

Autonomous Mobile Robot Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License \$4750.00
- Team License (1-7 Users) \$5250.00
- Site License \$6500.00
- Corporate License \$8750.00

Report description:

The autonomous mobile robot market is expected to register a CAGR of 17.9% during the forecast period. The increasing trends of automation in manufacturing, the growing e-commerce sector, the mass personalization of goods, and a shortage of low-cost labor are among the primary factors contributing to the market growth.

Key Highlights

The essential advantage of an AMR is its ability to understand its operating environment, enabling it to navigate around obstacles and operate safely in the presence of human operators. In contrast to an automated guided vehicle, which needs some form of guided paths, such as magnetic tape or QR codes, to navigate through its environment, an AMR can use data from cameras, laser scanners, and other sensors to understand its operating environment and make the decisions needed to move around it. Increasing robotics, autonomous technologies, and IoT advancements have created an ideal environment for adopting connected industrial autonomous vehicles across various industries. These autonomous vehicles are expected to change the industrial landscape alongside the steady adoption of autonomous technologies in consumer automotive vehicles and public transport. This rise of autonomous industrial cars is expected to drive the market's growth further in the future.

Apart from labor-related challenges, safety is another critical factor in the shift toward leveraging AMRs for warehouse automation. For instance, according to the Occupational Safety and Health Administration (OSHA) and the US Department of Labor, over 11% of forklifts, typically used to move and transport pallets within a warehouse, are likely to be involved in an accident. However, the emergence of AMRs that can take on a pallet or bulk movements helps reduce the reliance on forklifts for specific activities and is expected to improve warehouse-related safety significantly.

The initial cost of AMR can be prohibitive, primarily if it is evaluated on a short-term outcome. AGV System is more expensive than hiring personnel or using other equipment, such as manual forklifts. However, AMR can result in a positive Return on Investment (ROI) in the long run and increase overall efficiency and productivity, driving economic advantages.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

As a result of the challenges brought about by the COVID-19 pandemic and its associated lockdowns, companies across different industries accelerated the adoption of AMRs for automating many tasks to reduce person-to-person contact significantly. After the pandemic, the market is proliferating, with increased consumers shifting to online shopping, resulting in a surge in demand for e-commerce warehouses and distribution services.

Autonomous Mobile Robot Market Trends

Increasing Demand for Automation across the End-user Industries

The use of autonomous mobile robots and mobile manipulators creates flexible and autonomous industrial automation that is needed to develop Smart Factories, where the exchange of information is made possible by the integration of the latest intelligent technologies into robotics, such as the Internet of Things, Artificial Intelligence, or Big Data. This has driven the adoption of autonomous mobile robots in Industry 4.0 and Manufacturing.

In the agriculture industry, autonomous vehicles such as self-driving tractors guide fertilizer application while manoeuvring around and away from growing plants. They can also work regardless of light conditions, and the guidance equipment they use in field navigation provides accurate information even in dense fog, thick dust, and heavy winds. For instance, an autonomous tractor by CNH Technologies is equipped with GPS and sensor technologies that allow it to work unmanned at all times of the day.

Various retailers have shown significant interest in using robotics to supplement their workforce by evaluating robots as in-store shopping assistants to help customers find products, retrieve products placed on hard-to-reach shelves, and provide additional product information. Some companies have also been developing conversational robots that can pull up a customer's profile to help the store by upselling products based on the customer's recent purchases.

Logistics and warehouses are one of the fastest-growing verticals for autonomous mobile robots. The proliferation of e-commerce and omnichannel retailing is driving massive demand for automation, and retailers are striving to catch up with Amazon and its delivery capabilities. According to the IFR, in the early three years, approximately 75,000 logistics robots were sold across the globe to meet the increasing efficiency needs of global trade relations. This value is expected to increase continuously in upcoming years, reaching over 250,000 by the following year.

Technological advancements such as Artificial Intelligence have led to a surge of autonomous mobile robots like drones, wheeled or legged robots, and vehicles for advanced and potentially dangerous tasks previously performed by humans. The next-gen robots rely on autonomous technology that varies in the application field, sophistication, and maturity.

Asia Pacific is Expected to be the Fastest Growing Market

The Asia-Pacific region has strong growth and acceptance of autonomous mobile robots. Manufacturing emerged as one of the high-growth sectors in Asian countries like India, China, and Japan. In recent years, the Make in India initiative was launched to place the country on the world map as a manufacturing hub and give global recognition to the Indian economy.

Manufacturing in the region is increasingly becoming automated and process-driven, which is expected to increase efficiency and boost industrial production. India is gradually progressing on the road to Industry 4.0 through the government's initiatives, like the National Manufacturing Policy, which aims to increase the share of manufacturing in GDP to 25% by 2025, and the PLI scheme for manufacturing, launched in 2022 to develop the core manufacturing sector at par with global manufacturing standards.

The "Made in China 2025" plan began as a 10-year vision to transform China from a low-end to a high-end producer of goods to make China the global leader in high-tech manufacturing. This transformation would positively impact technologies like AI, Big Data, IoT, and robotics and enhance automation and industry 4.0. The fast industrialization, massive overseas investment, and continuing to be a manufacturing powerhouse accords China a huge market for Autonomous Mobile Robots.

