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Aerospace Composites Market Forecasts to 2034 – Global Analysis By Fiber Type (Carbon Fiber Composites, Glass Fiber Composites, Ceramic Fiber Composites, Aramid Fiber Composites, and Other Fiber Types), Resin Type, Matrix Type, Manufacturing Process, Aircraft Type, Application and By Geography

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Abstracts

According to Stratistics MRC, the Global Aerospace Composites Market is accounted for $31.9 billion in 2026 and is expected to reach $49.3 billion by 2034, growing at a CAGR of 5.6% during the forecast period. Aerospace composites are advanced materials made by combining two or more distinct constituents, typically high-strength fibers such as carbon, glass, or aramid embedded in a polymer, metal, or ceramic matrix, to achieve superior mechanical performance. These composites offer high strength-to-weight ratios, excellent fatigue resistance, corrosion resistance, and thermal stability. Widely used in aircraft structures, engines, interiors, and spacecraft components, aerospace composites help reduce overall weight, improve fuel efficiency, enhance durability, and enable innovative aerodynamic designs.

Market Dynamics:

Driver:

Increasing demand for fuel-efficient aircraft

Airlines and aircraft manufacturers are under constant pressure to lower operational costs and meet stringent environmental regulations. Composites, being significantly lighter than traditional metals like aluminum, directly contribute to substantial weight

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reduction in airframes. This weight saving translates into lower fuel burn, enabling longer range with less payload penalty. As a result, modern aircraft programs, such as the next-generation wide-bodies and narrow-bodies, are incorporating unprecedented percentages of composite materials in their airframes, making this a fundamental driver for sustained market growth.

Restraint:

High manufacturing and material costs

The raw materials, particularly carbon fiber precursors, are expensive to produce. Furthermore, the manufacturing processes, such as automated fiber placement (AFP) and resin transfer molding (RTM), require substantial capital investment in specialized machinery and tooling. The curing process, often requiring high-pressure autoclaves, adds to the energy and time costs. These high initial expenditures can make aircraft development programs prohibitively expensive and can deter the adoption of composites in cost-sensitive segments like general aviation or for smaller suppliers in the aerospace supply chain.

Opportunity:

Growth in urban air mobility (UAM) and electric vertical takeoff

The next-generation vehicles are being designed from the ground up with a focus on lightweight structures to maximize battery range and payload capacity, making composites the material of choice. The high-volume, potentially automotive-style production runs anticipated for these vehicles could drive economies of scale, reducing manufacturing costs for composite components. This nascent sector offers a clean-sheet opportunity for composite material innovation, process automation, and the development of new, high-rate production methodologies.

Threat:

Volatility in raw material supply and pricing

Fluctuations in oil prices can directly impact the cost of these materials. Furthermore, the production of high-grade aerospace carbon fiber is concentrated among a limited number of global suppliers, creating a dependency that can lead to supply bottlenecks. Geopolitical tensions, trade disputes, or plant outages at these specialized facilities can

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quickly create shortages and price volatility, threatening production schedules for aircraft manufacturers and their tier-one suppliers.

Covid-19 Impact:

The COVID-19 pandemic severely disrupted the aerospace industry, causing a sharp decline in air travel and leading to a significant slowdown in aircraft production rates. This, in turn, temporarily dampened demand for aerospace composites as major programs like the Boeing 737 MAX and 787 faced production halts and delivery freezes. However, the pandemic also underscored the need for even greater fuel efficiency to help airlines manage costs in a low-revenue environment, reinforcing the long-term value proposition of lightweight composites. The subsequent recovery is now driving renewed demand, with a focus on supply chain resilience and lean manufacturing.

The carbon fiber segment is expected to be the largest during the forecast period

The carbon fiber segment is expected to account for the largest market share during the forecast period, due to its superior strength-to-weight ratio and stiffness, making it the material of choice for critical primary structures like fuselages and wings in modern commercial and military aircraft. Its application enables significant weight savings over metallic alternatives, directly enhancing fuel efficiency and payload capacity. Continuous advancements in fiber technology and resin systems are improving impact resistance and reducing manufacturing cycle times.

