Aircraft Battery Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 113 pages | Mordor Intelligence

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Report description:

The aircraft battery market is anticipated to register a CAGR of over 7% during the forecast period (2023 - 2028).

The COVID-19 pandemic affected the aviation market in many ways, and the effect of the pandemic is expected to continue even during the forecast period. In the commercial sector, passenger traffic plummeted drastically in 2020 and 2021. With the advent of multiple pandemic waves in many countries, it is expected to take 2-3 years to recover completely.

Owing to the shift toward more electric architecture, including several electrical systems used in aircraft. The aircraft require high energy storage capacity and longevity, which further generates opportunities for advancement and innovation in aircraft batteries. The astral rise in air travel, further leading to augmented demand for new aircraft and an increase in demand for unmanned vehicles in the aviation industry, also fosters the growth of the market.

In the civil and commercial sectors, the use of UAVs is extremely growing for various applications in agriculture, mining, construction, and entertainment sector, among others. UAVs in military sectors are used for monitoring and investigation, and commercial UAVs can be utilized in logistics. The demand for batteries in UAVs is growing as the application of UAVs is increasing in the aviation sector. The growing use of UAVs for military, civil, and commercial applications is expected to accelerate the aircraft battery market growth.

The operational risk from lithium-based batteries, government rules & regulations, risk hazards, and the high initial cost of raw aircraft technologies hinder the aircraft battery market growth.

Aircraft Battery Market Trends

Li-ion Batteries Segment Projected to Grow at a High Pace During the Forecast Period

The shift toward all-electric aircraft is expected to generate demand for lithium-ion batteries in the coming years. Lithium-ion (or Li-ion) batteries are smaller in size, require low maintenance, and are environmentally safer than Nickel-cadmium (also called NiCad, NiCd, or Ni-Cd) batteries. Due to this, the use of the lithium-ion battery is likely to increase at the highest rate when compared to other types during the forecast period. Currently, lithium-ion batteries are being used in Boeing 787 Dreamliner aircraft and are also used in Airbus A380 to power its emergency lighting system. Also, Airbus initially planned to use Li-ion batteries in Airbus 350. Still, following the few accidents in Boeing 787 due to Li-ion batteries, the OEM decided to use Ni-Cd batteries for Airbus 350. Later, after considering the safety issues and other factors in detail, Airbus decided to install Li-ion batteries in Airbus 350. In addition to commercial aircraft programs, military aircraft like Lockheed Martin F-35 Lightning II aircraft also deploy Li-ion batteries. The F-35 fighter jet utilizes Li-ion batteries for flight control actuation backup power. Furthermore, the companies are developing new battery technologies that can efficiently power aircraft. For instance, in March 2022, Airbus Defence and Space announced it would be testing a new high-voltage lithium-ion battery system that will be used to power the EcoPulse demonstrator aircraft by Daher. Increasing demand for lithium ion-based batteries matched to nickel-cadmium batteries is boosting the market size of the aircraft battery market.

Asia-Pacific Region is Expected to Grow at Highest CAGR During the Forecast Period

The Asia-Pacific is expected to grow at the highest growth during the forecast period owing to the robust procurement of commercial aircraft from the airlines due to the region's recovering passenger traffic. The airlines in China, India, Japan, and South Korea have huge order books for narrow-body and wide-body aircraft to aircraft OEMs as a part of fleet expansion and modernization programs. According to Boeing, the Asia-Pacific region will receive 17,645 aircraft deliveries during the 2021 - 2040 period. About 76% of the delivered aircraft are expected to be single-aisle aircraft, and approximately 50% of aircraft will be delivered to airlines in China. The recovery of domestic passenger traffic is propelling narrow-body aircraft procurement in the coming years. In addition to this, the growth in military spending of the countries in the region due to the ongoing geopolitical tensions between the countries is expected to propel the investment of the armed forces into the procurement of new generation military aircraft to strengthen their aerial capabilities. In this regard, the Republic of Korea Air Force is currently acquiring F-35 fighter jets as a part of an order placed in 2014. Currently, the air force has 14 aircraft in service, and the country plans to order additional 20 F-35A aircraft to fulfill its requirement for 60 fifth-generation fighters. Similarly, the proliferation of drones for commercial applications is expected to boost the growth of the market.

Aircraft Battery Market Competitor Analysis

Some of the prominent players in the aircraft battery market are Concorde Battery Corporation, GS Yuasa International Ltd, Kokam, Teledyne Technologies Incorporated, and Saft Groupe SAS. Concorde Battery Corporation is one of the major companies that provide aircraft batteries for military aircraft programs like Boeing CH-47 Chinook, Northrop Grumman EA-6B Prowler, Sikorsky CH-53K King Stallion, Boeing F/A-18 Super Hornet, and Bell Boeing V-22 Osprey, among others. Similarly, Saft Groupe SAS supports major commercial aircraft programs of Airbus and Boeing like ATR 42/72, Airbus A320, Airbus A330, Boeing 737, Boeing 777, and Embraer E-Jet 170/190 series aircraft, along with military and general aviation aircraft like Falcon 2000, Falcon 900LX, Airbus A400M and Lockheed Martin F-35, among others. Owing to the growth of commercial aviation, along with an increase in the procurement of military aircraft, the aircraft battery market is expected to grow rapidly. Also, with the ongoing electrification of aircraft, the companies are developing new and advanced battery technologies. In July 2021, Rolls-Royce announced its plan to invest GBP 80 million (USD 96.91 million) by 2030 to develop new energy storage systems for eVTOLs and electric commuter aircraft. The maintenance and replacement of batteries in aircraft have also increased the demand for batteries from companies, like True Blue Power and Kokam, among others.

Additional Benefits:

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

Table of Contents:

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