

Autonomous Mobile Robots (AMR) Market by Navigation (Laser/LiDAR, Vision Guidance, SLAM, RFID Tags, Magnetic Sensors, Inertial Sensors), Type (Goods-to-person AMR, Pallet-handling AMR), Payload (500 kg) - Global Forecast to 2032

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Abstracts

The global autonomous mobile robots market is projected to grow from USD 2.75 billion in 2026 to USD 7.07 billion by 2032, registering a CAGR of 14.4%. Growth is driven by the rising adoption of AMRs across warehouses, manufacturing plants, and distribution centers as organizations prioritize flexible material flow, labor optimization, and consistent operational performance. Companies are increasingly deploying AMRs to support picking, pallet transport, line feeding, and repetitive intralogistics tasks in dynamic environments where adaptability and safety are essential. Demand is rising for AMR platforms that offer advanced navigation, real-time obstacle avoidance, and reliable performance in high-throughput operations. Continued investment in warehouse automation, e-commerce fulfillment infrastructure, and smart factory initiatives is further supporting market expansion as enterprises pursue scalable, efficient, and future-ready automation strategies.

“Hardware segment to capture significant market share in 2032”

The hardware segment is likely to capture a significant share of the autonomous mobile robots market, as it plays a vital role in making these robots function and perform well. The hardware segment includes critical components for AMR operation, such as sensors, actuators, mobility systems, and power sources. Sensors provide real-time environmental information for navigation and obstacle avoidance, while actuators enable the robot to move and manipulate objects. As industries increasingly adopt AMRs for applications such as material handling, inventory management, and logistics,

demand for high-quality hardware components is rising. In addition, as technology advances, more advanced hardware solutions have been developed, thereby expanding AMR capabilities across various sectors. Further advancements in battery technology and increased sensor precision are expected to drive growth in the hardware segment, making it a mainstay in the expansion of the overall autonomous mobile robots market.

“AMRs with 100-500 kg payload capacity to capture substantial market share in 2032”

AMRs with 100–500 kg payload capacity are expected to capture a significant market share in 2032, driven by their balance of load capability, flexibility, and cost efficiency. This payload range is well-suited for a wide range of industrial applications, including manufacturing plants, warehouses, and logistics facilities, where consistent movement of materials, components, cartons, and pallets is required. AMRs in this category support smooth material flow without compromising maneuverability, making them effective in both narrow aisles and mixed traffic environments. Their ability to handle internal transport, inventory movement, line feeding, and order fulfillment tasks enhances operational efficiency while maintaining safety standards. As industries increasingly seek economical automation solutions for medium-duty material handling, demand for 100–500 kg AMRs is accelerating. These robots offer an attractive alternative to manual handling and heavier automation systems, positioning this segment as a core contributor to sustained growth in the autonomous mobile robots market.

“Asia Pacific to record highest CAGR in autonomous mobile robots market from 2026 to 2032”

Asia Pacific is expected to register the highest growth rate in the autonomous mobile robots market during the forecast period, driven by rapid industrial expansion, large-scale warehouse development, and accelerating automation across manufacturing and logistics. Strong demand from the automotive, semiconductor & electronics, e-commerce & retail, food & beverages, and logistics/3PL sectors is driving the adoption of AMRs to improve internal material flow, reduce manual handling, and sustain consistent throughput in high-volume environments. Manufacturers are increasingly deploying AMRs for picking, sorting, pallet movement, and line feeding as they respond to labor shortages, rising wages, and space constraints. Government initiatives promoting smart manufacturing, digital factories, and industrial modernization continue to strengthen adoption across China, Japan, South Korea, and India. The region benefits from a strong production base, cost-efficient manufacturing, and a growing

ecosystem of AMR suppliers, integrators, and technology partners. Ongoing investments in warehouse modernization, safety enhancement, and flexible automation across greenfield and brownfield facilities are accelerating deployment. Asia Pacific is expected to remain the fastest-growing market for AMRs.

Breakdown of primaries

A variety of executives from key organizations in the autonomous mobile robots market were interviewed in depth, including CEOs, marketing directors, and innovation and technology directors.

