

Autonomous Robots Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, By Product (Unmanned Ground Vehicle, Unmanned Aerial Vehicle, Unmanned Marine Vehicle), By Operations (Human Operated, Autonomous), By End-User (Industrial & Manufacturing, Aerospace & Defence, Oil & Gas, Logistics & Warehouse, Medical & Healthcare, Mining & Minerals), By Region & Competition, 2021-2031F

<https://marketpublishers.com/r/AB373E002E17EN.html>

Date: January 2026

Pages: 180

Price: US\$ 4,500.00 (Single User License)

ID: AB373E002E17EN

Abstracts

The Global Autonomous Robots Market is projected to expand from USD 7.73 Billion in 2025 to USD 20.77 Billion by 2031, achieving a CAGR of 17.91%. Autonomous robots are advanced mechanical systems engineered to execute complex tasks and navigate varied environments with minimal human input by utilizing onboard sensors and artificial intelligence. The primary force driving this market is the intensifying need to automate logistics and warehousing operations to alleviate severe global labor shortages, alongside the demand for consistent operational precision in hazardous or sterile settings. According to the International Federation of Robotics, global sales of professional service robots rose by 9% to nearly 200,000 units in 2024, highlighting the accelerating reliance on automated solutions to maintain productivity levels amidst workforce constraints.

One significant challenge that could obstruct market expansion is the substantial initial capital investment required for deployment and integration. Many potential adopters, particularly small and medium-sized enterprises, face difficulties with the high upfront costs associated with acquiring hardware, customizing software, and modifying

infrastructure. Consequently, this financial barrier often prolongs the return on investment period and discourages cost-sensitive organizations from transitioning to fully autonomous workflows, thereby slowing the overall penetration rate of these technologies in emerging sectors.

Market Driver

The rapid expansion of e-commerce and warehousing automation is fundamentally reshaping the autonomous robots market. Because consumers increasingly expect same-day delivery, logistics providers are compelled to integrate intelligent mobile robots and automated storage systems to maximize throughput and accuracy. This surge in order volume necessitates high-speed sorting and retrieval capabilities that manual workflows cannot sustain, prompting a shift toward fully automated fulfillment centers. A prime example of this scaling is evident in major logistics hubs where fleet density is rising sharply; according to Amazon, the company had officially deployed over one million robotic systems across its global operations by July 2025 to handle exponential package volumes and streamline complex logistics chains.

Escalating labor shortages and rising workforce costs further accelerate the dependency on robotic solutions across manufacturing and service industries. Organizations are facing a critical gap between unfilled positions and available skilled workers, driving them to adopt automation for repetitive and physically demanding tasks. This shift is particularly evident in sectors historically reliant on human labor, where companies are now utilizing robots to ensure continuity and stabilize operating expenses. According to the Association for Advancing Automation, robot orders from the North American food and consumer goods sectors surged by 65% in 2024 as companies sought to mitigate workforce constraints, a trend reflecting a global movement towards automated resilience given that the International Federation of Robotics reported a record global operational stock of 4,664,000 industrial robots in 2024.

Market Challenge

The substantial initial capital investment required for deployment constitutes a formidable barrier effectively hampering the expansion of the global autonomous robots market. Implementing these systems necessitates heavy upfront expenditures not only for the robotic hardware but also for specialized software integration, safety testing, and necessary modifications to existing facility infrastructure. For many organizations, particularly small and medium-sized enterprises, these costs create a liquidity burden

that outweighs the long-term efficiency gains. Consequently, businesses often delay or cancel automation initiatives, prioritizing immediate operational stability over capital-intensive upgrades.

This financial reticence has a measurable impact on industry adoption rates. According to the Association for Advancing Automation, in the first half of 2024, North American robot orders declined by nearly 8% to approximately 15,700 units compared to the same period in the previous year. This contraction in order volume illustrates how economic pressures and high capital costs directly deter investment in automated solutions. As companies face tighter budget constraints, the inability to justify the steep entry price slows the momentum of market expansion, preventing widespread penetration into sectors with lower profit margins.

