



Warehousing Vision Study 2023

Making Modern Warehousing a Reality

Perfect Order Profitability



Continuously shifting customer expectations and increasing regulatory requirements make it even more challenging for warehouse leaders to achieve the perfect order. In this environment, successful delivery and profitability demand warehouse transformations.

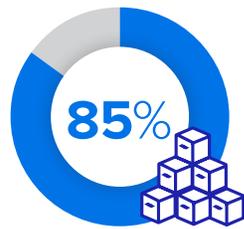
Discover how modern warehouses are paving the way for increased order profitability.

Market Watch

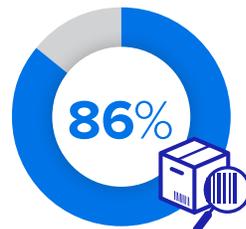
The road to maximizing productivity and profitability in warehousing involves tackling challenges and seizing opportunities. Optimal use of space, labor and technology are key, as are effective inventory management and data analytics. Adapting to changing consumer expectations and industry norms is crucial for maintaining a competitive edge. Overall, a strategic, holistic approach is essential for success.

Keeping Up With Demand The Growing Impact of E-Commerce

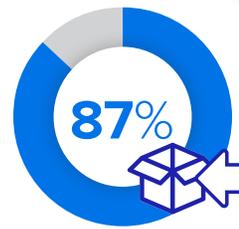
By 2028, the percentage of decision-makers expecting to:



Increase the volume of items shipped



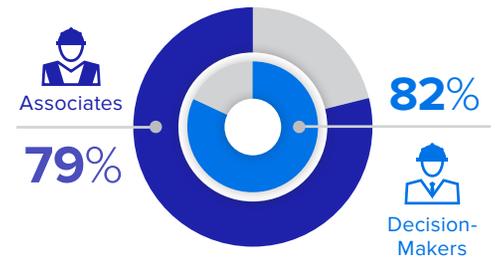
Increase the number of Stock Keeping Units (SKUs)



Expand returns management operations

Juggling Workloads and Stress Balancing the Scales of Productivity

Associates and decision-makers share concerns for managing workloads and stress levels to meet productivity goals.



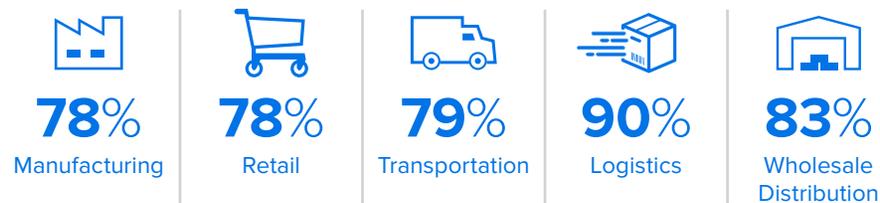
Missed Service Level Agreements (SLAs) Resulting in Financial Burdens on Warehouse Profitability

Decision-makers across regions and industries agree.

By Region



By Sector



Vital Investments are Required to Keep Pace

Associates and decision-makers agree that warehouse tech investment is crucial to achieving ambitious business objectives.



The Unstoppable Rise of E-Commerce: A Paradigm Shift in the Global Marketplace

In today's rapidly evolving business landscape, the impact of e-commerce is undeniable. From manufacturers to retailers, transportation and logistics providers, and wholesale distribution firms, every sector is experiencing the profound effects of this digital revolution. E-commerce has become a global phenomenon, reshaping the way we purchase almost everything. With analysts projecting an astounding 300% growth from 2022 to 2028, where the global e-commerce market is expected to reach a staggering \$58.74 trillion, it is evident that these realities are propelling us into a whole new world of possibilities.¹

What does this mean for warehouses? Warehouses are reconfiguring their operations to accommodate the surge in e-commerce orders and optimizing their supply chains for more efficient and profitable order fulfillment. At the same time, warehouses face significant operational hurdles related to returns, supply chain and labor shortages. Despite these challenges, warehouses are expected to keep up with the demand for faster shipping and higher performance levels in terms of order turnaround time, accuracy, and a myriad of customer-facing metrics.

The push to compete in a crowded market and meet heightened customer demands has an impact on the bottom line, particularly for warehousing operations in third-party logistics. In competing to achieve the perfect order, many operations have made decisions that cut into profitability or put excessive pressure on the workforce. Some have scaled too quickly, while others have prioritized quicker delivery at the expense of cost efficiency.



Revenue Growth
Remains Strong

Ninety percent of organizations
reported revenue growth in 2022.
Of these:

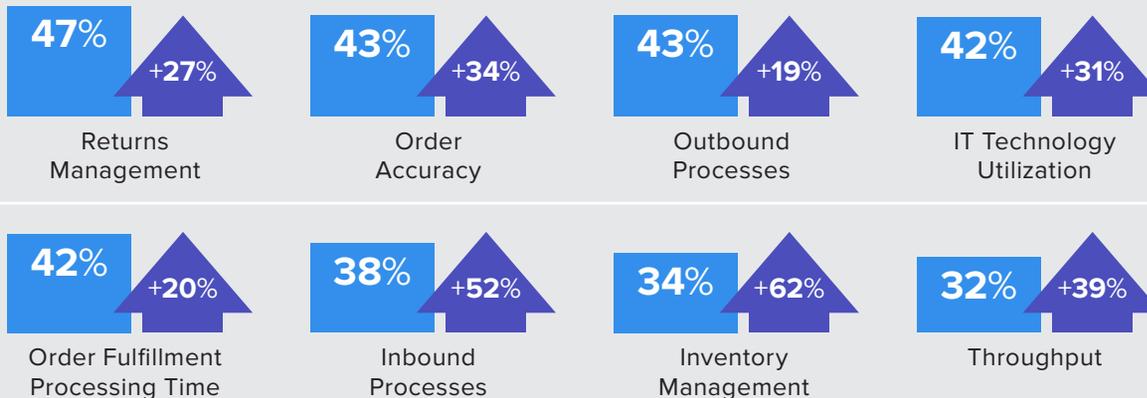
18% Increased 10%+

40% Increased between
6% and 10%

32% Increased between
1% and 5%

Leading Operational Challenges

According to warehouse decision-makers, operational challenges have escalated since 2022.



