

# **Artificial Intelligence in Agriculture Market by Technology (Machine Learning, Computer Vision, and Predictive Analytics), Offering (Software, AI-as-a-Service), Application (Drone Analytics, Precision Farming) and Region - Global Forecast to 2028**

<https://marketpublishers.com/r/AF63120B542EN.html>

Date: March 2023

Pages: 185

Price: US\$ 4,950.00 (Single User License)

ID: AF63120B542EN

## **Abstracts**

The AI in agriculture market is projected to grow from USD 1.7 billion in 2023 to USD 4.7 billion in 2028; it is expected to grow at a CAGR of 23.1% during the forecasted period. AI in agriculture is mainly used in precision farming, agriculture robots, livestock monitoring, drone analytics, labor management, and others. The market growth is mainly driven by government support to adopt modern agricultural techniques. Local governments in the Americas and Europe are encouraging farmers to adopt modern farming practices by providing improved budgets and guidance at different levels to increase food production. Governments worldwide are taking several initiatives to boost agriculture production, develop high-quality seeds, and increase storage capacities. These initiatives entail investing in AI-based farming technology.

“Market for AI-as-a-Service is to grow at highest CAGR during forecast period.”

The artificial intelligence (AI) in agriculture market has been segmented based on offering into hardware, software, AI-as-a-Service, and services. Market for AI-as-a-Service is expected to grow at highest CAGR during forecast period. Major companies, such as IBM, Microsoft, Granular, and Descartes Labs, are involved in providing AI-as-a-Service.

“Market for drone analytics application is expected to grow at highest CAGR during forecast period.”

The market for drone analytics application is expected to grow at highest CAGR during forecast period.

Drone support farmers by offering efficient plant protection, providing important data on soil types, and monitoring crop health. In agriculture, microdrones have a huge potential and a wide range of applications. Drone analytics software is used for measuring vegetation levels based on the normalized difference vegetation index (NDVI), a graphical indicator of this measurement.

“Market for Asia Pacific is to grow at highest CAGR during forecast period.”

The AI in agriculture market has been segmented into four geographic regions: the North America, Europe, Asia Pacific, and the Rest of the World (RoW). The market in Asia Pacific is expected to witness the highest growth rate during the forecast period. The wide-scale adoption of AI technologies in agricultural farming is a key factor supporting the growth of the market in this region. Further Asia Pacific is segmented into China, Japan, South Korea, India and Rest of Asia Pacific. There is an increasing application of AI in the agriculture sector in developing countries, such as India and China.

The report profiles key players in the AI in agriculture market with their respective market ranking analysis. Prominent players profiled in this report are Deere & Company (US), IBM (US), Microsoft (US), The Climate Corporation (US), Farmers Edge Inc. (Canada), Granular Inc. (Canada), AgEagle Aerial Systems Inc. (US), Descartes Labs, Inc. (US).

Research Coverage:

This research report categorizes the AI in agriculture market on the basis Technology, Offering, Application, and Geography. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the AI in agriculture market and forecasts the same till 2028. Apart from these, the report also consists of leadership mapping and analysis of all the companies included in the AI in agriculture ecosystem.

Key Benefits of Buying the Report

The report will help market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall AI in agriculture market and the subsegments. This report will help stakeholders understand the competitive

landscape and gain more insights to better position their businesses and plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

