

Mobile Robots - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Mobile Robots Market size is estimated at USD 8.91 billion in 2025, and is expected to reach USD 30.03 billion by 2030, at a CAGR of 27.5% during the forecast period (2025-2030).

Key Highlights

- **E-commerce Growth Drives Warehouse Automation:** The rapid expansion of e-commerce is transforming the mobile robots market. Global retail e-commerce sales are expected to hit USD 6.38 trillion by 2024, up from USD 4.28 trillion in 2020. This significant increase is fueling the need for warehouse automation, with mobile robots such as Autonomous Mobile Robots (AMRs) and Automated Guided Vehicles (AGVs) playing a vital role in streamlining operations. Companies like Amazon and Walmart have made substantial investments, with Amazon allocating USD 1 billion and Walmart committing USD 14 billion towards automation initiatives.
- **E-commerce growth:** A 43% increase in 2020, largely influenced by the global pandemic and evolving consumer habits.
- **Market projections:** E-commerce is forecasted to represent 31% of total sales in the US by 2026, up from its current 23%.
- **Industry adoption:** The consumer electronics sector leads B2C e-commerce globally, generating USD 988.4 billion in 2022.
- **Deployment examples:** Geodis plans to deploy 1,000 autonomous mobile robots across its global facilities over the next two years.
- **Labor Costs and Workforce Challenges:** Rising labor costs in developed nations are accelerating the deployment of mobile robots. A global labor shortage, driven by declining birthrates and aging populations, is pushing industries toward automation. In the US, the average salary for Industrial Truck and Tractor Operators ranges between USD 34,488 and USD 50,110 annually. The trend is reflected globally, with labor costs in the euro area increasing by 4.0% year-over-year in Q2 2022.
- **Labor cost increase:** The euro area saw a 4.0% rise in hourly labor costs, while the EU experienced a 4.4% increase (Q2 2022 vs. Q2 2021).

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- Wage statistics: In the US, Industrial Truck and Tractor Operators earn an average wage of USD 39,210 annually.
- Automation benefits: Embracing AMRs can reduce labor costs by 30-100%.
- ROI potential: Investing in AGVs or AMRs often yields quick returns, lowering reliance on unskilled labor.
- Technological Advancements and Market Expansion: The mobile robots market is undergoing rapid technological advancements, expanding its applications across industries. Artificial Intelligence (AI) is playing a crucial role in enabling AMRs to complete complex tasks without extensive programming. The rollout of 5G technology is anticipated to open new opportunities by enhancing the deployment and management of multiple robots.
- AI integration: AI is enabling more intelligent robots capable of recognizing objects and navigating complex environments.
- 5G impact: With 5G connections expected to surpass 1 billion in 2022 and 2 billion by 2025, AMRs will benefit from improved performance.
- Market segmentation: AMRs accounted for 57.8% of the mobile robots market in 2022, with the unit load segment holding 34.8% of the form-factor market.
- Geographical trends: China led the market with a 33.2% share in 2022, while the Asia Pacific region is expected to witness the fastest growth rate at 30.5%.
- Industry Applications and Market Dynamics: Mobile robots are increasingly being used across industries, with manufacturing and logistics at the forefront. In the automotive sector, AMRs are optimizing production and improving safety. Electronics manufacturers are also leveraging mobile robots to enhance supply chain efficiency and minimize errors. The trend is moving towards more sophisticated autonomous systems, with AMRs surpassing traditional AGVs in terms of adoption.
- Manufacturing applications: The automotive industry is using AMRs for flexible material handling and to create safer work environments.
- Electronics sector: AMRs are improving internal logistics, and by 2024, a significant portion of the industry is expected to employ them.
- Market drivers: Rapid growth in e-commerce, rising labor costs, and technological innovation are driving market growth.
- Challenges: High initial costs remain a concern, although the potential for long-term ROI is significant.

Mobile Robots Market Trends

Autonomous Mobile Robot (AMR) to Witness the Market Growth

- Autonomous Mobile Robots (AMRs): The Largest Segment by Product Type: AMRs have become the largest segment in the mobile robots market, capturing a 57.8% market share in 2022. By 2028, AMRs are projected to grow from USD 3.29 billion to USD 13.29 billion, reflecting a robust CAGR of 32.2%.
- Technological advancements: AMRs are gaining popularity due to their flexibility and intelligence in navigating unstructured environments, outperforming traditional AGVs.
- E-commerce acceleration: The rapid growth of e-commerce is driving the adoption of AMRs in warehouses and fulfillment centers, where they are enhancing operational efficiency.
- Industry applications: AMRs are being deployed across a variety of sectors, from automotive manufacturing to healthcare, where they assist in logistics and disinfection tasks.
- Collaborative capabilities: AMRs are increasingly designed to collaborate with human workers, handling repetitive tasks and improving workplace safety and ergonomics.

China to Witness Rapid Growth

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- China: The Fastest-Growing Regional Segment: China's mobile robots market is expected to grow rapidly, with a projected CAGR of 30.5% from 2023 to 2028. The country's rapid industrialization and focus on automation are key drivers of this growth.
- Government initiatives: China's "Made in China 2025" initiative is fostering a favorable environment for automation, pushing factories to deploy mobile robots.
- Rising labor costs: Increasing labor expenses in China are accelerating the shift towards automation, especially in industries like electronics and automotive.
- Domestic players: Companies like Geek+ Inc. are leading the market by developing localized AMR solutions and competing with global players.
- E-commerce and logistics demand: China's e-commerce boom, coupled with its vast logistics network, is driving demand for mobile robots, especially in warehouse automation.

Mobile Robots Industry Overview

Global players dominate a fragmented market: The Mobile Robots Market is fragmented, with numerous global and regional players competing for market share. Europe leads in hosting service robot suppliers for professional applications. This fragmentation is encouraging innovation and intense competition among players, particularly in the AMR segment.

Key players: Leading companies like Teradyne Inc. (Mobile Industrial Robots), Fetch Robotics (Zebra Technologies), and Clearpath Robotics are dominating the market through continuous product innovation and strategic partnerships.

Product diversity: These companies offer a broad range of mobile robots designed to meet diverse industry needs, from logistics to manufacturing.

Strategic partnerships: Collaborations with system integrators and technology partners are helping market leaders expand their product offerings and increase market penetration.

Factors for future success: To succeed in the evolving mobile robots market, players must focus on continuous innovation, versatile solutions, and strategic global expansion. Developing AI-powered mobile robots and user-friendly interfaces will also be critical to encourage broader adoption across industries. Expanding into emerging economies, especially through strategic partnerships, will be key to capturing market share in regions with growing automation needs.

Additional Benefits:

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

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