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Aircraft Turbofan Engine Market Forecasts to 2032 - Global Analysis By Technology Type (Conventional Turbofans, Geared Turbofans, Open Rotor / Unducted Fans, and Adaptive Cycle Engines), Bypass Ratio (High Bypass Ratio, Medium Bypass Ratio, and Low Bypass Ratio), Aircraft Type, Component, Thrust Class, Point of Sale, and By Geography

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Abstracts

According to Stratistics MRC, the Global Aircraft Turbofan Engine Market is accounted for $89.3 billion in 2025 and is expected to reach $157.0 billion by 2032, growing at a CAGR of 8.4% during the forecast period. The turbofan engine market for aircraft includes engines used in commercial and military jet aircraft, along with design, manufacturing, and maintenance services. It supports narrow-body, wide-body, and business jet segments. Growth is driven by rising air passenger traffic, fleet modernization, fuel efficiency requirements, airline demand for lower operating expenses, and strong aftermarket services for engine maintenance, repair, and overhaul over long aircraft lifecycles.

Market Dynamics:

Driver:

Fleet renewal demand for more fuel-efficient and quieter next-generation aircraft

Fleet renewal programs are accelerating as carriers replace aging, fuel-heavy aircraft with modern platforms featuring advanced propulsion systems. These next-generation engines utilize innovative materials and aerodynamic designs to achieve significantly

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lower fuel consumption and reduced noise emissions. Moreover, the economic benefit of lower fuel expenditures provides a compelling financial incentive for this transition. Consequently, the demand for high-efficiency turbofans continues to rise as operators align their fleets with global net-zero aviation targets.

Restraint:

Extremely high R&D and certification costs for new engine programs

The process of developing a new turbofan engine necessitates a substantial capital commitment, frequently taking more than ten years to yield any commercial returns. These programs face immense financial hurdles due to the intricate engineering involved and the necessity of rigorous testing phases. Furthermore, stringent safety and environmental certification processes mandated by global aviation authorities add layers of complexity and cost. These high barriers to entry often restrict market participation to a few established players with substantial financial resources.

Opportunity:

Advancements in propulsion technologies

Research into hybrid-electric systems, open-rotor designs, and the integration of Sustainable Aviation Fuels (SAF) is opening new doors for market expansion. Additionally, the adoption of additive manufacturing and digital twin technology allows for more precise engineering and reduced maintenance requirements. These innovations improve performance and cater to the growing demand for regional and short-haul eco-friendly travel. Furthermore, the development of ultra-high bypass ratios promises even greater gains in thermal efficiency and thrust-to-weight performance for future aircraft.

Threat:

Geopolitical issues affecting supply chains and airline fleet planning

Trade disputes and localized conflicts can disrupt the flow of specialized components, causing production bottlenecks for major engine OEMs. Moreover, shifting political alliances and sanctions may force airlines to reconsider their long-term fleet acquisition strategies, leading to canceled or deferred orders. Additionally, sudden changes in international flight regulations or airspace restrictions can alter the demand for specific

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aircraft types. The volatility of global energy markets, influenced by geopolitical tensions, remains a constant risk for airline operational planning.

Covid-19 Impact:

The COVID-19 pandemic induced an unprecedented contraction in global air travel, leading to a sharp decline in the demand for new turbofan engines. Airlines grounded their fleets to preserve liquidity, deferred maintenance schedules, and significantly delayed or canceled orders for new aircraft. This disruption rippled through the supply chain, forcing manufacturers to adjust production rates and scale back research initiatives. Additionally, the industry saw a temporary shift in focus toward cargo and freighter operations to offset the massive loss in passenger revenue.

The conventional turbofans segment is expected to be the largest during the forecast period

The conventional turbofans segment is expected to account for the largest market share during the forecast period. The massive existing fleet of narrow-body and wide-body aircraft, which rely on proven, reliable turbofan technology, primarily contributes to this dominance. Established MRO infrastructures and standardized maintenance protocols further solidify the position of conventional engines. Additionally, continuous incremental improvements in core engine efficiency ensure that conventional turbofans remain the industry's primary workhorse for the foreseeable future.

