

Aircraft Turbine Engine - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Report description:

The Aircraft Turbine Engine Market size is estimated at USD 56.83 billion in 2024, and is expected to reach USD 92.62 billion by 2029, growing at a CAGR of 10.26% during the forecast period (2024-2029).

The demand for aircraft engines is driven primarily by either an increase in the order book of aircraft (business jet, commercial, or military aircraft) or a replacement for the engines for the existing aircraft fleet. Aircraft OEMs and engine manufacturers are engaging in extensive integration efforts to enhance performance and extend the range of aircraft. The investments towards the R&D of such technologies are anticipated to bolster the market prospects during the forecast period.

Since modern-day airlines operate on a merged profit model, the profit margins are relatively low. This scenario makes it challenging for operators to procure a new fleet and pay significant amounts of cash to complete the transaction. However, due to the emerging dynamics of the aircraft and engine leasing business, airlines have access to the comfort of opting for lease agreements from aircraft financing entities, providing financial relief to airlines and granting them temporary access to increased capacity.

The manufacturing cycle of aircraft engine OEMs is expected to undergo rapid transformation due to the increasing use of 3D printing and ceramic matrix composites to construct critical components of an aircraft engine. Furthermore, emerging technologies such as a hybrid-electric jet engine are anticipated to enhance the current business opportunities for the market players.

Aircraft Turbine Engine Market Trends

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Commercial Segment to Dominate Market Share During the Forecast Period

The commercial segment holds the largest market share in the aircraft turbine engine market due to several compelling drivers. The rise in global air passenger travel, attributed to factors such as rising incomes, the growth of the middle class, and urbanization, provides a strong foundation for the commercial aircraft engine industry. This growth trend is expected to continue, with a significant number of people joining the global middle class, especially from countries like India and China. The industry perspective emphasizes the rise of single-aisle aircraft, driven by cost and convenience factors for air travelers. This shift is reflected in the increasing usage of aircraft like Airbus' A320 and Boeing's B737, comprising a significant portion of the global passenger jet fleet. Single-aisle aircraft are expected to continue dominating the market, presenting opportunities for commercial aircraft turbine manufacturers. Additionally, the stringent regulatory and compliance standards imposed on commercial turbine engines create a unique barrier to entry for other segments. Meeting these requirements necessitates substantial investments in research, development, and manufacturing, which often only established commercial engine manufacturers can undertake. Military engines are designed to last for decades, withstanding the rigors of combat and extensive use. Consequently, governments are heavily invested in their maintenance, repair, and upgrade, resulting in a continuous revenue stream for manufacturers and service providers. For instance, in July 2022, Rolls-Royce plc entered the final build stage for the world's largest aero-engine technology demonstrator "UltraFan", offering technologies to support sustainable air travel for future. The demonstrator engine has a fan diameter of 140 inches and runs on 100% Sustainable Aviation Fuel. The new engine offers a 25% fuel efficiency improvement compared with the first generation of Trent engine. In the longer term, the UltraFan engine's scalable technology from 25,000 to 100,000 lb. thrust offers the potential to power new wide-body and narrow-body commercial aircraft.

Asia-Pacific to Dominate the Market Share During the Forecast Period

The ongoing success of the LCC model has contributed to steady growth in passenger traffic in Asia-Pacific. It has also created significant opportunities for the growth of aircraft and engine manufacturers in the region by stimulating various companies to invest in aircraft manufacturing activities. The rise in demand for newer and improved versions of aircraft has resulted in a simultaneous requirement for aircraft gas turbine engines. Numerous airline operators are trying to collaborate with engine OEMs to receive superior MRO and after-services. For instance, Airbus has already realized the potential of the MRO market and has put in efforts to accelerate its presence in Asia-Pacific through acquisitions, joint ventures (JVs), and partnerships.

Other international engine suppliers will be required to maintain an adequate supply of engines and associated components as these developments will promote the regional market during the forecast period. For instance, In June 2023, India and the US announced the agreement between Hindustan Aeronautics Limited (HAL) and GE Aerospace to produce fighter jet engines for the Indian Air Force (IAF). The deal takes place in the context of efforts by the IAF to improve its capabilities and capacities. The IAF is in the process of procuring 114 multi-role fighter jets (MRFA), along with acquiring additional numbers of Light Combat Aircraft (LCA) Mk1A, followed by LCA Mk2. GE's F404 engines are the engine used to power India's only indigenous fighter jet LCA Tejas. As of now, 75 F404 engines have been manufactured by GE and another 99 are on order with LCA Mk1A. In the ongoing development programme for LCA Mk2, 8 F414 engines have been supplied.

Aircraft Turbine Engine Industry Overview

The aircraft turbine engine market is semi-consolidated and characterized by the presence of many global vendors. CFM International, General Electric Company, Pratt & Whitney (RTX Corporation), Rolls-Royce plc, and Safran are five major companies in the market, which compete in terms of availability, quality, price, and technology. The market is highly competitive with all the players competing to gain the largest market share. Grounding of fleets due to technical issues, high production costs, delays in engine deliveries, and fluctuations in customs and import duties are the key factors posing a threat to the growth of the market. Vendors must provide advanced and high-quality gas turbine engines to survive and succeed in the intensely competitive market environment.

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In-house manufacturing capabilities, a global footprint network, product offerings, R&D investments, and a strong client base are the key areas to have the edge over competitors. Improving global economic conditions is expected to fuel market growth during the forecast period, thereby making it an ideal time to adopt new-generation aircraft and engines. The competitive environment in the market is likely to intensify further due to an increase in product and service extensions, technological innovations, and mergers and acquisitions. For instance, In November 2021, Materialize and Proponent announced a partnership to expand the profile of 3D printing in aerospace aftermarket supply chains. Proponent offers traditional distribution services to airlines, MROs, Original Equipment Manufacturers, and Innovative Product Portfolios. Through its global coverage, the firm delivers 54 million parts a year to approximately 6,000 aircraft clients in more than 100 countries. These companies offer aftermarket parts, such as engines, airframes, cabin interiors, and cockpits.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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