## Contents

### 1 INTRODUCTION

#### 1.1 STUDY OBJECTIVES

#### 1.2 MARKET DEFINITION

##### 1.2.1 INCLUSIONS AND EXCLUSIONS

#### 1.3 STUDY SCOPE

##### 1.3.1 MARKETS COVERED

#### FIGURE 1 SEGMENTATION OF AI IN AGRICULTURE MARKET

##### 1.3.2 REGIONAL SCOPE

##### 1.3.3 YEARS CONSIDERED

#### 1.4 CURRENCY CONSIDERED

#### 1.5 LIMITATIONS

#### 1.6 STAKEHOLDERS

#### 1.7 SUMMARY OF CHANGES

### 2 RESEARCH METHODOLOGY

#### 2.1 RESEARCH DATA

#### FIGURE 2 AI IN AGRICULTURE MARKET: RESEARCH DESIGN

##### 2.1.1 SECONDARY AND PRIMARY RESEARCH

###### 2.1.1.1 Key industry insights

##### 2.1.2 SECONDARY DATA

###### 2.1.2.1 List of major secondary sources

###### 2.1.2.2 Secondary sources

##### 2.1.3 PRIMARY DATA

###### 2.1.3.1 Primary interviews with experts

###### 2.1.3.2 Breakdown of primaries

###### 2.1.3.3 Key data from primary sources

#### 2.2 MARKET SIZE ESTIMATION

#### FIGURE 3 MARKET SIZE ESTIMATION METHODOLOGY: SUPPLY-SIDE APPROACH

##### 2.2.1 BOTTOM-UP APPROACH

###### 2.2.1.1 Approach to estimate market size using bottom-up analysis (demand side)

#### FIGURE 4 MARKET SIZE ESTIMATION METHODOLOGY: BOTTOM-UP APPROACH

##### 2.2.2 TOP-DOWN APPROACH

###### 2.2.2.1 Approach to estimate market size using top-down analysis (supply side)

#### FIGURE 5 MARKET SIZE ESTIMATION METHODOLOGY: TOP-DOWN APPROACH

## 2.3 MARKET BREAKDOWN AND DATA TRIANGULATION

FIGURE 6 DATA TRIANGULATION

## 2.4 RESEARCH ASSUMPTIONS

FIGURE 7 RESEARCH STUDY ASSUMPTIONS

TABLE 1 PARAMETERS CONSIDERED TO ANALYZE IMPACT OF RECESSION ON AI IN AGRICULTURE MARKET

## 3 EXECUTIVE SUMMARY

FIGURE 8 MACHINE LEARNING TECHNOLOGY TO ACCOUNT FOR LARGEST SHARE OF AI IN AGRICULTURE MARKET IN 2028

FIGURE 9 SOFTWARE OFFERINGS TO HOLD LARGEST MARKET SHARE THROUGHOUT FORECAST PERIOD

FIGURE 10 DRONE ANALYTICS APPLICATION TO EXHIBIT HIGHEST CAGR DURING FORECAST PERIOD

FIGURE 11 NORTH AMERICA ACCOUNTED FOR LARGEST SHARE OF AI IN AGRICULTURE MARKET IN 2022

### 3.1 ANALYSIS OF RECESSION IMPACT ON AI IN AGRICULTURE MARKET

FIGURE 12 GDP GROWTH PROJECTION TILL 2023 FOR MAJOR ECONOMIES (PERCENTAGE CHANGE)

FIGURE 13 AI IN AGRICULTURE MARKET: PRE- AND POST-RECESSION SCENARIOS

## 4 PREMIUM INSIGHTS

### 4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN AI IN AGRICULTURE MARKET

FIGURE 14 RISING USE OF DRONES TO INCREASE FARM PRODUCTIVITY AND PROFITABILITY TO PROVIDE OPPORTUNITIES FOR PLAYERS OFFERING AI-POWERED SOLUTIONS

