

Global Imaging Technologies for Precision Agriculture Market 2023

<https://marketpublishers.com/r/G321596ABA3BEN.html>

Date: October 2023

Pages: 91

Price: US\$ 2,850.00 (Single User License)

ID: G321596ABA3BEN

Abstracts

Description

The global imaging technologies for precision agriculture market is projected to witness significant growth over the forecast period of 2022-2029. The market size is estimated to rise from \$877.3 million in 2022 to \$1,593.5 million by 2029, representing a compound annual growth rate of 8.9%.

Precision agriculture utilizes various imaging technologies including agricultural drones, robots, and other unmanned aerial vehicles (UAVs) to capture real-time images and data of crops and soil conditions. This includes applications such as yield mapping, soil surveying and sampling, crop status monitoring, and collection of field historical records. Such technologies help farmers boost production of agricultural commodities while facilitating observation, measurement, and tracking of crops over time.

As the world's population continues expanding rapidly in the coming decades, global demand for food crops will rise considerably. To meet these increasing nutritional needs, farmers will need to significantly elevate food production levels through more efficient cultivation practices. Consequently, large-scale agricultural enterprises are moving swiftly to adopt advanced imaging systems that help enhance crop yields, minimize wastage, and reduce economic and production risks associated with uncertainties in farming.

This report provides a comprehensive analysis of the imaging technologies for precision agriculture market. It presents both a quantitative and qualitative evaluation to help stakeholders capitalize on prevailing opportunities. Market segmentation data, competitive landscape, growth drivers and restraints, leading players' strategies and

more are covered. The insights aim to support informed decision-making within this vital industry.

Market Segmentation

Product: UAVs, robots, handheld devices

Technology: aerial imaging, ground-based imaging

Application: climate monitoring, crop monitoring (nutrient analysis, pest & disease detection, weed detection, yield prediction & estimation), soil mapping

Region: North America, Europe, Asia-Pacific, South America, Middle East and Africa

Crop monitoring currently represents the largest application segment in the global precision agriculture imaging technologies market in terms of revenue. Notably, this segment is also projected to witness the fastest expansion over the forecast period.

The growing adoption of crop monitoring solutions stems from key use cases such as enabling early detection of pest and disease infestations, allowing timely countermeasures to reduce crop losses through rapid aerial imaging of expansive fields to identify outbreak hotspots. Visually identifying weed growth patterns supports targeted herbicide application solely on affected areas, improving efficiency. Imaging-based crop growth analytics facilitates accurate yield forecasting well in advance of harvest, aiding production planning and marketing efforts. Monitoring indicators of plant vigor helps identify nutrient deficiencies, water stress, and suboptimal growth to enable early interventions. Assessing fruit and grain ripeness as well as moisture content remotely indicates optimal windows for harvest.

With remote sensing technology enhancing the scope, speed, and accuracy of agricultural analytics, growers are increasingly adopting crop monitoring and predictive analytics to maximize yields while minimizing risks and uncertainties. The rising availability of analytical capabilities tailored specifically for precision crop management applications promises to further accelerate industry adoption worldwide. Timely insights into pests, weeds, nutrient issues and maturity optimize agronomic decisions critical to sustainability and profitability.

North America currently holds the leading share of the global precision agriculture imaging technologies market. This can be attributed to extensive deployment of cutting-

edge farming techniques and technologies by large-scale commercial growers within the region.

Asia Pacific and Europe collectively constitute other major marketplaces where adoption of precision agriculture solutions is starting to gain notable traction at a steady pace. However, regional uptake in Asia Pacific and Europe has not advanced to the same level yet as compared to North America presently.

Country-level analysis indicates the United States commands the largest national market, given its prominence worldwide as a pioneer and leader in advanced agricultural innovations. Meanwhile, rapidly developing economies across Asia Pacific and Latin America are primed to emerge as high-growth opportunities going forward. This potential can primarily be credited to rising incomes, burgeoning populations and the urgent socioeconomic need to boost production through technological means in these developing areas.

Major Companies and Competitive Landscape

The report explores the recent developments and profiles of key vendors in the Global Imaging Technologies for Precision Agriculture Market, including AgEagle Aerial Systems Inc., BaySpec Inc., Ceres Imaging, Inc., FIXAR-AERO LLC, FlyPard Analytics GmbH (GeoPard Agriculture), Gamaya SA, imec vzw, OneSoil AG, Planet Labs PBC, Prediktera AB, Resonon Inc, Shenzhen DJI Technology Co., Ltd., Spectral Imaging Ltd., Syngenta AG, Taranis Inc., Teledyne Technologies Incorporated, Tetracam Inc., Trimble Inc., Wingtra AG, XIMEA Corporation, among others. In this report, key players and their strategies are thoroughly analyzed to understand the competitive outlook of the market.

Why Choose This Report

Gain a reliable outlook of the global imaging technologies for precision agriculture market forecasts from 2023 to 2029 across scenarios.

Identify growth segments for investment.

Stay ahead of competitors through company profiles and market data.

The market estimate for ease of analysis across scenarios in Excel format.

Strategy consulting and research support for three months.

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