Logistics Management
Supply Chain Management Review
SupplyChain247

RESEARCH BRIEF

2025 Warehouse Automation and Order Fulfillment Study

How companies are future-proofing their fulfillment operations, what's driving automation investments and where decision-makers see the greatest opportunities.

HAI ROBOTICS

THE NEW ERA OF WAREHOUSE AUTOMATION

Warehouse automation is no longer reserved for the few — it's now within reach for the many.

In the past five years, the warehouse automation landscape has shifted dramatically. What was once too cost-prohibitive and operationally disruptive for many is now faster to deploy, more modular and easier to scale. Flexible systems have lowered the barrier to entry, allowing companies across industries to implement automation without massive upfront investments, drawn-out installations, or halting their ongoing operations.

The transformation is driving remarkable growth. The global warehouse automation market — encompassing robotic solutions for picking, packing, storage, fulfillment and more — is projected to reach nearly $60 billion by 2030, nearly triple its value in 2023.

This growth isn't happening in a vacuum. Global supply chain volatility, evolving customer expectations and labor shortages have forced distribution leaders to rethink how they plan, build and operate their facilities. In place of the traditional, rigid systems of the early aughts, companies are now prioritizing automation that is flexible, intelligent and modular — able to adapt to changing needs without sacrificing performance or uptime.

Specifically, operators are turning to automation to improve inventory visibility, streamline picking, optimize space and layouts, support employee safety and retention, and more. Interest spans a wide range of technologies — from smart storage tools and order-picking mobile robots to advanced solutions that do both, like Automated Storage and Retrieval Systems (AS/RS).

To understand how companies are responding to this pivotal moment, Peerless Media Research, in partnership with Hai Robotics, surveyed Logistics Management readers for the 2025 Warehouse Automation and Order Fulfillment Study. The findings shed light on how companies are future-proofing their fulfillment operations, what's driving automation investments and where decision-makers see the greatest opportunities.

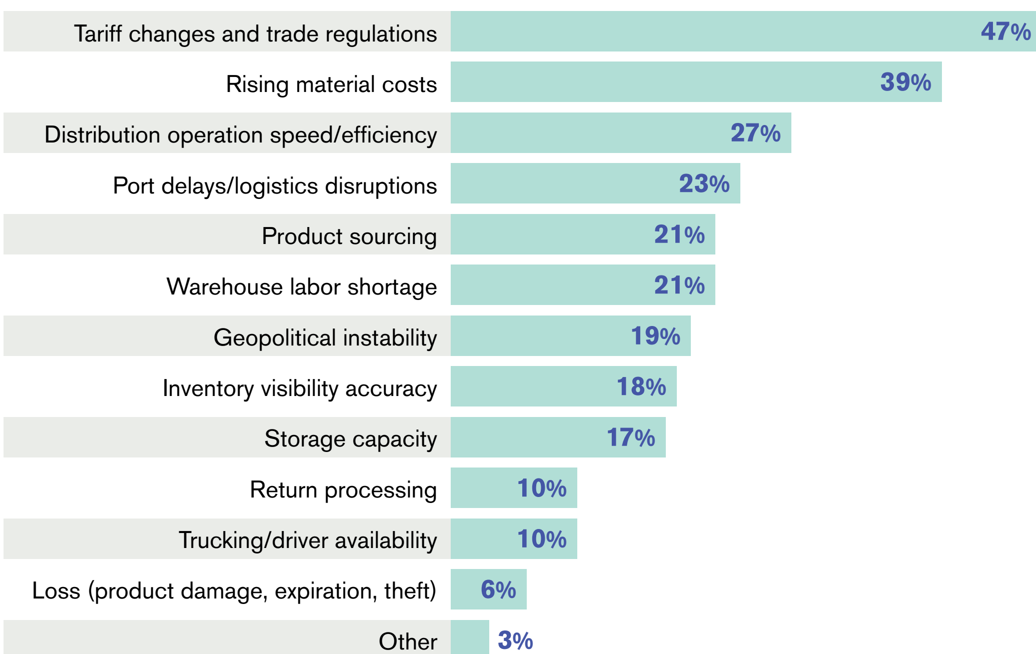
What follows is a data-informed analysis of the strategies, technologies and challenges defining the next era of warehouse automation.

