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Aerospace Cold Forgings Market Forecasts to 2032 – Global Analysis By Material (Aluminum Alloys, Titanium Alloys, Steel Alloys and Other Materials), Aircraft Type, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Aerospace Cold Forgings Market is accounted for $4.7 billion in 2025 and is expected to reach $14.1 billion by 2032 growing at a CAGR of 17.1% during the forecast period. Aerospace cold forgings refer to precision metal components formed at or near room temperature using high-pressure compressive forces, without heating the material. This process enhances mechanical strength, dimensional accuracy, and surface finish while preserving the metal's grain structure. Commonly used for fasteners, fittings, and bearing races, cold forging ensures reliability in critical aerospace applications. It minimizes material waste, reduces machining steps, and meets stringent industry standards for durability and performance. By leveraging strain hardening and controlled deformation, aerospace cold forgings deliver lightweight, high-strength parts essential for aircraft structures, engines, and landing gear systems, where safety and efficiency are paramount.

Market Dynamics:

Driver:

Growing Aircraft Production and Deliveries

Global aircraft production is rising steadily, driven by increasing passenger demand, defense modernization, and fleet renewals. OEMs are ramping up output across commercial, regional, and military platforms, creating strong demand for high-performance components. Aerospace cold forgings, known for their strength and precision, are essential in structural assemblies, landing gear, and engine parts. As aircraft deliveries accelerate, manufacturers are adopting cold forging to meet stringent performance standards, reduce waste, and streamline production, reinforcing its role in aerospace manufacturing.

Restraint:

High Initial Capital Investment

High initial capital investment poses a significant hindrance to the aerospace cold forgings market, as setting up advanced forging facilities requires costly machinery, precision tools, and skilled workforce training. Smaller firms and new entrants struggle to compete due to financial barriers, limiting market diversity and innovation. Moreover, lengthy return on investment discourages stakeholders from large-scale expansion, slowing overall market growth and restraining adoption of advanced forging technologies across the aerospace sector.

Opportunity:

Rising Demand for Lightweight Materials

The aerospace industry’s shift toward fuel efficiency and sustainability is driving demand for lightweight, high-strength materials. Cold forging enables the production of robust components from advanced alloys with minimal waste and machining. As aircraft designs evolve to incorporate composite-metal hybrids and electric propulsion systems, cold-forged parts offer optimal strength-to-weight ratios. This trend opens new opportunities for innovation in airframes, engine mounts, and landing gear systems, where weight reduction directly enhances operational performance and environmental compliance.

Threat:

Raw Material Price Volatility

Raw material price volatility exerts a negative and hindering impact on the Aerospace Cold Forgings Market by creating cost uncertainties and squeezing profit margins for manufacturers. Key materials like titanium, aluminum, and nickel alloys experience frequent fluctuations due to geopolitical tensions, mining constraints, and supply chain disruptions. These unpredictable costs make long-term planning difficult, increase overall production expenses, and discourage new investments, ultimately slowing market growth and competitiveness.

Covid-19 Impact

The COVID-19 pandemic disrupted aerospace supply chains, paused aircraft deliveries, and delayed new program launches. Cold forging operations faced reduced demand, labor shortages, and logistical challenges. However, recovery is underway, with renewed focus on resilient manufacturing and localized sourcing. The pandemic also accelerated innovation in unmanned aerial systems and sustainable aviation, creating new niches for cold-forged components. As global air travel rebounds and OEMs resume production, the market is poised for a strong post-pandemic resurgence.

The steel alloys segment is expected to be the largest during the forecast period

The steel alloys segment is expected to account for the largest market share during the forecast period, due to their high tensile strength, fatigue resistance, and cost-effectiveness. These alloys are widely used in fasteners, landing gear, and structural fittings, where durability and dimensional precision are critical. Cold forging enhances mechanical properties while minimizing material waste and machining steps. As aircraft designs demand reliable, high-performance components, steel alloys remain the preferred choice for balancing strength, manufacturability, and affordability across aerospace applications.

The business jets segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the business jets segment is predicted to witness the highest growth rate, due to rising demand for private aviation, regional connectivity, and fleet modernization. Lightweight, high-strength cold-forged components are essential for optimizing fuel efficiency and performance in smaller aircraft. With increasing adoption of composite structures and advanced propulsion systems, cold forging supports precision engineering and cost-effective production. Emerging markets, fractional ownership models, and post-pandemic travel preferences further amplify growth in this segment, making it a key driver of innovation.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share due to robust aircraft manufacturing in China, India, and Japan. Government investments in aerospace infrastructure, rising air passenger traffic, and regional OEM expansion are key growth drivers. Indigenous aircraft programs and defense modernization initiatives further boost demand for cold-forged components. Strategic partnerships, technology transfers, and growing supplier ecosystems position APAC as a dominant hub for aerospace manufacturing, offering scale, cost efficiency, and innovation potential.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to strong R&D capabilities, advanced manufacturing infrastructure, and defense spending. The presence of major OEMs and Tier-1 suppliers fosters innovation in cold forging technologies. Demand for next-gen aircraft, electric propulsion systems, and space exploration platforms are accelerating adoption of precision-forged components. Regulatory support for sustainable aviation and reshoring initiatives further enhance market momentum across the U.S. and Canada, positioning the region for sustained growth.

Key players in the market

Some of the key players profiled in the Aerospace Cold Forgings Market include Precision Castparts Corp., Arconic, Howmet Aerospace, Eramet Group, Scot Forge, Bharat Forge, VSMPO-AVISMA Corporation, GKN Aerospace, Forgital, Mettis Aerospace, Allegheny Technologies Incorporated (ATI), Fountaintown Forge, SIFCO Industries, AVIC Heavy Machinery Co., Ltd. and Kobe Steel, Ltd.

Key Developments:

In February 2025, Bharat Forge and Liebherr-Aerospace joined forces during Aero India 2025 to erect a cutting-edge facility in Pune, set to open in 2025. Featuring a precision ring mill and landing-gear machining lines, this venture symbolizes their shared pursuit of aerospace excellence.

In February 2025, Stonepeak—a prominent infrastructure-focused investment firm—signed a definitive agreement to acquire Forgital Group, manufacturer of advanced forged rings and components for aerospace and industrial sectors, from Carlyle. This move reflects Stonepeak’s confidence in long-term aerospace demand, its operational

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savvy, and a shared vision for industrial growth.

Materials Covered:

- Aluminum Alloys
- Titanium Alloys
- Steel Alloys
- Other Materials

Aircraft Types Covered:

- Commercial Aircraft
- Military Aircraft
- Business Jets
- Helicopters
- Unmanned Aerial Vehicles (UAVs)

Applications Covered:

- Airframe
- Engine Components
- Landing Gear Components
- Nacelle Components
- Other Applications

End Users Covered:

- OEMs (Original Equipment Manufacturers)
- Aftermarket

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

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

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- 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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