

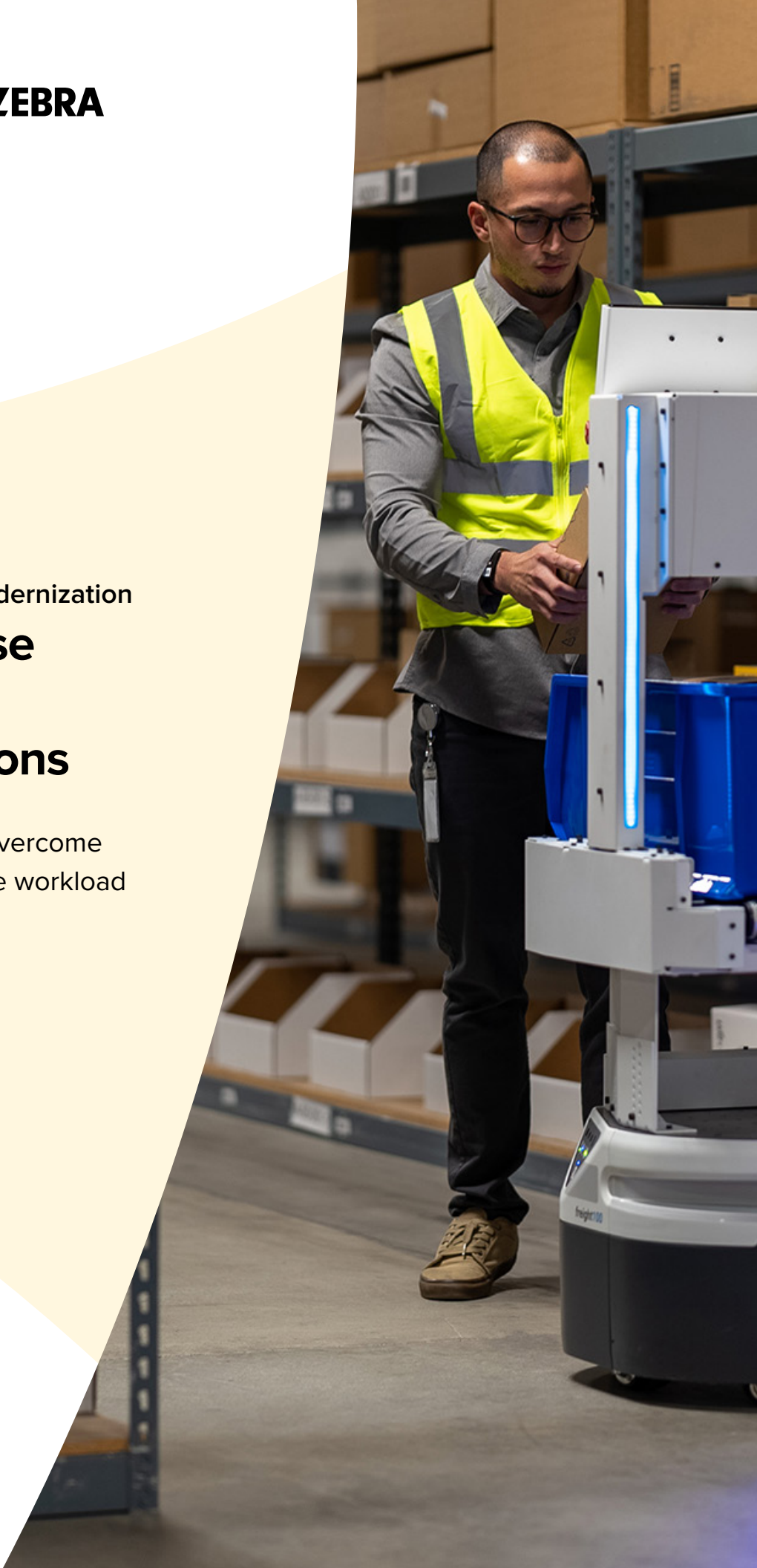
ABETECH



Warehousing Vision Study: Modernization

Modern warehouse optimization and automation solutions

New technology is needed to overcome
labor constraints and lighten the workload
for front-line workers



Labor Constraints: A Leading Automation Driver

Warehouse labor is becoming increasingly difficult to attract and retain. Decision-makers say it takes an average of **4.7 weeks** to train new staff to full productivity in warehouse operations. Despite these concerns, it is clear people will continue to play a significant role in the warehouse—but technology will too.

