

## **North America Automated Storage and Retrieval Systems Market Report and Forecast 2025-2034**

Market Report | 2025-06-05 | 120 pages | EMR Inc.

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### **Report description:**

The North America automated storage and retrieval systems market size was valued at USD 3.44 Billion in 2024. The market is further projected to grow at a CAGR of 7.50% between 2025 and 2034, reaching a value of USD 7.09 Billion by 2034.

Automated storage and retrieval systems (AS/RS) are computer-controlled systems designed for automating the storage and recovery of goods. These systems use a combination of machinery, software, and robotics to efficiently handle, store, and retrieve items from designated storage locations. AS/RS enhance warehouse management by optimizing space utilization, reducing errors, and increasing overall operational efficiency through the automated handling of inventory.

The automated storage and retrieval systems (AS/RS) market in North America displays a robust growth, underpinned by factors such as the increasing adoption of automation in warehouses, the need for efficient inventory management, and the surge in e-commerce activities. AS/RS offer high accuracy for many warehouse operations, including storage, order picking, and stock assembly, and help in avoiding delays in product retrieval. There are various types of AS/RS, such as Autonomous Mobile Robots (AMRs), horizontal and vertical carousels, Vertical Lift Modules (VLMs), mini-loaders, and unit-loaders. They can be integrated with Warehouse Execution Systems (WES) software to meet specific industry requirements.

### **Key Trends and Developments**

Integration of robotic systems within AS/RS, introduction of multi-level shuttle systems, and increased data-driven decision-making are accelerating the market expansion

June 2023

Falcon Autotech introduced NEO, an automated storage and retrieval system. It utilises robotics, AI, and advances sensors to

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automate the warehouse operations.

November 2021

Honeywell International Inc. launched an innovative AS/RS system using artificial intelligence and machine learning to enhance order fulfilment, product sequencing, and returns processing. This solution helps manage over 20,000 stock units and delivers a 40% increase in output.

February 2021

Rockwell Automation and Fanuc America collaborated for an apprenticeship program to help develop workers' skills for robotics and automation in storage and distribution.

February 2020

ABB Limited and Covariant partnered to bring AI-enabled storage systems for fully autonomous warehouse order fulfilment solution.

Rising integration of robotic systems within AS/RS

The integration of robotic systems within AS/RS, which enhances the efficiency of order picking, inventory management, and overall warehouse operations is one of the prominent North America automated storage and retrieval systems market trends.

Introduction of multi-level shuttle systems

The introduction of multi-level shuttle systems is gaining traction because they provide a dynamic and flexible solution for high-density storage and retrieval, catering to the evolving needs of modern warehouses.

Adoption of data-driven decision-making

The expansion of the automated storage and retrieval systems (ASRS) market is because of data-driven decision-making. AS/RS systems are now incorporating advanced analytics, machine learning, and real-time monitoring for optimising warehouse processes, propelling the North America automated storage and retrieval systems market growth.

Increased labour costs

The steady growth of wages paid to workers has made warehouse operators look for alternate solutions for warehouse management, such as AS/RS. This drives the demand for automation from end user industries that are highly dependent on the workforce.

The need for maximising warehouse space utilisation is a key driver, propelling the North America automated storage and retrieval systems market demand as the AS/RS solutions provide a space-efficient storage and retrieval system by allowing the storage of greater density goods. Many players have integrated robotic systems in warehouses, for example, Exotek, a business management firm that deals with robotic systems, offers a Skypod system, an automated mobile warehouse robot that minimises the error margin, ensures high accuracy and reliability in order fulfilment.

Other than robotic systems, players are integrating data driven solutions to optimise the warehouse operations. As per the North

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America automated storage and retrieval systems market report, Momentum WES, a software developed by Honeywell International Inc. in 2021, is designed to manage the complexities of warehouses, enhance performance, and organise tasks among all automated systems and resources. Momentum WES maximises AS/RS system effectiveness by utilising cutting-edge ML algorithms and AI techniques in a data science engine called Decision Intelligence.

