

## **Aircraft Electrical Systems - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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### **Report description:**

The Aircraft Electrical Systems Market size is estimated at USD 27.50 billion in 2025, and is expected to reach USD 37.86 billion by 2030, at a CAGR of 6.6% during the forecast period (2025-2030).

The aircraft's electrical system is pivotal, powering essential systems, avionics, and onboard equipment. Comprising power generation, distribution, conversion, and storage, this system has transformed with the advent of more electric aircraft designs. With a surge in demand for new aircraft and defense systems, the aerospace and defense sectors are increasingly turning to advanced electrical solutions. OEMs are now prioritizing top-tier electrical systems to meet stringent international regulations.

Furthermore, the shift toward more electrified architecture promises enhanced fuel efficiency, reduced maintenance costs, and heightened reliability thanks to modern power electronics. This transition also means fewer hydraulic and pneumatic components in engine installations. Short-range electric aircraft are poised to gain viability in the near future. The market's momentum is further fueled by expanding commercial aviation networks, rising air passengers, a booming tourism industry, and ongoing innovations in fuel-efficient aircraft.

However, stringent safety regulations nudge manufacturers toward advanced, globally compliant electrical systems. Compliance is not merely a checkbox for aviation safety but a prerequisite for aircraft certification, ensuring only the best systems are integrated. This emphasis on compliance is not just regulatory but a key driver propelling market growth as manufacturers realign their offerings. While challenges, including regulatory hurdles, might pose obstacles, the market's growth trajectory remains positive.

Aircraft Electrical Systems Market Trends

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## The Commercial Aviation Segment is Expected to Exhibit Highest Growth During the Forecast Period

The commercial aviation segment is poised for significant growth, directly impacting the demand for aircraft electrical systems. Key drivers include a surge in aircraft deliveries, escalating air passenger numbers, and the integration of cutting-edge technologies in commercial aviation. IATA reported a 36.9% increase in global passenger kilometers in 2023 over 2022, with global air traffic rebounding to 94.1% of pre-pandemic levels. This surge in air travel is paralleled by a notable uptick in aircraft orders and deliveries, propelling the advancement of flight recorder devices. In 2023, Boeing and Airbus delivered 735 and 528 commercial jets, respectively, up from 676 and 480 in 2022.

A flurry of new aircraft orders is anticipated, further bolstering the demand for integrated systems, notably electrical systems. For instance, in July 2023, Indigo inked a substantial deal with Airbus for 500 A320neo aircraft deliveries between 2030 and 2035. Furthermore, the commercial aviation industry is increasingly exploring electric propulsion technology. These systems promise reduced greenhouse gas emissions and noise pollution compared to conventional jet engines. Electric motors, batteries, and advanced power management systems are being fine-tuned to support this shift in commercial aircraft propulsion.

While fully electric aircraft are on the horizon, the industry is currently eyeing hybrid-electric systems as a transitional phase. In a notable move, Evfly contracted AutoFlight for 205 Prosperity I and Prosperity Cargo aircraft in March 2023. AutoFlight, in February 2023, achieved a milestone with its Gen4 eVTOL electric aircraft, completing a record-breaking 250 km flight on a single charge. The Gen4 aircraft boasts cutting-edge avionics, including third-party systems like Foreflight for independent distance verification. These advancements are set to underpin market demand in the coming years.

## North America to Dominate Market Share During the Forecast Period

North America's market dominance is set to persist, buoyed by its robust aviation industry, the largest fleet of commercial and military aircraft in the United States, and a surge in aircraft modernization programs by airlines. The commercial aviation industry, having rebounded from the pandemic's impact, is poised for steady growth, with resuming aircraft orders and deliveries fueling demand for electrical systems. Notably, in 2023, key airports like Hartsfield-Jackson Atlanta and Dallas-Fort Worth collectively saw a 12% rise in traffic, hitting 475 million passengers, up from 425 million in 2022. This uptick in air travel had translated into increased aircraft orders and deliveries. For instance, by December 2023, The Boeing Company supplied 256 commercial aircraft to US airlines, marking a 5% increase from the previous year's 244 deliveries. Given that these aircraft heavily rely on diverse electrical systems, the market is expected to flourish.

Turning to the military segment, escalating defense budgets and a heightened procurement of new military aircraft are the primary market drivers. In January 2023, the US Air Force Life Cycle Management Center inked a USD 900 million, eight-year deal with five firms, focusing on wiring harnesses and kit assemblies for its F-16 combat jet fleet.

Moreover, the emergence of electric aircraft is set to reshape the market landscape, given their heightened reliance on electrical systems compared to traditional models. The United States is at the forefront of this shift, exemplified by the Air Force Materiel Command's successful test flight of its Alia electric aircraft in 2023. Noteworthy initiatives, like the Pentagon and US Air Force's Agility Prime, launched in 2020, underscore the nation's commitment to exploring electric aircraft's military applications and align with broader governmental efforts to curb carbon emissions. These advancements may position the US market favorably during the forecast period.

## Aircraft Electrical Systems Industry Overview

The aircraft electrical systems market is fragmented in nature. It is witnessing the emergence of several regional tier 1 and tier 2

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market players that provide full lifecycle support, ranging from conceptual design and testing to regulatory compliance certification. Hence, leading market players, such as General Electric Company, THALES, Honeywell International Inc., RTX Corporation, and Amphenol Corporation, combine value engineering techniques and design automation expertise to design cost-effective next-generation aircraft electrical systems.

Furthermore, several companies have turned to mergers and acquisitions to bolster their market dominance. In October 2023, Safran Electrical & Power finalized its acquisition of THALES' Aeronautical Electrical Systems division. This division specializes in electric conversion, power generation, and motors for civilian and military aircraft. With this move, Safran Electrical & Power, already a prominent player in the aircraft electrical segment, further solidifies its leadership, especially in electric conversion.

Additional Benefits:

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

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