% Attracting qualified workers

54% Training time takes too long

45% Keeping associates happy and fulfilled

Building Tomorrow's Connected Warehouse

Today's headwinds have prompted warehouse leaders to adopt innovative strategies to address critical challenges and prepare to offset any emerging or unexpected events. Despite global uncertainty, warehouse leaders continue investing in data-powered environments that efficiently balance automation and optimized human labor across the supply chain. Going forward, warehouses must continue to implement agile strategies to avoid inefficiencies, preserve resources, and provide employees with a performance edge.

About the Study

Zebra Technologies commissioned a global research study among decision-makers and associates to analyze the latest trends and technologies transforming warehouse operations. Administered online by Azure Knowledge Corporation, this year's study includes over 1,400 respondents across manufacturing, retail, transportation, logistics and wholesale distribution organizations. Zebra's 2023 Warehouse Vision Study reports on how organizations are utilizing technologies to modernize the warehouse and prepare for future challenges. The series focuses on three key themes:



Supply Chain Resiliency and Agility

Investigates modern warehouses' adaptation to market changes, unforeseen challenges, and the integration of technologies for enhanced flexibility in the global supply chain.



Perfect Order Profitability

Zeros in on the intricacies of achieving and optimizing order profitability, examining strategies and tools warehouses use to ensure accuracy, timeliness, and maximized profit margins amid rising costs and customer expectations.



Automation, Augmentation and Labor Planning

Sheds light on how warehouses are leveraging advanced automation, integrating technology with human tasks, and strategizing workforce planning to boost efficiency and address evolving challenges.

To view the entire 2023 Warehouse Vision Study series, visit zebra.com/warehousingvisionstudy

To learn how Zebra can help your warehouse operations achieve a performance edge, visit zebra.com/warehouse

About Zebra Technologies

Zebra (NASDAQ: ZBRA) empowers organizations to thrive in the on-demand economy by making every front-line worker and asset at the edge visible, connected and fully optimized. With an ecosystem of more than 10,000 partners across more than 100 countries, Zebra serves customers of all sizes, including 94% of the Fortune 100, with an award-winning portfolio of hardware, software, services and solutions that digitize and automate workflows.



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