BUILDING FOR TODAY'S CHALLENGES WITH THE FUTURE IN MIND

Top-of-mind challenges — from global trade uncertainty to labor shortages — are shaping the way companies design and operate their fulfillment networks. Nearly half of respondents point to changing tariffs and trade regulations as the most disruptive force, followed by material cost increases and the growing need to improve fulfillment speed and efficiency (Figure 1).

FIGURE 1

Which of the following has had the greatest impact on your supply chain in the past 3 years?
(Select top 3 challenges)



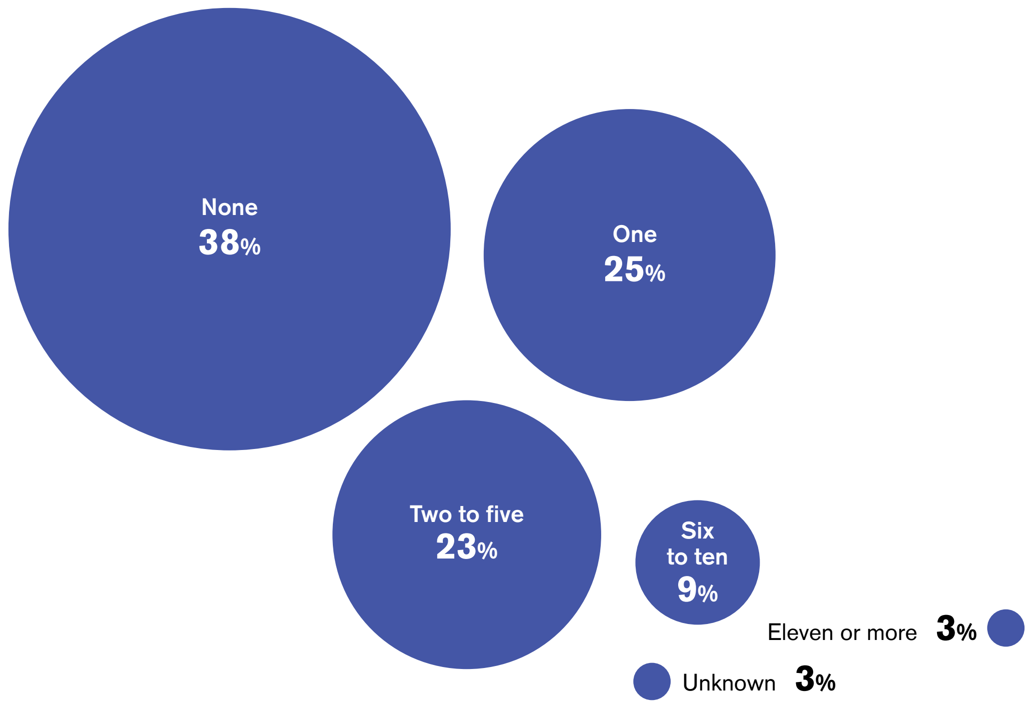
To meet these pressures, companies are expanding their warehouse footprints and improving their existing infrastructure (Figure 2). Since 2020:

- 25% added one U.S. facility
- 23% added two to five
- 12% added six or more

Yet 38% have made no additions, and nearly two-thirds of respondents have no plans to acquire additional warehousing space (Figure 2).

FIGURE 2

How many new warehousing facilities in the U.S. has your company built or added in the last 5 years?



KEY TAKEAWAY

Companies are approaching new real estate with caution. While some are building new DCs, many are focused on maximizing space and performance in existing facilities. Flexibility and cost-efficiency are top priorities in the face of economic and geopolitical uncertainty.

