AI In Agriculture - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 100 pages | Mordor Intelligence

AVAILABLE LICENSES:

- Single User License $4750.00
- Team License (1-7 Users) $5250.00
- Site License $6500.00
- Corporate License $8750.00

Report description:

The AI Market In Agriculture Industry is expected to grow from USD 2.08 billion in 2024 to USD 5.76 billion by 2029, at a CAGR of 22.55% during the forecast period (2024-2029).

The driverless tractor is trending in the market, as these tractors can steer automatically using GPS-based technology, lift tools from the ground, recognize the boundaries of a farm, and be operated remotely using a tablet. A fleet of smaller automated tractors could raise farmer revenue by more than 10 percent and reduce farm labor costs.

Key Highlights
-Maximizing crop yield using machine learning techniques is driving the market. Species selection is a tedious process of searching for specific genes that determine water and nutrient use effectiveness, adaptation to climate change, disease resistance, nutrient content, or a better taste. Machine learning, in particular deep learning algorithms, takes decades of field data to analyze crop performance in various climates. Based on this data, one can build a probability model to predict which genes will most likely contribute a beneficial trait to a plant.
-An increase in the adoption of cattle face recognition technology is driving the market. By applying advanced metrics, including cattle facial recognition programs and image classification incorporated with body condition scores and feeding patterns, dairy farms can now individually monitor all behavioral aspects of a group of cattle.
-The increased use of unmanned aerial vehicles (UAVs) across agricultural farms is driving the market, as the use of drones in the agriculture industry can be used in crop field scanning with compact multispectral imaging sensors, GPS map creation through onboard cameras, heavy payload transportation, and livestock monitoring with thermal-imaging camera-equipped drones, which increases the demand for UAVs.
-However, the need for standardization is restraining market growth as the need for data collection and data sharing standards is

high. Machine learning, artificial intelligence, and advanced algorithm design have moved quickly, but collecting well-tagged, meaningful agricultural data is way behind.
-The overall impact of COVID-19 on the AI agriculture market was positive. The pandemic acted as a catalyst for innovation and digital transformation in the industry, driving the adoption of AI-driven solutions for increased efficiency, productivity, and sustainability. The need for remote monitoring and management accelerated the digitization of agricultural processes. AI-driven tools for data analysis, predictive modeling, and smart farming have become essential for optimizing production, reducing waste, and ensuring food security.

Artificial Intelligence (AI) in Agriculture Market Trends

Drone Analytics Application Segment is Expected to Hold Significant Market Share

- Integrating drone analytics and AI in agriculture offers tremendous potential for optimizing agricultural operations, reducing costs, and enhancing sustainability. By leveraging the power of AI to analyze drone-captured data, farmers can make data-driven decisions, improve resource allocation, and achieve higher productivity. Therefore, drone analytics is expected to be a significant driver of the AI market in agriculture.
- Drones with high-resolution cameras and sensors can capture vast amounts of data about crops, soil conditions, and field characteristics. Combined with AI-powered analytics, this data enables farmers to gain valuable insights into crop health, nutrient levels, pest infestations, and other factors influencing agricultural productivity.
- AI-powered drone analytics enable precision agriculture practices by providing detailed information about specific areas within a field. By using AI algorithms to analyze drone-captured data, farmers can identify variations in crop growth, soil moisture levels, or pest populations. This allows for targeted interventions, such as precise fertilizers, pesticides, or irrigation applications, leading to optimized resource utilization and increased crop yields.
- Drones equipped with AI-enabled analytics can monitor crops throughout their growth stages. By analyzing drone imagery and sensor data, AI algorithms can detect early signs of plant stress, disease outbreaks, or nutrient deficiencies. Farmers can then take proactive measures, such as adjusting irrigation, applying appropriate treatments, or implementing preventive measures, to mitigate risks and optimize crop health.
- Drone analytics powered by AI enable farmers to efficiently monitor large agricultural areas. Instead of conducting time-consuming manual inspections, AI algorithms can automatically analyze drone-captured data and identify areas requiring attention. This streamlines operations saves labor costs, and allows farmers to make informed decisions based on accurate and timely information. According to NASSCOM, by 2025, approximately USD 90 billion of value will be added to the agriculture sector through data and AI technologies in India. With all the sectors combined, artificial intelligence is projected to add approximately USD 500 billion to India's GDP by 2025.