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Under the Japanese "New Robot Strategy," the country aims to make Japan one of the world's top robot manufacturers. The robot development would mainly focus on manufacturing, service, nursing and medical, infrastructure, disaster response, agriculture, and construction sectors.

Though the continent hosts the most automation and robot-friendly countries, like Singapore, Japan, and China, the region still struggles with implementing automation, with countries like India, Pakistan, and Bangladesh being the least prepared for automation. However, countries like Australia and Singapore can readily induct all types of automation. Lower education rates, less spending on R&D, and lower internet penetration are the major reasons for the lower automation rate.

Autonomous Mobile Robot Market Competitor Analysis

The Autonomous Mobile Robot Market is moderately fragmented, with significant players like Fetch Robotics, Mobile Industrial Robots (MiR), Geek+ Technology Co. Ltd, Vecna Robotics, and Seegrid Corporation. Players in the market are adopting strategies such as partnerships, mergers, Collaborations, innovations, and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

October 2022 - Mobile Industrial Robots and AutoGuide Mobile Robots merged to simplify the automation of customers' internal logistics with a complete portfolio of safe and collaborative AMRs. Under the MiR name, led by Walter Vahey, the two Teradyne companies become a single supplier of AMRs, accelerating technology development and market leadership worldwide.

July 2022 - Geek+ announced the expansion of its South American footprint with its strategic partner Korber Supply Chain, one of the global pioneers in supply chain technology, software, and material handling automation. Geek+ would continue to collaborate closely with Korber Supply Chain to assist its diverse client base in addressing labor difficulties while achieving optimum warehouse efficiency and storage density by deploying intelligent autonomous mobility robots.

Additional Benefits:

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

Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions and Market Definition

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

4.1 Market Overview

4.2 Industry Value Chain Analysis

4.3 Industry Attractiveness - Porter's Five Forces Analysis

4.3.1 Bargaining Power of Suppliers

4.3.2 Bargaining Power of Buyers

4.3.3 Threat of New Entrants

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- 4.3.4 Threat of Substitute Products
- 4.3.5 Intensity of Competitive Rivalry
- 4.4 Assessment of the Impact of the Covid-19 Pandemic on the Industry

5 MARKET DYNAMICS

- 5.1 Market Drivers
 - 5.1.1 Increasing Demand for Automation across the End-user Industries
 - 5.1.2 Labor-related Challenges coupled with Advancements in Technology
- 5.2 Market Restraints
 - 5.2.1 Communication and Connectivity Issues
 - 5.2.2 High Capital Requirements

6 MARKET SEGMENTATION

- 6.1 By Type
 - 6.1.1 Unmanned Ground Vehicle
 - 6.1.2 Humanoid
 - 6.1.3 Unmanned Aerial Vehicle
 - 6.1.4 Unmanned Marine Vehicle
- 6.2 By End-user Industry
 - 6.2.1 Defense and Security
 - 6.2.2 Warehouse and Logistics
 - 6.2.3 Energy and Power
 - 6.2.4 Automotive
 - 6.2.5 Manufacturing
 - 6.2.6 Oil and Gas
 - 6.2.7 Mining and Minerals
 - 6.2.8 Other End-user Industries
- 6.3 By Geography
 - 6.3.1 North America
 - 6.3.1.1 United States
 - 6.3.1.2 Canada
 - 6.3.2 Europe
 - 6.3.2.1 United Kingdom
 - 6.3.2.2 Germany
 - 6.3.2.3 France
 - 6.3.2.4 Rest of Europe
 - 6.3.3 Asia Pacific
 - 6.3.3.1 China
 - 6.3.3.2 Japan
 - 6.3.3.3 India
 - 6.3.3.4 Rest of Asia Pacific
 - 6.3.4 Latin America
 - 6.3.4.1 Brazil
 - 6.3.4.2 Argentina
 - 6.3.4.3 Rest of Latin America
 - 6.3.5 Middle East
 - 6.3.5.1 Saudi Arabia

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

6.3.5.2 United Arab Emirates

6.3.5.3 South Africa

6.3.5.4 Rest of Middle East

7 COMPETITIVE LANDSCAPE

7.1 Company Profiles

7.1.1 Fetch Robotics (Zebra Technologies)

7.1.2 Mobile Industrial Robots (MiR)

7.1.3 Geek+ Technology Co. Ltd

7.1.4 Vecna Robotics

7.1.5 Seegrid Corporation

7.1.6 Aethon

7.1.7 Omron Corporation

7.1.8 OTTO Motors

7.1.9 Clearpath Robotics

7.1.10 Hi-Tech Robotic Systemz

7.1.11 Softbank Robotics

7.1.12 SMP Robotics

8 VENDOR MARKET POSITIONING

9 INVESTMENT ANALYSIS

10 MARKET OPPORTUNITIES AND FUTURE TRENDS

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

**Autonomous Mobile Robot Market - Growth, Trends, Covid-19 Impact, and Forecasts
(2023 - 2028)**

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scott's-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4750.00
	Team License (1-7 Users)	\$5250.00
	Site License	\$6500.00
	Corporate License	\$8750.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scott's-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2026-03-04"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scott's-international.com

www.scott's-international.com