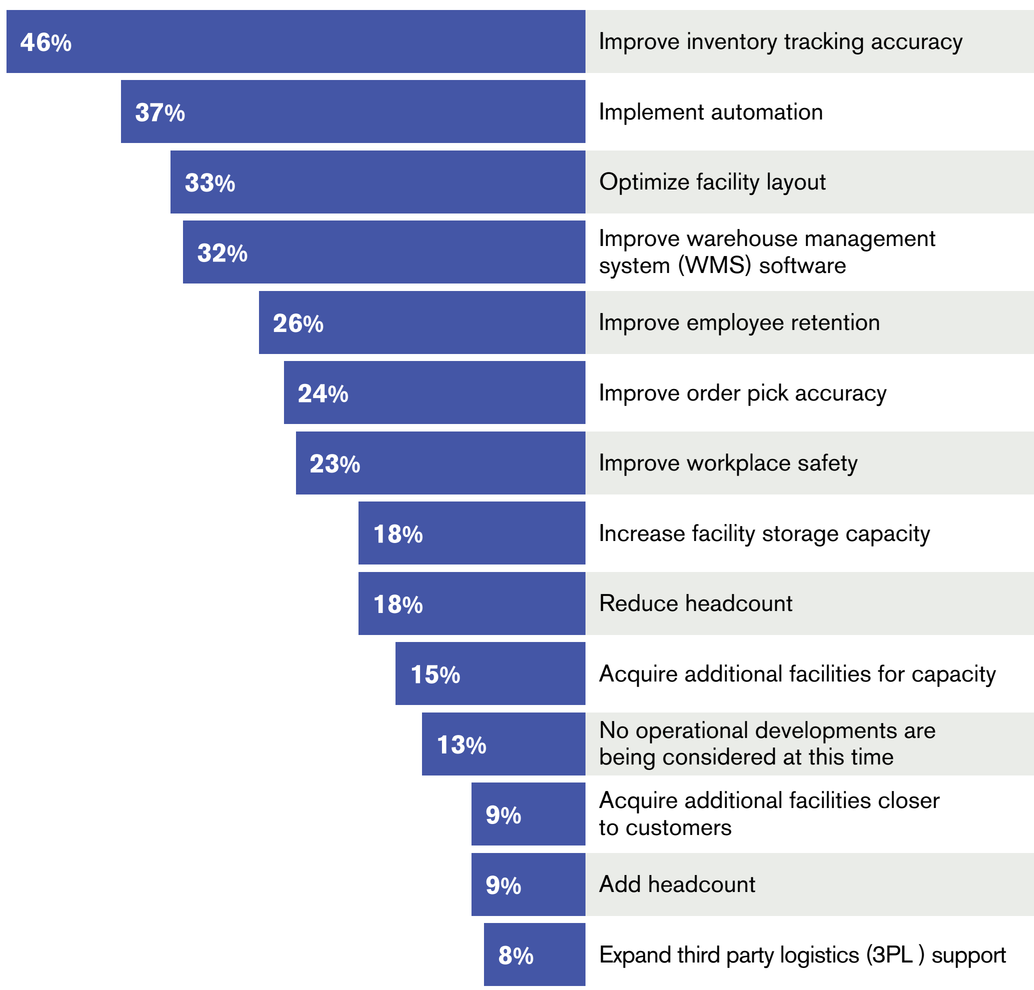
INSIDE THE WAREHOUSE AUTOMATION BOOM

So where are DC operators looking to invest beyond new real estate? Interest in automation is growing fast — along with operational improvements that boost efficiency, accuracy and employee wellness.

More than a third of respondents say they're exploring automation for their warehouse operations, with many also prioritizing better inventory tracking, optimizing facility layouts, upgrading warehouse management systems (WMS) and improving order pick accuracy. Improving employee retention and workplace safety also rank high (Figure 3).

FIGURE 3

What operational developments are you exploring for your business right now? (Select all that apply)

