Multi-Rotor Agricultural Drone Market Set to Hit $671.89M by 2031, Driven by Precision Farming | DataM Intelligence

Multi-rotor agricultural drones enable precise, sustainable farming with spraying, mapping, and monitoring driving growth in modern, data-driven agriculture.

AUSTIN, TX, UNITED STATES, July 15, 2025 /EINPresswire.com/ -- The [Multi-Rotor Agricultural Drone Market](#) reached US$ 431.33 million in 2023 and is expected to reach US$ 671.89 million by 2031, growing at a CAGR of 5.64% during the forecast period 2024–2031. This steady expansion is fueled by growing adoption of

Multi-Rotor Agricultural Drone Market

precision agriculture, rising demand for sustainable farming practices, and the increasing affordability of drone technology for both large-scale and smallholder farmers.

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" The Multi-Rotor Agricultural Drone Market will grow from US$431.33M in 2023 to US$671.89M by 2031, as farms shift to precision and automated crop spraying."

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reduce input waste.

Market Overview

Multi-rotor agricultural drones are unmanned aerial systems equipped with multiple rotors that offer vertical takeoff and landing capabilities. These drones are widely used for crop spraying, field mapping, plant health monitoring, pest control, and other data-driven applications that improve agricultural productivity and

They offer several advantages over traditional agricultural methods, such as reduced human

labor, minimal chemical runoff, better time efficiency, and precise input application. As farming continues to digitize, the demand for drone-based solutions is rising globally.

Key Market Drivers:

Rising Demand for Precision Agriculture: Farmers are leveraging drone data to apply water, fertilizers, and pesticides only where needed, reducing costs and environmental impact.

Technological Advancements: Improvements in flight stability, real-time analytics, GPS accuracy, and battery life are enhancing the usability and efficiency of drones.

Labor Shortages: In many agricultural economies, the shrinking rural workforce is prompting mechanization and automation through drone technology.

Environmental Pressures: Drones help minimize chemical use and conserve water, aligning with global sustainability goals.

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Leading Companies:

Chengdu JOUAV Automation Tech Co., Ltd
Fly Dragon Drone Tech
Dazzle Robotics Pvt. Ltd.
ALIGN Corporation Limited
Hongfei Aviation Technology Co., Ltd.
Revolution AG Pty Ltd
Jiangsu Digital Eagle Technology Development Co., Ltd
Draganfly Innovations Inc.
Marut Dronetech Private Limited
Aero Systems West

Market Segmentation:

By Type: 4-6 Rotors, 6-8 Rotors.
By Crops: Row Crops, Orchards and Vineyards, Specialty Crops.
By Application: VRA, Crop Spraying, Crop Scouting, Livestock.
By Region: North America, Latin America, Europe, Asia Pacific, Middle East, and Africa.

Latest News – USA:

The United States is accelerating the integration of autonomous multi-rotor drones into

mainstream agriculture. Spray drones with night-operating capabilities are being introduced across corn, soybean, and cotton farms to improve efficiency during peak seasons. These systems can cover large fields autonomously, reducing the need for human intervention while maintaining accuracy in spraying.

Startups and tech companies are also contributing to innovation. Recently, semi-autonomous drones capable of carrying larger payloads have entered limited commercial use, helping farms reduce reliance on traditional aerial spraying methods. These drones are equipped with real-time mapping tools and obstacle detection systems, allowing precise application even in complex terrain.

The growing use of AI in U.S.-based drone fleets is enabling smart route planning and field analytics, which are now being bundled into farm management software platforms. Regulatory bodies are supporting this shift by streamlining certification processes and encouraging R&D through grants and pilot programs.

Latest News – Japan:

Japan remains a frontrunner in drone-enabled rice farming and precision agriculture. Multi-rotor drones are now widely used across crops like rice, tea, fruits, and vegetables for spraying, fertilization, and crop health monitoring. New models feature longer battery life and advanced sensors for improved efficiency and early disease detection. Collaboration between tech firms and agricultural cooperatives, along with nationwide training and government support, is driving adoption. Japan is also piloting swarm drone systems to boost productivity, especially in large or hilly farms an important step in addressing its aging farmer population.

Regional Outlook:

North America holds a significant share of the global market due to early technology adoption, government support for smart agriculture, and strong presence of key manufacturers. The U.S., in particular, has witnessed rapid deployment of drones in large-scale crop monitoring and spraying operations.
Asia-Pacific is emerging as the fastest-growing region. Countries such as China, India, and Japan are experiencing increasing drone deployment due to supportive regulations, technological advancement, and pressing labor shortages in agriculture.

Europe is progressing steadily, with many farms incorporating drones as part of sustainable and organic farming initiatives. Meanwhile, regions in Latin America, the Middle East, and Africa are entering the market through pilot programs and international investments in smart farming technologies.

Market Trends and Future Outlook

The future of the multi-rotor [agricultural drone market](#) is closely tied to digital agriculture and the expansion of data-driven decision-making on farms. Key trends include:

Integration with AI and Machine Learning: Drones will increasingly be equipped with AI-based image recognition, enabling more accurate crop health analysis and predictive maintenance.

Cloud-Based Farm Management: Drones will feed real-time data into centralized platforms, assisting in season planning, irrigation schedules, and inventory control.

Modular Drones: Manufacturers are focusing on developing drones that can switch between spraying, seeding, and mapping with interchangeable modules.

Affordability and Accessibility: Cost reduction in drone components and increased service-based models (Drone-as-a-Service) will allow more small and mid-sized farmers to access drone technology.

Conclusion:

Multi-rotor agricultural drones are becoming essential tools in the transformation of modern agriculture. As climate challenges mount and labor shortages persist, drones offer timely, precise, and sustainable solutions. With technological innovation accelerating and regulatory landscapes becoming more supportive, the global multi-rotor agricultural drone market is positioned for sustained growth playing a vital role in the future of food production worldwide.

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