By Company Type: Tier 1 – 45%, Tier 2 – 30%, and Tier 3 – 25%

By Designation: C-level Executives – 35%, Directors – 45%, and Others – 20%

By Region: North America – 30%, Europe – 25%, Asia Pacific – 35%, and RoW – 10%

Note: The RoW region includes the Middle East, Africa, and South America. Other designations include product, sales, and marketing managers. Three tiers of companies have been defined based on their total revenues as of 2024: tier 3: revenue less than USD 100 million; tier 2: revenue between USD 100 million and USD 1 billion; and tier 1: revenue more than USD 1 billion.

Major players profiled in this report are as follows: Major players operating in the autonomous mobile robots market include ABB (Switzerland), KUKA SE & Co. KGaA (Germany), OMRON Global (Japan), Mobile Industrial Robots (Denmark), and Geekplus Technology Co., Ltd. (China), Zebra Technologies Corp. (US), OTTO Motors (Canada), Locus Robotics (US), Oceaneering International, Inc. (US), Wuxi Quicktron Intelligent Technology Co., Ltd. (China), SSI SCHAEFER (Germany), KNAPP AG (Austria), Jungheinrich AG (Germany), Ocado Group plc (UK), and Addverb Technologies Limited (India).

These companies compete by expanding AMR product portfolios, enhancing navigation accuracy, payload flexibility, and system reliability, and supporting deployments across warehouses, manufacturing plants, and distribution centers. Strategic focus areas include scalable AMR platforms, mixed fleet compatibility, compliance with safety standards, and seamless integration with warehouse and fulfillment operations.

Continued investment in robotics innovation, facility automation, and logistics optimization is expected to sustain competition and support steady advancement across the global autonomous mobile robots market.

The study provides a detailed competitive analysis of these key players in the autonomous mobile robots market, presenting their company profiles, most recent developments, and key market strategies.

Research Coverage

This report on the autonomous mobile robots market provides a detailed analysis by offering, payload capacity, navigation technology, industry, and region. By offering, the market is segmented into hardware and software & services, reflecting the combined role of physical robots and enabling software layers. By payload capacity, the market is classified into AMRs with payloads of less than 100 kg, 100–500 kg, and above 500 kg to address diverse material-handling requirements. In terms of navigation technology, the analysis covers laser or LiDAR, vision guidance, and other technologies such as QR codes, fiducials, magnetic or RFID tags, and inertial sensors. By industry, the market includes e-commerce and retail, automotive, chemicals, semiconductor & electronics, aviation, pulp & paper, pharmaceuticals, food & beverages, healthcare, logistics/3PL, metals & heavy machinery, and other industries, including hospitality, agriculture, printing, and textiles. The regional analysis covers North America, Europe, Asia Pacific, and Rest of the World (RoW), supporting evaluation of adoption patterns, growth drivers, and technology trends shaping the global autonomous mobile robots market.

Reasons to buy the Report

The report will help leaders/new entrants in this market by providing information on the closest approximations of overall market revenue and its subsegments. This report will help stakeholders understand the competitive landscape and gain deeper insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the autonomous mobile robots market and provides information on key drivers, restraints, challenges, and opportunities.

Key Benefits of Buying the Report

Analysis of key drivers (Accelerated progress in robotics and AI, increasing focus on warehouse automation, and elevating adoption of edge computing and IoT technologies), restraints (High upfront implementation costs, rising exposure

to cybersecurity threats, limited availability of skilled labor), opportunities (Rising demand for efficient last-mile delivery services, growing demand for AMRs that provide customizable hardware configurations and programmable software capabilities, and shift toward smart factories and Industry 4.0), and challenges (Data integration complexities and system compatibility issues, interoperability constraints arising from non-standardized protocols, interfaces, and data formats, technical limitations affecting AMR performance in dynamic operating environments) influencing the growth of the autonomous mobile robots market

Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and product launches in the autonomous mobile robots market

Market Development: Comprehensive information about lucrative markets by analyzing the autonomous mobile robots market across varied regions

Market Diversification: Exhaustive information about new products/services, untapped geographies, recent developments, and investments in the autonomous mobile robots market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players such as ABB (Switzerland), KUKA SE & CO. KGAA (Germany), OMRON Corporation (Japan), Mobile Industrial Robots (Denmark), and Geekplus Technology Co., Ltd. (China)

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