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Autonomous Mobile Robot Market Forecasts to 2032 – Global Analysis By Component (Hardware, Software, and Services), Type (Goods-to-Person Picking Robots, Autonomous Forklifts, Autonomous Inventory Robots, and Other Types), Navigation Technology, Payload Capacity, Application, End User, and By Geography

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Abstracts

According to Stratistics MRC, the Global Autonomous Mobile Robot (AMR) Market is accounted for $3.0 billion in 2025 and is expected to reach $10.2 billion by 2032, growing at a CAGR of 18.7% during the forecast period. AMRs are intelligent, navigation-capable robots used for material transport, order picking, and inspection in warehouses, factories, and healthcare. Unlike fixed conveyors or AGVs, AMRs map environments, avoid obstacles, and adapt to changing workflows, enabling rapid reconfiguration and efficiency gains. Adoption grows with e-commerce demand, labor shortages, and the need for flexible intralogistics. Scalability and ROI depend on throughput improvement, ease of deployment, and ecosystem support.

According to the International Federation of Robotics (IFR) World Robotics 2023 Report, sales of professional service robots reached a new record of 158,000 units shipped globally in 2022.

Market Dynamics:

Driver:

Growing labor shortages and rising wage costs

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The primary driver for AMR adoption is the persistent and growing labor shortage, particularly in warehousing and manufacturing, coupled with steadily rising wage costs. Companies are increasingly turning to AMRs as a strategic solution to maintain operational continuity and improve cost predictability. This automation mitigates the risk of human resource volatility while ensuring tasks like material transport and picking are completed consistently, directly enhancing productivity and stabilizing long-term operational expenditure in a tight labor market.

Restraint:

High initial investment costs for AMR deployment and system integration

A significant barrier to widespread AMR adoption is the high initial capital expenditure required for deployment, which includes the robots themselves, sophisticated software integration, and necessary infrastructure upgrades. For many small and medium-sized enterprises, this upfront cost can be prohibitive, despite the promise of long-term ROI. This financial hurdle necessitates a compelling business case to justify the investment, often slowing down the decision-making process and limiting market penetration to larger, more capital-rich organizations.

Opportunity:

Development of AMRs with enhanced AI capabilities for complex tasks

Enhancements in vision systems, contextual awareness, and decision-making algorithms will allow robots to perform increasingly complex and non-repetitive tasks beyond simple transport. This evolution will unlock new applications in dynamic environments like final assembly or quality inspection, thereby expanding the AMR's value proposition and opening up new, high-margin revenue streams for manufacturers in untapped industry verticals.

Threat:

Cybersecurity risks in connected AMR systems

As AMRs become more connected through the Industrial Internet of Things (IIoT), they face an escalating threat from cybersecurity vulnerabilities. A breach could lead to operational shutdown, data theft, or even safety incidents if robots are maliciously

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controlled. This risk necessitates continuous investment in robust security protocols and encryption, which can increase system complexity and cost. Moreover, a single high-profile security incident could erode trust and slow market growth, making cybersecurity a critical challenge for the entire industry.

Covid-19 Impact:

The COVID-19 pandemic acted as a significant catalyst for the AMR market. It exposed critical vulnerabilities in supply chains reliant on manual labor, causing severe disruptions. The enforced social distancing protocols and lockdowns accelerated the shift towards automation as companies sought to ensure operational resilience and reduce human dependency. This led to a surge in demand for AMRs, particularly in e-commerce fulfillment and logistics, as businesses prioritized automation to build more robust and pandemic-proof operations for the future.

The goods-to-person picking robots segment is expected to be the largest during the forecast period

The goods-to-person picking robots segment is expected to account for the largest market share during the forecast period, which is attributed to the explosive growth of e-commerce and the pressing need for warehouse optimization. Goods-to-person systems drastically reduce operator walking time and increase picking accuracy and speed, which are critical metrics in fulfillment centers. By bringing inventory directly to workers, these AMRs streamline the most labor-intensive process in a warehouse, directly addressing the challenges of labor shortages and rising consumer expectations for rapid order delivery, making them a foundational investment for modern logistics.

