

Retail Robotics Market Forecasts to 2030 – Global Analysis By Product (Mobile Robots, Stationary Robots and Semi-Autonomous Robots), Technology, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Retail Robotics Market is accounted for \$18.8 billion in 2024 and is expected to reach \$111.4 billion by 2030 growing at a CAGR of 34.5% during the forecast period. Retail robotics is the use of robotic technology in retail to enhance efficiency, customer experience, and operational optimization. It involves tasks like inventory management, shelf scanning, product recommendations, and customer service. Robots with sensors and AI can autonomously navigate stores, detect stock levels, identify misplaced items, and assist with restocking. They can also provide personalized shopping experiences and assist with cleaning and maintenance tasks. As technology advances, retail robotics is expected to shape the future of retail, streamlining processes, and improving customer experiences.

Market Dynamics:

Driver:

Increasing minimum wages and a shrinking labour pool

Rising minimum salaries and workforce shortages are driving up labor expenses for retailers. By automating monotonous jobs like cleaning, inventory checks, and restocking, robots can help defray these expenses. Robotics is becoming a desirable substitute to keep things running as the labor pool gets smaller and may fill the gap and aid stores in continuing to operate even with a less workforce by automating functions like inventory management, shelf stocking, and customer service.

Restraint:

Integration challenges & concerns over job displacement

Retail settings often use outdated technology that may not work with modern robotics, making integration challenging and time-consuming. Businesses may be discouraged from using robots due to potential ROI concerns and costly infrastructure changes. The integration process may also cause temporary interruptions in existing activities, employee training, and modifications to procedures. Retailers may be deterred from implementing robotics if operational efficiency and productivity decline during this transitional phase.

Opportunity:

Limited infrastructure & need for enhanced efficiency and productivity

Retailers are increasingly seeking low-cost robotics solutions to optimize productivity without significant infrastructure upgrades. Robotics vendors are developing affordable, flexible systems that optimize productivity without significant upgrades. Thus as retailers adopt resource-efficient robots, such as those requiring less power or relying on edge computing, they overcome infrastructure barriers and provide the necessary efficiency gains, encouraging further market growth.

Threat:

Rising concerns about privacy and security

Retail robotics systems often collect vast amounts of data, including consumer behavior, purchase history, and even biometric data in some cases (e.g., facial recognition). This raises fears among consumers about how their data is being used and whether it could be exposed in a data breach. A lack of consumer confidence in the privacy of their personal information can lead to reluctance in adopting robotic systems like self-checkout kiosks or AI-powered customer service bots. This hesitation can slow the widespread adoption of robotics in retail.

Covid-19 Impact

The COVID-19 pandemic accelerated the adoption of retail robotics as businesses

sought to reduce human interaction and ensure safer, more efficient operations. Robots were increasingly used for tasks like inventory management, cleaning, and contactless customer service. While the pandemic initially disrupted supply chains, it ultimately highlighted the importance of robotics in enhancing resilience and driving innovation in the retail sector.

The mobile robots segment is expected to be the largest during the forecast period

The mobile robots segment is predicted to secure the largest market share throughout the forecast period because mobile robots automate repetitive tasks in retail, such as inventory management and product movement, freeing human workers to focus on value-added activities. They also help mitigate labour shortages by filling gaps in routine tasks, reducing dependency on human labour for cleaning, shelf scanning, and product transportation. This results in cost savings, especially for large retailers managing extensive labour forces.

The robotics process automation segment is expected to have the highest CAGR during the forecast period

The robotics process automation segment is expected to register lucrative growth during the estimation period owing to automated back-office tasks like data entry, order processing, inventory management, and financial reconciliation. This reduces manual data handling, errors, and increases efficiency. RPA can generate purchase orders when inventory levels drop, allowing robots to focus on physical tasks. It also handles repetitive tasks like invoice processing, purchase orders, and payment verifications, allowing retailers to focus on customer-facing activities.

Region with largest share:

During the estimation period, the North America region is expected to capture the largest market share owing to AI, machine learning, and computer vision technologies that are transforming robots into more efficient and smarter tools for tasks like inventory management and customer assistance. North American governments are recognizing the potential of robotics and automation to boost productivity and economic growth. In the US, government support for companies investing in automation and robotics technologies is crucial for driving retail robotics adoption in the region.

Region with highest CAGR:

Over the forecasted timeframe, the Asia Pacific region is anticipated to exhibit the highest CAGR due to countries like Japan and South Korea are renowned for their advanced robotics technology, which is increasingly used in retail. In China and India, drones are being explored for last-mile delivery, particularly for small, lightweight packages. These drones offer a faster, more cost-effective solution, especially in urban areas where traffic congestion can delay traditional vehicles.

