

Material Handling Automation Market Forecasts to 2034 – Global Analysis By Component (Hardware, Software and Services), Product Type, Function, Technology, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Material Handling Automation Market is accounted for \$38.6 billion in 2026 and is expected to reach \$75.2 billion by 2034 growing at a CAGR of 8.7% during the forecast period. Material handling automation involves deploying smart technologies like robotics, conveyor networks, automated storage and retrieval systems, and autonomous mobile robots to efficiently transport, organize, and manage materials in production, warehousing, and logistics environments. It significantly boosts productivity, lowers operational expenses, reduces manual mistakes, and strengthens workplace safety standards. Sectors such as automotive, e-commerce, healthcare, and food processing widely implement these systems to optimize supply chains and handle increasing demand. The integration of artificial intelligence and Internet of Things technologies supports real-time monitoring, predictive upkeep, and streamlined operations, establishing material handling automation as a vital element in industrial modernization and processes.

According to the International Federation of Robotics (IFR), global industrial robot installations reached 553,000 units in 2022, with logistics and material handling applications accounting for a significant share. This highlights automation's growing role in warehouses and manufacturing supply chains.

Market Dynamics:

Driver:

Rapid growth of e-commerce and omnichannel retail

Material handling automation is strongly supported by the fast rise of online shopping and integrated retail channels across global markets. Increasing customer expectations for quick deliveries, precise order processing, and real-time stock visibility are encouraging warehouses to adopt advanced automated systems. Solutions like robotic picking tools, automated storage units, and conveyor-based systems streamline large-scale order handling. Retailers operating in digital and physical channels need adaptable logistics systems to manage fluctuating demand efficiently. With growing pressure for speed, accuracy, and operational efficiency, automation plays a crucial role in optimizing warehouse performance and strengthening supply chain responsiveness in modern retail environments.

Restraint:

High initial investment and implementation costs

The material handling automation market faces a major limitation due to the substantial upfront costs associated with advanced automation systems. Implementing technologies like robotic units, automated storage solutions, and intelligent conveyor systems requires significant financial investment. Beyond hardware expenses, companies must also spend on integration, facility upgrades, maintenance setup, and workforce training. Small and mid-sized businesses often struggle to justify these expenditures because returns are realized over a longer duration. Concerns about financial risk and delayed profitability further discourage rapid adoption. As a result, high capital requirements remain a key barrier, particularly in emerging markets and price-sensitive industrial sectors globally.

Opportunity:

Expansion of smart warehousing and industry 4.0 adoption

Material handling automation is gaining significant opportunities from the growing shift toward intelligent warehousing and Industry 4.0 integration across industrial sectors. Businesses are increasingly adopting advanced technologies like artificial intelligence, Internet of Things, machine learning, and cloud computing to build highly connected logistics systems. These technologies support real-time monitoring of inventory, predictive equipment servicing, and efficient operational planning. Automation tools such as robotic transport systems and automated storage solutions are widely used to

enhance productivity and flexibility.

Threat:

Cybersecurity risks and data vulnerabilities

Material handling automation faces a growing threat from cybersecurity vulnerabilities associated with connected digital systems. The increasing use of IoT devices, cloud computing, and automated control networks in warehouses and industrial facilities creates multiple points of exposure to cyber threats. Unauthorized access or system breaches can result in operational disruption, data theft, or manipulation of automated workflows. Additionally, combining modern technologies with outdated infrastructure further increases security weaknesses. Many organizations also lack advanced cybersecurity measures and trained personnel to manage these risks effectively. As a result, cybersecurity concerns remain a critical challenge that can hinder trust and slow down market adoption.

Covid-19 Impact:

The COVID-19 outbreak strongly influenced the material handling automation industry by speeding up the shift toward automated technologies in logistics, warehousing, and production environments. Restrictions on workforce mobility, labor shortages, and disrupted supply chains encouraged companies to adopt robotics and automated systems to maintain operations. The surge in online shopping during lockdown periods further increased demand for efficient warehouse automation. Although early stages of the pandemic caused delays in installations and reduced investments, the long-term effect was positive. It significantly pushed organizations toward digital transformation and increased reliance on automated material handling solutions for resilience and operational stability.

