

## Fuel Cell UAV Market is Expected to Increase at a CAGR of 13.4% from 2023 to 2032, AMR Analysis

The growth of the fuel cell UAV market is driven by factors such as rise in demand for improved surveillance, increase in need for higher payload capacity UAVs

WILMINGTON, NEW CASTLE, DE, UNITED STATES, September 26, 2024 /EINPresswire.com/ -- The growth of the global 0000 0000 000 0000000 is driven by factors such as rise in demand for improved surveillance, increase in need for higher payload capacity UAVs, and supportive growth



through regulatory compliance. However, increase in security issues and cyber threat and high cost of fuel cells for UAV solutions hamper the growth of the market. On the contrary, technological advancements in military applications and surge in public-private partnerships to offer remunerative opportunities for the expansion of the fuel cell UAV market during the forecast period.

The global fuel cell UAV market size was valued at \$1.6 billion in 2022, and is projected to reach \$5.4 billion by 2032, growing at a CAGR of 13.4% from 2023 to 2032.

The concept of fuel cell UAVs is typically attributed to the transportation options that use propulsion technology, which does not produce internal combustion engine exhaust or other carbon emissions when it operates. It is primarily designed to replace conventional means of travel as they lead to environmental pollution. The fuel cell UAVs are electrochemical devices that convert chemical energy from fuels & oxidizers, without combustion, into useful electrical energy that is used to power devices and vehicles. Recently, fuel cell UAVs have emerged as a viable alternative fuel to replace the conventional UAVs using gasoline or jet fuel for their operations, which are gradually depleting globally.

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Military agencies are key consumers of fuel cell UAV solutions & related services. The procurement activities of these fuel cell UAV solutions are planned by considering the budget allocations and security severity. The commencement of fuel cell UAV solutions is expected to be done through long-term agreements and contracts between the defense department and solution suppliers of unmanned aerial vehicle (UAV) solutions. The contracts outline a series of criteria that need to be fulfilled within a specific timeframe, as the solutions are customized products tailored to the needs of the end user. These agreements present potential long-term business prospects with military organizations.

Fuel cell UAV market players are focused on the development of technologically advanced products to further strengthen their position in the global market. Companies offer new products to penetrate the market and are dedicated to expanding their presence in untapped markets. Moreover, the increased application areas among aerial imaging, surveillance, LiDAR, geospatial services, and other mapping services act as a driver for the increased demand for fixed wing drone segment. To serve market opportunities among various sectors, companies are collaborating with regional players to capture the increasing demands from a particular market.

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Region-wise, North America held the highest market share in terms of revenue in 2022, accounting for nearly half of the market revenue, and is expected to dominate the market during the forecast period, owing to multiple military and law enforcement modernization and enhancement programs underway in the region. However, Asia-Pacific is expected to witness the highest CAGR of 16.2% from 2023 to 2032, owing to the rise of adoption of UAV data services and rise in development of UAV and related software across major economies, such as China and India.

In addition, it can also be refilled very quickly, whereas batteries can take many hours to fully recharge. For instance, in February 2021, Northwest UAV (NWUAV) completed a prototype hydrogen fuel cell that has been developed in conjunction with the U.S. Naval Research Laboratory (NRL). The fuel cell has been specifically designed to meet the high power-to-weight

ratio and different power requirements of a broad range of unmanned systems.

Depending on weight, the less than 50 kg segment garnered the largest share in 2022, accounting for nearly two-thirds of the global <u>fuel cell UAV market revenue</u> and is estimated to maintain its leadership status throughout the forecast period owing to the growing requirement for surveillance and survey applications. Moreover, the more than 50 kg segment is projected to record the highest CAGR of 14.2% from 2023 to 2032, owing to its high-end military applications for surveillance and security applications and modern weaponries, which are attached on the UAV.

On the basis of end use, the others segment held the highest market share in 2022, accounting for nearly half of the global fuel cell UAV market revenue and is anticipated to maintain its leadership status throughout the forecast period as fuel cell UAVs are gaining traction across other industries due to the increased application among different industries and areas, such as keeping a watch over remote locations, miming surveillance, and medical product delivery. Moreover, the cargo UAV segment is projected to manifest the highest CAGR of 14.6% from 2023 to 2032, owing to increase in cargo supply activities at different locations.

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