### 4.2 AI IN AGRICULTURE MARKET, BY TECHNOLOGY

FIGURE 15 COMPUTER VISION TECHNOLOGY TO REGISTER HIGHEST CAGR IN AI IN AGRICULTURE MARKET BETWEEN 2023 AND 2028

### 4.3 AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY AND APPLICATION

FIGURE 16 US AND DRONE ANALYTICS TO ACCOUNT FOR LARGEST SHARE OF AI IN AGRICULTURE MARKET IN NORTH AMERICA IN 2028

### 4.4 REGION-WISE AI IN AGRICULTURE MARKET GROWTH RATE

FIGURE 17 ASIA PACIFIC TO RECORD HIGHEST CAGR IN AI IN AGRICULTURE

## MARKET DURING FORECAST PERIOD

### 5 MARKET OVERVIEW

#### 5.1 INTRODUCTION

#### 5.2 MARKET DYNAMICS

#### FIGURE 18 ARTIFICIAL INTELLIGENCE IN AGRICULTURE MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES

##### 5.2.1 DRIVERS

5.2.1.1 Adoption of newer technologies in arable land to balance food supply and population increase

5.2.1.2 Rising need for real-time data by growers and farmers to take preventive measures

#### FIGURE 19 VOLUME OF DATA GENERATED PER DAY BY IOT-CONNECTED FARMS GLOBALLY

5.2.1.3 Increasing crop productivity through deep learning technology

5.2.1.4 Government support to adopt modern agricultural techniques

5.2.1.5 Increasing use of AI-enabled robots and automation in agriculture due to labor shortage

##### 5.2.2 RESTRAINTS

5.2.2.1 High cost of AI-driven precision farming equipment

##### 5.2.3 OPPORTUNITIES

5.2.3.1 Potential growth opportunities in developing countries

5.2.3.2 Government schemes encouraging adoption of AI solutions to manage small farms

5.2.3.3 Rising use of drones to increase farm productivity and profitability

##### 5.2.4 CHALLENGES

5.2.4.1 Interoperability issues due to lack of standardization of communication protocols

5.2.4.2 Availability of limited workforce with technological expertise

5.2.4.3 Insufficient historical data to build predictive models

#### 5.3 VALUE CHAIN ANALYSIS

#### FIGURE 20 VALUE CHAIN ANALYSIS FOR AI IN AGRICULTURE MARKET

#### 5.4 ECOSYSTEM ANALYSIS

#### FIGURE 21 AI IN AGRICULTURE MARKET: ECOSYSTEM ANALYSIS

#### TABLE 2 ECOSYSTEM MAPPING

#### 5.5 PRICING ANALYSIS

#### TABLE 3 INDICATIVE PRICING ANALYSIS OF AI PRODUCTS OFFERED BY KEY COMPANIES

**FIGURE 22 AVERAGE SELLING PRICE OF PROCESSOR COMPONENTS****5.5.1 AVERAGE SELLING PRICE ANALYSIS OF PROCESSOR COMPONENTS OFFERED BY TOP 3 PLAYERS****FIGURE 23 AVERAGE SELLING PRICE OF PROCESSORS OFFERED BY TOP 3 COMPANIES****TABLE 4 ASP RANGE OF PROCESSOR COMPONENTS, 2019–2028****TABLE 5 ASP RANGE OF PROCESSOR, BY REGION, 2019–2028 (USD)****5.6 TRENDS/DISRUPTIONS IMPACTING CUSTOMER BUSINESS****FIGURE 24 REVENUE SHIFT AND NEW REVENUE POCKETS FOR PLAYERS IN AI IN AGRICULTURE MARKET****5.7 TECHNOLOGY ANALYSIS****5.7.1 INTERNET OF THINGS (IOT)****5.7.2 ROBOTICS****5.7.3 BLOCKCHAIN TECHNOLOGY****5.7.4 AI-DRIVEN DRONES****5.8 PORTER'S FIVE FORCES ANALYSIS****TABLE 6 AI IN AGRICULTURE MARKET: PORTER'S FIVE FORCES ANALYSIS, 2022****FIGURE 25 PORTER'S FIVE FORCES ANALYSIS: AI IN AGRICULTURE MARKET****5.8.1 THREAT OF NEW ENTRANTS****5.8.2 THREAT OF SUBSTITUTES****5.8.3 BARGAINING POWER OF SUPPLIERS****5.8.4 BARGAINING POWER OF BUYERS****5.8.5 INTENSITY OF COMPETITIVE RIVALRY****5.9 KEY STAKEHOLDERS AND BUYING CRITERIA****5.9.1 KEY STAKEHOLDERS IN BUYING PROCESS****FIGURE 26 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 APPLICATIONS****TABLE 7 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP 3 APPLICATIONS (%)****5.10 CASE STUDIES****TABLE 8 E&J GALLO (US) ADOPTED IBM CLOUD TO INCREASE YIELDS AND REDUCE WATER USAGE****TABLE 9 BUNGE (US) IMPLEMENTED IBM PAIRS TO GAIN DATA AND COMPUTING POWER TO BUILD ADVANCED STATISTICAL MODELS****TABLE 10 AGROPECU?RIA CANOA MIRIM S/A (BRAZIL) DEPLOYED VARIABLE RATE TECHNOLOGY OFFERED BY FARMERS EDGE TO ENSURE ACCURATE QUANTITY OF FERTILIZERS****5.11 TRADE ANALYSIS**

FIGURE 27 EXPORT DATA FOR PRODUCTS COVERED UNDER HS CODE 8432, 2017–2021 (USD MILLION)

FIGURE 28 IMPORT DATA FOR PRODUCTS COVERED UNDER HS CODE 8432, 2017–2021 (USD MILLION)

#### 5.12 PATENT ANALYSIS

FIGURE 29 NUMBER OF PATENTS GRANTED FROM 2013 TO 2022

FIGURE 30 TOP 10 PATENT APPLICANT COMPANIES IN LAST 10 YEARS

TABLE 11 TOP 12 PATENT OWNERS IN LAST 10 YEARS

TABLE 12 IMPORTANT PATENTS RELATED TO AI IN AGRICULTURE MARKET

#### 5.13 KEY CONFERENCES AND EVENTS, 2023–2024

TABLE 13 ARTIFICIAL INTELLIGENCE IN AGRICULTURE MARKET: CONFERENCES AND EVENTS, 2023–2024

#### 5.14 REGULATIONS AND STANDARDS

##### 5.14.1 STANDARDS

TABLE 14 STANDARDS FOR AI IN AGRICULTURE MARKET

5.14.2 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 15 NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 16 EUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 17 ASIA PACIFIC: LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

## 6 AI IN AGRICULTURE MARKET, BY TECHNOLOGY

### 6.1 INTRODUCTION

FIGURE 31 COMPUTER VISION TECHNOLOGY TO REGISTER HIGHEST CAGR IN AI IN AGRICULTURE MARKET BETWEEN 2023 AND 2028

TABLE 18 AI IN AGRICULTURE MARKET, BY TECHNOLOGY, 2019–2022 (USD MILLION)