The nacelle & engine components segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the nacelle & engine components segment is predicted to witness the highest growth rate, due to the critical need for lightweight, heat-resistant materials to improve engine efficiency and reduce noise. As composite fan blades and casings replace metal components, they significantly lower overall engine weight. The rising production of next-generation geared turbofan engines, which rely heavily on composites for their nacelle structures, is a primary growth factor.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by the presence of major aircraft OEMs like Boeing and a strong, innovation-driven aerospace R&D ecosystem. The U.S. and Canada are at the

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forefront of developing next-generation manufacturing technologies, including advanced automation for composites (AFP/ATL) and novel material science. Significant investment in defense programs, including next-generation fighters and unmanned systems, heavily utilizes advanced composites.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, owing to the region's rapidly expanding commercial aviation sector and increasing defense spending. Countries like China, Japan, and South Korea are not only major manufacturing hubs for global aircraft programs but are also investing heavily in developing their own commercial and military aerospace capabilities. The presence of leading composite material manufacturers and a growing number of tier-one suppliers in the region supports a robust local supply chain.

Key players in the market

Some of the key players in Aerospace Composites Market include Toray Industries, Inc., Sonaca Group, Hexcel Corporation, LMI Aerospace, Inc., Solvay S.A., Spirit AeroSystems Holdings, Inc., Teijin Limited, GKN Aerospace, SGL Carbon SE, BASF SE, Mitsubishi Chemical Group Corporation, Arkema S.A., Owens Corning, Royal Ten Cate N.V., and Gurit Holding AG.

Key Developments:

In January 2026, Toray Advanced Composites together with project partners Airbus, Daher, and Tarmac Aerosave, has been named the winner of the JEC Innovation Award for Circularity and Recycling for its End-of-Life recycling program.

In September 2025, Hexcel Corporation announced a strategic collaboration with A&P Technology to work with the AFRL-funded Modeling for Affordable, Sustainable Components (MASC) research program and Wichita State University’s National Institute for Aviation Research (NIAR) to develop a methodology for certification of overbraided structures using Hexcel’s IM7 24K fiber and 1078-1 resin system.

Fiber Types Covered:

Carbon Fiber Composites

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- Glass Fiber Composites
- Ceramic Fiber Composites
- Aramid Fiber Composites
- Other Fiber Types

Resin Types Covered:

- Thermoset Resins
- Thermoplastic Resins

Matrix Types Covered:

- Polymer Matrix Composites (PMC)
- Ceramic Matrix Composites (CMC)
- Metal Matrix Composites (MMC)

Manufacturing Processes Covered:

- Hand Lay-Up
- Automated Tape Laying (ATL)
- Automated Fiber Placement (AFP)
- Filament Winding
- Resin Transfer Molding (RTM)
- Compression Molding

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- Injection Molding
- Other Processes

Aircraft Types Covered:

- Commercial Aircraft
- Military Aircraft
- Business & General Aviation
- Helicopters
- Unmanned Aerial Vehicles (UAVs)
- Spacecraft & Launch Vehicles

Applications Covered:

- Fuselage
- Wings
- Empennage
- Nacelle & Engine Components
- Interior Components
- Radomes & Fairings
- Landing Gear Components

Regions Covered:

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North America

- United States
- Canada
- Mexico

Europe

- United Kingdom
- Germany
- France
- Italy
- Spain
- Netherlands
- Belgium
- Sweden
- Switzerland
- Poland
- Rest of Europe

Asia Pacific

- China
- Japan
- India

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- South Korea
- Australia
- Indonesia
- Thailand
- Malaysia
- Singapore
- Vietnam
- Rest of Asia Pacific

South America

- Brazil
- Argentina
- Colombia
- Chile
- Peru
- Rest of South America

Rest of the World (RoW)

- Middle East
  - Saudi Arabia
  - United Arab Emirates

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Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- 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
- 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)

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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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Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) are also represented in the same manner as above.

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