Market Trends

The integration of Generative AI is fundamentally upgrading the decision-making capabilities of autonomous robots, shifting them from rigid, script-based operations to adaptive learning systems. This technological leap enables robots to interpret unstructured data, understand natural language commands, and dynamically adjust to unpredictable environments without extensive reprogramming. Capitalizing on this potential for enhanced adaptability, investors are aggressively funding companies at the forefront of this transition to accelerate commercial viability; for instance, Figure AI announced in February 2024 that it secured \$675 million in Series B funding to advance the development of general-purpose humanoid robots powered by next-generation AI models.

Simultaneously, the proliferation of Collaborative Autonomous Mobile Robots (Cobots) in shared workspaces is enabling high-density automation within existing logistics infrastructure. Unlike traditional heavy machinery that requires isolated safety zones, these agile units are designed to work alongside human operators to handle high-velocity picking and sorting tasks, thereby optimizing throughput in space-constrained facilities. This trend is characterized by the deployment of large-scale fleets that significantly densify operations to meet peak demands; according to GXO Logistics, in June 2024, the provider deployed a fleet of approximately 500 autonomous mobile robots at a single facility to streamline inventory processing and improve operational agility.

Key Market Players

iRobot Corporation

ABB Ltd

FANUC Corporation

KUKA AG

Yaskawa Electric Corporation

Universal Robots

Boston Dynamics

Intuitive Surgical, Inc.

Northrop Grumman Corporation

Aethon Inc.

Report Scope

In this report, the Global Autonomous Robots Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Autonomous Robots Market, By Product

Unmanned Ground Vehicle

Unmanned Aerial Vehicle

Unmanned Marine Vehicle

Autonomous Robots Market, By Operations

Human Operated

Autonomous

Autonomous Robots Market, By End-User

Industrial & Manufacturing

Aerospace & Defence

Oil & Gas

Logistics & Warehouse

Medical & Healthcare

Mining & Minerals

Autonomous Robots Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Autonomous Robots Market.

Available Customizations:

Global Autonomous Robots Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

4. VOICE OF CUSTOMER

5. GLOBAL AUTONOMOUS ROBOTS MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Product (Unmanned Ground Vehicle, Unmanned Aerial Vehicle, Unmanned Marine Vehicle)
 - 5.2.2. By Operations (Human Operated, Autonomous)
 - 5.2.3. By End-User (Industrial & Manufacturing, Aerospace & Defence, Oil & Gas,

Logistics & Warehouse, Medical & Healthcare, Mining & Minerals)

