Global Mobile Robots Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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Report description:

The Global Mobile Robots market is expected to reach a CAGR of 23 % during the forecast period (2023 - 2028). Due to increased e-commerce activity worldwide, demand for mobile robots is expanding. Due to their capacity to maneuver autonomously in challenging situations, factors such as growing warehouse automation and rising acceptance of these robots across various industries are further projected to drive market expansion. Furthermore, the rising adoption of automated material handling and trends like lights-out automation will likely drive market expansion throughout the projection period.

Key Highlights
The growth in the e-commerce industry and the need for efficient warehousing and inventory management worldwide are driving the market growth. For instance, according to the National Bureau of Statistics of China, the e-commerce share of total retail sales in consumer goods in China increased to 24.9% in 2020, compared to 20.7% in 2019. Moreover, according to IBEF, the Indian e-commerce market is expected to flourish from USD 38.5 billion in 2017 to USD 200 billion by 2026.
The factors such as decreasing costs, lower rates of transport, rising customer demand, and globalization of trade have caused a steady increase in the use of containers for sea-borne cargo. Consequently, container terminals have become an important component of logistic networks. It is paramount that ships are unloaded and loaded promptly at the port to satisfy customer demand.
Mobile Robots are increasingly becoming the popular mode of container transport in seaport terminals. These unmanned vehicles transfer containers between ships and storage locations on land. The e?ciency of a container terminal is directly related to the amount of time each vessel spends in the port. Hence, to maintain competitive advantage and increase the e?ciency of the container terminal, AGVs are being deployed that formulate good dispatching strategies and simultaneously enhance operational efficiencies.
With social distancing becoming more common in the workplace, connected solutions and automation assist in continuing daily

operations. The use of Mobile robots, guides work solutions, and computer-controlled equipment has been regarded as necessary by companies in Honeywell's Study. Moreover, warehouse execution software (48%), order picking technology (46%), and robotic solutions (44%) have been widely implemented solutions currently, which are also most expected to receive further investment soon.
Wireless communication systems in industrial environments must guarantee that the information is sent and received within precise time bounds. However, the nature of the radio channels and the medium access control (MAC) generates random communication delays. These delays can cause severe performance problems in automated guided vehicles for networked control systems.

Mobile Robots Market Trends

Automated Guided Vehicles are one of the Factor Driving the Market

Modern manufacturing facilities rely on new technology and innovations to produce higher-quality products at faster speeds and lower costs. Because various regions such as North America and Europe are experiencing a labor scarcity, implementing more sophisticated software and hardware is the only way to compete in the present competitive environment. Manufacturers profit from automated guided vehicle technology in various ways, including lower operating costs and higher material throughput, but the benefits can go even further. Material handling automation enhances firm profitability and customer satisfaction throughout warehouses by optimizing the first mile.
Prominent food and beverage players in the industry have opted for automated solutions to increase their productivity and throughput time to market, minimizing their errors. For instance, Refresco, one of the largest soft drink and juice producers globally with various production centers both in Europe and North America, recently reorganized its warehouse's distribution to increase its efficiency.
In April 2021, The Warehouse Freezer AGV introduced by JBT can operate in temperatures ranging from -10 to 110 degrees Fahrenheit. The three-stage hydraulic mast on the automated guided vehicle (AGV) can lift 2,500 pounds and features integrated side shift and tilt. It also comes in various lift heights, ranging from 357 inches (or less) to 422 inches (or more) to the top of its forks. The Warehouse Freezer AGV has a minimum aisle width of 11.5 feet and can travel bidirectionally at up to 5.9 feet per second. It also has a 48-volt DC battery and two lift speeds of 10 inches per second for lowering and 11 inches per second for rising. For AGVs working for a food machinery company, the freezer is the 'final frontier.'
In December 2021, Lotus Cars Ltd. Introduced AGVs, robots, and other state-of-the-art automation, including assembly lines, to improve flexibility and productivity. It introduced aluminum chassis and steel subassembly manufacturing businesses into one facility to reduce production downtime and achieve operational efficiency.
Furthermore, According to the Bureau of Labor Statistics, warehouse labor turnover has risen to nearly 60%. Because of the severe labor scarcity and the difficulties in attracting, training, and retaining suitable workers, warehouse personnel are rethinking how they use labor. As a result, more operations managers assign workers to jobs that make the most of their time while seeking alternatives for lower-value, repetitive duties. Automated guided vehicles (AGVs) are computer-controlled, wheel-based vehicles that run on the warehouse floor and perform repetitive activities without needing a driver.

