



Warehouse Vision Study

# Unlocking Warehouse Precision

Where Data and Visibility Drive Peak Performance

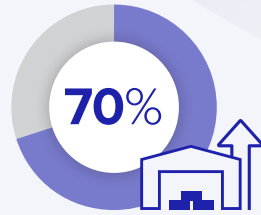
Discover how warehouse decision-makers are leveraging data intelligence to align with key performance goals, overcome challenges and excel in today's dynamic landscape.



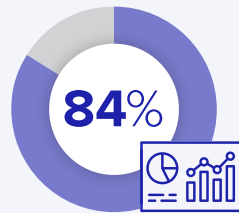
## Precision in Motion

Warehouse operators face a critical choice: modernize now or risk falling behind. The stakes have never been higher, demanding swift action to optimize operations and drive efficiency amid disruption. Speed, resilience and precision are essential. Labor shortages, delivery delays and inventory inaccuracies are costly obstacles, highlighting the need for solutions that empower workers and transform warehouse operations. Investing in the right technology and strategies can ensure warehouse operations remain agile, efficient and ready to meet future demands.

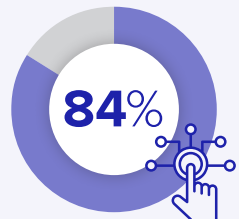
### Modernization is a Priority According to Decision-Makers



say modernizing operations is a top priority and they are under high pressure to do so

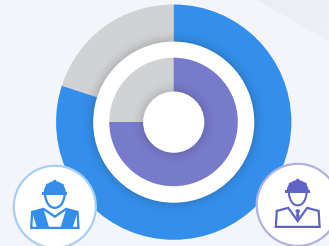


state that improving operational visibility leads to more automated decision making, driving better utilization of both staff and assets



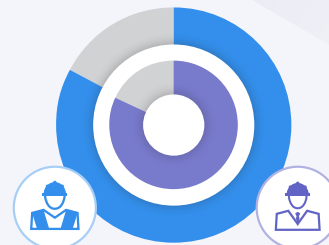
agree implementing new technology is essential to remain competitive in the on-demand economy

### Productivity Challenges Draining Efficiency



acknowledge out-of-stocks and inventory inaccuracy are significant challenges impacting productivity


### Shared Demand for Advanced Inventory Solutions




agree their facility requires better inventory management tools to ensure accuracy and availability


### Top Challenges to Supply Chain Success

Top three ranked challenges identified by decision-makers:

1  Innovating with technology and intelligent automation

2  Meeting changing customer service expectations

3  Forecasting the right level of inventory

 Balancing transportation availability and cost

 Achieving end-to-end visibility

 Managing reverse logistics

# Confronting High Stakes

## The Cost of Unmet Expectations

**83%** 

of decision-makers agree missed service level agreements pose significant financial burdens that demand swift action

**When missed expectations come with steep costs, warehouses can't afford to gamble on outdated practices.** As customer expectations rise, the cost of missed Service Level Agreements (SLAs) becomes increasingly significant. Over eight in 10 decision-makers recognize the financial consequences of failing to meet deadlines, underscoring the need for improved performance and the ability to respond quickly to shifts in demand.

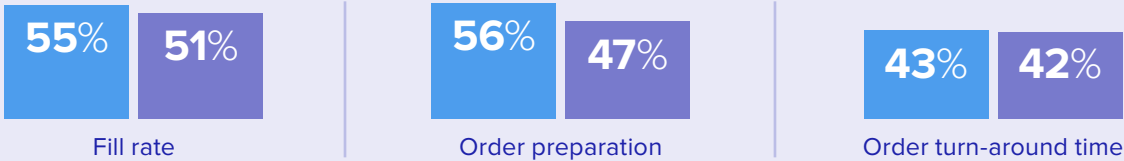
While some warehouse operations have made strides, challenges remain. Manual processes like sorting, packing and order picking continue to lead to costly errors and labor shortages and skill gaps further hinder efficiency. While areas like order preparation have seen improvements, issues with order accuracy and returns handling still pose serious challenges.

To avoid setbacks, warehouses must invest in solutions that streamline operations, enhance worker productivity and optimize both human and technological resources. Doing so ensures agility in operations, consistent service excellence and alignment with evolving customer expectations.