TABLE 19 AI IN AGRICULTURE MARKET, BY TECHNOLOGY, 2023–2028 (USD MILLION)

### 6.2 MACHINE LEARNING

6.2.1 NEED TO MINIMIZE RISKS AND COSTS ASSOCIATED WITH AGRICULTURAL OPERATIONS TO DRIVE DEMAND FOR MACHINE LEARNING TECHNOLOGY

### 6.3 COMPUTER VISION

6.3.1 USE OF COMPUTER VISION TECHNOLOGY TO MONITOR CROP HEALTH



AND PREDICT NUTRIENT DEFICIENCY TO PROVIDE OPPORTUNITIES FOR MARKET PLAYERS

#### 6.4 PREDICTIVE ANALYTICS

6.4.1 ADOPTION OF PREDICTIVE ANALYTICS TECHNOLOGY TO MAKE AGRONOMIC DECISIONS TO DRIVE MARKET

### 7 AI IN AGRICULTURE MARKET, BY OFFERING

#### 7.1 INTRODUCTION

FIGURE 32 AI-AS-A-SERVICE SEGMENT TO EXHIBIT HIGHEST CAGR BETWEEN 2023 AND 2028

TABLE 20 AI IN AGRICULTURE MARKET, BY OFFERING, 2019–2022 (USD MILLION)

TABLE 21 AI IN AGRICULTURE MARKET, BY OFFERING, 2023–2028 (USD MILLION)

#### 7.2 HARDWARE

7.2.1 AVAILABILITY OF HIGH-TECH TOOLKITS FOR AGRICULTURAL APPLICATIONS TO BOOST MARKET

TABLE 22 HARDWARE: AI IN AGRICULTURE MARKET, BY TYPE, 2019–2022 (USD MILLION)

TABLE 23 HARDWARE: AI IN AGRICULTURE MARKET, BY TYPE, 2023–2028 (USD MILLION)

##### 7.2.2 PROCESSOR

7.2.2.1 Need for highly advanced processors to run complex algorithms and translate them into useful information

##### 7.2.3 STORAGE DEVICE

7.2.3.1 Requirement for high-capacity storage devices to store critical data generated through sensors and drones

##### 7.2.4 NETWORK

7.2.4.1 Network systems include RAMs, memory boards, Ethernet adaptors, and interconnects

#### 7.3 SOFTWARE

7.3.1 INSTALLATION OF SOFTWARE TO SYNTHESIZE DATA HELPFUL IN MAKING PROMPT DECISIONS TO DRIVE DEMAND

TABLE 24 SOFTWARE: AI IN AGRICULTURE MARKET, BY TYPE, 2019–2022 (USD MILLION)

TABLE 25 SOFTWARE: AI IN AGRICULTURE MARKET, BY TYPE, 2023–2028 (USD MILLION)

##### 7.3.2 AI PLATFORM

7.3.2.1 Adoption of AI platforms to fetch and store data from different sources to create consolidated data environment

### 7.3.3 AI SOLUTION

7.3.3.1 Commercialization of robust AI solutions by Alphabet, Siemens, Data RPM, and other players to contribute to segmental growth

## 7.4 AI-AS-A-SERVICE

7.4.1 INCLINATION TOWARD IMPLEMENTING EFFICIENT FARMING METHODS TO REDUCE WASTAGE AND INCREASE CROP YIELD TO DRIVE DEMAND FOR AIAAS

## 7.5 SERVICES

7.5.1 INCREASING REQUIREMENT FOR ONLINE AND OFFLINE SUPPORT SERVICES TO BOOST SEGMENTAL GROWTH

TABLE 26 SERVICES: AI IN AGRICULTURE MARKET, BY TYPE, 2019–2022 (USD MILLION)

TABLE 27 SERVICES: AI IN AGRICULTURE MARKET, BY TYPE, 2023–2028 (USD MILLION)

### 7.5.2 DEPLOYMENT & INTEGRATION

7.5.2.1 Rising adoption of software-integrated on-premises and cloud-based platforms by modern farmers to accelerate demand for deployment & integration services

### 7.5.3 SUPPORT & MAINTENANCE

7.5.3.1 Post-installation requirement to address operations-related issues to drive demand for support & maintenance services

## 8 AI IN AGRICULTURE MARKET, BY APPLICATION

### 8.1 INTRODUCTION

FIGURE 33 DRONE ANALYTICS SEGMENT TO RECORD HIGHEST CAGR IN AI IN AGRICULTURE MARKET, BY APPLICATION, DURING FORECAST PERIOD