Decision-makers need a backup plan in case it takes longer than expected to hire enough people, especially during peak periods. **Eight in 10** say a greater reliance on automation is in their future. Of those who have already implemented automation or plan to within the next three years, **66%** say they are doing so to offset their recruitment challenges.

Technology's Value in Labor Recruitment

Associate sentiment is greatly influenced by the technology their employer provides them, with **83%** agreeing they would be more likely to work for an employer that gives associates modern devices versus one that provides older or no devices. Decision-makers concur, with **nearly nine in 10** agreeing technology advancement will make the warehouse environment more attractive to workers.

Fortunately, most decision-makers report some level of their workforce is already augmented with technology or devices, and they hope to achieve greater levels of automation to advance their worker augmentation plans within the next five years.

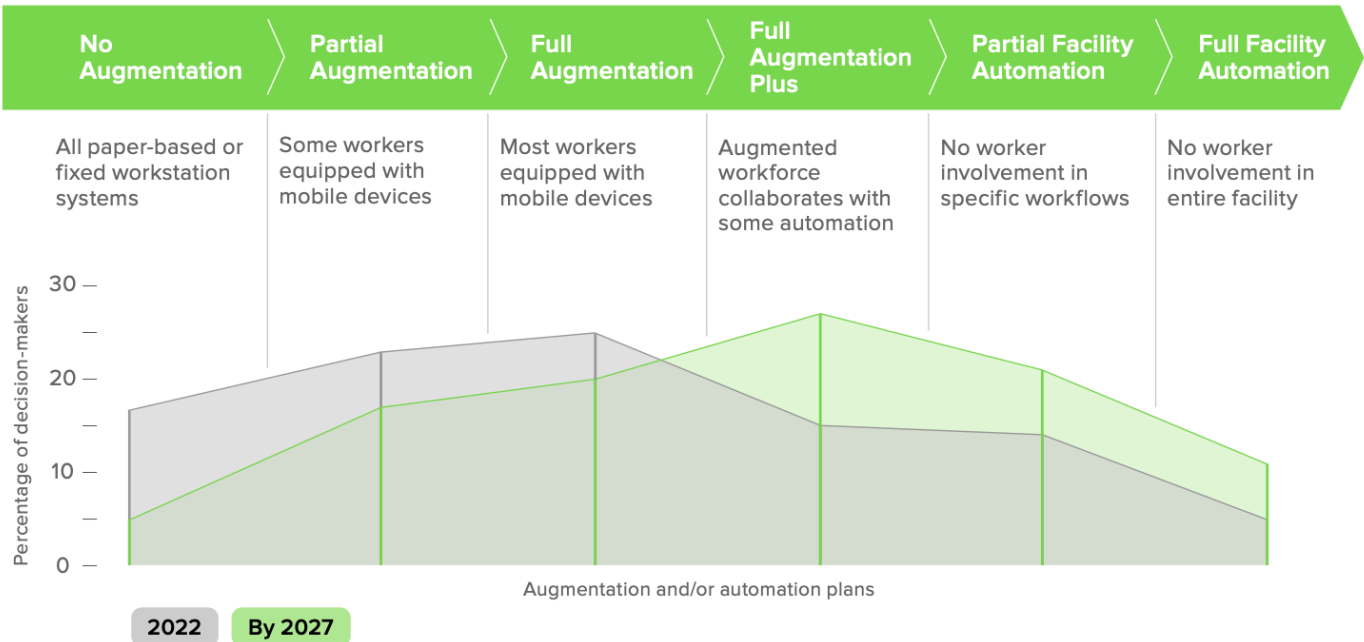
A significant advantage of today's automation technologies is that organizations can start small with options that do not require reconfiguration of floor space, then scale up as use cases are proven.