The conveyor systems segment is expected to be the largest during the forecast period

The conveyor systems segment is expected to account for the largest market share during the forecast period because they are extensively used in multiple sectors, including manufacturing, retail, logistics, and food processing. They enable the seamless and continuous transfer of materials within industrial and warehouse environments, supporting high-throughput operations. Their simple design, operational efficiency, and ease of integration with other automation solutions like robotic systems and automated sortation technologies contribute to their dominance. Additionally,

conveyor systems help minimize manual handling, improve productivity, and maintain consistent material flow.

The pharmaceuticals segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the pharmaceuticals segment is predicted to witness the highest growth rate due to its strong need for accuracy, safety, and regulatory compliance. Pharmaceutical operations demand controlled environments, precise inventory tracking, and contamination-free handling, all of which are supported by advanced automation technologies. Automated systems ensure secure storage and efficient transportation of sensitive medical products across manufacturing and distribution channels. Increasing demand for vaccines, biologics, and advanced therapies is further encouraging automation adoption. Moreover, the requirement for faster distribution and improved supply chain efficiency is driving significant investment in automated material handling solutions within this industry.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share because of its highly developed industrial base and early integration of advanced automation technologies. The region hosts several key industry players and invests heavily in smart factories, automated warehouses, and modern logistics systems. Sectors such as automotive, retail, and healthcare widely use robotics and intelligent material handling solutions to enhance productivity. Growing labor constraints and increasing operational expenses are pushing organizations toward automation adoption. Furthermore, strong focus on digital transformation, innovation, and efficient supply chain management continues to reinforce the region's leading position in the global market.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR owing to strong industrial expansion and rapid development of logistics and manufacturing sectors. Countries including China, India, Japan, and South Korea are increasingly adopting automation to improve productivity and streamline supply chain operations. Growth in e-commerce, rising workforce costs, and demand for efficient warehouse management are boosting the use of robotic systems and automated handling equipment. Supportive government policies promoting smart manufacturing

and foreign investments further strengthen adoption. Additionally, the region's expanding consumer market is driving continuous upgrades in material handling infrastructure and automation technologies.

Key players in the market

Some of the key players in Material Handling Automation Market include Daifuku Co., Ltd., KION GROUP AG, SSI SCHAEFER, Toyota Industries Corporation, Honeywell International Inc., Murata Machinery, Ltd., KUKA AG, ABB Ltd, Schneider Electric SE, Rockwell Automation, Inc., Knapp AG, BEUMER Group, TGW Logistics Group GmbH, Swisslog AG, Kardex AG, Siemens AG, Fives Group and Amazon.

Key Developments:

In December 2025, ABB and HDF Energy have signed a joint development agreement (JDA) to co-develop a high-power, megawatt-class hydrogen fuel cell system designed for use in marine vessels. The project targets use of the system on various vessel types, including large seagoing ships such as container feeder vessels and liquefied hydrogen carriers.

In November 2025, Schneider Electric announced a two-phase supply capacity agreement (SCA) totaling \$1.9 billion in sales. The milestone deal includes prefabricated power modules and the first North American deployment of chillers. The announcement was unveiled at Schneider Electric's Innovation Summit North America in Las Vegas, convening more than 2,500 business leaders and market innovators to accelerate practical solutions for a more resilient, affordable and intelligent energy future.

