

Investment Casting Market at 5.60% CAGR to Grow from USD 19.76 Billion in 2026 to USD 32.27 Billion by 2035

Europe contributed USD 3.99 billion in 2025, with Germany and the UK accounting for the bulk of regional output.

EUROPE, UNITED KINGDOM,
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-- The [Investment Casting Market](#) is

expanding as aerospace

manufacturers, defense companies,

energy producers, automotive

manufacturers, medical-device

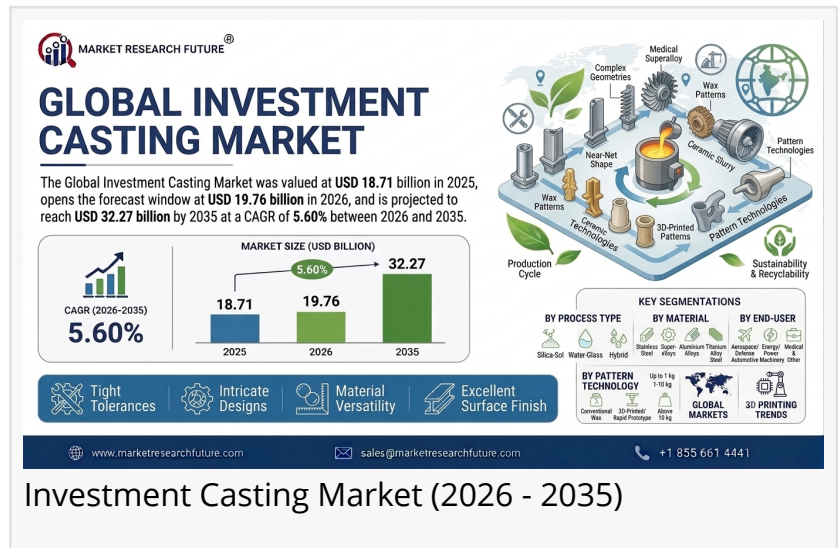
companies, and industrial equipment producers increasingly require complex, lightweight, and high-precision metal components. Investment casting enables manufacturers to produce intricate geometries and near-net-shape components while reducing machining requirements and material waste.

According to the latest Market Research Future data, the Investment Casting Market was valued at USD 18.71 billion in 2025, opens the forecast period at USD 19.76 billion in 2026, and is projected to reach USD 32.27 billion by 2035, expanding at a 5.60% CAGR from 2026 to 2035.

Aerospace and Defense Demand Strengthens the Market

Aerospace and defense represent the most important demand centers for investment casting. Aircraft engines, airframes, defense systems, and other flight-critical applications require components that combine dimensional accuracy, high strength, heat resistance, and complex geometries.

The aerospace and defense segment generated USD 7.22 billion in 2025, making it the largest end-use segment in the market. Recovery in commercial aircraft production, increasing maintenance activity, and defense procurement are supporting demand for precision cast components.



Investment Casting Market (2026 - 2035)

The recovery of commercial engine production is particularly important. Rising aircraft deliveries and a growing maintenance, repair, and overhaul backlog are increasing demand for cast airfoils and other engine components.

Defense Re-Armament Creates New Opportunities

Increasing defense expenditure and supply-chain localization are creating additional opportunities for investment casting manufacturers. Governments and defense contractors are seeking reliable domestic sources for critical castings and forgings.

Supply-chain resilience has become particularly important for flight-critical components. Investment in domestic foundry capacity, qualification programs, and advanced manufacturing facilities can reduce dependence on overseas suppliers.

North America is benefiting strongly from this trend, with defense re-shoring and aircraft engine program expansion supporting its position as the fastest-growing regional market.

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Silica-Sol Process Leads Investment Casting Technology

The market is segmented by process type into silica-sol, water-glass, and hybrid and other processes.

The silica-sol process accounted for approximately 47.3% of 2025 revenue, supported by its ability to deliver tight dimensional tolerances and improved surface finishes. This makes the process particularly suitable for demanding aerospace and medical applications.

Water-glass processes continue to serve general engineering applications because of their cost advantages. However, hybrid and other shell technologies are gaining attention as foundries seek to balance production economics with dimensional accuracy and surface quality.

The hybrid and other processes segment is projected to expand at a 5.68% CAGR through 2035, reflecting growing interest in process optimization.

Superalloys Gain Importance

Investment casting is increasingly important for components manufactured from advanced alloys. The market covers materials including stainless steel, superalloys, [aluminum alloys](#), titanium alloys, carbon and low-alloy steel, and others.

Superalloys are projected to grow at a 6.16% CAGR, making them the fastest-expanding material

category. Their high-temperature strength and corrosion resistance make them particularly valuable for aerospace engines, gas turbines, and other demanding applications.

Titanium alloys also offer considerable opportunities because of their high strength-to-weight ratio. Growing aerospace and defense requirements are encouraging investment in titanium processing and vacuum-melting capacity.

Energy and Power Is the Fastest-Growing End-Use Segment

The market is segmented by end-user into aerospace and defense, energy and power, automotive, industrial machinery, medical, and others.

Although aerospace and defense remains the largest end-use sector, energy and power is the fastest-growing segment, with a projected 5.97% CAGR. Gas turbine retrofits, power-generation investments, and emerging nuclear-component requirements are supporting this growth.

Gas turbines require high-performance cast components capable of operating under extreme temperatures and pressures. As power-generation infrastructure is upgraded, demand for precision cast turbine components is expected to increase.

