

# Digital AgTech Market Forecasts to 2032 – Global Analysis By Component (Hardware, Software, Services and Other Components), Farm, Deployment Model, Technology, Application, End User and By Geography

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## Abstracts

According to Statistics MRC, the Global Digital AgTech Market is accounted for \$7.79 billion in 2025 and is expected to reach \$15.57 billion by 2032 growing at a CAGR of 10.4% during the forecast period. Digital AgTech is the integration of advanced digital technologies such as AI, IoT, blockchain, and data analytics across the agricultural value chain to enhance productivity, sustainability, and decision-making. It encompasses precision farming tools, automated equipment, geospatial mapping, and smart sensors that monitor soil, weather, and crop health. Beyond the farm, it supports traceability, supply chain transparency, and agri-commerce platforms. Digital AgTech enables data-driven agriculture, optimizing resource use while improving profitability and resilience in modern farming systems

According to AgriEngineering (MDPI, 2025), digital literacy and technology adoption in agriculture are accelerating globally, with over 65% of reviewed studies reporting measurable improvements in productivity and resource efficiency following the implementation of Digital AgTech tools such as AI, IoT, and satellite-based monitoring systems.

Market Dynamics:

Driver:

Rapidly growing global population and changing dietary habits

The escalating global population is placing unprecedented pressure on agricultural systems to produce more food with fewer resources. Simultaneously, evolving consumer preferences such as the shift toward organic produce, plant-based diets, and traceable food sources are accelerating the adoption of digital agriculture technologies. Precision farming, AI-driven crop modeling, and smart irrigation systems are being deployed to optimize yield and reduce waste. As food security becomes a strategic priority, digital AgTech is emerging as a cornerstone of sustainable agricultural transformation.

#### Restraint:

##### Lack of digital literacy and technical knowledge

The complexity of integrating IoT devices, data analytics platforms, and AI-based decision systems can deter adoption among smallholder farmers. Moreover, language barriers and lack of localized support further hinder effective implementation especially in developing regions face barriers due to limited exposure to digital tools and insufficient training. Without targeted education programs and user-friendly interfaces, the full potential of AgTech innovations may remain untapped, slowing market penetration and scalability.

#### Opportunity:

##### Development of specialized solutions

Companies are investing in region-specific platforms that account for soil conditions, climate variability, and local farming practices. Innovations such as AI-powered pest prediction, blockchain-based supply chain traceability, and drone-assisted crop monitoring are being customized to meet niche requirements. This specialization not only enhances operational efficiency but also opens new revenue streams for technology providers. As regulatory frameworks evolve to support digital agriculture, the market is poised for robust expansion through targeted innovation.

#### Threat:

##### Vendor lock-in and lack of interoperability

Farmers often find themselves locked into specific software or hardware solutions that

are incompatible with other tools, limiting flexibility and increasing long-term costs. This lack of interoperability stifles collaboration across the agricultural value chain and impedes data sharing. Without standardized protocols and open APIs, the risk of technological silos grows, undermining the scalability and resilience of digital farming systems.

#### Covid-19 Impact:

The COVID-19 pandemic acted as both a disruptor and a catalyst for the Digital AgTech market. On one hand, supply chain interruptions and labor shortages exposed vulnerabilities in traditional farming operations. On the other, the crisis accelerated the adoption of remote monitoring tools, autonomous machinery, and digital farm management platforms. Farmers increasingly relied on satellite imagery, predictive analytics, and mobile apps to maintain productivity amid restrictions.

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

The software segment is expected to account for the largest market share during the forecast period due to its central role in data aggregation, analytics, and decision support. Farm management systems, predictive modeling platforms, and cloud-based dashboards are becoming indispensable for modern agriculture. These tools enable real-time monitoring of crop health, resource usage, and market trends, empowering farmers to make informed decisions. The scalability and adaptability of software solutions make them attractive across diverse farming contexts, from large-scale agribusinesses to smallholder operations.