## Market Segmentation

North America Automated Storage and Retrieval Systems Market Report and Forecast 2025-2034 offers a detailed analysis of the market based on the following segments:

### Market Breakup by Type

- Unit Load
- Mini Load
- Carousel
- Vertical Lift Module
- Mid Load

### Market Breakup by Function

- Assembly
- Distribution
- Kitting
- Order Picking
- Storage
- Others

### Market Breakup by End Use

- Automotive
- Healthcare
- Retail and E-Commerce
- Aerospace and Defence
- Electronics and Semiconductor
- Others

### Market Breakup by Country

- United States of America
- Canada

Unit load as a type of AS/RS holds a significant market share due to their capacity of handling heavier loads

According to North America automated storage and retrieval systems market analysis, the unit load segment's share is expected to grow through the forecast period. The unit load AS/RS crane systems are suitable for big/bulky loads and cold storage facilities, along with its use in regular warehousing. These systems provide efficient, reliable, and cost-effective transport of pallets and other large loads, which is driving the segment's growth.

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The carousel-based AS/RS segment is also among one of the fastest-growing segments in the North America automated storage and retrieval systems market. They are generally smaller than a unit load AS/RS and can handle small loads, providing a fast and efficient solution for containers, trays, cases, and bins. They are used in various industries, including healthcare, for storing small medical equipment, pharmaceuticals, and nursing items.

In addition to unit load and carousel-based AS/RS, mini-load AS/RS is another type of automated storage and retrieval system that is commonly used in industries where space is a constraint. Typically, a mini-load AS/RS has a vertical height of 10-40 feet and is used for storing books and documents.

Retail and e-commerce sector is expected to grow in the forecast period due to rise in online shopping

The retail and e-commerce segment is growing due to the rising online orders and consumer expectations for quick deliveries. This contributes to the increasing adoption of automated storage and retrieval systems by e-commerce giants to streamline their order fulfilment processes, which is promoting the overall North America automated storage and retrieval systems market development.

According to Digital Commerce 360, US witnessed the highest ever e-commerce sales in the fourth quarter of 2022. The sales increased from USD 281.58 billion in Q4 2021 to USD 299.12 billion in Q4 2022. Thus, the rising e-commerce sales in North America indicate opportunities for the North America automated storage and retrieval systems market growth.

In addition, by adopting ASRS, healthcare providers can reduce labour costs, eliminate errors, and improve patient care. Automation reduces the likelihood of costly errors, such as waste or medication mix-ups, which can result in legal liabilities. AR/RS can also track expiration dates, preventing the use of expired drugs.

#### Competitive Landscape

The market players are constantly introducing advanced technologies and integrating AI in the systems to gain a competitive edge in the market.

##### Daifuku Co., Ltd.

Daifuku Co., Ltd. is a Japanese company that was founded in 1937. It is a leading material handling equipment company that provides consulting, engineering, design, manufacture, installation, and after-sales services for logistics systems and material handling equipment. As per the North America automated storage and retrieval systems market analysis, the company recently expanded its market presence through the acquisition of Vega Conveyors, a leading warehouse automation provider, strengthening its portfolio of AS/RS solutions.

##### Honeywell International Inc.

Honeywell International Inc. is a multinational conglomerate corporation headquartered in North Carolina. It was founded in 1906 and the company operates in four main areas of business: aerospace, building technologies, performance materials and technologies, and safety and productivity solutions. The company recently launched a next generation AS/RS system, 'Momentum WES', incorporating advanced robotics and machine learning for improved warehouse efficiency.

##### KUKA AG

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KUKA AG is a global automation corporation and is headquartered in Augsburg, Germany. KUKA is one of the world's leading suppliers of intelligent automation solutions, offering a wide range of products and services, including robots, cells, fully automated systems, and their connectivity in various markets such as automotive, electronics, metal and plastic, consumer goods, e-commerce, retail, and healthcare.

Toyota Industries Corp.

Toyota Industries Corp. was established in 1926 and the company is active in five business areas, namely, automotive, materials handling, electronics, logistics, and textile machinery. The company manufactures automotive engines for use in Toyota-branded automobiles such as Avensis, Corolla, Crown, and Land Cruiser.

Other players in the North America automated storage and retrieval systems market include KNAPP AG, Murata Machinery, Ltd., FRITZ SCHAFFER GMBH & CO. KG, Bastian Solutions, LLC, and viastore SYSTEMS Inc., among others.