Nuclear development also creates opportunities for investment casting manufacturers producing pump housings, valve bodies, control components, and other specialized parts.

Automotive Applications Expand

The automotive industry is another significant application area for investment casting. Manufacturers are increasingly focused on lightweight components, improved vehicle efficiency, and advanced manufacturing techniques.

Investment casting allows automotive companies to produce intricate components while reducing the amount of subsequent machining required.

The transition toward electric vehicles is also creating new opportunities. EV manufacturers require lightweight components that can support vehicle efficiency and performance.

The increasing adoption of advanced materials and more complex component designs is expected to encourage automotive manufacturers to explore investment casting for additional applications.

3D-Printed Patterns Transform Production

Technology is changing traditional investment casting workflows. Conventional wax patterns continue to dominate, accounting for approximately 80.4% of pattern volume, but 3D-printed

and rapid-prototype patterns are emerging as an important growth area.

Additive manufacturing can eliminate the need for expensive hard tooling during prototypes and low-volume production. This can significantly reduce development timelines and make investment casting more attractive for customized components, defense spares, medical products, and other specialized applications.

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Digital pattern production can also help manufacturers respond more quickly to customer requirements.

Near-Net-Shape Manufacturing Reduces Material Waste

One of the major advantages of investment casting is its near-net-shape capability. Components can be produced close to their final geometry, reducing the amount of machining and material removal required.

This is especially valuable when manufacturers work with expensive materials such as nickel-based superalloys and titanium.

Lower material waste can improve manufacturing economics while supporting sustainability objectives. As industries increasingly focus on resource efficiency and production costs, the ability to minimize machining and material losses will remain an important advantage for investment casting.

Medical Applications Offer Long-Term Potential

Medical applications represent another important opportunity. Investment casting can produce complex components for surgical instruments and orthopedic implants.

Titanium and cobalt-chrome components can benefit from the process because investment casting provides detailed geometries and surface characteristics suitable for specialized medical applications.

Growing demand for orthopedic procedures and customized medical products is expected to support this segment. The market's ability to produce intricate shapes while maintaining material integrity makes investment casting relevant to advanced healthcare manufacturing.

Asia-Pacific Holds the Largest Regional Share

Asia-Pacific accounted for approximately 47.0% of global investment casting revenue in 2025,

making it the largest regional market. China, India, and ASEAN countries are supporting regional growth through expanding foundry capacity and increasing precision-manufacturing capabilities.

China remains a major manufacturing hub, while India is expanding its aerospace, defense, automotive, and industrial manufacturing capabilities.

The growth of precision manufacturing in India and ASEAN countries is also creating opportunities for international companies seeking alternative and diversified supply chains.

North America Is the Fastest-Growing Region

North America is projected to grow at a 6.10% CAGR through 2035, making it the fastest-growing regional market. Defense re-shoring, commercial engine production, MRO activity, and investments in domestic casting capacity are key contributors.

The region's established aerospace and defense industry provides a strong customer base for precision foundries.

Increasing efforts to localize critical manufacturing capabilities are also encouraging investment in advanced casting facilities, titanium processing, and other specialized technologies.

Europe Maintains Strong Industrial Demand

Europe remains an important contributor to the global investment casting industry, with USD 3.99 billion in revenue in 2025. Germany and the United Kingdom account for a substantial portion of regional production.

Demand is supported by aerospace, defense, turbine manufacturing, energy infrastructure, automotive production, and industrial machinery.

European manufacturers are also focusing on sustainability, energy efficiency, emissions reduction, and advanced manufacturing technologies. These priorities are encouraging foundries to adopt cleaner processes, improved material utilization, and digital production systems.

Key Market Challenges

Despite strong growth prospects, the investment casting market faces several challenges.

Nickel, cobalt, and titanium price volatility can affect production costs, particularly for high-value superalloy and titanium components. Refractory-material supply concentration also creates risks for foundries that depend on zircon, [fused silica](#), and alumina.

Another challenge is the shortage of skilled workers. Wax assembly, shell preparation, pouring, finishing, and other activities still require specialized knowledge.

Environmental compliance can also increase operating costs as foundries invest in dust extraction, ventilation, emissions monitoring, and other systems.

In addition, additive manufacturing and precision forging are competing with investment casting in selected applications. These technologies are unlikely to replace the entire market but can pressure investment casting manufacturers in low-volume or high-volume applications where alternative processes offer advantages.

Report Summary: <https://www.marketresearchfuture.com/reports/investment-casting-market-8520>

Investment Casting Market Opportunities

The market presents several important opportunities for manufacturers.

Titanium and vacuum-melt capacity expansion can help address growing aerospace and defense demand. Companies capable of integrating vacuum melting, precision casting, and post-processing can capture greater value across the manufacturing chain.

Digital pattern and tooling workflows provide another opportunity. Combining 3D-printed patterns with simulation-based casting design can shorten development cycles and reduce trial-and-error production.

Emerging-market qualification and nearshoring are also creating opportunities. India, Mexico, and Vietnam are developing precision-manufacturing capabilities and increasingly seeking international certifications required for aerospace and defense production.

Competitive Landscape

The Investment Casting Market includes major companies such as Precision Castparts Corp., Howmet Aerospace, Consolidated Precision Products, Doncasters Group, Impro Precision Industries, and Signicast.

Competition is increasingly focused on advanced materials, production capacity, aerospace qualifications, digital manufacturing, process automation, and supply-chain reliability.

Manufacturers are investing in advanced casting technologies and expanding specialized capabilities to serve aerospace, defense, energy, automotive, and medical customers.

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