TABLE 28 AI IN AGRICULTURE MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 29 AI IN AGRICULTURE MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

### 8.2 PRECISION FARMING

8.2.1 FARMERS' FOCUS ON INCREASING CROP YIELDS USING LIMITED RESOURCES TO INCREASE DEMAND FOR AI IN PRECISION FARMING

TABLE 30 PRECISION FARMING: AI IN AGRICULTURE MARKET, BY TYPE, 2019–2022 (USD MILLION)

TABLE 31 PRECISION FARMING: AI IN AGRICULTURE MARKET, BY TYPE,

2023–2028 (USD MILLION)

TABLE 32 PRECISION FARMING: AI IN AGRICULTURE MARKET, BY REGION

2019–2022 (USD MILLION)

TABLE 33 PRECISION FARMING: AI IN AGRICULTURE MARKET, BY REGION

2023–2028 (USD MILLION)

TABLE 34 PRECISION FARMING: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 35 PRECISION FARMING: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 36 PRECISION FARMING: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 37 PRECISION FARMING: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 38 PRECISION FARMING: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 39 PRECISION FARMING: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 40 PRECISION FARMING: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2019–2022 (USD MILLION)

TABLE 41 PRECISION FARMING: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2023–2028 (USD MILLION)

## 8.2.2 YIELD MONITORING

8.2.2.1 Integration of advanced sensors into yield monitoring solutions to track moisture and nutrient levels in soil

## 8.2.3 FIELD MAPPING

8.2.3.1 Adoption of AI-powered field mapping tools to record field boundaries and calculate surface area

## 8.2.4 CROP SCOUTING

8.2.4.1 Implementation of AI-enabled crop scouting tools to examine crop conditions and gain information on pests and crop injuries

## 8.2.5 WEATHER TRACKING & FORECASTING

8.2.5.1 Use of weather tracking and forecasting tools to gather information and predict weather conditions

## 8.2.6 IRRIGATION MANAGEMENT

8.2.6.1 Implementation of AI-based irrigation systems to achieve optimal yield and water conservation

## 8.3 LIVESTOCK MONITORING

8.3.1 INCORPORATION OF AI IN FEEDING AND HEAT STRESS MANAGEMENT SOLUTIONS AND MILKING ROBOTS TO FUEL MARKET GROWTH

TABLE 42 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 43 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 44 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2019–2022, (USD MILLION)

TABLE 45 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2023–2028, (USD MILLION)

TABLE 46 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 47 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 48 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 49 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 50 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2019–2022 (USD MILLION)

TABLE 51 LIVESTOCK MONITORING: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2023–2028 (USD MILLION)

## 8.4 DRONE ANALYTICS

### 8.4.1 USE OF AI-POWERED DRONES TO IDENTIFY INSECTS AND DISEASES AFFLICTING CROPS TO ACCELERATE MARKET GROWTH

TABLE 52 DRONE ANALYTICS: AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 53 DRONE ANALYTICS: AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 54 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 55 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 56 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 57 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 58 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 59 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 60 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2019–2022 (USD MILLION)

TABLE 61 DRONE ANALYTICS: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2023–2028 (USD MILLION)

## 8.5 AGRICULTURE ROBOTS

8.5.1 INCREASED DEEP LEARNING CAPABILITIES OF AGRICULTURE ROBOTS TO CONTRIBUTE TO MARKET GROWTH

TABLE 62 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 63 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 64 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 65 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 66 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 67 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 68 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 69 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 70 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2019–2022 (USD MILLION)

TABLE 71 AGRICULTURE ROBOTS: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2023–2028 (USD MILLION)

## 8.6 LABOR MANAGEMENT

8.6.1 REDUCTION IN PRODUCTION COSTS THROUGH LABOR MANAGEMENT SOFTWARE TO STIMULATE MARKET GROWTH

TABLE 72 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 73 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 74 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 75 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 76 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN EUROPE, BY

COUNTRY, 2019–2022 (USD MILLION)

TABLE 77 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 78 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 79 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 80 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2019–2022 (USD MILLION)

TABLE 81 LABOR MANAGEMENT: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2023–2028 (USD MILLION)

## 8.7 OTHERS

8.7.1 SMART GREENHOUSE MANAGEMENT

8.7.2 SOIL MANAGEMENT

8.7.2.1 Moisture monitoring

8.7.2.2 Nutrient monitoring

8.7.3 FISH FARMING MANAGEMENT

TABLE 82 OTHERS: AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 83 OTHERS: AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

TABLE 84 OTHERS: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 85 OTHERS: AI IN AGRICULTURE MARKET IN NORTH AMERICA, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 86 OTHERS: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 87 OTHERS: AI IN AGRICULTURE MARKET IN EUROPE, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 88 OTHERS: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 89 OTHERS: AI IN AGRICULTURE MARKET IN ASIA PACIFIC, BY COUNTRY, 2023–2028 (USD MILLION)

