

Engine Leasing & Power-by-the-Hour Market Forecasts to 2034 - Global Analysis By Service Type (Power-by-the-Hour (PBH) Programs, Time & Material Contracts, Engine Maintenance & Repair (MRO) Services and Spare Engine Support), Engine Type, Leasing Model, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Engine Leasing & Power-by-the-Hour Market is accounted for \$10.4 billion in 2026 and is expected to reach \$16.8 billion by 2034 growing at a CAGR of 6.2% during the forecast period. Engine Leasing & Power-by-the-Hour solutions are becoming increasingly attractive to aviation operators seeking greater financial flexibility and operational reliability. Instead of purchasing engines outright, airlines can obtain engine access and maintenance support through usage-based agreements, minimizing capital expenditure and creating more predictable costs. These models can also reduce maintenance-related risks by placing service responsibilities with specialized providers. Expansion of airline fleets, stronger requirements for engine availability, and continuous efforts to manage operating expenses are supporting the adoption of leasing and power-by-the-hour arrangements throughout the aviation sector.

According to IATA, the global aircraft order backlog exceeded 17,000 aircraft, while the average fleet age increased to 15 years, creating continued requirements for maintenance, replacement engines, and fleet-support services.

Market Dynamics:

Driver:

Growing airline fleet expansion

Increasing commercial aircraft fleet sizes are creating stronger demand for engine leasing and usage-based service models. Airlines adding aircraft or replacing aging engines often prefer arrangements that avoid the high upfront costs associated with engine ownership. Power-by-the-hour contracts allow expenses to correspond with engine utilization while leasing provides access to required assets with improved financial flexibility. Growing flight networks, higher aircraft utilization, and the need for reliable engine availability further encourage these models. Consequently, airlines are increasingly using leasing and usage-based agreements to support fleet expansion while maintaining better control over capital allocation and operational costs.

Restraint:

High leasing and service costs

Elevated leasing expenses and service charges may limit the adoption of Engine Leasing & Power-by-the-Hour solutions. While leasing reduces the need for significant initial investment, total payments throughout a contract can remain considerable, especially for sophisticated aircraft engines requiring comprehensive maintenance. Usage-based fees, maintenance reserves, contractual charges, and supplementary services can raise the overall financial burden. Smaller carriers and operators with restricted budgets may consequently prefer conventional ownership models. Uncertainty surrounding long-term costs can also make companies cautious about committing to extended leasing arrangements or comprehensive power-by-the-hour contracts.

Opportunity:

Increasing adoption of predictive maintenance technologies

Growing use of predictive maintenance solutions is opening new opportunities for engine leasing and power-by-the-hour service providers. Sensors, artificial intelligence, connected systems, and advanced analytics allow engine conditions to be continuously assessed and potential faults to be identified earlier. Incorporating these capabilities into usage-based agreements can support proactive maintenance, minimize aircraft downtime, and improve propulsion reliability. Real-time performance information also enables providers to tailor maintenance programs and optimize service schedules. As digital technologies become increasingly integrated into aviation operations, enhanced predictive capabilities can make power-by-the-hour contracts more valuable and attractive to aircraft operators.

Threat:

Economic downturns and airline financial instability

Economic uncertainty and deteriorating airline finances may create challenges for engine leasing and power-by-the-hour providers. During periods of weak economic performance, reduced passenger volumes and lower flight activity can negatively affect airline revenues and investment decisions. Carriers experiencing financial constraints may postpone aircraft additions, seek contract modifications, or reduce maintenance commitments. Rising borrowing costs can also make leasing arrangements more expensive. Persistent financial uncertainty could therefore discourage airlines from entering new long-term agreements, delay fleet-related decisions, and weaken business prospects for companies providing leased engines and usage-based maintenance services.

Covid-19 Impact:

The COVID-19 outbreak adversely affected the Engine Leasing & Power-by-the-Hour Market by causing travel restrictions, aircraft groundings, and sharp declines in passenger traffic. Reduced airline operations lowered requirements for leased engines and usage-based maintenance programs, while financial uncertainty encouraged carriers to conserve cash and delay fleet-related expenditures. Lower engine utilization also disrupted maintenance activity and provider revenues. Nevertheless, flexible leasing structures helped airlines manage financial pressures during the crisis. With the recovery of air travel and increasing aircraft utilization, demand for engine leasing and power-by-the-hour services gradually strengthened across the aviation sector.

