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Aircraft Electric Brake Control System Market Forecasts to 2030 – Global Analysis By Aircraft Type (Commercial Aircraft, Military Aircraft, General Aviation Aircraft, Regional Aircraft and Other Aircraft Types), Component, Aircraft Size, Technology, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Aircraft Electric Brake Control System Market is accounted for $10.4 billion in 2024 and is expected to reach $16.3 billion by 2030 growing at a CAGR of 7.8% during the forecast period. An Aircraft Electric Brake Control System (EBCS) is an advanced system used to manage and control the braking mechanism of an aircraft. It replaces traditional hydraulic brake systems with electrically actuated components. The EBCS uses electronic signals from the pilot's input, such as brake pedals or cockpit controls, to activate electric motors or actuators that apply or release the brakes. This system enhances reliability, reduces maintenance costs, and offers precise control for smoother, more efficient braking during landings or taxiing.

Market Dynamics:

Driver:

Growing air traffic

The growing air traffic worldwide is driving significant demand for the market. As more aircraft are in operation, airlines and manufacturers seek efficient, and cost-effective braking solutions to ensure safety and operational efficiency. With its reduced maintenance requirements and precise control, is becoming increasingly popular in

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modern aircraft. Additionally, advancements in electric and hybrid aircraft technologies further boost the market, as these systems support the need for more sustainable and high-performance aviation solutions.

Restraint:

Potential for electrical interference

The potential for electrical interference in the market can negatively impact system reliability and safety. Interference from other onboard electrical systems may cause malfunctions, delayed brake responses, or failure to engage the brakes correctly. This poses a significant risk to safe aircraft operation, especially during critical phases like landing and taxiing. Mitigating electrical interference requires advanced shielding techniques, adding complexity and cost to the system.

Opportunity:

Increased passenger comfort

Increased passenger comfort is a key driver for the growth of the market. It offers smoother and more precise braking, reducing vibrations and jolts during landings and taxiing. This results in a more stable and comfortable experience for passengers. The system's ability to provide finer control over braking force enhances both safety and comfort, which is increasingly important as airlines prioritize passenger satisfaction. Additionally, the quieter and more efficient nature of electric systems contributes to an overall better flight experience.

Threat:

High initial investment

The high initial investment required for the market poses a significant challenge in the market. The cost of development, installation, and integration of these advanced systems can be prohibitive for smaller operators or those with limited budgets. This financial burden may slow down adoption, especially in older aircraft fleets. While long-term savings are possible, the upfront expense remains a key obstacle to widespread implementation.

Covid-19 Impact:

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The COVID-19 pandemic significantly impacted the market by disrupting global supply chains and delaying aircraft production and maintenance. Reduced air travel and grounded fleets led to lower demand for new aircraft and associated systems. However, as the aviation industry recovers, there is renewed focus on modernization, boosting demand for advanced, efficient systems like EBCS to improve long-term operational efficiency and reduce maintenance costs.

The commercial aircraft segment is expected to be the largest during the forecast period

The commercial aircraft segment is expected to account for the largest market share during the forecast period. As airlines modernize their fleets to improve efficiency, reduce maintenance costs, and enhance passenger comfort, it is becoming increasingly popular. These systems offer precise braking control, reduced weight, and lower operational costs compared to traditional hydraulic systems. The growing demand for eco-friendly, efficient commercial aircraft further accelerates the adoption of electric brake technologies.

The retrofit and upgrades segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the retrofit and upgrades segment is predicted to witness the highest growth rate. Retrofitting older aircraft with advanced electric brake systems offers improved performance, reduced maintenance, and increased fuel efficiency. This trend is driven by the desire for cost-effective solutions and regulatory requirements for enhanced safety. Upgrading to EBCS also aligns with the aviation industry's push towards sustainability and operational efficiency.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to the region’s strong aviation industry, technological advancements, and high demand for efficient, low-maintenance systems. Major aerospace manufacturers and airlines in the U.S. and Canada are increasingly adopting new aircraft and retrofits. The focus on sustainability, reduced operational costs, and improved passenger experience further drives the market's expansion in this region.

Region with highest CAGR:

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Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR due to the increasing demand for air travel, fleet modernization efforts, and technological advancements in the region's aviation industry. The region is seeing a rapid increase in air travel, particularly in emerging economies such as China, India, and Southeast Asia. Major aerospace OEMs like Boeing and Airbus are offering aircraft with integrated electric brake systems, increasing competition within the market.

Key players in the market

Some of the key players in Aircraft Electric Brake Control System market include Honeywell International Inc., Safran S.A., Collins Aerospace, Liebherr Aerospace, Eaton Corporation, Parker Hannifin Corporation, Northrop Grumman Corporation, Airbus Group, Boeing Company, Thales Group, BAE Systems, Hydraulics International, Inc., Avionic Instruments LLC, Mitsubishi Heavy Industries and Zodiac Aerospace.

Key Developments:

In January 2025, Honeywell and NXP ® Semiconductors N.V. announced at CES 2025 an expanded partnership that will accelerate aviation product development and chart the path for autonomous flight. This builds on the companies’ existing relationship, which is focused on helping optimize how building management systems sense and securely control energy consumption.

In June 2024, Liebherr-Aerospace was selected by Airbus to deliver flight control computers for its family of commercial aircraft. Those equipment are time critical platforms that host flight control applications developed and integrated by Airbus. They are part of the continuous evolution of the Airbus flight control system.

Aircraft Types Covered:

- Commercial Aircraft
- Military Aircraft
- General Aviation Aircraft
- Regional Aircraft
- Other Aircraft Types

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Components Covered:

- Brake Control Unit
- Electric Actuators
- Sensors
- Power Supply Units

Aircraft Sizes Covered:

- Small Aircraft
- Medium Aircraft
- Large Aircraft

Technologies Covered:

- Electric Brake System
- Hybrid Electric Brake System
- Full Electric Brake Control System

Applications Covered:

- Retrofit and Upgrades
- Urban Air Mobility (UAM)
- Ground Support

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- Seaplanes
- Other Applications

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia

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- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia
- UAE
- Qatar
- South Africa
- Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments

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- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Contents

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10 GLOBAL AIRCRAFT ELECTRIC BRAKE CONTROL SYSTEM MARKET, BY GEOGRAPHY

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List Of Tables

LIST OF TABLES

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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