The precision farming segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the precision farming segment is predicted to witness the highest growth rate driven by its ability to enhance productivity while minimizing environmental impact. Technologies such as GPS-guided tractors, variable rate application systems, and multispectral imaging are revolutionizing field-level management. By enabling site-specific interventions, precision agriculture reduces input costs and improves yield quality. The segment is also benefiting from increased investment in AI and machine learning, which are being used to refine crop models and optimize planting schedules.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share fueled by its vast agricultural base and rising demand for food security. Countries like China, India, and Indonesia are investing heavily in smart farming initiatives, supported by government subsidies and public-private partnerships. The region's large population and diverse agro-climatic zones create a fertile ground for digital solutions tailored to local needs. Additionally, the proliferation of mobile connectivity and affordable sensors is accelerating adoption among small and medium-scale farmers.

#### Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR attributed to rapid technological adoption and expanding agritech startups. Innovations in drone-based surveillance, AI-driven crop diagnostics, and blockchain-enabled supply chains are gaining traction across Asia Pacific. Educational initiatives and digital literacy programs are helping bridge the knowledge gap, while favorable policy environments are encouraging foreign investment will further propel the growth of digital technologies.

#### Key players in the market

Some of the key players in Digital AgTech Market include Trimble Inc., Taranis, Stellapps, Solinftec, Ninjacart, Monarch Tractor, John Deere, Indigo Ag, Fasal, FarmLogs, FarmERP, Ecorobotix SA, DeHaat, Cropin, Cargill, Carbon Robotics, Bayer AG, Agworld, AgroStar and Aerobotics.

#### Key Developments:

In May 2025, Trimble introduced "Trimble Materials," a solution in its Construction One suite that spans purchasing, inventory, and accounts payable—intended to help contractors gain control of material costs. It connects field, office, warehouse teams and suppliers for centralized tracking of material orders, inventory, and invoices.

In January 2025, Deere unveiled several machines including an autonomous 9RX tractor, a 5ML orchard sprayer, an articulated dump truck, and an electric mower using its second-generation autonomy kit with more sensors, AI, vision, etc. These models span agriculture, construction, and landscaping, aiming to address labor shortages and increase efficiency via automation.

**Components Covered:**

Hardware

Software

Services

Other Components

**Farms Covered:**

Large Farms

Small & Medium-Sized Farms

**Deployment Models Covered:**

Cloud-based Solutions

On-Premises

Hybrid Models

**Technologies Covered:**

Precision Farming

IoT (Internet of Things)

Artificial Intelligence (AI) & Machine Learning (ML)

Big Data Analytics

Blockchain for Agriculture

## Other Technologies

### Applications Covered:

Precision Farming & Farm Management

Livestock Monitoring

Supply Chain Management

Financial Management

Other Applications

### End Users Covered:

Row crops

Horticulture

Specialty Crops

Protected Agriculture

Pasture

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

## 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 Technology Analysis
- 3.7 Application Analysis
- 3.8 End User Analysis
- 3.9 Emerging Markets
- 3.10 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 DIGITAL AGTECH MARKET, BY COMPONENT**

- 5.1 Introduction
- 5.2 Hardware
  - 5.2.1 Sensors
  - 5.2.2 GPS/GNSS Devices
  - 5.2.3 Drones
  - 5.2.4 Automation & Control Systems
  - 5.2.5 Guidance & Steering Systems
  - 5.2.6 Handheld Devices & Displays
- 5.3 Software
  - 5.3.1 Farm Management Software (FMS)
  - 5.3.2 Data Analytics & AI Platforms
  - 5.3.3 Supply Chain Management Software
  - 5.3.4 Financial Management Software
  - 5.3.5 On-Cloud vs. On-Premise Deployment
- 5.4 Services
  - 5.4.1 System Integration & Consulting
  - 5.4.2 Data Collection & Analytical Services
  - 5.4.3 Maintenance & Support Services
  - 5.4.4 Connectivity Services
  - 5.4.5 Advisory Services
- 5.5 Other Components

## **6 GLOBAL DIGITAL AGTECH MARKET, BY FARM**

- 6.1 Introduction
- 6.2 Large Farms
- 6.3 Small & Medium-Sized Farms

## **7 GLOBAL DIGITAL AGTECH MARKET, BY DEPLOYMENT MODEL**

- 7.1 Introduction
- 7.2 Cloud-based Solutions
- 7.3 On-Premises
- 7.4 Hybrid Models