5.2.4. By Region

5.2.5. By Company (2025)

5.3. Market Map

6. NORTH AMERICA AUTONOMOUS ROBOTS MARKET OUTLOOK

6.1. Market Size & Forecast

6.1.1. By Value

6.2. Market Share & Forecast

6.2.1. By Product

6.2.2. By Operations

6.2.3. By End-User

6.2.4. By Country

6.3. North America: Country Analysis

6.3.1. United States Autonomous Robots Market Outlook

6.3.1.1. Market Size & Forecast

6.3.1.1.1. By Value

6.3.1.2. Market Share & Forecast

6.3.1.2.1. By Product

6.3.1.2.2. By Operations

6.3.1.2.3. By End-User

6.3.2. Canada Autonomous Robots Market Outlook

6.3.2.1. Market Size & Forecast

6.3.2.1.1. By Value

6.3.2.2. Market Share & Forecast

6.3.2.2.1. By Product

6.3.2.2.2. By Operations

6.3.2.2.3. By End-User

6.3.3. Mexico Autonomous Robots Market Outlook

6.3.3.1. Market Size & Forecast

6.3.3.1.1. By Value

6.3.3.2. Market Share & Forecast

6.3.3.2.1. By Product

6.3.3.2.2. By Operations

6.3.3.2.3. By End-User

7. EUROPE AUTONOMOUS ROBOTS MARKET OUTLOOK

- 7.1. Market Size & Forecast
 - 7.1.1. By Value
- 7.2. Market Share & Forecast
 - 7.2.1. By Product
 - 7.2.2. By Operations
 - 7.2.3. By End-User
 - 7.2.4. By Country
- 7.3. Europe: Country Analysis
 - 7.3.1. Germany Autonomous Robots Market Outlook
 - 7.3.1.1. Market Size & Forecast
 - 7.3.1.1.1. By Value
 - 7.3.1.2. Market Share & Forecast
 - 7.3.1.2.1. By Product
 - 7.3.1.2.2. By Operations
 - 7.3.1.2.3. By End-User
 - 7.3.2. France Autonomous Robots Market Outlook
 - 7.3.2.1. Market Size & Forecast
 - 7.3.2.1.1. By Value
 - 7.3.2.2. Market Share & Forecast
 - 7.3.2.2.1. By Product
 - 7.3.2.2.2. By Operations
 - 7.3.2.2.3. By End-User
 - 7.3.3. United Kingdom Autonomous Robots Market Outlook
 - 7.3.3.1. Market Size & Forecast
 - 7.3.3.1.1. By Value
 - 7.3.3.2. Market Share & Forecast
 - 7.3.3.2.1. By Product
 - 7.3.3.2.2. By Operations
 - 7.3.3.2.3. By End-User
 - 7.3.4. Italy Autonomous Robots Market Outlook
 - 7.3.4.1. Market Size & Forecast
 - 7.3.4.1.1. By Value
 - 7.3.4.2. Market Share & Forecast
 - 7.3.4.2.1. By Product
 - 7.3.4.2.2. By Operations
 - 7.3.4.2.3. By End-User
 - 7.3.5. Spain Autonomous Robots Market Outlook
 - 7.3.5.1. Market Size & Forecast
 - 7.3.5.1.1. By Value

