

# **Agricultural Robot Market Forecasts to 2032 – Global Analysis By Type of Robot (Driverless/Autonomous Tractors, Unmanned Aerial Vehicles (UAVs)/Drones, Milking Robots, Automated Harvesting Systems, Robotic Seeding & Planting Systems, Weeding & Spraying Robots, Material Management Robots, and Other Agricultural Robots), Component (Hardware, Software, and Services), Farming Environment, Farm Size, Application, and By Geography**

<https://marketpublishers.com/r/A263B84B7A91EN.html>

Date: December 2025

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: A263B84B7A91EN

## **Abstracts**

According to Statistics MRC, the Global Agricultural Robot Market is accounted for \$17.9 billion in 2025 and is expected to reach \$72.6 billion by 2032, growing at a CAGR of 22.1% during the forecast period. The agricultural robot market includes autonomous and semi-autonomous robots used for tasks such as seeding, weeding, spraying, pruning, fruit picking, and field monitoring. It combines robotics, machine vision, AI, and GPS guidance for both open-field and controlled-environment farming. Benefits include reduced labor reliance and costs, more precise input application, higher productivity, improved crop quality, and lower environmental impact through targeted operations and continuous data collection.

Market Dynamics:

Driver:

Labor Shortages and Rising Costs

The agricultural sector is grappling with a persistent and worsening shortage of skilled labor, further exacerbated by rising minimum wages and an aging workforce. This directly fuels the demand for agricultural robots as they offer a reliable, 24/7 automated alternative for tasks like harvesting, weeding, and planting. By replacing human labor, robots provide farm operators with greater operational control and predictability, mitigating the risks and escalating costs associated with manual labor. This fundamental shift is a primary force propelling market growth as farmers seek sustainable operational solutions.

Restraint:

#### High Initial Investment

The significant upfront cost of acquiring and implementing advanced robotic systems presents a major barrier to adoption, particularly for small and medium-sized farms. This investment includes not only the robot itself but also the necessary software, training, and potential infrastructure upgrades. The substantial capital requirement can lead to a prolonged return on investment period, making it a difficult financial decision. Consequently, the high entry cost restricts market penetration, limiting early adoption primarily to large-scale agribusinesses and well-capitalized operations.

Opportunity:

#### Expansion in Indoor Farming

The rapid growth of controlled environment agriculture (CEA), including vertical farms and greenhouses, creates a fertile ground for agricultural robotics. These indoor settings are highly structured and predictable, which is ideal for the seamless operation of autonomous systems. Robots can efficiently manage tasks like seeding, monitoring, and harvesting in these confined spaces, optimizing yield per square foot. This synergy between technology and farming methods offers a significant growth avenue for robot manufacturers to cater to the burgeoning urban agriculture movement.

Threat:

#### Competition from Alternative Solutions

Many farmers may opt to retrofit existing equipment with automation kits or use drone-based analytics without investing in full robotic systems. Moreover, conventional

machinery manufacturers are integrating autonomous features into their product lines. The competition from both low-tech and high-tech options can slow down the rate at which dedicated agricultural robots are adopted. This makes it harder for new companies to show that their products are clearly better and have a better return on investment.

#### Covid-19 Impact:

The pandemic severely disrupted global agricultural supply chains and highlighted the vulnerabilities of a human-dependent workforce, with travel restrictions intensifying labor shortages during critical harvesting seasons. This crisis acted as a catalyst, accelerating the adoption of automation as farmers sought to build resilience against future disruptions. Consequently, interest and investment in agricultural robots surged, as they were considered a strategic solution to ensure business continuity and reduce dependency on manual labor, positively impacting market growth in the medium to long term.

The hardware segment is expected to be the largest during the forecast period

The hardware segment is expected to account for the largest market share during the forecast period. This dominance is attributed to the high cost of these physical components compared to software and services. Furthermore, the continuous need for sensors, cameras, and GPS systems for navigation and data collection ensures recurring revenue within this segment. The tangible nature of hardware and its essential role in system functionality solidify its leading market position.