Components Covered:

Hardware

Software

Services

Product Types Covered:

Automated Storage & Retrieval Systems (AS/RS)

Automated Guided Vehicles (AGVs)

Conveyor Systems

Robotics

Sortation Systems

Palletizers & Depalletizers

Functions Covered:

Storage

Transportation

Sorting & Picking

Packaging

Technologies Covered:

Artificial Intelligence (AI)

IoT & Sensors

Machine Vision

Control Systems

Applications Covered:

Warehousing & Distribution

Manufacturing

Airports

Ports & Logistics Hubs

Retail & E-commerce

End Users Covered:

Automotive

Food & Beverages

Pharmaceuticals

Electronics & Semiconductors

Retail & Consumer Goods

Chemicals

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY COMPONENT

- 5.1 Hardware
- 5.2 Software
- 5.3 Services

6 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY PRODUCT TYPE

- 6.1 Automated Storage & Retrieval Systems (AS/RS)
- 6.2 Automated Guided Vehicles (AGVs)
- 6.3 Conveyor Systems
- 6.4 Robotics
- 6.5 Sortation Systems
- 6.6 Palletizers & Depalletizers

7 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY FUNCTION

- 7.1 Storage
- 7.2 Transportation
- 7.3 Sorting & Picking
- 7.4 Packaging

8 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY TECHNOLOGY

- 8.1 Artificial Intelligence (AI)
- 8.2 IoT & Sensors
- 8.3 Machine Vision
- 8.4 Control Systems

9 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY APPLICATION

- 9.1 Warehousing & Distribution
- 9.2 Manufacturing
- 9.3 Airports
- 9.4 Ports & Logistics Hubs

9.5 Retail & E-commerce

10 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY END USER

10.1 Automotive

10.2 Food & Beverages

10.3 Pharmaceuticals

10.4 Electronics & Semiconductors

10.5 Retail & Consumer Goods

10.6 Chemicals

11 GLOBAL MATERIAL HANDLING AUTOMATION MARKET, BY GEOGRAPHY

11.1 North America

11.1.1 United States

11.1.2 Canada

11.1.3 Mexico

11.2 Europe

11.2.1 United Kingdom

11.2.2 Germany

11.2.3 France

11.2.4 Italy

11.2.5 Spain

11.2.6 Netherlands

11.2.7 Belgium

11.2.8 Sweden

11.2.9 Switzerland

11.2.10 Poland

11.2.11 Rest of Europe

11.3 Asia Pacific

11.3.1 China

11.3.2 Japan

11.3.3 India

11.3.4 South Korea

11.3.5 Australia

11.3.6 Indonesia

11.3.7 Thailand

11.3.8 Malaysia

11.3.9 Singapore

- 11.3.10 Vietnam
- 11.3.11 Rest of Asia Pacific
- 11.4 South America
 - 11.4.1 Brazil
 - 11.4.2 Argentina
 - 11.4.3 Colombia
 - 11.4.4 Chile
 - 11.4.5 Peru
 - 11.4.6 Rest of South America
- 11.5 Rest of the World (RoW)
 - 11.5.1 Middle East
 - 11.5.1.1 Saudi Arabia
 - 11.5.1.2 United Arab Emirates
 - 11.5.1.3 Qatar
 - 11.5.1.4 Israel
 - 11.5.1.5 Rest of Middle East
 - 11.5.2 Africa
 - 11.5.2.1 South Africa
 - 11.5.2.2 Egypt
 - 11.5.2.3 Morocco
 - 11.5.2.4 Rest of Africa

12 STRATEGIC MARKET INTELLIGENCE

- 12.1 Industry Value Network and Supply Chain Assessment
- 12.2 White-Space and Opportunity Mapping
- 12.3 Product Evolution and Market Life Cycle Analysis
- 12.4 Channel, Distributor, and Go-to-Market Assessment

13 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 13.1 Mergers and Acquisitions
- 13.2 Partnerships, Alliances, and Joint Ventures
- 13.3 New Product Launches and Certifications
- 13.4 Capacity Expansion and Investments
- 13.5 Other Strategic Initiatives

14 COMPANY PROFILES

- 14.1 Daifuku Co., Ltd.
- 14.2 KION GROUP AG
- 14.3 SSI SCHAEFER
- 14.4 Toyota Industries Corporation
- 14.5 Honeywell International Inc.
- 14.6 Murata Machinery, Ltd.
- 14.7 KUKA AG
- 14.8 ABB Ltd
- 14.9 Schneider Electric SE
- 14.10 Rockwell Automation, Inc.
- 14.11 Knapp AG
- 14.12 BEUMER Group
- 14.13 TGW Logistics Group GmbH
- 14.14 Swisslog AG
- 14.15 Kardex AG
- 14.16 Siemens AG
- 14.17 Fives Group
- 14.18 Amazon

