

Global UAV Battery Market - Forecasts from 2021 to 2026

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Abstracts

Unmanned Aerial Vehicle (UAV), popularly known as Drone, is an airborne system or an aircraft operated remotely by a human operator or autonomously by an on board computer. UAVs do not have pilots on-board and rather combine technologies such as computer vision, object avoidance technology, and artificial intelligence among others to perform various activities. Drones are increasingly being used in industries like construction, agriculture, emergency response, surveillance, and e-commerce to perform a plethora of functions like mapping and imagery, package delivery etc. Drones can also be ideal for providing insights from areas which are difficult to access during natural hazards as well as for live monitoring of crops for nutrition, diseases, and various cost-cutting measures. One of the most important components of drones is their batteries. Batteries are responsible for the functioning of these drones and have significant impact on their overall performance as some functions performed by drones require high energy and thus batteries are as important for drones as much as the drone's build and capabilities. Drones are of different types such as low-altitude long endurance (LALE), medium-altitude long endurance (MALE), high-altitude long endurance (HALE), tactical and small drones depending on the level of altitude they can fly up to as well as their function and size, with medium-altitude long endurance (MALE) drones being the most widely used. Similarly, there are different types of batteries that are used to power these drones such as fuel cell, lithium-ion, nickel cadmium, and lithium polymer etc., with lithium ion battery being the most widely used because of their cost effectiveness and higher energy density as compared to the older nickel based batteries due to which lithium based batteries provide more power per unit weight. Lithium ion batteries are also used as secondary sources of power in cases where drones use solar power as their main source and need increased in-flight time or are on night missions. There are various factors which must be considered before choosing a battery for drones such as capacity of battery, discharge rate, voltage level, lifespan of

battery, activation time, cost, and charging time. With increasing popularity of drones, constant innovations and developments are taking place in battery technology with fuel cell batteries which use hydrogen fuel in combination with oxygen to produce electricity making their way to the drone battery market. –Drones are extensively being used by various industries, especially by the military for patrolling borders, surveillance of sensitive areas etc. leading to a growth of the global UAV battery market.

However, high cost, high discharge rate, and low payload capacity of UAV's is expected to be the major restraining factor for growth of global UAV battery market.

The global UAV battery market can be segmented on the basis of UAV type, battery type, and geography.

By UAV type, the market can be segmented into low-altitude long endurance (LALE), medium-altitude long endurance (MALE), high-altitude long endurance (HALE), tactical, and small.

By battery type, the market can be segmented into fuel cell, lithium-ion, nickel cadmium, and lithium polymer.

By geography, the market can be segmented into North America, South America, Europe, Middle East and Africa and Asia – Pacific.

Growth Factors

Growing demand for UAVs

With wide applications in various industries, the demand for drones is increasing by leaps and bounds which is directly proportional to demand for batteries. Drones are increasingly being used in industries like construction, agriculture, emergency response, mapping, law enforcement, surveillance, and e-commerce etc. to perform a plethora of functions like mapping and imagery, package delivery etc.

Increase in defence expenditure by governments.

Increasing military expenditure by governments across the globe is creating lucrative opportunities for market players in the global UAV battery market. Increasing adoption of UAVs for strengthening defence and military capabilities for intelligence, reconnaissance, and surveillance purposes is a major factor that is expected to aid the growth of the global UAV battery market.

Saves lives and reduces costs

Drones can be used to reach places that have been hit by natural disasters and help in rescuing stranded people. Drones can also be used for delivery of ecommerce packages which reduce the cost of manual delivery agents.

Restraints

High cost of drones

Drones are expensive and require high maintenance. Also they require large number of batteries if used on a continuous basis which might act as a barrier to the growth of the global UAV battery market.

High discharge rate

Drones are still in the innovation stage and thus, are not perfect. They have high discharge rates which make them less suitable for activities which are dangerous in nature like surveillance of enemy grounds etc. which require long battery life. They may discharge during important tasks which may cause a huge problem especially when used for military operations which acts as a restraint to the growth of the market.

Impact of COVID – 19

Coronavirus pandemic which caused mandatory lockdowns and forced people inside their homes led to a growth in the global UAV battery market as due to restriction on movements, people couldn't even move out to purchase essential commodities. To deliver these commodities, drones were used, hence increasing their usage. Also to

ensure that people followed movement restrictions, surveillance was done through drones leading to a growth of the global UAV batter market.

Key developments

Ballard Sells UAV Business to Honeywell - Ballard Power Systems (NASDAQ: BLDP; TSX: BLDP) today announced that it has sold the Unmanned Aerial Vehicle (UAV) business assets of its subsidiary located in Southborough, Massachusetts to Honeywell International.

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Sion Power Announces Launch of its Ground breaking Licerion Rechargeable Lithium Battery - Sion Power, a leading developer of lithium battery technology, announced today production will begin on their patented Licerion rechargeable lithium metal battery in late 2018 from their Tucson facility. The Licerion rechargeable lithium metal technology will offer the unmanned aerial vehicle (UAV) and electric vehicle (EV) markets an unparalleled 500 Wh/kg, 1,000 Wh/L, and 450 cycles when released.

OXIS Energy and Texas Aircraft Manufacturing will collaborate to develop Brazil's first fully electric commercial aircraft for flight training and regional transportation.

OXIS Energy and CODEMGE sign lease agreement with Mercedes Benz Brazil to build world's first Li-S manufacturing plant.

Competitive Insights

The global UAV battery market is a competitive and saturated market with a number of big and small players catering to local and international demands. Prominent/major key market players in the global UAV battery market include Ballard Power Systems, Denchi Power Limited, Sion Power Corporation, Tadiran Batteries, OXIS Energy among others. The players in global UAV battery market are implementing various growth strategies to gain a competitive advantage over their competitors in this market. Major market players in the market have been covered along with their relative competitive strategies and the report also mentions recent deals and investments of different market players over the last few years. The company profiles section details the business overview, financial performance (public companies) for the past few years, key products and services being offered along with the recent deals and investments of these important players in the global UAV battery market.

Segmentation

By UAV Type

Low-altitude long endurance (LALE)

Medium-altitude long endurance (MALE)

High-altitude long endurance (HALE)

Others

By Battery Type

Fuel cell

Lithium-ion

Nickel cadmium

Lithium polymer

Others

By Geography

North America

USA

Canada

Mexico

South America

Brazil

Argentina

Others

Europe

Germany

Spain

United Kingdom

France

Russia

Others

Middle East and Africa

Saudi Arabia

UAE

Others

Asia Pacific

China

Japan

India

Australia

South Korea

Others

Note: The report will be dispatched in 2 business days.

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9.9. Hylium Industries INC.

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