

# **Aeroengine Fan Blades Market by Aircraft Type (Narrow-Body Aircraft, Wide-Body Aircraft, Very Large Aircraft, Regional Aircraft, Business Aircraft, and Military Aircraft), by Engine Type (Turbofan Engine, Turboprop Engine, and Turbojet Engine), by Material Type (Titanium & Alloys, Composites, Aluminium & Alloys, and Steel), by Process Type (Hand Layup, Resin Transfer Molding, Superplastic Forming, and Others), and by Region (North America, Europe, Asia-Pacific, and Rest of the World), Trend, Forecast, Competitive Analysis, and Growth Opportunity: 2018-2023**

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## **Abstracts**

This report, from Stratview Research, studies the global aeroengine fan blades market over the trend period of 2012 to 2017 and the forecast period of 2018 to 2023. The report provides detailed insights into the market dynamics to enable informed business decision making and growth strategy formulation based on the opportunities present in the market.

### The Global Aeroengine Fan Blades Market: Highlights

Fan blades are among the most important components of an aircraft engine. There has been an evolutionary change in the design, size, structures, materials, and manufacturing process of fan blades over the past few decades. A large number of

experimental and computational analysis have been carried out in engine fan blades, which have resulted in change in design and efficiency of blades. Lightweight, increased engine thrust and efficiency, low-operating-cost, and laminar airflow into the engine are some focal points of development that are being achieved through the advancements in fan blade technologies.

Curved, Lighter, Thinner, and Fewer are the four big needs in aeroengine fan blades observed in the industry. Composites have gradually been becoming the material of choice for achieving these four industry needs. Besides being thinner and fewer in number; composite fan blades also spin faster that ultimately helps to generate higher thrust and by-pass ratio. GE Aviation was the first company to incorporate carbon composite materials in aero engine fan blades for a jet engine. The era of composite fan blades started way back in the 1990s with GE's GE90 engine powering Boeing 777 aircraft program. This became a huge success for GE Aviation as it helped B777 in gaining excellent thrust and be among the most fuel-efficient and reliable commercial aircraft. GE Aviation's success in composite fan blades influenced its adoption in succeeding generations of commercial engines including GENx and the new GE9X.

As per Stratview Research, the global aeroengine fan blades market is projected to grow at a healthy rate over the next five years to reach US\$ 8,059.8 million in 2023. Organic growth of the aircraft industry, increasing share of wide-body aircraft in commercial aircraft deliveries, increasing penetration of composite fan blades in newer aircraft engines, increasing fan diameters of newer aircraft, and an expected increase in production of LEAP engines, are the key growth drivers of aeroengine fan blades market.

The global aeroengine fan blades market is segmented based on the aircraft type as Narrow-Body Aircraft, Wide-Body Aircraft, Very Large Aircraft, Regional Aircraft, Business Aircraft, and Military Aircraft. Narrow- and wide-body aircraft are likely to remain the growth engines of the market during the forecast period. Increasing production rates of key programs, such as B737, A320 family, B787, and A350XWB; market entry of new players, such as COMAC and Irkut; introduction of variants of existing best-selling aircraft programs, such as B737 max, A320neo, and B777x; and an increasing demand for lightweight composite fan blades are likely to offer a sustainable growth platform for fan blades in these segments in the coming years.

Based on the engine type, turbofan aeroengine fan blades are likely to remain the most dominant as well as the fastest-growing segment of the market during the forecast period. Turbofan engines are the most commonly used engine type in the commercial

aircraft, which is the major why and wherefore behind their dominance in the market. Increasing production of turbofan engines to support the increasing commercial aircraft production rates, as well as increasing penetration of lightweight composite fan blades, are substantiating the demand for fan blades in the engine segment.

Based on the material type, titanium blades are likely to remain the most dominant material type in the market during the forecast period of 2018 to 2023, whereas composite blades are likely to experience the highest growth during the same period, driven by their usage in the newer variants of engines, such as LEAP engines, which are empowering the world's best-selling model's fuel-efficient variants (B737 max and A320neo) and GENx engine empowering B787. Aeroengine fan blades have been undergoing a disruptive transformation from the traditional metallic blades to composite blades. Epoxy resin with carbon fiber is the predominantly used material type for manufacturing composite fan blades. These materials are giving good competition to the most widely used material for fan blades i.e. Titanium.