7.3.5.2. Market Share & Forecast

7.3.5.2.1. By Product

7.3.5.2.2. By Operations

7.3.5.2.3. By End-User

8. ASIA PACIFIC AUTONOMOUS ROBOTS MARKET OUTLOOK

8.1. Market Size & Forecast

8.1.1. By Value

8.2. Market Share & Forecast

8.2.1. By Product

8.2.2. By Operations

8.2.3. By End-User

8.2.4. By Country

8.3. Asia Pacific: Country Analysis

8.3.1. China Autonomous Robots Market Outlook

8.3.1.1. Market Size & Forecast

8.3.1.1.1. By Value

8.3.1.2. Market Share & Forecast

8.3.1.2.1. By Product

8.3.1.2.2. By Operations

8.3.1.2.3. By End-User

8.3.2. India Autonomous Robots Market Outlook

8.3.2.1. Market Size & Forecast

8.3.2.1.1. By Value

8.3.2.2. Market Share & Forecast

8.3.2.2.1. By Product

8.3.2.2.2. By Operations

8.3.2.2.3. By End-User

8.3.3. Japan Autonomous Robots Market Outlook

8.3.3.1. Market Size & Forecast

8.3.3.1.1. By Value

8.3.3.2. Market Share & Forecast

8.3.3.2.1. By Product

8.3.3.2.2. By Operations

8.3.3.2.3. By End-User

8.3.4. South Korea Autonomous Robots Market Outlook

8.3.4.1. Market Size & Forecast

8.3.4.1.1. By Value

8.3.4.2. Market Share & Forecast

8.3.4.2.1. By Product

8.3.4.2.2. By Operations

8.3.4.2.3. By End-User

8.3.5. Australia Autonomous Robots Market Outlook

8.3.5.1. Market Size & Forecast

8.3.5.1.1. By Value

8.3.5.2. Market Share & Forecast

8.3.5.2.1. By Product

8.3.5.2.2. By Operations

8.3.5.2.3. By End-User

9. MIDDLE EAST & AFRICA AUTONOMOUS ROBOTS MARKET OUTLOOK

9.1. Market Size & Forecast

9.1.1. By Value

9.2. Market Share & Forecast

9.2.1. By Product

9.2.2. By Operations

9.2.3. By End-User

9.2.4. By Country

9.3. Middle East & Africa: Country Analysis

9.3.1. Saudi Arabia Autonomous Robots Market Outlook

9.3.1.1. Market Size & Forecast

9.3.1.1.1. By Value

9.3.1.2. Market Share & Forecast

9.3.1.2.1. By Product

9.3.1.2.2. By Operations

9.3.1.2.3. By End-User

9.3.2. UAE Autonomous Robots Market Outlook

9.3.2.1. Market Size & Forecast

9.3.2.1.1. By Value

9.3.2.2. Market Share & Forecast

9.3.2.2.1. By Product

9.3.2.2.2. By Operations

9.3.2.2.3. By End-User

9.3.3. South Africa Autonomous Robots Market Outlook

9.3.3.1. Market Size & Forecast

9.3.3.1.1. By Value

9.3.3.2. Market Share & Forecast

9.3.3.2.1. By Product

9.3.3.2.2. By Operations

9.3.3.2.3. By End-User

10. SOUTH AMERICA AUTONOMOUS ROBOTS MARKET OUTLOOK

10.1. Market Size & Forecast

10.1.1. By Value

10.2. Market Share & Forecast

10.2.1. By Product

10.2.2. By Operations

10.2.3. By End-User

10.2.4. By Country

10.3. South America: Country Analysis

10.3.1. Brazil Autonomous Robots Market Outlook

10.3.1.1. Market Size & Forecast

10.3.1.1.1. By Value

10.3.1.2. Market Share & Forecast

10.3.1.2.1. By Product

10.3.1.2.2. By Operations

10.3.1.2.3. By End-User

10.3.2. Colombia Autonomous Robots Market Outlook

10.3.2.1. Market Size & Forecast

10.3.2.1.1. By Value

10.3.2.2. Market Share & Forecast

10.3.2.2.1. By Product

10.3.2.2.2. By Operations

10.3.2.2.3. By End-User

10.3.3. Argentina Autonomous Robots Market Outlook

10.3.3.1. Market Size & Forecast

10.3.3.1.1. By Value

10.3.3.2. Market Share & Forecast

10.3.3.2.1. By Product

10.3.3.2.2. By Operations

10.3.3.2.3. By End-User

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

- 12.1. Merger & Acquisition (If Any)
- 12.2. Product Launches (If Any)
- 12.3. Recent Developments

13. GLOBAL AUTONOMOUS ROBOTS MARKET: SWOT ANALYSIS

14. PORTER'S FIVE FORCES ANALYSIS

- 14.1. Competition in the Industry
- 14.2. Potential of New Entrants
- 14.3. Power of Suppliers
- 14.4. Power of Customers
- 14.5. Threat of Substitute Products

15. COMPETITIVE LANDSCAPE

- 15.1. iRobot Corporation
 - 15.1.1. Business Overview
 - 15.1.2. Products & Services
 - 15.1.3. Recent Developments
 - 15.1.4. Key Personnel
 - 15.1.5. SWOT Analysis
- 15.2. ABB Ltd
- 15.3. FANUC Corporation
- 15.4. KUKA AG
- 15.5. Yaskawa Electric Corporation
- 15.6. Universal Robots
- 15.7. Boston Dynamics
- 15.8. Intuitive Surgical, Inc.
- 15.9. Northrop Grumman Corporation
- 15.10. Aethon Inc.

16. STRATEGIC RECOMMENDATIONS

17. ABOUT US & DISCLAIMER

I would like to order

Product name: Autonomous Robots Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, By Product (Unmanned Ground Vehicle, Unmanned Aerial Vehicle, Unmanned Marine Vehicle), By Operations (Human Operated, Autonomous), By End-User (Industrial & Manufacturing, Aerospace & Defence, Oil & Gas, Logistics & Warehouse, Medical & Healthcare, Mining & Minerals), By Region & Competition, 2021-2031F

Product link: <https://marketpublishers.com/r/AB373E002E17EN.html>

Price: US\$ 4,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/AB373E002E17EN.html>