United States dominates the market due to the significant presence of e-commerce giants in the region

The United States holds a significant North America automated storage and retrieval systems market share, propelled by the robust presence of e-commerce giants, an advanced logistics sector, and the integration of automation in manufacturing.

Furthermore, the United States, over the forecast period, is expected to witness robust growth in several domestic robotic solutions, owing to the government policies that aim at increasing domestic production rather than importing finished goods.

According to RIA estimates, as of September 2020, approximately 293,000 robots were in use in the United States. With the increasing trends toward locally produced robots, the country's manufacturing sector is anticipated to create a considerable demand for material handling solutions, including ASRS, in the country.

## **Table of Contents:**

- 1 Executive Summary
  - 1.1 Market Size 2024-2025
  - 1.2 Market Growth 2025(F)-2034(F)
  - 1.3 Key Demand Drivers
  - 1.4 Key Players and Competitive Structure
  - 1.5 Industry Best Practices
  - 1.6 Recent Trends and Developments
  - 1.7 Industry Outlook
- 2 Market Overview and Stakeholder Insights
  - 2.1 Market Trends
  - 2.2 Key Verticals
  - 2.3 Key Countries
  - 2.4 Supplier Power
  - 2.5 Buyer Power
  - 2.6 Key Market Opportunities and Risks
  - 2.7 Key Initiatives by Stakeholders
- 3 Economic Summary
  - 3.1 GDP Outlook

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- 3.2 GDP Per Capita Growth
- 3.3 Inflation Trends
- 3.4 Democracy Index
- 3.5 Gross Public Debt Ratios
- 3.6 Balance of Payment (BoP) Position
- 3.7 Population Outlook
- 3.8 Urbanisation Trends
- 4 Country Risk Profiles
  - 4.1 Country Risk
  - 4.2 Business Climate
- 5 Global Automated Storage and Retrieval Systems Market Overview
  - 5.1 Key Industry Highlights
  - 5.2 Global Automated Storage and Retrieval Systems Historical Market (2018-2024)
  - 5.3 Global Automated Storage and Retrieval Systems Market Forecast (2025-2034)
  - 5.4 Global Automated Storage and Retrieval Systems Market Share by Region
    - 5.4.1 North America
    - 5.4.2 Europe
    - 5.4.3 Asia Pacific
    - 5.4.4 Latin America
    - 5.4.5 Middle East and Africa
- 6 North America Automated Storage and Retrieval Systems Market Overview
  - 6.1 Key Industry Highlights
  - 6.2 North America Automated Storage and Retrieval Systems Historical Market (2018-2024)
  - 6.3 North America Automated Storage and Retrieval Systems Market Forecast (2025-2034)
- 7 North America Automated Storage and Retrieval Systems Market by Type
  - 7.1 Unit Load
    - 7.1.1 Historical Trend (2018-2024)
    - 7.1.2 Forecast Trend (2025-2034)
  - 7.2 Mini Load
    - 7.2.1 Historical Trend (2018-2024)
    - 7.2.2 Forecast Trend (2025-2034)
  - 7.3 Carousel
    - 7.3.1 Historical Trend (2018-2024)
    - 7.3.2 Forecast Trend (2025-2034)
  - 7.4 Vertical Lift Module
    - 7.4.1 Historical Trend (2018-2024)
    - 7.4.2 Forecast Trend (2025-2034)
  - 7.5 Mid Load
    - 7.5.1 Historical Trend (2018-2024)
    - 7.5.2 Forecast Trend (2025-2034)
- 8 North America Automated Storage and Retrieval Systems Market by Function
  - 8.1 Assembly
    - 8.1.1 Historical Trend (2018-2024)
    - 8.1.2 Forecast Trend (2025-2034)
  - 8.2 Distribution
    - 8.2.1 Historical Trend (2018-2024)
    - 8.2.2 Forecast Trend (2025-2034)