Key players in the market

Some of the key players in Retail Robotics market include ABB Robotics, Addverb Technologies, Aethon , Alphabet Inc. , Amazon Robotics, Bastian Solutions, Inc., Bossa Nova, Daifuku Co., Ltd, Fetch Robotics, Inc., Grey Orange, Honda Motor Co. Limited, Locus Robotics, Onewell Intelligrated, Savioke, Siemens, Simbe Robotics, Softbank Robotics and Universal Robots A/S.

Key Developments:

In December 2024, ABB Robotics has opened a new training and showroom facility for its Autonomous Mobile Robotics product line (AMRs) in Madrid, Spain. Designed to meet the growing demand for skilled professionals in the rapidly expanding AMR market, the center offers a learning environment and platform.

In October 2024, SoftBank extended its largest single site deployment of autonomous robots in the US with flagship facility services. This has allowed Flagship access to SBRA's industry-leading technology solutions portfolio, along with its renowned enterprise adoption program.

In May 2024, MongoDB and Google Cloud collaborated to optimize gemini code assist for developers building applications on MongoDB. Through this collaboration, Gemini Code Assist can help developers get answers and information about MongoDB code, documentation, and best practices.

Products Covered:

Mobile Robots

Stationary Robots

Semi-Autonomous Robots

Technologies Covered:

- Robotics Process Automation
- Cloud Computing & Internet of Things (IoT)
- Computer Vision & Autonomous Navigation
- Artificial Intelligence (AI) & Machine Learning
- Other Technologies

Applications Covered:

- Inventory Management
- In-Store Customer Assistance
- Checkout Assistance
- Delivery & Order Fulfillment
- Shelf Scanning & Product Restocking
- Other Applications

End Users Covered:

- Hypermarkets & Supermarkets
- Specialty Stores
- E-Commerce Retailers
- Department Stores

Other End Users

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

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 2022, 2023, 2024, 2026, and 2030
- 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

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

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

Contents

1 EXECUTIVE SUMMARY

2 PREFACE

- 2.1 Abstract
- 2.2 Stake Holders
- 2.3 Research Scope
- 2.4 Research Methodology
 - 2.4.1 Data Mining
 - 2.4.2 Data Analysis
 - 2.4.3 Data Validation
 - 2.4.4 Research Approach
- 2.5 Research Sources
 - 2.5.1 Primary Research Sources
 - 2.5.2 Secondary Research Sources
 - 2.5.3 Assumptions

3 MARKET TREND ANALYSIS

- 3.1 Introduction
- 3.2 Drivers
- 3.3 Restraints
- 3.4 Opportunities
- 3.5 Threats
- 3.6 Product Analysis
- 3.7 Technology Analysis
- 3.8 Application Analysis
- 3.9 End User Analysis
- 3.10 Emerging Markets
- 3.11 Impact of Covid-19

4 PORTERS FIVE FORCE ANALYSIS

- 4.1 Bargaining power of suppliers
- 4.2 Bargaining power of buyers
- 4.3 Threat of substitutes
- 4.4 Threat of new entrants