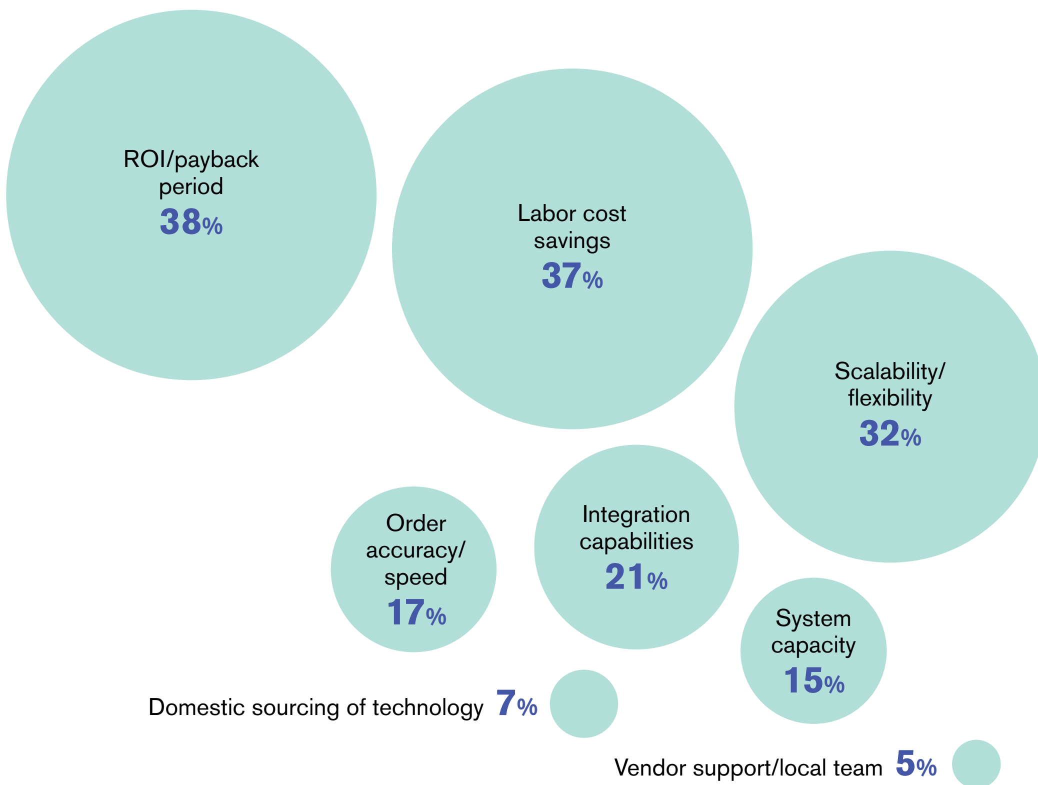


The top drivers behind automation investment include (Figure 4):

1. ROI
2. Labor cost savings
3. Scalability and flexibility

FIGURE 4

What factors most influence your decision to invest in warehouse automation?
(Select up to 2)



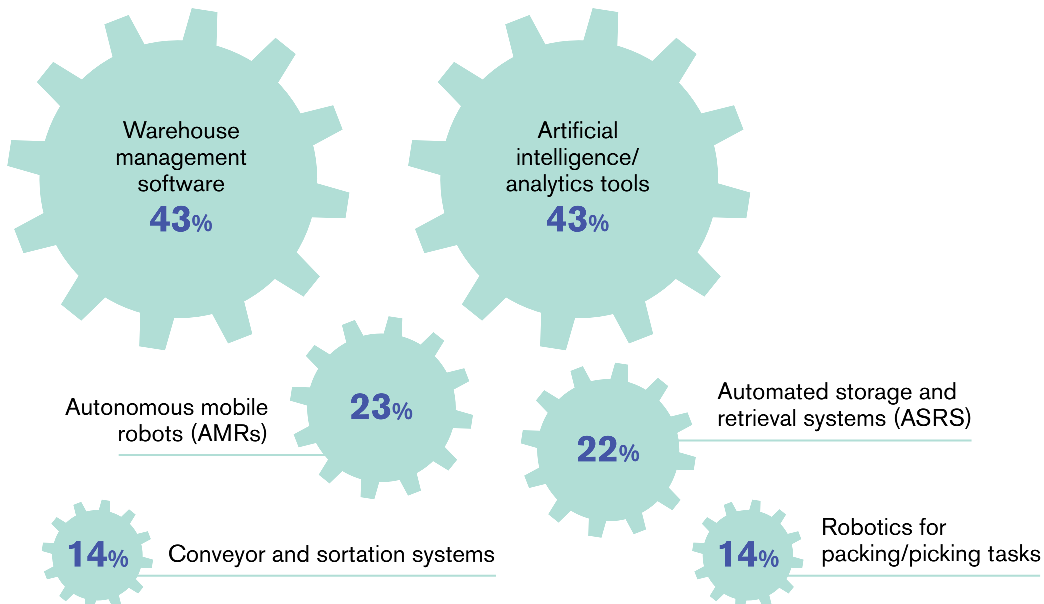
Respondents also value ease of integration with existing systems, improved order speed and accuracy, and overall system capacity.

When it comes to specific technologies, interest is broad. Artificial intelligence and analytics tools, along with WMS, top the list, while robotic picking and fulfillment solutions like Automated Storage and Retrieval Systems (AS/RS) and autonomous mobile robots (AMRs) are gaining traction (Figure 5).

FIGURE 5

Which types of automation are most interesting to your business right now?

(Select up to 2)



KEY TAKEAWAY

As warehouses grapple with labor shortages, inventory complexity and other operational constraints, decision-makers want tools that deliver measurable gains. Demand is growing for intelligent, flexible solutions that help operators improve inventory visibility, optimize space, boost throughput and improve order accuracy — all while supporting employee retention and safety — for long-term resilience and growth.

