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Advanced Composite Materials Market Forecasts to 2034 – Global Analysis By Fiber Type (Carbon Fiber Composites, Glass Fiber Composites, Aramid Fiber Composites, Hybrid Fiber Composites, and Other Types), Matrix Type, Product, Manufacturing Process, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Advanced Composite Materials Market is accounted for $54.1 billion in 2026 and is expected to reach $122.9 billion by 2034 growing at a CAGR of 10.6% during the forecast period. Advanced composite materials consist of multiple carefully selected components, usually fibers embedded within a matrix, designed to deliver enhanced properties beyond those of their individual elements. They provide high strength-to-weight efficiency, excellent resistance to heat and chemicals, and customizable mechanical behavior. Commonly applied in sectors like aerospace, automotive, and defense, these materials facilitate lighter, more resilient and versatile structures, allowing engineers to create high-performance solutions that conventional materials cannot achieve.

Market Dynamics:

Driver:

Increasing demand from the aerospace & defense sector

The aerospace and defense industry's relentless pursuit of fuel efficiency and performance is a primary driver for advanced composites. These materials are extensively used in aircraft structures, including fuselages, wings, and interior

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components, to significantly reduce weight and enhance durability. In defense, composites are vital for stealth technology, lightweight armored vehicles, and high-performance unmanned aerial vehicles (UAVs). The growing global air travel demand and subsequent aircraft production backlogs, coupled with increasing defense budgets for next-generation platforms, are creating sustained, long-term demand for advanced composites.

Restraint:

High manufacturing and raw material costs

The production of precursor fibers, such as carbon fiber, is energy-intensive and expensive. Furthermore, specialized manufacturing processes like autoclave curing or automated fiber placement require substantial capital investment and are often slower than conventional metal stamping. The complexity of quality control, non-destructive testing, and repair also adds to the lifecycle cost. These economic factors can be prohibitive for price-sensitive industries and limit the penetration of composites into high-volume applications where cost reduction is critical for market competitiveness.

Opportunity:

Growing adoption in the automotive industry

The automotive industry's shift towards electric vehicles (EVs) presents a significant growth opportunity for advanced composites. Automakers are under immense pressure to reduce vehicle weight to extend EV range and improve battery efficiency without compromising safety. Advanced composites offer a solution for manufacturing lightweight body panels, battery enclosures, and structural components. As production technologies like high-pressure resin transfer molding (HP-RTM) evolve to enable faster cycle times, composites are becoming more viable for mass production. The push for sustainable mobility and stricter global fuel economy standards will continue to drive innovation and adoption of composites in next-generation electric and high-performance vehicles.

Threat:

Volatility in raw material prices and supply chain

The advanced composites market is vulnerable to fluctuations in the price and

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availability of its key raw materials, particularly precursor materials for carbon fiber, such as polyacrylonitrile (PAN). The supply chain for high-grade fibers is concentrated among a limited number of global producers, creating dependencies and potential bottlenecks. Geopolitical tensions, trade disputes, or plant outages can disrupt this delicate supply chain, leading to price volatility and production delays for manufacturers. This instability can deter long-term investment and make it challenging for end-users in sectors like automotive to commit to composites for high-volume programs, where predictable material costs are essential.

Covid-19 Impact

The COVID-19 pandemic severely impacted the advanced composites market, primarily through the downturn in its largest sector, aerospace. With global air travel grounded, aircraft production rates were slashed, leading to deferred orders and reduced demand for new composite-intensive aircraft. Lockdowns disrupted manufacturing operations and global logistics, causing project delays across automotive, wind energy, and construction. However, the pandemic also underscored the need for resilient and efficient supply chains. The subsequent recovery, particularly the surge in e-commerce and the accelerated push for renewable energy, has reignited demand for composites in wind turbine blades and lightweight delivery vehicles, shaping a post-pandemic focus on sustainability and supply chain diversification.

