

Unmanned Aerial Vehicles - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Unmanned Aerial Vehicles Market size is estimated at USD 17.31 billion in 2024, and is expected to reach USD 32.95 billion by 2029, growing at a CAGR of 13.74% during the forecast period (2024-2029).

UAVs have come into existence mainly to reach and traverse areas that are arduous for humans to maneuver. For several years, the UAV market was in a nascent phase with a lack of adoption in the commercial sector. Initially viewed as a military device, UAVs have established a significant presence in the commercial world over the past five years.

Over the years, with hundreds of exemptions from governing bodies like the US Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA), the demand for UAVs has emerged from various industries, like infrastructure, agriculture, transport, entertainment, security, insurance, and many more. Hence, enterprise UAVs are expected to register higher growth during the forecast period compared to consumer UAVs.

Advancements in UAV technologies have allowed manufacturers to produce a wide range of models in different sizes, weights, and shapes that can carry different sensor payloads, making them favorable across a broad application base. However, the lack of regulations and restrictions on the flying of UAVs beyond the visual line of sight in several countries across the world has restrained the market's growth to its full potential. Other factors like security and safety concerns and scarcity of trained pilots are also anticipated to challenge the growth of the UAV market to a certain extent.

Unmanned Aerial Vehicles Market Trends

Small UAV Segment Held Highest Shares in the Market

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Small UAVs are unmanned aerial vehicles that can span up to 2 meters long. These UAVs typically feature either a rotary-wing or fixed-wing style. Because of their small size, most small UAVs are flown at altitudes near 125 meters at speeds less than 50 meters per second. As several countries focus on enhancing their military surveillance capability, huge investments are being made in the development of small drones. Militaries across the world have been procuring nano drones for different military missions. Growing applications of small UAVs in aerial photography, 3D mapping, surveying, and oil and gas pipeline monitoring, among others, have been propelling the growth of the small UAV market. Thus, the growing demand for small drones for various defense and applications drives the growth of the segment during the forecast period.

Also, the growing adoption of small UAVs for intelligence, surveillance, and reconnaissance (ISR) and combat missions and rising spending on the defense sector drive the market growth during the forecast period. An increase in the number of start-ups and fundraising from governments and investors to design and develop small UAVs for various commercial and military applications has also boosted the market growth.

For instance, in October 2023, Teledyne FLIR LLC launched latest edition of Black Hornet nano-drone with upgraded sensors. The newly launched Black Hornet 4 is less than a foot long and weighs a fraction of a pound. It can fly for more than 30 minutes and has a range of more than 2 kilometers (1.24 miles). It has sensitive daytime camera and a thermal imager that can capture videos and images, as well as a software-defined data system. Such developments will drive the segment growth in coming years.

North America is Projected to Show Highest Growth During the Forecast Period

North America held the highest shares in the UAV market and continued its domination during the forecast period. The growth is due to growing demand for UAVs for commercial and military applications and rising spending on procurement of autonomous drones. According to the Federal Aviation Administration (FAA), there are almost 900,000 drones registered in the US as of July 2023. Out of the total registered drones, 516 thousand were for recreational purposes and 348 thousand were registered for commercial operations. Also, the FAA awarded 331,573 remote pilot certificates.

Additionally, the US DoD is constantly seeking innovative and low-cost solutions to enhance its capabilities and counter threats from adversaries, such as Russia and China. For instance, in April 2023, the Pentagon announced a new program focused on building out thousands of autonomous systems, including UAVs, as the US seeks to better counter China's vast military buildup. In March 2023 US Army awarded five companies future tactical UAV contracts. The companies selected were AeroVironment, Griffon Aerospace, Northrop Grumman, Sierra Nevada Corporation, and Textron Systems.

Also, the Canadian Defense Forces are highly investing in enhancing its defense capabilities and procurement of UAVs. The MALE (medium-altitude low-endurance) UAV project of the Royal Canadian Air Force has entered the phase of operation analyses. The project has been renamed as the Remotely Piloted Aircraft Systems (RPAS) Project. The national defense strategy released by Canada has led to the inclusion of RPAS into the modern military, as a major development for conducting military operations. Such programs will boost market growth across the region.

Unmanned Aerial Vehicles Industry Overview

The UAV market is semi-consolidated in nature with the presence of several local and global players holding significant shares in the market. Some of the key players in the market are Northrop Grumman Corporation, THALES, Leonardo S.p.A., General Atomics, and BAYKAR TECH. The stringent safety and regulatory policies in the defense and homeland security segment are expected to restrict the entry of new players. However, the commercial and civil segment is expected to witness rapid growth due to the entry of many players, as the segment is not governed by economies of scale.

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Companies with superior technical capabilities are expected to contribute significantly toward technological advances in the propulsion systems and payload characteristics of UAVs, resulting in a shorter development cycle time and significantly augmenting the operational capabilities of mini-UAVs. Since the payload, endurance, and flight range of a UAV platform are the primary concerns of OEMs and operators, the emergence of alternative fuel-powered UAVs is expected to cause significant changes in the competitive scenario. The use of composite-based materials for the construction of critical components and parts of UAVs may increase the capabilities of the UAV platforms and fuel their widespread adoption across different industries.

Additional Benefits:

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

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