

# **Agricultural Drones Market by Payload Capacity (Small Payload Drones, Medium Payload Drones, Large Payload Drones), Component, Technology Type, Offering Type, Farm Produce, Farm Size, Range, Application and Region - Global Forecast to 2029**

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## **Abstracts**

The agriculture drones market is estimated at USD 2.00 billion in 2024 and is projected to reach USD 8.03 billion by 2029, at a CAGR of 32.0% from 2024 to 2029. The exemption by the FAA for use in agriculture increases adoption of drones. This will open a huge opportunity in the market for agriculture drones. With fewer regulatory hurdles, stakeholders may adopt drone technology with minimal compliance, opening the market up to wider penetration. The use of drones and data analytics platforms will let effective decision making occur while optimizing resources, which leads to a better productivity. The focus on sustainability in agriculture makes it possible to use drones for friendly environmental practices, and the FAA's waiver of exemption has made the usage of drones possible easily. Lastly, the changed outlook in terms of rules means training programs and consultancy services for the smooth run of drone operations, thereby increasing demand. In conclusion, this exemption is doing a lot to create an easy setting for the growth of the market in agriculture drones.

“Security and Safety concerns associated with civil and commercial application of drones.”

Security and safety concerns due to civil and commercial use of drones can be a significant restraint for the agriculture drones market in the following ways. The first is concerned with invasion of privacy; a camera and sensor-gifted drone is likely to capture images or data from private properties, which can lead to legal challenges and public backlash, thus dissuading adoption among farmers who fear possible cases of

infringement. Further risks include the possibility of accidents and collisions with other aircraft. Drones will inhabit agricultural airspace, so any accident could potentially result in injury or property damage, increasing regulation and liability that may burden the farmer from using drone technology.

“The precision farming segment dominated the application segment of agriculture drones market.”

With several compelling reasons for the precision farming segment to dominate the agriculture drones market, the demand in this segment is strong. Growing populations worldwide have generated an imperative need for food security, and optimal agricultural productivity becomes crucial; in turn, precision farming allows farmers to take data-driven decisions that increase crop yields and the optimum usage of resources. Drones are essential in the process, providing real-time data and detailed analytics that optimize the operations. Other technological advancements include the enhanced capabilities with drones-high-resolution imaging, multispectral sensors, and integration with AI, thereby enabling sophisticated crops and soil analysis to trace the patterns of growth and assess health. Again, these kinds of operations are aligned with environmental regulations and consumer preferences for sustainably sourced products. Government funding for contemporary agriculture techniques by encouraging farmers to invest in drones and precision farming solutions are thus spearheading the segment.

During the forecast period, the Asia Pacific within the region segment is estimated to witness the significant CAGR in the agriculture drones market.

The market for agriculture drones is expected to grow significantly in Asia Pacific. The rate of the uptake of precision agriculture is very high, as farmers increasingly find the adoption of drones useful in crop monitoring, soil analysis, and targeted pesticide application. Government initiatives toward modernizing agriculture also further support this growth, due to many Asian governments promoting advanced technologies with funding, subsidies, and training programs for improving food security and sustainability.

In-depth interviews have been conducted with chief executive officers (CEOs), Directors, and other executives from various key organizations operating in the agriculture drones market:

By Company Type: Tier 1 – 55%, Tier 2 – 35%, and Tier 3 – 10%

By Designation: CXO's – 33%, Managers – 25%, Executives- 42%

By Region: North America – 30%, Europe – 35%, Asia Pacific – 20%, South America – 10% and Rest of the World –5%

Prominent companies in the market include DJI (China), Trimble Inc (US), Parrot Drone Sas (France), Yamaha Motor Co., Ltd. (Japan), Ageagle Aerial Systems Inc (US), Dronedeploy (US), XAG Co., Ltd.(China), Sentera (US), Autel Robotics (China), Yuneec (US), Microdrones (Germany), Gamaya (Brazil), Aerialtronics Dv B.V. (Netherlands), Hiphen (France), Hyllo (US).

Other players include Jouav (China), Shenzhen GC Electronics Co.,Ltd. (China), Aries Solutions (India), Wingtra AG (Switzerland), Sky-Drones Technologies Ltd (UK), Delair (France), Shenzhen Grepow Battery Co., Ltd (China), Applied Aeronautics (US), Vision Aerial, Inc. (US)

#### Research Coverage:

This research report categorizes the agriculture drones market by payload capacity (small payload drones (up to 2 kg), medium payload drones, large payload drones, and heavy payload drones), farm size (small-sized farms, middle-size farms, large-sized farms, and super large farms), components (frames, controller systems, propulsion systems, sensors and camera systems, navigation systems, batteries, other components), offering type (hardware, software, and drone-as-a-services), technology type (thermal imaging, multispectral imaging, hyperspectral imaging, light detection and ranging (LIDAR), RGB imaging, synthetic aperture radar (SAR), near-infrared (NIR) imaging, global navigation satellite system (GNSS), farm produce (cereals, and grains, oilseeds and pulses, fruits and vegetables, other crop types), range (visual line of sight (VLOS), beyond visual line of sight (BVLOS)), application (precision farming, livestock monitoring, precision fish farming, smart greenhouse, other applications) farming environment (outdoor, indoor) and region (North America, Europe, Asia Pacific, South America, and Rest of the World). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of agriculture drones. A detailed analysis of the key industry players has been done to provide insights into their business overview, services, key strategies, contracts, partnerships, agreements, new service launches, mergers and acquisitions, and recent developments associated with the agriculture drones market. Competitive analysis of upcoming startups in the agriculture drones market ecosystem is covered in this report. Furthermore, industry-specific trends such as technology

analysis, ecosystem and market mapping, patent, regulatory landscape, among others, are also covered in the study.

Reasons to buy this report:

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall agriculture drones and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better 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.

The report provides insights on the following pointers:

Analysis of key drivers (government initiatives to promote water conservation), restraints (high initial investment costs of agriculture drones), opportunities (increasing adoption of precision agriculture and sustainable practices), and challenges (lack of training and awareness among farmers) influencing the growth of the agriculture drones market.

New product launch/Innovation: Detailed insights on research & development activities and new product launches in the agriculture drones market.

Market Development: Comprehensive information about lucrative markets – the report analyzes the agriculture drones across varied regions.

Market Diversification: Exhaustive information about new services, untapped geographies, recent developments, and investments in the agriculture drones market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, product offerings, brand/product comparison, and product footprints of leading players such as DJI (China), Trimble Inc (US), Parrot Drone Sas (France), Yamaha Motor Co., Ltd. (Japan), Ageagle Aerial Systems Inc (US), XAG Co., Ltd. (China), Autel Robotics (China) and other players in the agriculture drones market.

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