### Mixed Results: SLA Metrics in Transition

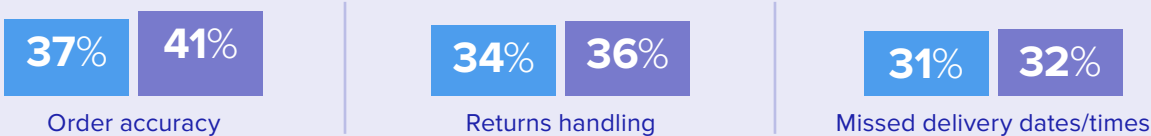
#### Positive Gains: Decision-Makers Highlight Areas Showing Meaningful Improvements

Key areas of concern that show slight year-over-year improvements yet remain top challenges



#### Negative Trends: Decision-Makers Identify Areas of Concern

Areas that have shown an increase in challenges year-over-year, requiring further focus



2023 2024



### Navigating Demand: Adapting to Customer Expectations

**76%** of decision-makers acknowledge they are under high pressure to adjust to shifting customer demand

By Region:



# Evolving for Excellence

## Transforming Warehouse Operations

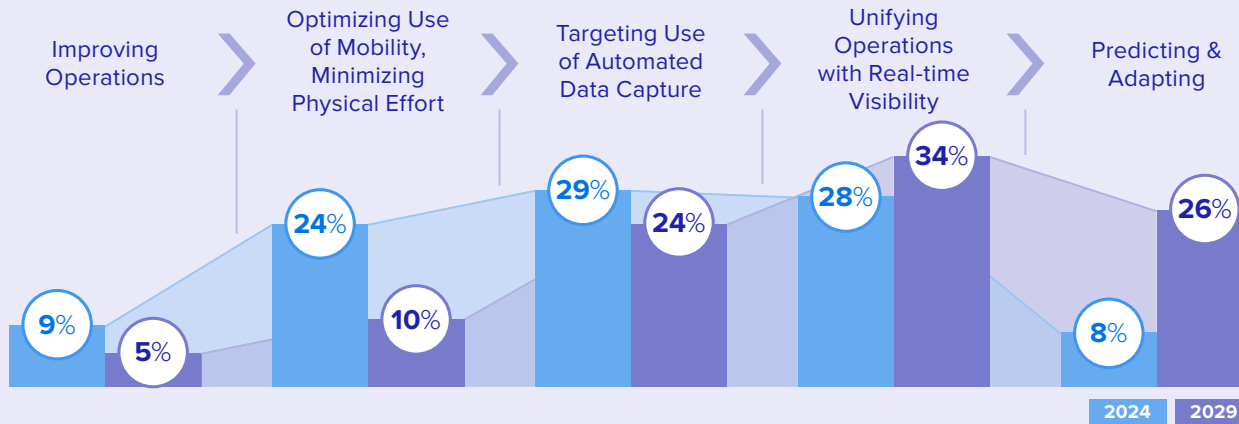
The future of warehousing depends on constant evolution to keep pace in an ever-changing landscape. Daily challenges like rising operational complexities and outdated technology can slow productivity and efficiency. Both associates and decision-makers agree that to achieve operational excellence and meet long-term business goals, strategic investments in modern warehouse technology are essential.

To stay ahead, decision-makers are prioritizing advanced technology solutions that tackle these challenges and provide a sustainable edge. Over the next five years, many plan to shift from siloed and reactive processes to unified operations with real-time visibility and automated data capture. By leveraging data-driven insights to automate decision-making, warehouses can become more agile, efficient and equipped to navigate complexity and capitalize on new opportunities.

However, the path forward isn't without obstacles. Associates express concerns over staff shortages and the reliability of current technology, with 85% highlighting that critical business objectives will remain out of reach without new investments. Decision-makers are equally aware that adopting innovation is no longer optional; it's a necessity to remain competitive in an on-demand economy.



### Defining the Future: Decision-Makers' Five-Year Vision for Warehouse Operations



### Addressing Concerns: Staffing, Tech and Reliability

Associates agree:

**69%** ↑ +1pp YoY  
Lack of qualified staff on the warehouse floor

**70%** ↑ +6pp YoY  
Technology devices are too difficult to use

**72%** ↑ +5pp YoY  
Reliability and access of technology devices

Aligning for Advancement:  
Balancing Current Challenges  
and Future Goals

**85%**  
of associates voice concern without investment in technology to enhance warehouse operations, business objectives will not be met