North America Holds Significant Share of the Market

The United States has shown an increasing dependence on the automated supply chain to produce and deliver the necessities of daily life. The nation's sudden demand for self-reliance has expanded the skills gap for advanced manufacturing and the automated supply chain. To satisfy this critical need, the MSSC Certified Technician-Supply Chain Automation certification

(CT-SCA) and the Skill Boss Logistics trainer were developed in a partnership between the National Center for Supply Chain Automation (NCSCA), Material Handling Industry (MHI), Material Handling Equipment Distributors Association (MHEDA), NOCTI Business Solutions, Manufacturing Skills Standards Council (MSSC), and Amatrol. The standards, content, and warehouse distribution trainer were vetted in front of a panel of industry representatives, including Dollar Tree, Target, Wal-Mart, Fed Ex, Amazon, and others.
The regional companies are adopting autonomous mobile robots to increase material handling efficiency. For Instance, in Feb 2021, Seegrid, a maker of autonomous mobile robots for material handling, unveiled the Palion Lift AMR. This new autonomous lift truck adds to the company's fleet of mobile robotics solutions. Customers frequently request that the company add lift to its robust portfolio of horizontal items. Manufacturing, e-commerce, and logistics organizations that require proven, end-to-end automation solutions will benefit from extending the industry-leading Palion AMR fleet.
Further companies expanding their manufacturing abilities in the country are increasingly adopting Automated Guidance Vehicles for optimized production, increased productivity, and efficiency. For instance, In January 2022, General Motors announced an investment of USD 7 billion in the Michigan production plant of Electric Vehicles to reach the goal of 1 million units of Electric Vehicles production by 20225 in North America. This plant will incorporate a flexible system of automated guided vehicles, which will replace existing assembly transfer lines.
According to the Government of Canada, the Canadian manufacturing industry accounts for approximately CAD 174 billion of its GDP, representing more than 10% of the country's total GDP. The manufacturing sector is the largest investor in R&D, and it implements new technologies expected to drive the demand for automation solutions.
Despite growth in the manufacturing industry, there is a considerable demand from the warehousing and logistics sector dedicated to e-commerce activity in the country. The Canadian warehouse portfolio majorly comprises e-commerce, which is estimated to make up more than 50% of the warehouse business in the country.

Mobile Robots Market Competitor Analysis

The Global Mobile Robots market is moderately fragmented. Players tend to invest in innovating their product offerings to cater to the insurance industry's changing demands. The growing influence of Chinese players is impacting the share of well-established global vendors. Moreover, players adopt strategic activities like partnerships, mergers, and acquisitions to expand their presence. Some of the recent developments in the market are:

May 2022 - MOV.AI has announced a collaboration with Ouster, a renowned producer of high-resolution digital lidar sensors, to equip autonomous mobile robots (AMRs) with continuous autonomy in today's difficult intralogistics and industrial contexts. For industrial equipment makers wishing to automate, MOV.AI has integrated Ouster digital lidar into its Robotics Engine PlatformTM.
August 2021 - Quanergy Systems, Inc., a provider of OPA-based solid-state LiDAR sensors and smart 3D solutions for automotive and IoT, partnered with industrial automation distributor Power Motion. This partnership enables the delivery of 2D and 3D LiDAR solutions applicable for industrial automation applications such as automated guided vehicles (AGV), mobile robots, and forklifts throughout the South-Central United States.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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