Top Three Labor Initiatives Ranked by Decision-Makers and Associates Alike

- 1 Reduce unnecessary tasks so front-line workers can focus on customer-centric work
- 2 Optimize the use of temporary/seasonal labor
- 3 Address worker comfort and ergonomics

Decision-Makers' Technology Plans To Augment Labor with Devices and Automation



The First Steps Toward Automation

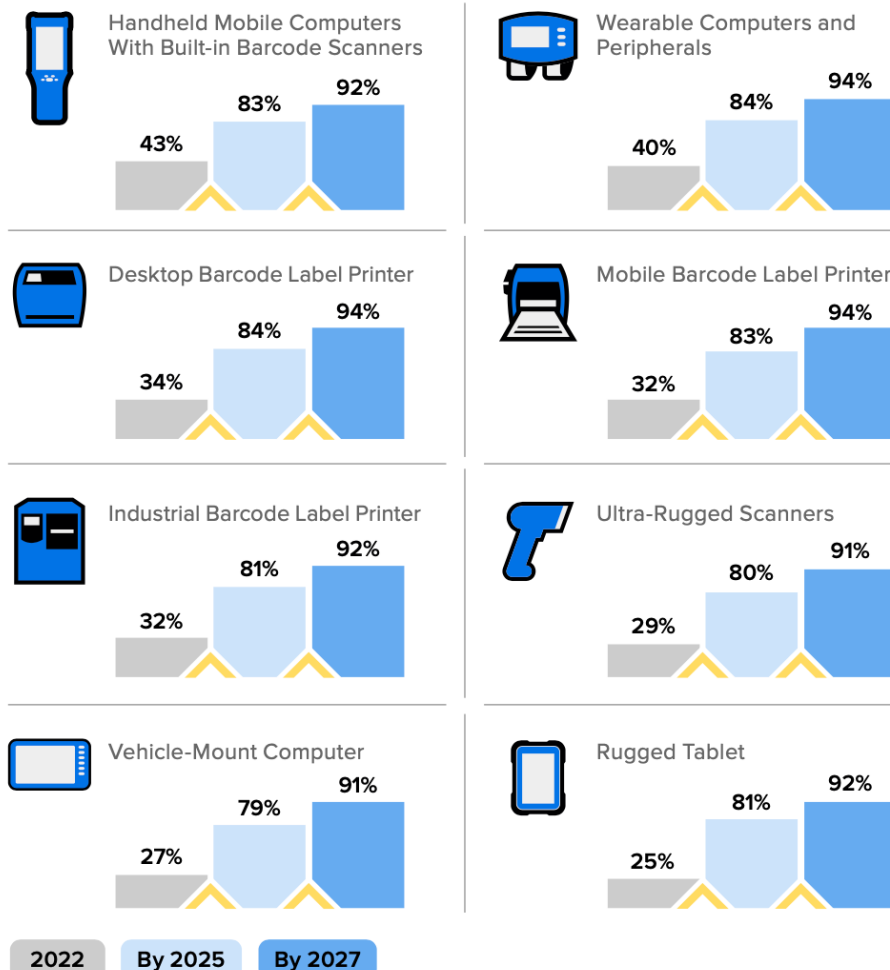
While a high percentage of decision-makers may be comfortable with integrating new technology into their warehouse ecosystems, **61%** said they have some uncertainty about exactly where to start automating their warehouse operations. However, most agree augmenting labor with software and devices first is the best way to introduce automation, and within five years, **nine in 10** decision-makers will seek outside resources to help identify and execute warehouse optimization and automation solutions.

Decision-makers expect to use a variety of devices and form factors, which will help them better optimize the use of mobility. Wearables see increased implementation, while rugged tablets see the most dramatic increase over the next three years. Greater implementation of mobile barcode label printers will bring efficiencies to workflows.

As operations deploy automation throughout their facilities and depend on mobile robotics for autonomous material movement, front-line workers will utilize their devices not only for data capture and retrieval, but also to interact and collaborate with mobile robots.



Equipping Workers With Mobility Devices and Printers



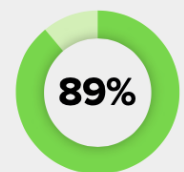
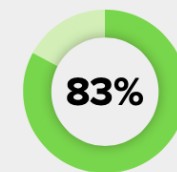
Implementing Warehouse Automation



Augmenting labor with technology and devices first is the best way to introduce automation into a warehouse operation.