¹SkyQuest Technology, "Global e-Commerce Market to Hit Sales of \$58.74 Trillion By 2028 | E-commerce Market Has Come a Long Way, Still Need to Overcome Some Challenges," October 31, 2022.

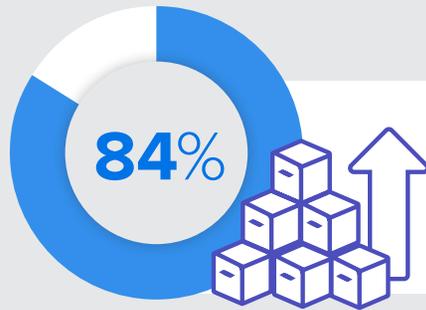
Navigating the Winds of Change

In an era marked by changing consumer habits and expectations for speed and perfection, warehouses must adapt to endure.

While e-commerce has been a boon to individual consumers, introducing wider and easier access to goods across categories, it continues to pose challenges to supply chains. For many warehousing decision-makers, increased e-commerce activity has emphasized existing issues within their organizations. This year, 76% of decision-makers say they are under high pressure to improve warehouse performance while keeping up with shifting customer demand.



Shifting Shipping Volumes



On average, **84% of decision-makers** cite an increase in shipping volume.

AVERAGE
SIZE OF
INCREASE



+22%

Fulfillment to businesses



+24%

Fulfillment to consumers



+20%

Drop ship from manufacturers



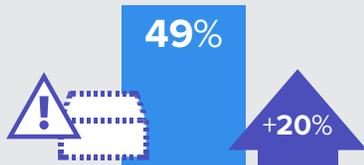
Error-Proofing Operations

When thinking about mitigating errors, decision-makers highlight key error-rate drivers.

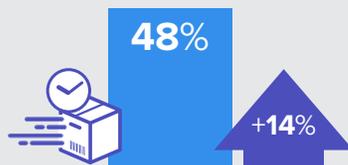
1. Customer order sorting and packing
2. Order picking
3. Put-away
4. Location-level inventory accuracy
5. Loading
6. Receiving

Rising Challenges

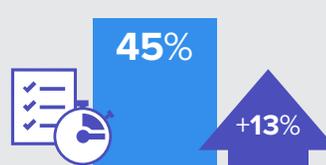
Decision-makers recognize the new realities brought about by e-commerce and identify the top 3 challenges



Lack of Inventory accuracy and availability



Faster delivery to end customers



Shorter order lead times

Revolutionizing Operations to Deliver the Perfect Order

Once considered traditional and static spaces, warehouses have transformed into dynamic hubs embracing innovation to streamline operations and achieve the coveted perfect order. By leveraging cutting-edge technologies and adopting forward-thinking strategies, warehouses are revolutionizing the way they function, ensuring efficiency, accuracy, and, ultimately, customer satisfaction.

Market disruption has compelled warehouses to transform both physically and operationally. Though facility expansion and new warehouses are down year over year, decision-makers plan for growth and overall improvement over the next five years. By 2028, the manufacturing industry decision-makers surveyed report the most significant changes in the quantity and size of their warehouse facilities. The number of facilities will grow by 56%, while the average size of each facility will expand by 20%.



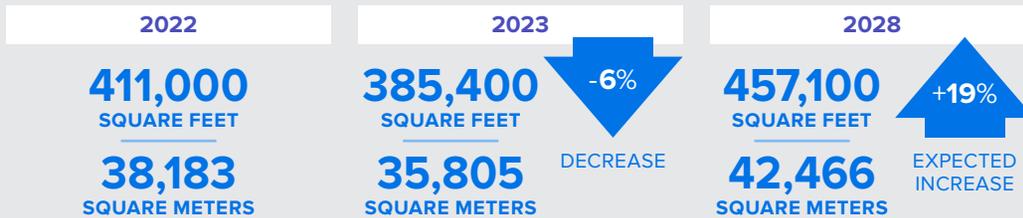
Recalibrating the Warehouse Footprint

Average Number of Facilities



Highest Five-Year Growth by Industry: **+56%** Manufacturing | **+44%** Logistics

Average Size of Facilities



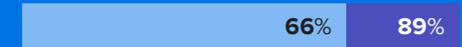
Highest Five-Year Growth by Industry: **+24%** Retail | **+20%** Manufacturing



Decision-Makers' E-Commerce Implementation Plans

Decision-makers are thinking beyond the physical warehouse space, embracing technologies to streamline fulfillment and exceed customer expectations.

Add Real-Time Inventory Tracking



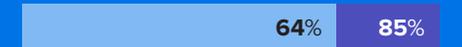
Measure Location-Level Accuracy



Rearchitect Space in Warehouse Facility



Convert Fixed Automation to Flexible Automation



By 2024 | By 2028

Transforming Tomorrow's Supply Chain

Warehouse visibility remains an essential component for a thriving supply chain ecosystem. The demand for efficiency and cost reduction in today's competitive landscape motivates warehouses to optimize operations, identify bottlenecks and streamline processes. As warehouse technology and automation continue to evolve, and standards of operational excellence also rise, businesses will lean on solutions that enable them to track the real-time location of all assets and inventory through each step of the supply chain.

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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