The unmanned aerial vehicles (UAVs)/Drones segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the unmanned aerial vehicles (UAVs)/drones segment is predicted to witness the highest growth rate due to their versatility and rapid ROI. They are increasingly used for precision agriculture applications like crop health monitoring, field mapping, and targeted spraying. Their ability to cover large areas quickly and provide high-resolution data is a key advantage. Moreover, regulatory frameworks for commercial drone use are becoming more favorable, lowering adoption barriers. This convergence of proven utility and accessible technology positions the drone segment for explosive growth.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, driven by a strong technological foundation, high labor costs, and early adoption of precision farming techniques. The presence of major market players and significant R&D investments, particularly in the United States and Canada, further consolidates its dominant position. Additionally, large-scale farm operations in the region are better positioned to afford the high initial investment required for robotics that enhance efficiency and yield. This mature market landscape and high awareness of agritech solutions ensure its continued largest market share.

#### Region with highest CAGR:

During the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, fueled by the pressing need to enhance food security for its massive population. Governments in countries like China, Japan, and India are actively promoting agricultural automation through subsidies and initiatives to boost productivity on increasingly limited arable land. Furthermore, the region's vast numbers of smallholder farmers are beginning to pool resources through cooperatives, creating new market access. This combination of governmental support and evolving farming structures creates a high-growth environment for agricultural robots.

#### Key players in the market

Some of the key players in Agricultural Robot Market include Deere & Company, AGCO Corporation, CNH Industrial N.V., Kubota Corporation, Trimble Inc., Na?o Technologies SAS, Agrobot, AgEagle Aerial Systems, Inc., Ecorobotix, Lely International N.V., Harvest Automation, Inc., AgXeed B.V., Yanmar Holdings Co., Ltd., SZ DJI Technology Co., Ltd., Topcon Corporation, and Robotics Plus Ltd.

#### Key Developments:

In November 2025, Na?o Technologies SAS announced a successful new takeover plan, allowing it to accelerate its industrial development. The plan targets ramp-up of robot production (aiming for ~100 per year) and aims for €11 million in sales by 2030.

In July 2025, AgEagle Aerial Systems, Inc. Announced the sale and deployment of five eBee X drones with S.O.D.A. 3D mapping cameras to a major Brazilian biofuel producer. The technology is used for crop failure analysis and targeted weed control to increase sugarcane yields by an estimated 5%.

In July 2025, Topcon Corporation announced the launch of the UC7 Plus, the next generation of its boom height control technology for agricultural spraying applications, designed to further reduce inputs and improve crop performance.

#### Type of Robots Covered:

Driverless/Autonomous Tractors

Unmanned Aerial Vehicles (UAVs)/Drones

Milking Robots

Automated Harvesting Systems

Robotic Seeding & Planting Systems

Weeding & Spraying Robots

Material Management Robots

Other Agricultural Robots

#### Components Covered:

Hardware

Software

Services

#### Farming Environments Covered:

Outdoor Farming

Indoor Farming/Protected Agriculture

**Farm Sizes Covered:**

Large Farms

Small and Medium-Sized Farms

**Applications Covered:**

Field &amp; Crop Management

Harvest Management

Soil and Irrigation Management

Inventory &amp; Logistics Management

Other Applications

**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 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

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 Application Analysis
- 3.7 Emerging Markets
- 3.8 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 AGRICULTURAL ROBOT MARKET, BY TYPE OF ROBOT**

- 5.1 Introduction
- 5.2 Driverless/Autonomous Tractors
- 5.3 Unmanned Aerial Vehicles (UAVs)/Drones
- 5.4 Milking Robots
- 5.5 Automated Harvesting Systems
- 5.6 Robotic Seeding & Planting Systems
- 5.7 Weeding & Spraying Robots
- 5.8 Material Management Robots
- 5.9 Other Agricultural Robots

## **6 GLOBAL AGRICULTURAL ROBOT MARKET, BY COMPONENT**

- 6.1 Introduction
- 6.2 Hardware
  - 6.2.1 Sensing Components
  - 6.2.2 Robotic Components
  - 6.2.3 Navigation Components
- 6.3 Software
  - 6.3.1 Robot Operating Systems (ROS)
  - 6.3.2 Data Analytics and AI/Machine Learning Software
  - 6.3.3 Farm Management Software Integration
- 6.4 Services
  - 6.4.1 System Integration and Deployment
  - 6.4.2 Maintenance, Repair, and Upgrades
  - 6.4.3 Data-as-a-Service (DaaS)