4.5 Competitive rivalry

5 GLOBAL RETAIL ROBOTICS MARKET, BY PRODUCT

5.1 Introduction

5.2 Mobile Robots

5.2.1 Autonomous Mobile Robots

5.2.2 Automated Guided Vehicles

5.3 Stationary Robots

5.3.1 Picking & Packing Robots

5.3.2 Sorting Robots

5.3.3 Vending Robots

5.4 Semi-Autonomous Robots

6 GLOBAL RETAIL ROBOTICS MARKET, BY TECHNOLOGY

6.1 Introduction

6.2 Robotics Process Automation

6.3 Cloud Computing & Internet of Things (IoT)

6.4 Computer Vision & Autonomous Navigation

6.5 Artificial Intelligence (AI) & Machine Learning

6.6 Other Technologies

7 GLOBAL RETAIL ROBOTICS MARKET, BY APPLICATION

7.1 Introduction

7.2 Inventory Management

7.3 In-Store Customer Assistance

7.4 Checkout Assistance

7.5 Delivery & Order Fulfillment

7.6 Shelf Scanning & Product Restocking

7.7 Other Applications

8 GLOBAL RETAIL ROBOTICS MARKET, BY END USER

8.1 Introduction

8.2 Hypermarkets & Supermarkets

8.3 Specialty Stores

8.4 E-Commerce Retailers

8.5 Department Stores

8.6 Other End Users

9 GLOBAL RETAIL ROBOTICS MARKET, BY GEOGRAPHY

9.1 Introduction

9.2 North America

9.2.1 US

9.2.2 Canada

9.2.3 Mexico

9.3 Europe

9.3.1 Germany

9.3.2 UK

9.3.3 Italy

9.3.4 France

9.3.5 Spain

9.3.6 Rest of Europe

9.4 Asia Pacific

9.4.1 Japan

9.4.2 China

9.4.3 India

9.4.4 Australia

9.4.5 New Zealand

9.4.6 South Korea

9.4.7 Rest of Asia Pacific

9.5 South America

9.5.1 Argentina

9.5.2 Brazil

9.5.3 Chile

9.5.4 Rest of South America

9.6 Middle East & Africa

9.6.1 Saudi Arabia

9.6.2 UAE

9.6.3 Qatar

9.6.4 South Africa

9.6.5 Rest of Middle East & Africa

10 KEY DEVELOPMENTS

- 10.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 10.2 Acquisitions & Mergers
- 10.3 New Product Launch
- 10.4 Expansions
- 10.5 Other Key Strategies

11 COMPANY PROFILING

- 11.1 ABB Robotics
- 11.2 Addverb Technologies
- 11.3 Aethon
- 11.4 Alphabet Inc.
- 11.5 Amazon Robotics
- 11.6 Bastian Solutions, Inc.
- 11.7 Bossa Nova
- 11.8 Daifuku Co., Ltd
- 11.9 Fetch Robotics, Inc.
- 11.10 Grey Orange
- 11.11 Honda Motor Co. Limited
- 11.12 Locus Robotics
- 11.13 Onewell Intelligrated
- 11.14 Savioke
- 11.15 Siemens
- 11.16 Simbe Robotics
- 11.17 Softbank Robotics
- 11.18 Universal Robots A/S

List Of Tables

LIST OF TABLES

Table 1 Global Retail Robotics Market Outlook, By Region (2022-2030) (\$MN)

Table 2 Global Retail Robotics Market Outlook, By Product (2022-2030) (\$MN)

Table 3 Global Retail Robotics Market Outlook, By Mobile Robots (2022-2030) (\$MN)

Table 4 Global Retail Robotics Market Outlook, By Autonomous Mobile Robots (2022-2030) (\$MN)

Table 5 Global Retail Robotics Market Outlook, By Automated Guided Vehicles (2022-2030) (\$MN)

Table 6 Global Retail Robotics Market Outlook, By Stationary Robots (2022-2030) (\$MN)

Table 7 Global Retail Robotics Market Outlook, By Picking & Packing Robots (2022-2030) (\$MN)

Table 8 Global Retail Robotics Market Outlook, By Sorting Robots (2022-2030) (\$MN)

Table 9 Global Retail Robotics Market Outlook, By Vending Robots (2022-2030) (\$MN)

Table 10 Global Retail Robotics Market Outlook, By Semi-Autonomous Robots (2022-2030) (\$MN)

Table 11 Global Retail Robotics Market Outlook, By Technology (2022-2030) (\$MN)

Table 12 Global Retail Robotics Market Outlook, By Robotics Process Automation (2022-2030) (\$MN)

Table 13 Global Retail Robotics Market Outlook, By Cloud Computing & Internet of Things (IoT) (2022-2030) (\$MN)

Table 14 Global Retail Robotics Market Outlook, By Computer Vision & Autonomous Navigation (2022-2030) (\$MN)

Table 15 Global Retail Robotics Market Outlook, By Artificial Intelligence (AI) & Machine Learning (2022-2030) (\$MN)

Table 16 Global Retail Robotics Market Outlook, By Other Technologies (2022-2030) (\$MN)

Table 17 Global Retail Robotics Market Outlook, By Application (2022-2030) (\$MN)

Table 18 Global Retail Robotics Market Outlook, By Inventory Management (2022-2030) (\$MN)

Table 19 Global Retail Robotics Market Outlook, By In-Store Customer Assistance (2022-2030) (\$MN)

Table 20 Global Retail Robotics Market Outlook, By Checkout Assistance (2022-2030) (\$MN)

Table 21 Global Retail Robotics Market Outlook, By Delivery & Order Fulfillment (2022-2030) (\$MN)

Table 22 Global Retail Robotics Market Outlook, By Shelf Scanning & Product Restocking (2022-2030) (\$MN)

Table 23 Global Retail Robotics Market Outlook, By Other Applications (2022-2030) (\$MN)

Table 24 Global Retail Robotics Market Outlook, By End User (2022-2030) (\$MN)

Table 25 Global Retail Robotics Market Outlook, By Hypermarkets & Supermarkets (2022-2030) (\$MN)

Table 26 Global Retail Robotics Market Outlook, By Specialty Stores (2022-2030) (\$MN)

Table 27 Global Retail Robotics Market Outlook, By E-Commerce Retailers (2022-2030) (\$MN)

Table 28 Global Retail Robotics Market Outlook, By Department Stores (2022-2030) (\$MN)

Table 29 Global Retail Robotics Market Outlook, By Other End Users (2022-2030) (\$MN)

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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