The high bypass ratio segment is expected to have the highest CAGR during the forecast period

The high bypass ratio segment is expected to have the highest CAGR during the forecast period. Over the forecast period, the high bypass ratio segment is predicted to witness the highest growth rate. The industry's urgent need for engines that offer superior fuel economy and lower noise levels drives this rapid expansion. High bypass designs move a larger volume of air around the engine core, which significantly increases propulsive efficiency compared to older models. Furthermore, new environmental mandates are making high bypass engines the standard for all upcoming commercial aircraft programs.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest

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market share. Major aerospace giants like Boeing and major engine manufacturers like GE Aerospace and Pratt & Whitney support this leading position. The region benefits from a highly mature aviation market with a vast domestic flight network and a strong emphasis on military aviation modernization. Moreover, North American airlines are among the most proactive in retiring older fleets in favor of new, efficient technology. Additionally, a robust ecosystem for research, development, and engine maintenance services ensures that the region remains a central hub for the global turbofan engine market.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. The region's growth is fueled by a massive surge in air passenger traffic and the rapid expansion of middle-class populations in emerging economies like China and India. This increased demand for travel is compelling local carriers to place record-breaking orders for new-generation aircraft. Furthermore, government initiatives to develop domestic aerospace manufacturing capabilities are providing a significant boost to the regional market. Additionally, the expansion of low-cost carriers (LCCs) across the region is driving a continuous need for narrow-body aircraft engines.

Key players in the market

Some of the key players in Aircraft Turbofan Engine Market include GE Aerospace, Pratt & Whitney, Rolls-Royce plc, Safran Aircraft Engines, MTU Aero Engines AG, IHI Corporation, Aero Engine Corporation of China (AECC), United Engine Corporation (UEC), NPO Saturn, Williams International, Honeywell International Inc., Kawasaki Heavy Industries, Ltd., Motor Sich, JSC, and PBS Velk? B?te?.

Key Developments:

In January 2026, Rolls-Royce completed Phase 1 testing of the UltraFan demonstrator, achieving >85,000 lbs thrust and confirming scalability for future widebody and narrowbody aircraft.

In December 2025, Safran and Pegasus Airlines finalized an agreement for CFM LEAP-1B engines to power Boeing 737-10 aircraft, strengthening Safran?s turbofan portfolio.

In September 2025, Honeywell unveiled the HON1600 (SkyShot 1600) turbofan engine

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for unmanned and collaborative combat aircraft, targeting next-gen military platforms.

Technology Types Covered:

- Conventional Turbofans
- Geared Turbofans
- Open Rotor / Unducted Fans
- Adaptive Cycle Engines

Bypass Ratios Covered:

- High Bypass Ratio
- Medium Bypass Ratio
- Low Bypass Ratio

Aircraft Types Covered:

- Narrow-body Aircraft
- Wide-body Aircraft
- Regional Jets
- Business Jets
- Military Aircraft

Components Covered:

- Fan & Fan Case

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Compressors

Combustors

Turbines

Nozzles & Exhaust Systems

Accessory Gearboxes & FADEC Systems

Thrust Classes Covered:

Less than 20,000 lbf

20,000 ? 50,000 lbf

50,000 ? 100,000 lbf

Greater than 100,000 lbf

Point of Sales Covered:

OEM (Original Equipment Manufacturer)

Aftermarket

Regions Covered:

North America

US

Canada

Mexico

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  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
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  - Japan
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  - New Zealand
  - South Korea
  - Rest of Asia Pacific
- South America
  - Argentina
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  - Chile
  - Rest of South America

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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 2024, 2025, 2026, 2028, and 2032
- 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

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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 Middle East & Africa Regions are also represented in the same manner as above.

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