SOURCING SHIFTS: FROM BUFFER STOCK TO BETTER PARTNERS

In today's climate of uncertainty — from geopolitical tensions to supply chain shocks — distribution leaders are reevaluating how and where they source (Figure 6).

Nearly 80% of respondents say they've changed their sourcing strategy at least once in the past five years, and almost half (47%) are increasing inventory levels to buffer against disruptions.

FIGURE 6

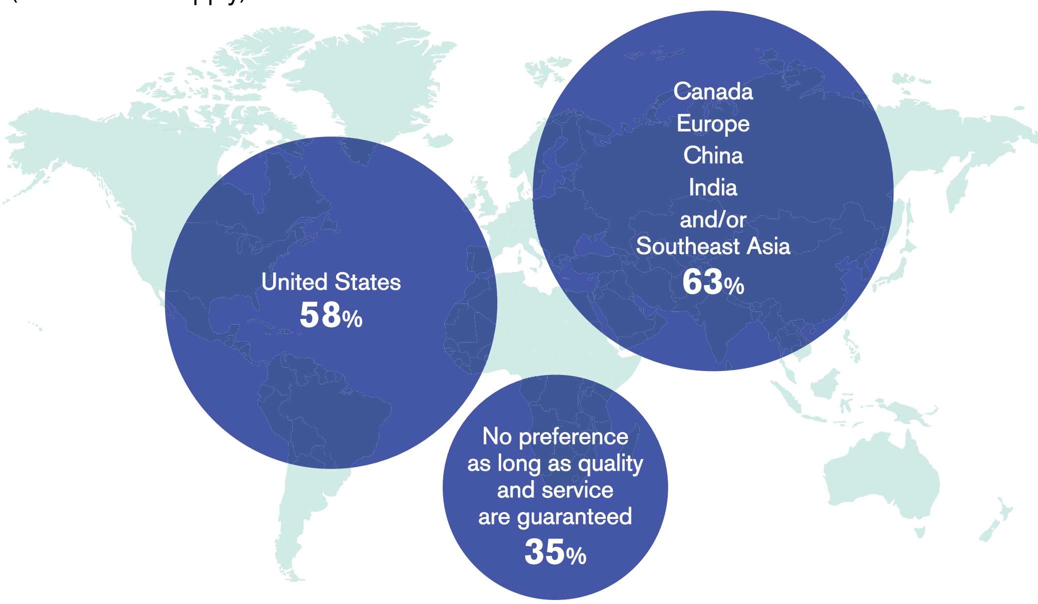
How have sourcing strategies changed in your organization in the last 5 years?
(Select all that apply)

As safety stock grows and space gets tighter, operations leaders are seeking ways to maximize capacity without sacrificing throughput. That's driving interest in automation systems that utilize vertical space, ultra-dense storage layouts and smart inventory management to give teams fast, accurate access to every SKU while condensing the overall footprint.

When it comes to evaluating automation suppliers, geographic location is a factor — but it's not the only one. While about half of respondents prefer to source automation equipment and software from U.S.-based providers, a majority are open to international suppliers, and more than a third of professionals say they have no specific location preference, as long as quality and service are guaranteed (Figure 7).

FIGURE 7

What regions are you and your company currently open to sourcing automation equipment and software from?
(Select all that apply)



The message is clear: operators want resilience. That means partnering with automation providers who deliver effective, reliable and easily serviceable solutions — regardless of where they're headquartered.

KEY TAKEAWAY

In a rapidly shifting landscape, companies aren't just looking for domestic providers — they're looking for dependable ones.
More than ever, companies need solution providers that are:

- *Vendor-agnostic, with the ability to integrate into existing WMS, ERP or material handling systems*
- *Flexible in sourcing, with supply chains that span regions and rely on industry-standard components*
- *Focused on uptime, with strong local service and support networks*

SETTING KEY GOALS AND PRIORITIES

When asked about their top operational goals for the next two years, respondents focused on cost efficiency, inventory visibility, space utilization and order fulfillment performance. Unsurprisingly, their top concerns align closely with these priorities (Figure 8):

FIGURE 8

Top goals

- **64%** Reduce **operating** costs
- **41%** Improve **inventory** visibility
- **40%** Optimize **space** utilization **23%** and expand **capacity**
- **39%** Increase throughput and order **accuracy**
- **19%** Reduce dependency on **manual labor**

