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Aerospace Composites Market - Global Industry Size, Share, Trends, Opportunity, and Forecast Segmented By Fiber Type (Carbon Fiber Composites, Ceramic Fiber Composites, Glass Fiber Composites and Others), By Resin Type (Epoxy, Phenolic, Polyester, Polyimides, Thermoplastics, Ceramic and Metal Matrix and Others), By Manufacturing Process (AFP/ATL, Layup, RTM/VARTM, Filament Winding and Others), By Aircraft Type (Commercial Aircraft, Business Aviation, Civil Helicopters, Military Aircraft & helicopters and Others), By Application (Interior and Exterior), By Region & Competition, 2021-2031F

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Abstracts

The Global Aerospace Composites Market is projected to expand from USD 35.16 Billion in 2025 to USD 58.35 Billion by 2031, reflecting a compound annual growth rate of 8.81%. These advanced materials are engineered by reinforcing a polymer matrix with high-strength fibers, resulting in structures that offer exceptional stiffness and reduced weight. The primary catalysts for this growth are the urgent need for enhanced fuel efficiency and the worldwide drive to modernize aircraft fleets in compliance with strict environmental emission standards. Additionally, the inherent durability and resistance to corrosion provided by these composites make them essential for both commercial and defense aviation programs.

One significant hurdle limiting rapid market expansion is the high cost and technical

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difficulty involved in manufacturing consistent composite components, which can interrupt supply chain stability. Despite these challenges, the industry continues to show robust performance. Data from the General Aviation Manufacturers Association in February 2025 revealed that airplane deliveries for 2024 were valued at 26.7 billion dollars, representing a 14.3 percent increase from the previous year. This notable financial growth underscores a persistent demand for aerospace manufacturing and the high-performance materials necessary to support it.

Market Driver

The sharp rise in global commercial aircraft production rates acts as a central engine for the growth of the aerospace composites sector. Leading original equipment manufacturers are aggressively ramping up output to clear massive order backlogs for fuel-efficient, composite-heavy widebody and narrowbody aircraft. This acceleration in assembly operations drives a corresponding increase in the usage of carbon fiber reinforced polymers for essential structures like fuselages, wings, and empennages. For instance, Airbus reported in January 2024 that it delivered 735 commercial aircraft in 2023, an 11 percent rise over the prior year, highlighting the need for a steady supply of high-performance materials to achieve lightweighting goals.

Simultaneously, rising defense budgets for advanced military aviation are fueling market expansion as nations upgrade their air power capabilities. Governments are focusing on acquiring next-generation fighter jets and unmanned systems that depend on composite materials for stealth characteristics and optimal strength-to-weight ratios. As noted by the Stockholm International Peace Research Institute in April 2024, global military expenditure climbed by 6.8 percent to reach 2443 billion dollars in 2023, supporting the development of platforms where material performance determines range and payload. Reinforcing this demand is the recovery in aviation activity; the International Air Transport Association reported that total passenger demand in February 2024 increased by 21.5 percent compared to February 2023, indicating a sustained need for new aircraft.

Market Challenge

The primary impediment to the growth of the Global Aerospace Composites Market lies in the steep production costs and technical complexities required to manufacture consistent composite components. Unlike standard metallic parts, advanced composites demand elaborate fabrication techniques, such as extended autoclave curing and exact fiber placement, which are both energy-intensive and time-consuming. These strict

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technical requirements increase the cost of finished components and limit the ability to scale production. When manufacturers fail to increase output efficiently to meet growing demand, it results in critical bottlenecks that disturb the aerospace supply chain's flow, effectively placing a limit on market revenue potential.

These manufacturing constraints directly result in a noticeable deceleration of aircraft delivery rates, hindering the composites market from fully benefiting from current order books. The failure to maintain the required production speed has caused significant delays in fleet modernization initiatives. According to the International Air Transport Association, the global backlog of unfilled commercial aircraft orders hit a record 17,000 units in 2024 because of ongoing supply chain limitations. This wide disparity between market demand and delivery capacity illustrates how production complexities are actively restraining the sector's immediate financial advancement.

Market Trends

The rise of Urban Air Mobility and eVTOL applications is establishing a vital new vertical for high-performance materials, extending beyond conventional commercial aviation. These electric platforms demand ultra-lightweight structures to optimize battery range and payload capacity, stimulating rapid demand for carbon fiber reinforced polymers in the production of airframes and rotor blades. As companies move from prototyping to mass manufacturing, scalability has become a primary objective. For example, Aviation International News reported in August 2024 that Archer Aviation is building a 400,000-square-foot facility in Georgia, designed to support an initial production rate of 650 Midnight aircraft annually.

Concurrently, the advancement of carbon fiber recycling and circular economy initiatives is transforming the supply chain to tackle environmental issues and raw material costs. Industry stakeholders are forming strategic partnerships to repurpose uncured prepreg and cured composite waste for secondary uses, thereby closing the material usage loop and decreasing dependence on virgin feedstock. This shift not only lowers the environmental impact associated with landfills but also generates a functional secondary market for chopped and milled carbon fibers in non-structural parts. As highlighted by Toray Composite Materials America in July 2024, their recycling partner successfully diverted 200,000 pounds of carbon fiber waste from landfills through specialized upcycling methods.

Key Market Players

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Toray Industries, Inc.

Hexcel Corporation

Solvay S.A.

SGL Carbon SE

Teijin Limited

Mitsubishi Chemical Group Corporation

Owens Corning

Gurit Holding AG

Royal Ten Cate N.V.

BASF SE

Report Scope

In this report, the Global Aerospace Composites Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Aerospace Composites Market, By Fiber Type

Carbon Fiber Composites

Ceramic Fiber Composites

Glass Fiber Composites and Others

Aerospace Composites Market, By Resin Type

Epoxy

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- Canada
- Mexico

Europe

- France
- United Kingdom
- Italy
- Germany
- Spain

Asia Pacific

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- India
- Japan
- Australia
- South Korea

South America

- Brazil
- Argentina
- Colombia

Middle East & Africa

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South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Aerospace Composites Market.

Available Customizations:

Global Aerospace Composites Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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