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Robotics in Logistics Market Forecasts to 2032 – Global Analysis By Component (Hardware, Software and Services), Robot Type (Autonomous Mobile Robots (AMRs), Automated Guided Vehicles (AGVs), Robotic Arms, Drones (Unmanned Aerial Vehicles) and Other Robot Types), Function, Payload Capacity, Power Source, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Robotics in Logistics Market is accounted for $12.24 billion in 2025 and is expected to reach $40.66 billion by 2032 growing at a CAGR of 18.7% during the forecast period. Logistics robotics is revolutionizing the handling, storage, and transportation of goods, increasing supply chain speed, accuracy, and efficiency. Warehouses and distribution centers are increasingly using robots, including autonomous mobile robots (AMRs), robotic arms, automated guided vehicles (AGVs), and drone systems, to automate tasks like inventory management, picking, packing, and sorting. To meet the demands of e-commerce and just-in-time delivery models, these technologies are particularly important because they prevent human error, reduce labor costs, and enable 24/7 operations. Moreover, logistics robotics is anticipated to grow more intelligent and adaptive as artificial intelligence and machine learning continue to progress, further streamlining supply chain operations and facilitating scalable, real-time responsiveness.

According to the International Federation of Robotics (IFR), their World Robotics 2023 report confirms that 4,281,585 industrial robots were operational in factories globally by the end of 2023—a 10% increase from the previous year. This marks the third consecutive year with over half a million new installations, reinforcing the global momentum toward automation in manufacturing and logistics.

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Market Dynamics:

Driver:

Quick development of online shopping

The rapid growth of e-commerce has changed how consumers behave, leading to a greater need for delivery options that are accurate, quick, and flexible. Because of this, logistics companies are under tremendous pressure to handle a large number of small, customized orders quickly. It is no longer possible to meet the demands of same-day or next-day delivery using traditional manual processes. Robotics has emerged as a major facilitator of this change, enabling businesses to more quickly and accurately automate repetitive processes like order picking, sorting, and packaging. Additionally, robotic systems allow e-commerce players to scale their operations effectively and guarantee consistent throughput even during periods of high shopping demand.

Restraint:

Expensive initial investment costs

The high initial cost of buying, setting up, and integrating robotic systems is one of the biggest obstacles to the adoption of robotics in logistics. These expenses cover the cost of the robots themselves, including automated guided vehicles (AGVs), robotic arms, and autonomous mobile robots (AMRs), as well as related software, infrastructure upgrades, and employee training. These costs can be unaffordable for small and medium-sized logistics companies, particularly if there are no assured immediate returns on investment. Furthermore, the overall cost may also increase if facilities are upgraded to accommodate automation, such as by adding sensors, charging stations, and reinforced flooring.

Opportunity:

Expansion of robotics-as-a-service (RaaS) framework

The use of robotic solutions by logistics companies is changing as a result of the rise of the Robotics-as-a-Service (RaaS) model. Businesses no longer need to make significant upfront capital investments because RaaS enables them to rent or lease robots on a subscription basis. For small and medium-sized businesses (SMEs), this

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model dramatically reduces the entry barrier, allowing them to adopt cutting-edge robotics technology with little risk. Additionally, RaaS offers ongoing value without requiring a long-term commitment by including support services like analytics, maintenance, and upgrades.

Threat:

Supply chain interruptions and shortages of components

The supply chain for robotics depends on specialized sensors, electrical components, semiconductors, and mechanical parts, many of which are sourced from around the world. Significant disruptions in this supply chain can result from pandemics, natural disasters, trade restrictions, and geopolitical tensions, which can delay product deliveries and drive up prices. The global shortage of semiconductors, for instance, which started in 2020, had an impact on robot production schedules and caused many logistics companies to postpone their deployment dates. Moreover, these interruptions hinder the ability of users and vendors to plan capacity and schedules, which ultimately slows the adoption of robotic technologies in logistics networks.

Covid-19 Impact:

Due to labour shortages, social distancing regulations, and the growing demand for contactless delivery and e-commerce, the COVID-19 pandemic had a major impact on the logistics industry's adoption of robotics. Automation became strategically necessary to maintain operational continuity in warehouses and distribution centres due to limitations on human movement and health concerns. Furthermore, the pandemic brought attention to the weaknesses of conventional logistics models and spurred long-term investments in robotic technologies as a way to create supply chains that are more robust, scalable, and prepared for the future.

The automated guided vehicles (AGVs) segment is expected to be the largest during the forecast period

The automated guided vehicles (AGVs) segment is expected to account for the largest market share during the forecast period, motivated by their extensive use in manufacturing facilities and warehouses for the safe and effective transportation of goods. AGVs are perfect for structured environments with repetitive workflows because they use fixed paths that are guided by wires, magnets, or lasers. They are a popular option for automating material handling tasks because of their capacity to decrease

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manual labor, increase accuracy, and reduce workplace accidents. To increase throughput and operational efficiency and maintain their dominance in the current logistics automation landscape, industries like retail, e-commerce, and automotive make significant investments in AGVs.