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

The carbon fiber composites segment is expected to account for the largest market share during the forecast period, owing to its unparalleled strength-to-weight ratio and stiffness, making it the material of choice for high-performance applications. Its dominance is driven by massive consumption in the aerospace sector for primary and secondary structures. Beyond aerospace, it is extensively used in high-end automotive components, sporting goods, and industrial applications. Continuous innovations in precursor materials, such as large-tow carbon fiber, are reducing costs and enabling broader adoption.

The automated fiber placement (AFP) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the automated fiber placement (AFP) segment is predicted to witness the highest growth rate, driven by the increasing need for high-speed, precise,

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and repeatable manufacturing of complex composite parts. AFP systems significantly reduce layup times and material waste compared to manual processes, directly addressing the cost and production rate challenges in aerospace and automotive industries. Their ability to handle complex geometries and steer fibers to optimize structural performance is highly valued.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, fuelled by rapid industrialization and its position as a global manufacturing hub. Countries like China, Japan, and South Korea are major producers of carbon fiber and advanced composites, catering to domestic and export demands. The region's dominance is supported by massive investments in wind energy installations, a booming aerospace sector with increasing local production, and a robust electronics industry. Government initiatives supporting indigenous manufacturing, particularly in China and India for aerospace and defense, are accelerating market growth.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by rapid industrialization and infrastructure development. Booming demand from wind energy, automotive, and construction sectors, particularly in China and India, is accelerating market growth. Government initiatives promoting domestic manufacturing and substantial foreign investments in composites production are fueling this expansion. The region's shift toward high-performance materials in consumer goods and electronics further solidifies its position as the fastest-growing market for advanced composites globally.

Key players in the market

Some of the key players in Advanced Composite Materials Market include Toray Industries, Inc., Hexcel Corporation, Teijin Limited, Solvay S.A., SGL Carbon SE, Mitsubishi Chemical Group Corporation, Owens Corning, Gurit Holding AG, Huntsman Corporation, DuPont de Nemours, Inc., BASF SE, AGY Holding Corp., Plasan Carbon Composites, TPI Composites, Inc., and Axiom Materials, Inc.

Key Developments:

In March 2026, Hexcel Corporation congratulated Dassault Aviation on the successful

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roll?out of the Falcon? 10X, marking a major advancement for this next-generation business jet. This milestone underscores the enduring partnership between Hexcel and Dassault. Hexcel chosen in 2022 to supply structural prepregs for the entire wing of Falcon? 10X program.

In February 2026, Toray Industries, Inc. announced that its Ultrasuede™ has been adopted as the upholstery for the 'Ella Lounge' and '675 Chair,' two bestselling models from the British furniture brand Case. The Ultrasuede adopted combines polyester polymerized with Ethylene glycol derived from waste molasses of sugarcane and Polyurethane composed of polyol made of castor oil from non-edible castor-oil plant.

Fiber Types Covered:

- Carbon Fiber Composites
- Glass Fiber Composites
- Aramid Fiber Composites
- Hybrid Fiber Composites
- Other Types

Matrix Types Covered:

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

Products Covered:

- Prepregs
- Laminates

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- Pultruded Profiles
- Sheet Molding Compound (SMC)
- Milled & Chopped Fiber Compounds

Manufacturing Processes Covered:

- Lay-Up Process
- Filament Winding
- Resin Transfer Molding (RTM)
- Pultrusion
- Injection Molding
- Compression Molding
- Automated Fiber Placement (AFP)

Applications Covered:

- Aerospace & Defense
- Automotive & Transportation
- Wind Energy
- Marine
- Construction & Infrastructure
- Electrical & Electronics
- Sporting Goods

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- Oil & Gas
- Healthcare

End Users Covered:

- Aerospace Industry
- Automotive Industry
- Energy Sector
- Construction Industry
- Industrial Manufacturing
- Consumer Goods

Regions Covered:

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - United Kingdom
  - Germany
  - France

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- Italy
- Spain
- Netherlands
- Belgium
- Sweden
- Switzerland
- Poland
- Rest of Europe

Asia Pacific

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

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South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

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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)

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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