Based on regions, North America is projected to remain the largest market during the forecast period, driven by the world's leading aeroengine manufacturers i.e. GE Aviation, CFM International, and Pratt & Whitney. Most of the major engine manufacturers have assembly plants in the region to support major aircraft OEMs. The USA is likely to remain the growth engine of the region's market over the next five years.

Asia-Pacific is likely to witness the highest growth during the same period, driven by a host of factors including increasing demand for commercial aircraft to support rising passenger traffic, opening of assembly plants of Boeing and Airbus for B737, A320, and A330 aircraft programs; upcoming indigenous commercial and regional aircraft (COMAC C919 and Mitsubishi MRJ), and rising aircraft fleet size.

The supply chain of this market comprises raw material suppliers, aeroengine fan blade manufacturers, engine manufacturers, aircraft OEMs, airlines, and aircraft leasing companies. Key aeroengine fan blade manufacturers are Safran Aircraft Engines, GE Aviation, Pratt & Whitney, Rolls-Royce, Albany/Safran, CFAN Company, and GKN Aerospace. Development of lightweight fan blades with an ease of manufacturing process, reduced operational cost, improved thrust or performance and formation of strategic alliances are the key strategies adopted by the major players to gain a competitive edge in the market.

## Research Methodology

This report offers high-quality insights and is the outcome of detailed research methodology comprising extensive secondary research, rigorous primary interviews with industry stakeholders and validation and triangulation with Stratview Research's internal database and statistical tools. More than 1,000 authenticated secondary sources, such as company annual reports, fact book, press release, journals, investor presentation, white papers, patents, and articles have been leveraged to gather the data. We have conducted 15 detailed primary interviews with the market players across the value chain in all four regions and industry experts to obtain both qualitative and quantitative insights.

## Report Features

This report provides market intelligence in the most comprehensive way. The report structure has been kept such that it offers maximum business value. It provides critical insights into the market dynamics and will enable strategic decision making for the existing market players as well as those willing to enter the market. The following are the key features of the report:

Market structure: Overview, industry life cycle analysis, supply chain analysis

Market environment analysis: Growth drivers and constraints, Porter's five forces analysis, SWOT analysis

Market trend and forecast analysis

Market segment trend and forecast

Competitive landscape and dynamics: Market share, Product portfolio, New product launches, etc.

Attractive market segments and associated growth opportunities

Emerging trends

Strategic growth opportunities for the existing and new players

Key success factors

The Global Aeroengine Fan Blades market is segmented into the following categories:

### Aeroengine Fan Blades Market, By Aircraft Type

Narrow-Body Aircraft (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)

Wide-Body Aircraft (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)

Very Large Aircraft (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)

Regional Aircraft (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)

Business Aircraft (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
Military Aircraft (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
Aeroengine Fan Blades Market, By Engine Type

Turbofan Engine (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
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Aeroengine Fan Blades Market, By Material Type

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Composites (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
Aluminum & Alloys (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
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Resin Transfer Molding (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
Superplastic Forming (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
Other Processes (Regional Analysis: North America, Europe, Asia-Pacific, and RoW)  
Aeroengine Fan Blades Market, By Region

North America (Country Analysis: The USA, Canada, and Mexico)  
Europe (Country Analysis: France, Germany, the UK, Poland and Rest of Europe)  
Asia-Pacific (Country Analysis: China, Japan, Singapore, and Rest of Asia-Pacific)  
Rest of the World (Sub-Region Analysis: Latin America, the Middle East, and Others)  
Report Customization Options

With this detailed report, Stratview Research offers one of the following free customization options to our respectable clients:

#### Company Profiling

Detailed profiling of additional market players (up to 3 players)

SWOT analysis of key players (up to 3 players)

#### Market Segmentation

Current market segmentation of any one of the aircraft type by material type

## Competitive Benchmarking

Benchmarking of key players on the following parameters: Product portfolio, geographical reach, regional presence, and strategic alliances

Custom Research: Stratview Research offers custom research services across sectors. In case of any custom research requirement related to market assessment, competitive benchmarking, sourcing and procurement, target screening, and others, please send your inquiry at [sales@stratviewresearch.com](mailto:sales@stratviewresearch.com)

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