

# **Smart Farming Equipment Market Forecasts to 2032 – Global Analysis By Product (Precision Seeders & Planters, Smart Irrigation Systems, Autonomous Tractors, Variable Rate Technology (VRT) Equipment, Smart Harvesters, Livestock Monitoring Devices, Drones & UAVs, Soil & Crop Sensors and Other Products), Offering (Hardware, Software and Services), Agriculture Type, Connectivity, Application, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Smart Farming Equipment Market is accounted for \$19.0 billion in 2025 and is expected to reach \$47.3 billion by 2032 growing at a CAGR of 13.9% during the forecast period. Smart farming equipment is technologically advanced agricultural tools integrated with sensors, GPS, data analytics, and automation systems to optimize farming operations. These devices enable precision agriculture by monitoring soil conditions, crop health, and weather patterns, allowing for data-driven decisions. Examples include autonomous tractors, drone-based field surveillance, and IoT-enabled irrigation systems. Smart equipment enhances productivity, reduces resource waste, and supports sustainable farming practices by improving efficiency and accuracy in planting, fertilizing, harvesting, and overall farm management.

Additionally, to the International Journal of Agriculture Extension and Social Development highlights that precision agriculture using AI and IoT has led to 30% reductions in water usage and 40% improvements in fertilizer efficiency across pilot farms in India.

## Market Dynamics:

### Driver:

Need to feed an ever-increasing population

Smart farming equipment is emerging as a critical solution, enabling precision agriculture that maximizes yield while minimizing waste. Technologies such as GPS-guided tractors, automated irrigation systems, and AI-powered crop monitoring tools are helping farmers optimize inputs like water, fertilizer, and pesticides. These innovations are essential for meeting the growing demand for food in a sustainable manner. As urbanization expands and arable land becomes scarce, smart farming tools offer a way to boost productivity without compromising environmental health.

### Restraint:

Limited internet connectivity and infrastructure

In rural and remote areas, unreliable internet access and lack of cellular coverage restrict the deployment of IoT-based farming solutions. This digital divide prevents farmers from leveraging real-time data analytics, cloud-based farm management platforms, and remote monitoring systems. Moreover, the high cost of installing connectivity infrastructure poses a challenge for small and medium-sized farms. Without robust digital networks, the full potential of smart farming equipment remains untapped, slowing market growth in underserved regions.

### Opportunity:

Integration of services and software

Integrated platforms that combine sensor data, satellite imagery, and predictive analytics are transforming how farms are managed. These systems allow for seamless coordination between equipment, weather forecasts, crop models, and supply chain logistics. As interoperability improves, farmers can make faster, data-driven decisions that enhance productivity and reduce operational costs. The growing availability of cloud-based agricultural services and mobile apps is also making smart farming more accessible, especially for tech-savvy younger farmers entering the industry.

### Threat:

#### Fluctuating commodity prices and farm income

Sudden drops in crop prices can discourage farmers from investing in expensive technologies, especially when profit margins are thin. Additionally, unpredictable weather patterns and geopolitical tensions can disrupt supply chains and affect farm income stability. These financial uncertainties make it difficult for farmers to plan long-term investments in automation and precision tools. As a result, manufacturers may face inconsistent demand, impacting production volumes and innovation cycles.

### Covid-19 Impact:

The COVID-19 pandemic had a dual impact on the smart farming equipment market. On one hand, supply chain disruptions and labor shortages delayed equipment manufacturing and delivery, causing temporary setbacks. On the other hand, the crisis accelerated the adoption of automation and remote monitoring technologies, as farmers sought to reduce human contact and maintain operations during lockdowns. The pandemic highlighted the importance of resilient agricultural systems, prompting increased interest in digital tools that support remote diagnostics, autonomous machinery, and contactless farm management.

The variable rate technology (VRT) equipment segment is expected to be the largest during the forecast period

The variable rate technology (VRT) equipment segment is expected to account for the largest market share during the forecast period as it enables precise application of inputs like fertilizers, seeds, and pesticides based on real-time field data. This targeted approach not only improves crop yield but also reduces environmental impact and input costs. The widespread adoption of VRT is driven by its compatibility with GPS and GIS technologies, allowing farmers to tailor treatments to specific field zones. As sustainability becomes a priority, VRT is gaining traction for its role in resource-efficient farming.

The livestock monitoring segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the livestock monitoring segment is predicted to witness the highest growth rate owing to innovations in wearable sensors, RFID tags, and

automated feeding systems are revolutionizing animal husbandry. These technologies provide continuous health tracking, behavioral analysis, and location monitoring, enabling early detection of diseases and optimizing breeding cycles. Rising concerns over animal welfare and food safety are further propelling demand for smart livestock solutions.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its advanced agricultural infrastructure and high technology adoption rate. The region benefits from strong government support, extensive research initiatives, and a well-established network of agritech companies. Farmers in the U.S. and Canada are increasingly investing in precision tools to improve efficiency and meet sustainability goals. Moreover, the presence of major industry players and robust distribution channels contributes to the region's dominant market position.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR fueled by rapid modernization of agriculture and increasing food demand. Countries like China, India, and Japan are investing heavily in smart farming technologies to address challenges such as labor shortages, fragmented land holdings, and climate variability. Local startups and international players are collaborating to develop affordable, scalable solutions tailored to regional needs, driving accelerated market expansion.

Key players in the market

Some of the key players in Smart Farming Equipment Market include Deere & Company, Trimble Inc., AGCO Corporation, Topcon Positioning Systems, The Climate Corporation, Raven Industries, Inc., Ag Leader Technology, Kubota Corporation, CNH Industrial N.V., CLAAS KGaA mbH, Netafim Ltd., DeLaval, Innovasea Systems, Inc., Heliospectra AB, Cropin, Farmers Edge Inc., Granular, Inc., Afimilk Ltd., BouMatic Robotic B.V and Iteris, Inc.

Key Developments:

In May 2025, CNH launched a new plan to double Precision Tech sales and refresh its tractor lineup. It targets 16–17% EBIT margins and 100% uptime via AI-powered service

platforms.

In April 2025, Kubota unveiled a 3.8L hydrogen engine, HVO fuel sensor, and autonomous sprayer at Bauma 2025. These innovations support carbon-neutral farming and precision agriculture.

In March 2025, Netafim introduced Mega-PULSAR™, a precision misting system to protect orchards from heatwaves. It reduces crop stress and supports climate-resilient farming.

#### Products Covered:

Precision Seeders & Planters

Smart Irrigation Systems

Autonomous Tractors

Variable Rate Technology (VRT) Equipment

Smart Harvesters

Livestock Monitoring Devices

Drones & UAVs

Soil & Crop Sensors

Other Products

#### Offerings Covered:

Hardware

Software

Services

Agriculture Types Covered:

- Precision Farming
- Livestock Monitoring
- Smart Greenhouse
- Precision Aquaculture
- Precision Forestry
- Other Agriculture Types

Connectivities Covered:

- LoRaWAN
- Cellular
- Wi-Fi
- Bluetooth
- Satellite
- Other Connectivities

Applications Covered:

- Weather Forecasting
- Field Mapping
- Yield Monitoring
- Crop Scouting

Irrigation Management

Fertilizer & Pesticide Management

Farm Labor Management

Other Applications

End Users Covered:

Large Commercial Farms

Contracting & Custom Operators

Greenhouse & Vertical Farm Operators

Government & Research Institutions

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 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

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