## **8 GLOBAL DIGITAL AGTECH MARKET, BY TECHNOLOGY**

- 8.1 Introduction
- 8.2 Precision Farming
- 8.3 IoT (Internet of Things)
- 8.4 Artificial Intelligence (AI) & Machine Learning (ML)
- 8.5 Big Data Analytics
- 8.6 Blockchain for Agriculture
- 8.7 Other Technologies

## **9 GLOBAL DIGITAL AGTECH MARKET, BY APPLICATION**

- 9.1 Introduction
- 9.2 Precision Farming & Farm Management
- 9.3 Livestock Monitoring
- 9.4 Supply Chain Management
- 9.5 Financial Management
- 9.6 Other Applications

## **10 GLOBAL DIGITAL AGTECH MARKET, BY END USER**

- 10.1 Introduction
- 10.2 Row crops
- 10.3 Horticulture
- 10.4 Specialty Crops
- 10.5 Protected Agriculture
- 10.6 Pasture
- 10.7 Other End Users

## **11 GLOBAL DIGITAL AGTECH MARKET, BY GEOGRAPHY**

- 11.1 Introduction
- 11.2 North America
  - 11.2.1 US
  - 11.2.2 Canada
  - 11.2.3 Mexico
- 11.3 Europe
  - 11.3.1 Germany
  - 11.3.2 UK
  - 11.3.3 Italy

- 11.3.4 France
- 11.3.5 Spain
- 11.3.6 Rest of Europe
- 11.4 Asia Pacific
  - 11.4.1 Japan
  - 11.4.2 China
  - 11.4.3 India
  - 11.4.4 Australia
  - 11.4.5 New Zealand
  - 11.4.6 South Korea
  - 11.4.7 Rest of Asia Pacific
- 11.5 South America
  - 11.5.1 Argentina
  - 11.5.2 Brazil
  - 11.5.3 Chile
  - 11.5.4 Rest of South America
- 11.6 Middle East & Africa
  - 11.6.1 Saudi Arabia
  - 11.6.2 UAE
  - 11.6.3 Qatar
  - 11.6.4 South Africa
  - 11.6.5 Rest of Middle East & Africa

## **12 KEY DEVELOPMENTS**

- 12.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 12.2 Acquisitions & Mergers
- 12.3 New Product Launch
- 12.4 Expansions
- 12.5 Other Key Strategies

## **13 COMPANY PROFILING**

- 13.1 Trimble Inc.
- 13.2 Taranis
- 13.3 Stellapps
- 13.4 Solinftec
- 13.5 Ninjacart
- 13.6 Monarch Tractor

- 13.7 John Deere
- 13.8 Indigo Ag
- 13.9 Fasal
- 13.10 FarmLogs
- 13.11 FarmERP
- 13.12 Ecorobotix SA
- 13.13 DeHaat
- 13.14 Cropin
- 13.15 Cargill
- 13.16 Carbon Robotics
- 13.17 Bayer AG
- 13.18 Agworld
- 13.19 AgroStar
- 13.20 Aerobotics

## List Of Tables

### LIST OF TABLES

Table 1 Global Digital AgTech Market Outlook, By Region (2024-2032) (\$MN)

Table 2 Global Digital AgTech Market Outlook, By Component (2024-2032) (\$MN)

Table 3 Global Digital AgTech Market Outlook, By Hardware (2024-2032) (\$MN)

Table 4 Global Digital AgTech Market Outlook, By Sensors (2024-2032) (\$MN)

Table 5 Global Digital AgTech Market Outlook, By GPS/GNSS Devices (2024-2032) (\$MN)

Table 6 Global Digital AgTech Market Outlook, By Drones (2024-2032) (\$MN)

Table 7 Global Digital AgTech Market Outlook, By Automation & Control Systems (2024-2032) (\$MN)

Table 8 Global Digital AgTech Market Outlook, By Guidance & Steering Systems (2024-2032) (\$MN)

Table 9 Global Digital AgTech Market Outlook, By Handheld Devices & Displays (2024-2032) (\$MN)

Table 10 Global Digital AgTech Market Outlook, By Software (2024-2032) (\$MN)

Table 11 Global Digital AgTech Market Outlook, By Farm Management Software (FMS) (2024-2032) (\$MN)