The hybrid and multi-sensor fusion segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the hybrid and multi-sensor fusion segment is predicted to witness the highest growth rate because hybrid systems, which combine technologies like LiDAR with vision systems and sometimes sonar, create a more robust and reliable AMR. This multi-sensor approach provides redundant data, allowing for superior navigation in dynamic, human-populated environments and enabling more complex tasks like precise manipulation. As applications move beyond simple guided paths, the demand for these advanced, perception-rich systems is accelerating, driving significant growth in this segment.

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Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, fueled by a strong presence of major AMR vendors, high labor costs, and an early, aggressive adoption of automation technologies across its mature manufacturing and massive e-commerce sectors. Furthermore, substantial investments in modernizing supply chain infrastructure and the presence of tech giants with automated warehouses create a concentrated hub of demand. The region's robust economic capacity to absorb high initial investments further consolidates its position as the current revenue leader in the global AMR market.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by the relentless expansion of its manufacturing sector and the ongoing logistics modernization in countries like China, India, and South Korea. Governments in the region are actively promoting Industry 4.0 initiatives, incentivizing automation. Additionally, rising labor costs and the need to improve production efficiency to maintain a competitive edge in global exports are compelling factors creating a fertile ground for the accelerated adoption of AMR technologies.

Key players in the market

Some of the key players in Autonomous Mobile Robot Market include Mobile Industrial Robots A/S, Locus Robotics, Inc., Geek+ Technology Co., Ltd., OTTO Motors, Seegrid Corporation, GreyOrange Pte. Ltd., Hai Robotics Co., Ltd., Amazon Robotics, Inc., Swisslog Holding AG, Dematic GmbH, Zebra Technologies Corporation, KUKA Aktiengesellschaft, ABB Ltd., OMRON Corporation, Boston Dynamics, Inc., Clearpath Robotics, Inc., FANUC Corporation, Yaskawa Electric Corporation, IAM Robotics, Inc., and inVia Robotics, Inc.

Key Developments:

In June 2025, Seegrid announced its AMRs surpassed 17 million autonomous miles and continues to post product launches and leadership appointments on its news hub.

In April 2025, Boston Dynamics expanded collaboration with Hyundai Motor Group to scale manufacturing and published program updates and partner MOUs on its official news page.

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In November 2024, MiR announced the launch of the MiR MC600, a mobile collaborative robot (cobot) that combines a MiR600 autonomous mobile robot base with Universal Robots' heavy-payload UR20/UR30 collaborative robot arms. The MC600 can handle payloads up to 600 kg and is designed for complex industrial workflows such as palletizing, box handling, and machine tending.

Components Covered:

- Hardware
- Software
- Services

Types Covered:

- Goods-to-Person Picking Robots
- Autonomous Forklifts/Self-driving Forklifts
- Autonomous Inventory Robots
- Other Types

Navigation Technologies Covered:

- LiDAR SLAM
- Vision-Based (2D/3D Camera)
- Magnetic/Inductive/QR Code Guided
- Hybrid and Multi-Sensor Fusion

Payload Capacities Covered:

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Low (Up to 100 kg)

Medium (101 kg – 500 kg)

Heavy-Duty (Above 500 kg)

Applications Covered:

Sorting and Palletizing

Material Handling and Transportation

Assembly and Kitting

Inspection and Monitoring

Security and Surveillance

Last-Mile Delivery

Other Applications

End Users Covered:

Warehouse and Logistics/Distribution Centers

Manufacturing

Healthcare and Pharmaceuticals

Retail and E-commerce

Defense and Security

Hospitality

Other End Users

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Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand
  - South Korea

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Rest of Asia Pacific

South America

Argentina

Brazil

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

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- 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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