TABLE 90 OTHERS: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2019–2022 (USD MILLION)

TABLE 91 OTHERS: AI IN AGRICULTURE MARKET IN ROW, BY REGION, 2023–2028 (USD MILLION)

## 9 AI IN AGRICULTURE MARKET, BY REGION

## 9.1 INTRODUCTION

FIGURE 34 ASIA PACIFIC COUNTRIES TO BE PROSPECTIVE MARKETS FOR AI IN AGRICULTURE DURING FORECAST PERIOD

TABLE 92 AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD MILLION)

TABLE 93 AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

## 9.2 NORTH AMERICA

FIGURE 35 NORTH AMERICA: AI IN AGRICULTURE MARKET SNAPSHOT

TABLE 94 NORTH AMERICA: AI IN AGRICULTURE MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 95 NORTH AMERICA: AI IN AGRICULTURE MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 96 NORTH AMERICA: AI IN AGRICULTURE MARKET, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 97 NORTH AMERICA: AI IN AGRICULTURE MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

### 9.2.1 US

9.2.1.1 Presence of giant companies offering AI-powered solutions and services to boost market growth

### 9.2.2 CANADA

9.2.2.1 Federal investments and favorable regulatory environment framework to propel market

### 9.2.3 MEXICO

9.2.3.1 Limited water resources to accelerate demand for AI in agriculture sector

## 9.3 EUROPE

FIGURE 36 EUROPE: AI IN AGRICULTURE MARKET SNAPSHOT

TABLE 98 EUROPE: AI IN AGRICULTURE MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 99 EUROPE: AI IN AGRICULTURE MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 100 EUROPE: AI IN AGRICULTURE MARKET, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 101 EUROPE: AI IN AGRICULTURE MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

### 9.3.1 UK

9.3.1.1 Investments by government in high-tech farming projects to stimulate market growth

### 9.3.2 GERMANY

9.3.2.1 High adoption of agricultural drones to monitor crops to propel market growth

### 9.3.3 FRANCE

9.3.3.1 Focus of startup companies on development of advanced technologies for agriculture sector to support market growth

### 9.3.4 ITALY

9.3.4.1 Limited water resources to encourage use of AI in agriculture sector

### 9.3.5 SPAIN

9.3.5.1 Government-run pilot projects encouraging adoption of AI in agriculture to boost market growth

### 9.3.6 REST OF EUROPE

## 9.4 ASIA PACIFIC

FIGURE 37 ASIA PACIFIC: AI IN AGRICULTURE MARKET SNAPSHOT

TABLE 102 ASIA PACIFIC: AI IN AGRICULTURE MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 103 ASIA PACIFIC: AI IN AGRICULTURE MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 104 ASIA PACIFIC: AI IN AGRICULTURE MARKET, BY COUNTRY, 2019–2022 (USD MILLION)

TABLE 105 ASIA PACIFIC: AI IN AGRICULTURE MARKET, BY COUNTRY, 2023–2028 (USD MILLION)

### 9.4.1 AUSTRALIA

9.4.1.1 Government support in agricultural development to promote market growth

### 9.4.2 CHINA

9.4.2.1 Inclination toward precision farming techniques to create opportunities for AI technology providers

### 9.4.3 JAPAN

9.4.3.1 Rise in urban farming practices to fuel growth of AI in agriculture market

### 9.4.4 SOUTH KOREA

9.4.4.1 Government funding and initiatives to develop smart farming technologies to support market growth

### 9.4.5 INDIA

9.4.5.1 Digital transformation of Indian agriculture sector to provide opportunities for AI technology providers

### 9.4.6 REST OF ASIA PACIFIC

## 9.5 REST OF THE WORLD

TABLE 106 ROW: AI IN AGRICULTURE MARKET, BY APPLICATION, 2019–2022 (USD MILLION)

TABLE 107 ROW: AI IN AGRICULTURE MARKET, BY APPLICATION, 2023–2028 (USD MILLION)

TABLE 108 ROW: AI IN AGRICULTURE MARKET, BY REGION, 2019–2022 (USD



MILLION)

TABLE 109 ROW: AI IN AGRICULTURE MARKET, BY REGION, 2023–2028 (USD MILLION)