List Of Tables

LIST OF TABLES

Table 1 Global Material Handling Automation Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Material Handling Automation Market Outlook, By Component (2023-2034) (\$MN)

Table 3 Global Material Handling Automation Market Outlook, By Hardware (2023-2034) (\$MN)

Table 4 Global Material Handling Automation Market Outlook, By Software (2023-2034) (\$MN)

Table 5 Global Material Handling Automation Market Outlook, By Services (2023-2034) (\$MN)

Table 6 Global Material Handling Automation Market Outlook, By Product Type (2023-2034) (\$MN)

Table 7 Global Material Handling Automation Market Outlook, By Automated Storage & Retrieval Systems (AS/RS) (2023-2034) (\$MN)

Table 8 Global Material Handling Automation Market Outlook, By Automated Guided Vehicles (AGVs) (2023-2034) (\$MN)

Table 9 Global Material Handling Automation Market Outlook, By Conveyor Systems (2023-2034) (\$MN)

Table 10 Global Material Handling Automation Market Outlook, By Robotics (2023-2034) (\$MN)

Table 11 Global Material Handling Automation Market Outlook, By Sortation Systems (2023-2034) (\$MN)

Table 12 Global Material Handling Automation Market Outlook, By Palletizers & Depalletizers (2023-2034) (\$MN)

Table 13 Global Material Handling Automation Market Outlook, By Function (2023-2034) (\$MN)

Table 14 Global Material Handling Automation Market Outlook, By Storage (2023-2034) (\$MN)

Table 15 Global Material Handling Automation Market Outlook, By Transportation (2023-2034) (\$MN)

Table 16 Global Material Handling Automation Market Outlook, By Sorting & Picking (2023-2034) (\$MN)

Table 17 Global Material Handling Automation Market Outlook, By Packaging (2023-2034) (\$MN)

Table 18 Global Material Handling Automation Market Outlook, By Technology

(2023-2034) (\$MN)

Table 19 Global Material Handling Automation Market Outlook, By Artificial Intelligence (AI) (2023-2034) (\$MN)

Table 20 Global Material Handling Automation Market Outlook, By IoT & Sensors (2023-2034) (\$MN)

Table 21 Global Material Handling Automation Market Outlook, By Machine Vision (2023-2034) (\$MN)

Table 22 Global Material Handling Automation Market Outlook, By Control Systems (2023-2034) (\$MN)

Table 23 Global Material Handling Automation Market Outlook, By Application (2023-2034) (\$MN)

Table 24 Global Material Handling Automation Market Outlook, By Warehousing & Distribution (2023-2034) (\$MN)

Table 25 Global Material Handling Automation Market Outlook, By Manufacturing (2023-2034) (\$MN)

Table 26 Global Material Handling Automation Market Outlook, By Airports (2023-2034) (\$MN)

Table 27 Global Material Handling Automation Market Outlook, By Ports & Logistics Hubs (2023-2034) (\$MN)

Table 28 Global Material Handling Automation Market Outlook, By Retail & E-commerce (2023-2034) (\$MN)

Table 29 Global Material Handling Automation Market Outlook, By End User (2023-2034) (\$MN)

Table 30 Global Material Handling Automation Market Outlook, By Automotive (2023-2034) (\$MN)

Table 31 Global Material Handling Automation Market Outlook, By Food & Beverages (2023-2034) (\$MN)

Table 32 Global Material Handling Automation Market Outlook, By Pharmaceuticals (2023-2034) (\$MN)

Table 33 Global Material Handling Automation Market Outlook, By Electronics & Semiconductors (2023-2034) (\$MN)

Table 34 Global Material Handling Automation Market Outlook, By Retail & Consumer Goods (2023-2034) (\$MN)

Table 35 Global Material Handling Automation Market Outlook, By Chemicals (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) Regions are also represented in the same manner as above.

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