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- 8.3 Kitting
  - 8.3.1 Historical Trend (2018-2024)
  - 8.3.2 Forecast Trend (2025-2034)
- 8.4 Order Picking
  - 8.4.1 Historical Trend (2018-2024)
  - 8.4.2 Forecast Trend (2025-2034)
- 8.5 Storage
  - 8.5.1 Historical Trend (2018-2024)
  - 8.5.2 Forecast Trend (2025-2034)
- 8.6 Others
- 9 North America Automated Storage and Retrieval Systems Market by End Use
  - 9.1 Automotive
    - 9.1.1 Historical Trend (2018-2024)
    - 9.1.2 Forecast Trend (2025-2034)
  - 9.2 Healthcare
    - 9.2.1 Historical Trend (2018-2024)
    - 9.2.2 Forecast Trend (2025-2034)
  - 9.3 Retail and E-commerce
    - 9.3.1 Historical Trend (2018-2024)
    - 9.3.2 Forecast Trend (2025-2034)
  - 9.4 Aerospace and Defense
    - 9.4.1 Historical Trend (2018-2024)
    - 9.4.2 Forecast Trend (2025-2034)
  - 9.5 Electronics and Semiconductor
    - 9.5.1 Historical Trend (2018-2024)
    - 9.5.2 Forecast Trend (2025-2034)
  - 9.6 Others
- 10 North America Automated Storage and Retrieval Systems Market by Country
  - 10.1 United States of America
    - 10.1.1 Historical Trend (2018-2024)
    - 10.1.2 Forecast Trend (2025-2034)
  - 10.2 Canada
    - 10.2.1 Historical Trend (2018-2024)
    - 10.2.2 Forecast Trend (2025-2034)
- 11 Market Dynamics
  - 11.1 SWOT Analysis
    - 11.1.1 Strengths
    - 11.1.2 Weaknesses
    - 11.1.3 Opportunities
    - 11.1.4 Threats
  - 11.2 Porter's Five Forces Analysis
    - 11.2.1 Supplier's Power
    - 11.2.2 Buyer's Power
    - 11.2.3 Threat of New Entrants
    - 11.2.4 Degree of Rivalry
    - 11.2.5 Threat of Substitutes
  - 11.3 Key Indicators of Demand

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- 11.4 Key Indicators of Price
- 12 Competitive Landscape
  - 12.1 Supplier Selection
  - 12.2 Key Global Players
  - 12.3 Key Regional Players
  - 12.4 Key Player Strategies
  - 12.5 Company Profiles
    - 12.5.1 Daifuku Co., Ltd.
      - 12.5.1.1 Company Overview
      - 12.5.1.2 Product Portfolio
      - 12.5.1.3 Demographic Reach and Achievements
      - 12.5.1.4 Certifications
    - 12.5.2 Honeywell International Inc.
      - 12.5.2.1 Company Overview
      - 12.5.2.2 Product Portfolio
      - 12.5.2.3 Demographic Reach and Achievements
      - 12.5.2.4 Certifications
    - 12.5.3 KUKA AG
      - 12.5.3.1 Company Overview
      - 12.5.3.2 Product Portfolio
      - 12.5.3.3 Demographic Reach and Achievements
      - 12.5.3.4 Certifications
    - 12.5.4 KNAPP AG
      - 12.5.4.1 Company Overview
      - 12.5.4.2 Product Portfolio
      - 12.5.4.3 Demographic Reach and Achievements
      - 12.5.4.4 Certifications
    - 12.5.5 Toyota Industries Corp.
      - 12.5.5.1 Company Overview
      - 12.5.5.2 Product Portfolio
      - 12.5.5.3 Demographic Reach and Achievements
      - 12.5.5.4 Certifications
    - 12.5.6 Murata Machinery, Ltd.
      - 12.5.6.1 Company Overview
      - 12.5.6.2 Product Portfolio
      - 12.5.6.3 Demographic Reach and Achievements
      - 12.5.6.4 Certifications
    - 12.5.7 FRITZ SCHAFER GMBH & CO. KG
      - 12.5.7.1 Company Overview
      - 12.5.7.2 Product Portfolio
      - 12.5.7.3 Demographic Reach and Achievements
      - 12.5.7.4 Certifications
    - 12.5.8 Bastian Solutions, LLC
      - 12.5.8.1 Company Overview
      - 12.5.8.2 Product Portfolio
      - 12.5.8.3 Demographic Reach and Achievements
      - 12.5.8.4 Certifications

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12.5.9 viastore SYSTEMS Inc.  
12.5.9.1 Company Overview  
12.5.9.2 Product Portfolio  
12.5.9.3 Demographic Reach and Achievements  
12.5.9.4 Certifications  
12.5.10 Others

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