9.5.1 MIDDLE EAST & AFRICA

9.5.1.1 Increasing adoption of remote sensing and precision farming technologies to boost market

9.5.2 SOUTH AMERICA

9.5.2.1 Growing adoption of modern farming practices to drive market

## **10 COMPETITIVE LANDSCAPE**

10.1 OVERVIEW

10.2 COMPANY REVENUE ANALYSIS, 2017–2021

FIGURE 38 FIVE-YEAR REVENUE ANALYSIS OF KEY PLAYERS, 2017–2021

10.3 MARKET SHARE ANALYSIS, 2022

FIGURE 39 SHARE OF MAJOR PLAYERS IN AI IN AGRICULTURE MARKET, 2022

TABLE 110 DEGREE OF COMPETITION

10.4 COMPANY EVALUATION QUADRANT

10.4.1 STARS

10.4.2 PERVASIVE PLAYERS

10.4.3 EMERGING LEADERS

10.4.4 PARTICIPANTS

FIGURE 40 COMPANY EVALUATION QUADRANT, 2022

10.5 COMPANY FOOTPRINT

TABLE 111 FOOTPRINTS OF COMPANIES

TABLE 112 APPLICATION FOOTPRINT OF COMPANIES

TABLE 113 REGION FOOTPRINT OF COMPANIES

10.6 SMES EVALUATION QUADRANT

10.6.1 PROGRESSIVE COMPANIES

10.6.2 RESPONSIVE COMPANIES

10.6.3 DYNAMIC COMPANIES

10.6.4 STARTING BLOCKS

FIGURE 41 SMES EVALUATION QUADRANT, 2022

10.7 SMES EVALUATION MATRIX

TABLE 114 DETAILED LIST OF KEY SMES

TABLE 115 COMPETITIVE BENCHMARKING OF KEY SMES

10.8 COMPETITIVE SCENARIO

10.8.1 PRODUCT LAUNCHES

TABLE 116 PRODUCT LAUNCHES, 2020–2022

## 10.8.2 DEALS

TABLE 117 DEALS, 2020–2022

## 11 COMPANY PROFILES

### 11.1 KEY PLAYERS

(Business overview, Products offered, Recent developments, Product launches, Deals, MnM view, Key strengths/Right to win, Strategic choices, and Weaknesses/Competitive threats)\*