## **7 GLOBAL AGRICULTURAL ROBOT MARKET, BY FARMING ENVIRONMENT**

- 7.1 Introduction
- 7.2 Outdoor Farming
- 7.3 Indoor Farming/Protected Agriculture
  - 7.3.1 Vertical Farms
  - 7.3.2 Greenhouses

## **8 GLOBAL AGRICULTURAL ROBOT MARKET, BY FARM SIZE**

- 8.1 Introduction
- 8.2 Large Farms

### 8.3 Small and Medium-Sized Farms

## **9 GLOBAL AGRICULTURAL ROBOT MARKET, BY APPLICATION**

- 9.1 Introduction
- 9.2 Field & Crop Management
- 9.3 Harvest Management
- 9.4 Soil and Irrigation Management
- 9.5 Inventory & Logistics Management
- 9.6 Other Applications

## **10 GLOBAL AGRICULTURAL ROBOT MARKET, BY GEOGRAPHY**

- 10.1 Introduction
- 10.2 North America
  - 10.2.1 US
  - 10.2.2 Canada
  - 10.2.3 Mexico
- 10.3 Europe
  - 10.3.1 Germany
  - 10.3.2 UK
  - 10.3.3 Italy
  - 10.3.4 France
  - 10.3.5 Spain
  - 10.3.6 Rest of Europe
- 10.4 Asia Pacific
  - 10.4.1 Japan
  - 10.4.2 China
  - 10.4.3 India
  - 10.4.4 Australia
  - 10.4.5 New Zealand
  - 10.4.6 South Korea
  - 10.4.7 Rest of Asia Pacific
- 10.5 South America
  - 10.5.1 Argentina
  - 10.5.2 Brazil
  - 10.5.3 Chile
  - 10.5.4 Rest of South America
- 10.6 Middle East & Africa

- 10.6.1 Saudi Arabia
- 10.6.2 UAE
- 10.6.3 Qatar
- 10.6.4 South Africa
- 10.6.5 Rest of Middle East & Africa

## **11 KEY DEVELOPMENTS**

- 11.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 11.2 Acquisitions & Mergers
- 11.3 New Product Launch
- 11.4 Expansions
- 11.5 Other Key Strategies

## **12 COMPANY PROFILING**

- 12.1 Deere & Company
- 12.2 AGCO Corporation
- 12.3 CNH Industrial N.V.
- 12.4 Kubota Corporation
- 12.5 Trimble Inc.
- 12.6 Na?o Technologies SAS
- 12.7 Agrobot
- 12.8 AgEagle Aerial Systems, Inc.
- 12.9 Ecorobotix
- 12.10 Lely International N.V.
- 12.11 Harvest Automation, Inc.
- 12.12 AgXeed B.V.
- 12.13 Yanmar Holdings Co., Ltd.
- 12.14 SZ DJI Technology Co., Ltd.
- 12.15 Topcon Corporation
- 12.16 Robotics Plus Ltd.

## List Of Tables

### LIST OF TABLES

Table 1 Global Agricultural Robot Market Outlook, By Region (2024–2032) (\$MN)

Table 2 Global Agricultural Robot Market Outlook, By Type of Robot (2024–2032) (\$MN)

Table 3 Global Agricultural Robot Market Outlook, By Driverless/Autonomous Tractors (2024–2032) (\$MN)

Table 4 Global Agricultural Robot Market Outlook, By Unmanned Aerial Vehicles (UAVs)/Drones (2024–2032) (\$MN)

Table 5 Global Agricultural Robot Market Outlook, By Milking Robots (2024–2032) (\$MN)

Table 6 Global Agricultural Robot Market Outlook, By Automated Harvesting Systems (2024–2032) (\$MN)

Table 7 Global Agricultural Robot Market Outlook, By Robotic Seeding & Planting Systems (2024–2032) (\$MN)