Top concerns

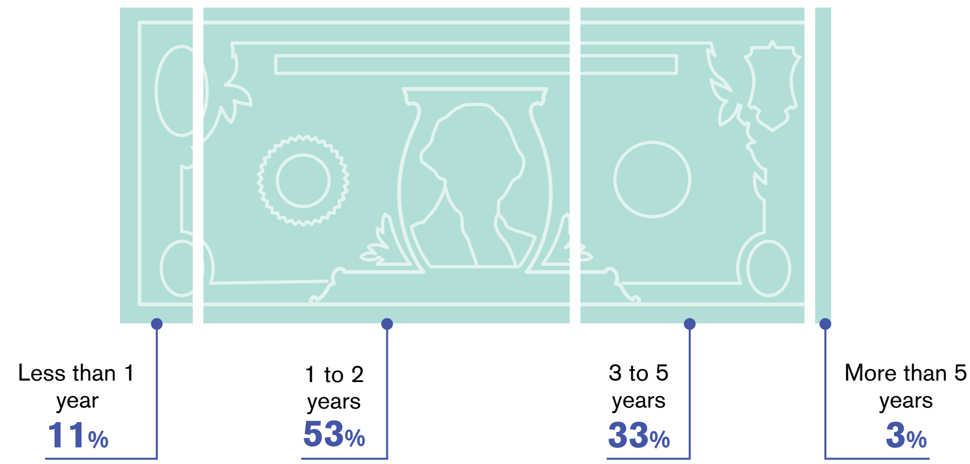
- **25%** Concern over ROI on **technology investments** **13%** and **real estate** and **utility costs**
- **20%** Concern about rising supply chain **complexity**
- **13%** Concern over rising **facility** costs **13%** and demand **fluctuations**
- **9%** Concern about keeping up with competitors' **tech adoption**
- **19%** Concern about labor **availability** and **retention**

Planning horizons reflect today's fast-moving market (Figure 9):

- 53% plan one to two years out
- 33% plan three to five years ahead
- Only 3% plan beyond five years

FIGURE 9

How far out does your company typically plan warehouse infrastructure investments?



Most respondents take a short- to medium-term approach to warehouse infrastructure planning — a reflection of the need to remain agile as technologies, customer expectations and supply chain dynamics continue to shift.

KEY TAKEAWAY

Short- and midterm ROI drives decisions.
Warehouse leaders are under pressure to show clear value from automation investments, and they're planning accordingly.

USING AUTOMATION TO OPTIMIZE, SCALE AND THRIVE

Today's warehouse leaders face no shortage of pressure — but they're not standing still.

As fulfillment grows more complex, operators are increasingly turning to automation to stay competitive — investing in solutions that streamline workflows, optimize space, enhance inventory control and support workforce stability. This is especially critical as many companies approach facility expansions with caution and focus on getting more from their existing space.

Looking ahead, the focus will be on flexible, scalable systems that enable fast adaptation to shifting business demands without sacrificing performance.

The path forward is clear: intelligent automation that solves today's challenges and scales for tomorrow. Those investing now are best positioned to lead in the dynamic, fast-moving market.

WHO TOOK PART IN THIS YEAR'S SURVEY?

The insights in this report come straight from decision-makers. The professionals surveyed have the authority and experience to shape real-world warehouse strategies, giving this research its weight and relevance.

Roles: Warehouse operations, automation advancement, facility development and distribution

Industries: Manufacturing, retail/wholesale, transportation and warehousing, third-party logistics (3PL) and e-commerce/direct-to-consumer

Seniority: Managers, directors/vice presidents and C-suite leaders

Scope: Many oversee multiple facilities — some more than 10 — and play active roles in vendor selection, investment approval and operational planning

ABOUT HAI ROBOTICS

Hai Robotics is a leading global provider of Automated Storage and Retrieval Systems (ASRS), delivering unparalleled system flexibility and maximizing operational efficiency for facilities of all sizes and conditions.

Hai developed a modular approach to automation called HaiPick Systems. By integrating advanced robotic equipment and software with nearly any industry-standard racking and storage materials, Hai Robotics delivers tailored automation solutions that can be easily modified even after implementation.

HaiPick Systems reduce warehouse storage footprints by up to 75% while increasing storage density and vertical capacity to over 39 feet (12 meters). They achieve 99%+ order pick accuracy, provide a 4x boost in efficiency, 3x daily throughput, and eliminate the need for human travel in order picking.

With 1,300+ projects implemented across 40+ countries, supported by 8 global offices and 60+ partners, Hai Robotics ensures reliable local support worldwide.

Learn more at HaiRobotics.com.