#### 11.1.1 IBM

TABLE 118 IBM: COMPANY OVERVIEW

FIGURE 42 IBM: COMPANY SNAPSHOT

TABLE 119 IBM: PRODUCTS OFFERED

TABLE 120 IBM: PRODUCT LAUNCHES

TABLE 121 IBM: DEALS

#### 11.1.2 DEERE & COMPANY

TABLE 122 DEERE & COMPANY: COMPANY OVERVIEW

FIGURE 43 DEERE & COMPANY: COMPANY SNAPSHOT

TABLE 123 DEERE & COMPANY: PRODUCTS OFFERED

TABLE 124 DEERE & COMPANY: DEALS

#### 11.1.3 MICROSOFT

TABLE 125 MICROSOFT: COMPANY OVERVIEW

FIGURE 44 MICROSOFT: COMPANY SNAPSHOT

TABLE 126 MICROSOFT: PRODUCTS OFFERED

TABLE 127 MICROSOFT: DEALS

#### 11.1.4 THE CLIMATE CORPORATION

TABLE 128 THE CLIMATE CORPORATION: COMPANY OVERVIEW

TABLE 129 THE CLIMATE CORPORATION: PRODUCTS OFFERED

TABLE 130 THE CLIMATE CORPORATION: PRODUCT LAUNCHES

TABLE 131 THE CLIMATE CORPORATION: DEALS

#### 11.1.5 FARMERS EDGE INC.

TABLE 132 FARMERS EDGE INC.: COMPANY OVERVIEW

FIGURE 45 FARMERS EDGE INC.: COMPANY SNAPSHOT

TABLE 133 FARMERS EDGE INC.: PRODUCTS OFFERED

TABLE 134 FARMERS EDGE INC.: DEALS

TABLE 135 FARMERS EDGE INC.: OTHERS

#### 11.1.6 GRANULAR INC.

TABLE 136 GRANULAR INC.: COMPANY OVERVIEW

TABLE 137 GRANULAR INC.: PRODUCTS OFFERED

#### 11.1.7 AGEAGLE AERIAL SYSTEMS INC.

TABLE 138 AGEAGLE AERIAL SYSTEMS INC.: COMPANY OVERVIEW

FIGURE 46 AGEAGLE AERIAL SYSTEMS INC.: COMPANY SNAPSHOT

TABLE 139 AGEAGLE AERIAL SYSTEMS INC.: PRODUCTS OFFERED

TABLE 140 AGEAGLE AERIAL SYSTEMS INC.: OTHERS

#### 11.1.8 DESCARTES LABS, INC.

TABLE 141 DESCARTES LABS, INC.: COMPANY OVERVIEW

TABLE 142 DESCARTES LABS, INC.: PRODUCTS OFFERED

TABLE 143 DESCARTES LABS, INC.: PRODUCT LAUNCHES

#### 11.1.9 PROSPERA TECHNOLOGIES, INC.

TABLE 144 PROSPERA TECHNOLOGIES, INC.: COMPANY OVERVIEW

TABLE 145 PROSPERA TECHNOLOGIES, INC.: PRODUCTS OFFERED

TABLE 146 PROSPERA TECHNOLOGIES, INC.: OTHERS

#### 11.1.10 TARANIS

TABLE 147 TARANIS: COMPANY OVERVIEW

TABLE 148 TARANIS: PRODUCTS OFFERED

TABLE 149 TARANIS: DEALS

TABLE 150 TARANIS: OTHERS

#### 11.1.11 CROPIN TECHNOLOGY SOLUTIONS PRIVATE LIMITED

TABLE 151 CROPIN TECHNOLOGY SOLUTIONS PRIVATE LIMITED: COMPANY OVERVIEW

TABLE 152 CROPIN TECHNOLOGY SOLUTIONS PRIVATE LIMITED: PRODUCTS OFFERED

TABLE 153 CROPIN TECHNOLOGY SOLUTIONS PRIVATE LIMITED: PRODUCT LAUNCHES

TABLE 154 CROPIN TECHNOLOGY SOLUTIONS PRIVATE LIMITED: DEALS

TABLE 155 CROPIN TECHNOLOGY SOLUTIONS PRIVATE LIMITED: OTHERS

### 11.2 OTHER KEY COMPANIES

#### 11.2.1 GAMAYA

#### 11.2.2 EC2CE

#### 11.2.3 PRECISION HAWK

#### 11.2.4 VINEVIEW

#### 11.2.5 EVER.AG

#### 11.2.6 TULE TECHNOLOGIES

#### 11.2.7 RESSON AEROSPACE INC.

#### 11.2.8 CONNECTERRA B.V.

#### 11.2.9 VISION ROBOTICS CORPORATION

#### 11.2.10 FARMBOT

#### 11.2.11 HARVEST CROO ROBOTICS LLC

## 11.2.12 PROGRESSIVE ENVIRONMENTAL & AGRICULTURAL TECHNOLOGIES (PEAT)

### 11.2.13 TRACE GENOMICS

### 11.2.14 CROPX INC.

\*Details on Business overview, Products offered, Recent developments, Product launches, Deals, MnM view, Key strengths/Right to win, Strategic choices, and Weaknesses/Competitive threats might not be captured in case of unlisted companies.

## 12 ADJACENT AND RELATED MARKETS

### 12.1 INTRODUCTION

### 12.2 STUDY LIMITATIONS

### 12.3 PRECISION FARMING MARKET, BY TECHNOLOGY

TABLE 156 PRECISION FARMING MARKET, BY TECHNOLOGY TYPE, 2018–2021 (USD MILLION)

TABLE 157 PRECISION FARMING MARKET, BY TECHNOLOGY TYPE, 2022–2030 (USD MILLION)

#### 12.3.1 GUIDANCE TECHNOLOGY

##### 12.3.1.1 GPS/GNSS-based guidance technology

12.3.1.1.1 Rising preference for using advanced technologies in agriculture industry to boost demand for GPS/GNSS-based guidance technology

##### 12.3.1.2 GIS-based guidance technology

12.3.1.2.1 Increasing need to store data related to yields, soil survey maps, etc., to accelerate adoption of GIS-based guidance technology

#### 12.3.2 REMOTE SENSING TECHNOLOGY

##### 12.3.2.1 Handheld or ground-based sensing

12.3.2.1.1 Growing demand for and easy availability of handheld sensors to drive market growth

##### 12.3.2.2 Satellite or aerial sensing

12.3.2.2.1 Ability of satellite sensing to provide quantitative and near-real-time information over large areas to drive adoption

#### 12.3.3 VARIABLE RATE TECHNOLOGY (VRT)

##### 12.3.3.1 MAP-based VRT

12.3.3.1.1 MAP-based VRT segment held largest market share in 2021

##### 12.3.3.2 Sensor-based VRT

12.3.3.2.1 Use of sensor-based VRT to measure soil properties or crop characteristics

## 13 APPENDIX

13.1 DISCUSSION GUIDE

13.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

13.3 CUSTOMIZATION OPTIONS

13.4 RELATED REPORTS

13.5 AUTHOR DETAILS

## I would like to order

Product name: Artificial Intelligence in Agriculture Market by Technology (Machine Learning, Computer Vision, and Predictive Analytics), Offering (Software, AI-as-a-Service), Application (Drone Analytics, Precision Farming) and Region - Global Forecast to 2028

Product link: <https://marketpublishers.com/r/AF63120B542EN.html>

Price: US\$ 4,950.00 (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/AF63120B542EN.html>