Table 8 Global Agricultural Robot Market Outlook, By Weeding & Spraying Robots (2024–2032) (\$MN)

Table 9 Global Agricultural Robot Market Outlook, By Material Management Robots (2024–2032) (\$MN)

Table 10 Global Agricultural Robot Market Outlook, By Other Agricultural Robots (2024–2032) (\$MN)

Table 11 Global Agricultural Robot Market Outlook, By Component (2024–2032) (\$MN)

Table 12 Global Agricultural Robot Market Outlook, By Hardware (2024–2032) (\$MN)

Table 13 Global Agricultural Robot Market Outlook, By Sensing Components (2024–2032) (\$MN)

Table 14 Global Agricultural Robot Market Outlook, By Robotic Components (2024–2032) (\$MN)

Table 15 Global Agricultural Robot Market Outlook, By Navigation Components (2024–2032) (\$MN)

Table 16 Global Agricultural Robot Market Outlook, By Software (2024–2032) (\$MN)

Table 17 Global Agricultural Robot Market Outlook, By Robot Operating Systems (ROS) (2024–2032) (\$MN)

Table 18 Global Agricultural Robot Market Outlook, By Data Analytics and AI/Machine Learning Software (2024–2032) (\$MN)

Table 19 Global Agricultural Robot Market Outlook, By Farm Management Software Integration (2024–2032) (\$MN)

Table 20 Global Agricultural Robot Market Outlook, By Services (2024–2032) (\$MN)

Table 21 Global Agricultural Robot Market Outlook, By System Integration and Deployment (2024–2032) (\$MN)

Table 22 Global Agricultural Robot Market Outlook, By Maintenance, Repair, and Upgrades (2024–2032) (\$MN)

Table 23 Global Agricultural Robot Market Outlook, By Data-as-a-Service (DaaS) (2024–2032) (\$MN)

Table 24 Global Agricultural Robot Market Outlook, By Farming Environment (2024–2032) (\$MN)

Table 25 Global Agricultural Robot Market Outlook, By Outdoor Farming (2024–2032) (\$MN)

Table 26 Global Agricultural Robot Market Outlook, By Indoor Farming/Protected Agriculture (2024–2032) (\$MN)

Table 27 Global Agricultural Robot Market Outlook, By Vertical Farms (2024–2032) (\$MN)

Table 28 Global Agricultural Robot Market Outlook, By Greenhouses (2024–2032) (\$MN)

Table 29 Global Agricultural Robot Market Outlook, By Farm Size (2024–2032) (\$MN)

Table 30 Global Agricultural Robot Market Outlook, By Large Farms (2024–2032) (\$MN)

Table 31 Global Agricultural Robot Market Outlook, By Small and Medium-Sized Farms (2024–2032) (\$MN)

Table 32 Global Agricultural Robot Market Outlook, By Application (2024–2032) (\$MN)

Table 33 Global Agricultural Robot Market Outlook, By Field & Crop Management (2024–2032) (\$MN)

Table 34 Global Agricultural Robot Market Outlook, By Harvest Management (2024–2032) (\$MN)

Table 35 Global Agricultural Robot Market Outlook, By Soil and Irrigation Management (2024–2032) (\$MN)

Table 36 Global Agricultural Robot Market Outlook, By Inventory & Logistics Management (2024–2032) (\$MN)

Table 37 Global Agricultural Robot Market Outlook, By Other Applications (2024–2032) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

## I would like to order

Product name: Agricultural Robot Market Forecasts to 2032 – Global Analysis By Type of Robot (Driverless/Autonomous Tractors, Unmanned Aerial Vehicles (UAVs)/Drones, Milking Robots, Automated Harvesting Systems, Robotic Seeding & Planting Systems, Weeding & Spraying Robots, Material Management Robots, and Other Agricultural Robots), Component (Hardware, Software, and Services), Farming Environment, Farm Size, Application, and By Geography

Product link: <https://marketpublishers.com/r/A263B84B7A91EN.html>

Price: US\$ 4,150.00 (Single User License / Electronic Delivery)

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

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/A263B84B7A91EN.html>