North America is Expected to Hold Significant Market Share

- The North American artificial intelligence (AI) market in agriculture is a significant segment within the larger agricultural technology industry. The North American AI market in agriculture has been experiencing substantial growth. With the increasing adoption of AI technologies in the agricultural sector, the market is expected to expand significantly in the coming years. Factors such as the need for increased productivity, rising demand for precision farming techniques, and the availability of advanced infrastructure contribute to market growth.
- North American farmers and agricultural businesses embrace AI technologies to improve efficiency, optimize resource allocation, and enhance decision-making processes. AI applications in the region's agriculture industry include precision agriculture, remote

sensing, crop monitoring, predictive analytics, and automated farming systems. These technologies help farmers make data-driven decisions, increase yields, reduce costs, and mitigate risks.
- Collaborations between technology providers, agriculture companies, research institutions, and startups characterize the North American AI market in agriculture. These collaborations foster innovation and the development of AI-driven solutions tailored to the specific needs of the region's agricultural sector. Partnerships and investments in AI startups further contribute to market growth and technological advancements.
- Governments in North America recognize the potential of AI in agriculture and are implementing supportive policies and initiatives. These include funding programs, research grants, and regulatory frameworks to foster AI adoption and innovation in the agricultural sector. Such initiatives provide a conducive environment for AI market growth and facilitate the development of sustainable and resilient agricultural practices.
- In January 2023, the United States and the European Union established a collaboration to improve agriculture, climate forecasting, emergency response, and the electric grid through the use of artificial intelligence (AI). The cooperation is now between the European Commission and the White House, the executive arm of the 27-member European Union.

Artificial Intelligence (AI) in Agriculture Industry Overview

- The artificial intelligence (AI) market in the agriculture market is fragmented with major players like Microsoft Corporation, IBM Corporation, Granular Inc., aWhere Inc., and Prospera Technologies Ltd. Players in the market are adopting strategies such as partnerships, collaborations, and acquisitions to enhance their product offerings and gain sustainable competitive advantage.
- In April 2023, IBM and Texas A&M AgriLife collaborated to provide farmers with water consumption insights, which can boost agricultural productivity while lowering economic and environmental expenses. Texas A&M AgriLife and IBM will deploy and grow Liquid Prep, a technology solution that helps farmers decide "when to water" in dry parts of the United States.
- In May 2022, AGRA and Microsoft expanded their collaboration to help with the digital agricultural transformation. AGRA and Microsoft signed an MoU in Davos for future collaboration through its Africa Transformation Office. The organizations will leverage their success from a previous partnership started in 2019, which led to the development of the AgriBot.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

1 INTRODUCTION
1.1 Study Assumptions and Market Definition
1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS
4.1 Market Overview
4.2 Industry Value Chain Analysis
4.3 Industry Attractiveness - Porter's Five Forces Analysis

4.3.1 Bargaining Power of Buyers/Consumers
4.3.2 Bargaining Power of Suppliers
4.3.3 Threat of New Entrants
4.3.4 Threat of Substitute Products
4.3.5 Intensity of Competitive Rivalry
4.4 Analysis on the impact of COVID-19 on the Artificial Intelligence (AI) Market in Agriculture

5 MARKET DYNAMICS
5.1 Market Drivers
5.1.1 Maximize Crop Yield Using Machine Learning technique
5.1.2 Increase in the Adoption of Cattle Face Recognition Technology
5.1.3 Increase Use of Unmanned Aerial Vehicles (UAVs) Across Agricultural Farms
5.2 Market Restraints
5.2.1 Lack of Standardization in Data Collection

6 MARKET SEGMENTATION
6.1 By Application
6.1.1 Weather Tracking
6.1.2 Precision Farming
6.1.3 Drone Analytics
6.2 By Deployment
6.2.1 Cloud
6.2.2 On-premise
6.2.3 Hybrid
6.3 By Geography
6.3.1 North America
6.3.2 Europe
6.3.3 Asia-Pacific
6.3.4 Rest of the World

7 COMPETITIVE LANDSCAPE
7.1 Company Profiles
7.1.1 Microsoft Corporation
7.1.2 IBM Corporation
7.1.3 Granular Inc.
7.1.4 aWhere Inc.
7.1.5 Prospera Technologies Ltd.
7.1.6 Gamaya SA
7.1.7 ec2ce
7.1.8 PrecisionHawk Inc.
7.1.9 Cainthus Corp.
7.1.10 Tule Technologies Inc.

8 INVESTMENT ANALYSIS

9 MARKET OPPORTUNITIES AND FUTURE TRENDS

AI In Agriculture - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 100 pages | Mordor Intelligence

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	$4750.00
	Team License (1-7 Users)	$5250.00
	Site License	$6500.00
	Corporate License	$8750.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	
Zip Code*		Country*	
		Date	2026-02-26
		Signature