Decision-makers
(+6 pp since 2019)

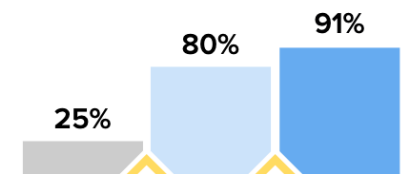
Associates



Decision-Makers See the Value of Connected Workers



Push-to-talk and messaging solutions



Implementation Priorities for Robotics Automation

Lightening the Workload for Front-Line Workers

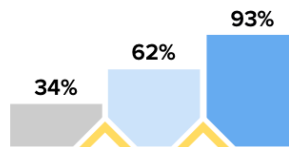
As warehouse operators reimagine their operations, they are looking for options to use space more efficiently and improve front-line workers' productivity.

As operators grapple with challenges around order fulfillment processing time, picking efficiency, order accuracy and outbound shipping operations, they are also gravitating to automation solutions that will directly address these challenges. For example, when workers can utilize autonomous mobile robots (AMRs) to help guide what and where to pick—as well as save time transporting goods to, from and between pick zones—they can increase their productivity and accuracy.

Decision-Makers' Current and Anticipated AMR Implementation Plans

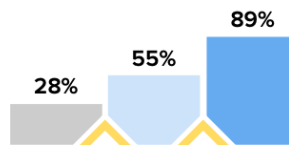
Person-to-Goods

Worker picks in warehouse aisles, guided by AMR



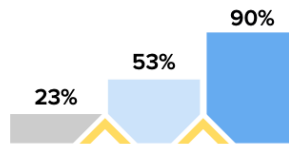
Goods-to-Person

Goods brought to worker at a pick station by AMR



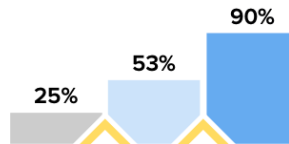
Materials Movement

Individual items, cartons, totes or pallets moved by AMR alongside workers and material-handling equipment



Materials Movement and Sortation

Individual items or cartons moved by AMR using special logic and form-factor enhancements to allow for sorting



2022

By 2023

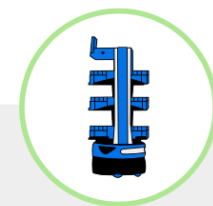
By 2027

Expansion Plans

One attractive option for decision-makers is the robot-as-a-service (RaaS) model. Operators can implement a robotics solution without making a large capital expenditure, while still having flexibility to scale and adapt as demands change. Today, **19%** of respondents are implementing RaaS, with an additional **69%** planning to do so within one to five years.

Safety as a Top Priority

Among all associates surveyed, **over three-quarters** report they would feel safe working alongside AMRs, even though some have not yet worked directly with them. Decision-makers, who likely have experienced mobile robots through their own implementations, pilots or demonstrations, also agree, with **84%** feeling it would be safe to have their associates work alongside AMRs.



Associates' Top Benefits of Working With AMRs

83%

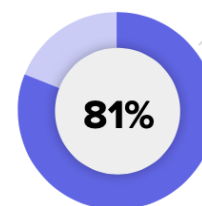
Increases productivity

83%

Reduces travel time and walking

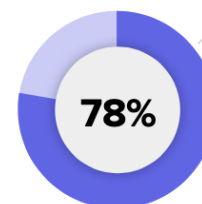
73%

Improves accuracy



of associates

Agree AMRs would make warehouse jobs less stressful.



of associates

Agree walking fewer miles would make their job more enjoyable, even if they had to pick more items.

Empower your connected workforce

Today, five in 10 decision-makers are utilizing mobility with some level of automated data capture, location solution, or predictive and adaptive data analytics. Within five years, almost six in 10 are expected to be utilizing mobility with these sensor-based technologies, with more emphasis on automating decision-making and constantly predicting and adapting operations in real-time.

With AbeTech, you can do more with less when you have access to connected technology experts who understand your challenges and simplify your day.

About AbeTech

At AbeTech, we are dedicated to helping technology leaders simplify their connected technology transformation. We understand your challenges, simplify your technology initiatives, and enable you to maximize your IT investments.

About Zebra Technologies

Zebra 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. Zebra serves customers of all sizes with an award-winning portfolio of hardware, software, services and solutions that digitize and automate workflows.

Contact us for a complimentary needs assessment

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