Table 12 Global Digital AgTech Market Outlook, By Data Analytics & AI Platforms (2024-2032) (\$MN)

Table 13 Global Digital AgTech Market Outlook, By Supply Chain Management Software (2024-2032) (\$MN)

Table 14 Global Digital AgTech Market Outlook, By Financial Management Software (2024-2032) (\$MN)

Table 15 Global Digital AgTech Market Outlook, By On-Cloud vs. On-Premise Deployment (2024-2032) (\$MN)

Table 16 Global Digital AgTech Market Outlook, By Services (2024-2032) (\$MN)

Table 17 Global Digital AgTech Market Outlook, By System Integration & Consulting (2024-2032) (\$MN)

Table 18 Global Digital AgTech Market Outlook, By Data Collection & Analytical Services (2024-2032) (\$MN)

Table 19 Global Digital AgTech Market Outlook, By Maintenance & Support Services (2024-2032) (\$MN)

Table 20 Global Digital AgTech Market Outlook, By Connectivity Services (2024-2032) (\$MN)

Table 21 Global Digital AgTech Market Outlook, By Advisory Services (2024-2032) (\$MN)

Table 22 Global Digital AgTech Market Outlook, By Other Components (2024-2032) (\$MN)

Table 23 Global Digital AgTech Market Outlook, By Farm (2024-2032) (\$MN)

Table 24 Global Digital AgTech Market Outlook, By Large Farms (2024-2032) (\$MN)

Table 25 Global Digital AgTech Market Outlook, By Small & Medium-Sized Farms (2024-2032) (\$MN)

Table 26 Global Digital AgTech Market Outlook, By Deployment Model (2024-2032) (\$MN)

Table 27 Global Digital AgTech Market Outlook, By Cloud-based Solutions (2024-2032) (\$MN)

Table 28 Global Digital AgTech Market Outlook, By On-Premises (2024-2032) (\$MN)

Table 29 Global Digital AgTech Market Outlook, By Hybrid Models (2024-2032) (\$MN)

Table 30 Global Digital AgTech Market Outlook, By Technology (2024-2032) (\$MN)

Table 31 Global Digital AgTech Market Outlook, By Precision Farming (2024-2032) (\$MN)

Table 32 Global Digital AgTech Market Outlook, By IoT (Internet of Things) (2024-2032) (\$MN)

Table 33 Global Digital AgTech Market Outlook, By Artificial Intelligence (AI) & Machine Learning (ML) (2024-2032) (\$MN)

Table 34 Global Digital AgTech Market Outlook, By Big Data Analytics (2024-2032) (\$MN)

Table 35 Global Digital AgTech Market Outlook, By Blockchain for Agriculture (2024-2032) (\$MN)

Table 36 Global Digital AgTech Market Outlook, By Other Technologies (2024-2032) (\$MN)

Table 37 Global Digital AgTech Market Outlook, By Application (2024-2032) (\$MN)

Table 38 Global Digital AgTech Market Outlook, By Precision Farming & Farm Management (2024-2032) (\$MN)

Table 39 Global Digital AgTech Market Outlook, By Livestock Monitoring (2024-2032) (\$MN)

Table 40 Global Digital AgTech Market Outlook, By Supply Chain Management (2024-2032) (\$MN)

Table 41 Global Digital AgTech Market Outlook, By Financial Management (2024-2032) (\$MN)

Table 42 Global Digital AgTech Market Outlook, By Other Applications (2024-2032) (\$MN)

Table 43 Global Digital AgTech Market Outlook, By End User (2024-2032) (\$MN)

Table 44 Global Digital AgTech Market Outlook, By Row crops (2024-2032) (\$MN)

Table 45 Global Digital AgTech Market Outlook, By Horticulture (2024-2032) (\$MN)

Table 46 Global Digital AgTech Market Outlook, By Specialty Crops (2024-2032) (\$MN)

Table 47 Global Digital AgTech Market Outlook, By Protected Agriculture (2024-2032) (\$MN)

Table 48 Global Digital AgTech Market Outlook, By Pasture (2024-2032) (\$MN)

Table 49 Global Digital AgTech Market Outlook, By Other End Users (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.

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