

# **Aircraft Electric Motors Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034**

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## **Abstracts**

The Global Aircraft Electric Motors Market was valued at USD 8.8 billion in 2024 and is estimated to grow at a CAGR of 9.1% to reach USD 20.8 billion by 2034. This growth is primarily fueled by the rising demand for Urban Air Mobility (UAM) and electric Vertical Takeoff and Landing (eVTOL) aircraft, along with the increasing adoption of distributed electric propulsion (DEP). The market has also felt the impact of external factors, including tariffs, especially on Chinese aerospace and electrical components, which have driven up raw material costs and disrupted global supply chains. In response, manufacturers are diversifying suppliers and reshoring some production efforts to lessen dependence on imports. The electric motors used in aviation are becoming a critical part of the industry's efforts to develop cleaner, more sustainable technologies, and this trend is expected to accelerate as environmental concerns and regulatory pressures intensify.

The rapid development of Urban Air Mobility and eVTOL aircraft is a key driver of the aircraft electric motors market expansion. These aircraft are poised to revolutionize urban transportation by offering a cleaner and more efficient alternative to traditional ground travel. UAM and eVTOL technologies are specifically designed for short-distance, high-efficiency flights in urban areas, where congestion and traffic jams have become major challenges for daily commuters. Unlike traditional aircraft, eVTOLs do not require long runways, making them ideal for city environments where space for infrastructure is often limited. Their vertical takeoff and landing capabilities, coupled with their eco-friendly electric propulsion systems, are positioning them as the future of urban transportation.

As for the electric motors themselves, the market is divided into two main types: AC and

DC motors. In 2024, AC motors dominate the market, holding a substantial share of USD 4.7 billion. The efficiency, low maintenance, and sustained power output capabilities of AC motors make them particularly well-suited for the high demands of electric and hybrid-electric aircraft. Technological advancements in power electronics, including variable frequency drives (VFDs), have further bolstered their popularity, especially for aviation applications requiring reliable, long-term performance. AC motors are crucial to the aviation industry's push toward more sustainable and efficient flight solutions.

The fixed-wing aircraft segment, valued at USD 4.8 billion in 2024, is another major contributor to the aircraft electric motors market's growth. This segment's expansion is driven by the growing emphasis on sustainable aviation technologies. Electric motors are ideal for short-haul and regional flights, where they help to lower emissions and reduce operational costs. As governments and regulators tighten environmental standards, there is an increasing push for hybrid and fully electric fixed-wing aircraft designs. Manufacturers are heavily investing in these innovations, focusing on improving motor efficiency while reducing airframe weight and enhancing overall performance.

In the U.S. market, the demand for aircraft electric motors is also surging. In 2024, the U.S. aircraft electric motors market generated USD 2.7 billion, supported by substantial federal investments in advanced hybrid-electric research and development. Government-backed initiatives, such as NASA's electric powertrain flight demonstration program, are playing a significant role in this growth by helping to accelerate technological breakthroughs in electric propulsion systems for both civil and military aviation applications. These initiatives are also focused on overcoming the integration challenges of electric motors into aircraft systems, ensuring the technology's feasibility for widespread use.

Leading players in the Aircraft Electric Motors Market include Emrax, Safran Group, H3X Technologies, Liebherr Aerospace, Moog, Maxon, Wright Electric, THINGAP, and Electromech Technologies. These companies are heavily investing in research and development to enhance the efficiency, durability, and overall performance of their electric motors. They are also forming strategic partnerships with aircraft manufacturers to integrate electric propulsion systems into new aircraft designs. By focusing on innovation and developing motors specifically tailored for hybrid-electric applications, these companies are positioning themselves at the forefront of the growing demand for sustainable aviation solutions.

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