# Tech on the Rise

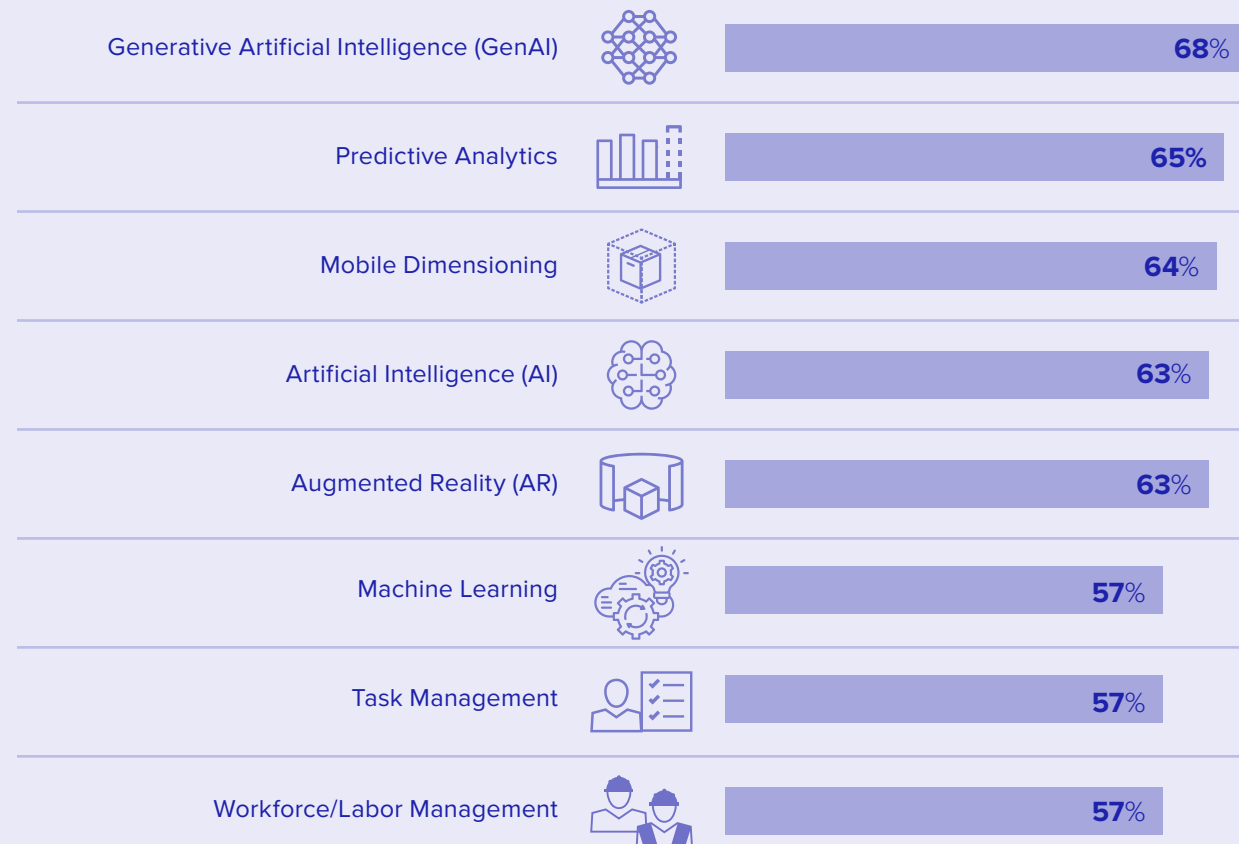
## The Next Wave of Warehouse Innovation

**Pen-and-paper methods for managing warehouse operations are giving way to digital solutions that prioritize precision and efficiency.** With productivity and efficiency goals more critical than ever, decision-makers are turning to advanced automation and real-time data analytics to streamline workflows, minimize errors and boost productivity.

Automation and data-driven insights are transforming warehouses into centers of optimized performance. By integrating modern technology, warehouses can become more agile and responsive, achieving a balance between operational accuracy and exceptional service. These innovations empower teams to adapt quickly, meet evolving demands and set new standards for excellence in a fast-changing industry.

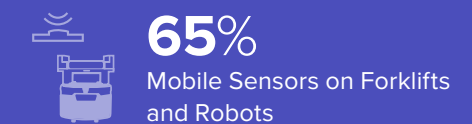
### AI, Analytics and Beyond: The Software Transformation

Decision-makers plan to implement software technology within 1 to 5 years



### Sensors Set to Soar

Decision-makers plan to implement technology within 1 to 5 years



# Raising the Standard

## Precision Warehouse Operations

**As warehouses move toward precision-driven operations, technology is becoming the cornerstone of excellence.**

Decision-makers are harnessing real-time data, automation and advanced analytics to build agile, responsive environments that keep pace with changing demands. Grounded in precision and adaptability, these advancements equip warehouses to overcome challenges and confidently seize future opportunities.

### About the Study

Zebra Technologies commissioned a global research study to explore the trends and technologies shaping warehouse and distribution center operations. Conducted online by Azure Knowledge Corporation, the study gathered insights from over 1,700 associates and decision-makers across manufacturing, retail, transportation, logistics and wholesale distribution.

The series focuses on three key themes:



**Unlocking Warehouse Precision**  
Where Data and Visibility Drive Peak Performance



**The Rise of Collaborative Intelligence**  
Frontline Workers Growing Affinity for Tech



**The Great Warehouse Convergence**  
Where Technology, Efficiency and Innovation Align

To view the entire Warehouse Vision Study series, visit [zebra.com/warehousingvisionstudy](https://zebra.com/warehousingvisionstudy)

To learn how Zebra can help your warehouse performance reach new heights, visit [zebra.com/warehouse](https://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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