The power-by-the-hour (PBH) programs segment is expected to be the largest during the forecast period

The power-by-the-hour (PBH) programs segment is expected to account for the largest market share during the forecast period. Power-by-the-Hour programs are increasingly preferred as they offer aircraft operators an organized approach to engine maintenance linked to engine usage. Such agreements provide defined service coverage and help limit uncertainty associated with major repairs, inspections, and overhauls. Depending on contract scope, operators may also receive technical support, replacement engines, parts availability, and coordinated maintenance services. By supporting predictable maintenance planning, better cost management, engine performance, and operational reliability, PBH arrangements have become an important service model for airlines, aircraft lessors, and other aviation operators seeking efficient engine support.

The military & defense segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the military & defense segment is predicted to witness the highest growth rate, supported by defense fleet modernization and increasing requirements for dependable propulsion support. Advanced military aircraft require specialized maintenance, high operational readiness, and effective lifecycle

management, making flexible service arrangements increasingly valuable. Greater adoption of performance-based logistics and sophisticated engine-support programs can further encourage demand. As governments continue investing in modern aircraft and defense capabilities, military operators are likely to seek efficient maintenance and availability solutions, creating favorable growth opportunities for engine leasing and power-by-the-hour providers.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its well-developed aviation industry, large aircraft base, and concentration of major aerospace manufacturers, leasing companies, and MRO organizations. Airlines and operators increasingly utilize flexible maintenance and performance-based service arrangements to support aircraft availability and manage operating requirements. High fleet activity and established aviation infrastructure strengthen demand for engine leasing solutions. In addition, developed financial systems and ongoing aircraft modernization encourage operators to adopt usage-based engine support programs, reinforcing North America's position as the dominant regional market.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, supported by expanding aircraft fleets, increasing passenger movement, and greater preference for usage-based maintenance solutions. Airlines in China, India, Southeast Asia, and neighboring markets are upgrading their fleets while seeking flexible approaches to engine management. Growing low-cost carrier operations, developing regional MRO infrastructure, and increasing cooperation with engine manufacturers are strengthening market adoption. Higher aircraft utilization and the need for dependable propulsion support are further encouraging airlines to adopt engine leasing and power-by-the-hour service agreements.

Key players in the market

Some of the key players in Engine Leasing & Power-by-the-Hour Market include AerCap Holdings N.V., AFI KLM E&M, AJW Group, Ameco Beijing, AAR Corp, Engine Lease Finance Corporation, FTAI Aviation, GA Telesis, LLC, GE Aviation, HAECO Group, Lufthansa Technik, MTU Aero Engines AG, Rolls-Royce plc, RTX Corporation, ST Engineering, BOC Aviation, Turkish Technic and Willis Lease Finance Corporation.

Key Developments:

In July 2026, AerCap Holdings N.V. announced that it has signed lease agreements

with China Southern Air Logistics Co. Ltd. for three Boeing 777-300ERSF converted freighter aircraft. The aircraft, also known as "The Big Twin," represents the first passenger-to-freighter conversion program for the Boeing 777-300ER. The first aircraft is scheduled for delivery in October 2027, while the second and third aircraft are scheduled for delivery in Q1 and Q2 2028, respectively.

In June 2026, GE Aerospace and Wolfspeed Inc. announced they have entered into a Memorandum of Understanding to collaborate on high-voltage silicon carbide technology for industrial, aerospace and defense markets. Under the agreement, the companies plan to develop standards for high-voltage silicon carbide-based power modules to support solid-state transformers, industrial electrification, and aerospace and defense platforms.

Service Types Covered:

Power-by-the-Hour (PBH) Programs

Time & Material Contracts

Engine Maintenance & Repair (MRO) Services

Spare Engine Support

Engine Types Covered:

Turbofan Engines

Turboprop Engines

Turboshaft Engines

Leasing Models Covered:

Operating Lease

Finance Lease

End Users Covered:

Commercial Airlines

Cargo Operators

Business Aviation

Military & Defense

Regions Covered:

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

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

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)

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

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