The packing & co-packing segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the packing & co-packing segment is predicted to witness the highest growth rate, driven by the expanding demand for speed, accuracy, and personalization in packaging procedures in sectors like food and beverage, pharmaceuticals, and e-commerce. By automating processes like boxing, sealing, labeling, and assembling promotional packages, robotics in packing and co-packing operations drastically lower labor costs and human error. Businesses are implementing robotic systems to guarantee consistency and scalability as consumer demand shifts toward customized and high-volume packaging solutions. Moreover, the versatility of automation is increased by developments in flexible gripper technologies and machine vision, which further accelerate this trend.

Region with largest share:

During the forecast period, the Asia-Pacific region is expected to hold the largest market share, mainly due to the boom in e-commerce, fast industrialization, and large investments in automation technologies in nations like South Korea, Japan, and China. China leads the region in the use of logistics robots in smart warehouses, owing to government programs that support Industry 4.0 and the Made in China 2025 strategy. Major regional players like Rakuten, JD.com, and Alibaba have also made significant investments in robotic logistics in an effort to speed up deliveries and optimize supply chains. Additionally, the region's robust manufacturing sector and mounting labor cost pressures contribute to the demand for automation.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, propelled by the swift development of technology, the dominance of top robotics producers, and the growing need for automation among third-party logistics (3PL) and e-commerce companies? The growing use of robotic arms, AI-integrated systems, and autonomous mobile robots (AMRs) in warehousing and distribution operations is driving notable growth, especially in the United States. Furthermore, robotics investments are

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being driven by factors like high labor costs, a lack of workers, and the increased focus on contactless logistics following COVID-19. Favorable government policies and robust R&D assistance also contribute to the region's market expansion.

Key players in the market

Some of the key players in Robotics in Logistics Market include KUKA AG, Honeywell International Inc, Kawasaki Heavy Industries, Ltd., Beumer Group, ABB Robotics, Swisslog Holding AG, Krones AG, Toshiba Corporation, Kion Group Ag, Toyota Industries Corporation, Fanuc Corporation, Omron Corporation, Yaskawa Electric Corporation, Amazon Robotics and Vecna Robotics Inc.

Key Developments:

In April 2025, Beumer Group South America has been awarded two contracts by Gerdau SA to supply stockyard machines to the Gerdau Acominas Ouro Branco steel plant. The double win will see BEUMER Group South America supply a new FAM bridge type bucket wheel reclaimer, one stacker and one reclaimer boom type for use in the stockyards of Gerdau’s steel plant. The project scope, aimed at enhancing the steel plant’s operational efficiency, also includes engineering, purchasing, fabrication, transport to site and site services.

In December 2024, Honeywell announced the signing of a strategic agreement with Bombardier, a global leader in aviation and manufacturer of world-class business jets, to provide advanced technology for current and future Bombardier aircraft in avionics, propulsion and satellite communications technologies. The collaboration will advance new technology to enable a host of high-value upgrades for the installed Bombardier operator base, as well as lay innovative foundations for future aircraft.

In September 2024, Kawasaki Heavy Industries, Ltd. and CB&I, a wholly owned unrestricted subsidiary of McDermott, announced their signing of a strategic agreement for promoting a commercial-use liquefied hydrogen (LH2) supply chain and realizing a zero-carbon-emission society. The signing ceremony took place at Gastech Exhibition & Conference in Houston.

Components Covered:

- Hardware

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Software

Services

Robot Types Covered:

Autonomous Mobile Robots (AMRs)

Automated Guided Vehicles (AGVs)

Robotic Arms

Drones (Unmanned Aerial Vehicles)

Other Robot Types

Functions Covered:

Pick & Place

Loading & Unloading

Packing & Co-packing

Palletizing & Depalletizing

Sorting

Transportation

Shipment & Delivery

Warehouse Execution Tasks

Payload Capacities Covered:

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Low-capacity Robots (under 100 kg)

Medium-capacity Robots (100-500 kg)

High-capacity Robots (above 500 kg)

Power Sources Covered:

Battery-powered

Hydrogen Fuel Cell

Other Power Sources

End Users Covered:

E-commerce & Retail

Healthcare

Warehousing & Distribution Centers

Manufacturing

Airports & Ports

Cold Storage Facilities

Other End Users

Regions Covered:

North America

US

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- Canada
- Mexico

Europe

- Germany
- UK
- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil

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Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & 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 2024, 2025, 2026, 2028, and 2032
- 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)

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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

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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