

# **Near-Net Shape Manufacturing Market Forecasts to 2034 – Global Analysis By Manufacturing Process (Powder Metallurgy, Investment Casting, Metal Injection Molding, Additive Manufacturing and Other Manufacturing Processes), Material, Production Method, Application, Industry and Geography**

<https://marketpublishers.com/r/N838E175646BEN.html>

Date: July 2026

Pages: 0

Price: US\$ 4,150.00 (Single User License)

ID: N838E175646BEN

## **Abstracts**

According to Statistics MRC, the Global Near-Net Shape Manufacturing Market is accounted for \$8.5 billion in 2026 and is expected to reach \$20.5 billion by 2034 growing at a CAGR of 11.6% during the forecast period. Near-net shape manufacturing is a production approach that creates components with dimensions and geometries very close to their final specifications, requiring little or no additional machining or finishing. Processes such as precision casting, powder metallurgy, metal injection molding, additive manufacturing, and advanced forging are commonly used to achieve near-net shape production. This approach minimizes material waste, reduces manufacturing costs, shortens production time, and improves overall efficiency. Near-net shape manufacturing is widely adopted in aerospace, automotive, medical, and industrial sectors for producing complex, high-value components. Growing emphasis on sustainable and cost-effective manufacturing is driving its global adoption.

Market Dynamics:

Driver:

Growing adoption of precision manufacturing

Near-net shape processes reduce material waste and improve dimensional accuracy,

making them ideal for high-performance applications. Enterprises benefit from lower production costs and enhanced product reliability. Governments are supporting precision manufacturing through funding and regulatory incentives. Vendors are investing in advanced equipment to deliver tighter tolerances and improved efficiency. Academic institutions are researching new alloys and process optimization techniques. As demand intensifies, precision manufacturing is becoming a cornerstone of near-net shape technologies.

#### Restraint:

##### Complex tooling design requirements

Designing dies and molds for near-net shape processes requires specialized expertise and advanced software. Enterprises face challenges in balancing tooling expenses with production efficiency. Smaller firms often struggle to afford tooling upgrades, limiting their competitiveness. Governments are encouraging collaborative research to reduce tooling complexity, but progress remains gradual. Vendors are exploring modular tooling systems to lower costs. Until tooling design becomes more streamlined, widespread adoption will remain constrained.

#### Opportunity:

##### Advanced powder metallurgy applications

Enterprises benefit from reduced machining requirements and improved performance in aerospace and medical components. Governments are funding research into powder metallurgy to support sustainable manufacturing. Vendors are developing innovative sintering and compaction techniques to expand applications. Academic institutions are exploring new powder blends to enhance strength and durability. As these innovations mature, powder metallurgy will unlock new possibilities in near-net shape manufacturing.

#### Threat:

##### Fluctuating raw material prices

Enterprises risk delays and higher expenses when supply chains are disrupted. Smaller firms are particularly vulnerable to price volatility, limiting their ability to compete. Vendors must balance innovation with cost management to remain competitive.

Governments are monitoring supply chain vulnerabilities to ensure stability. Academic institutions are researching alternative materials to reduce dependence on volatile inputs. Persistent fluctuations in raw material prices remain a challenge for the industry.

#### Covid-19 Impact:

During the forecast period, the market experienced disruption due to the Covid-19 pandemic, which slowed manufacturing activity and delayed infrastructure projects. Enterprises postponed investments in near-net shape technologies as demand declined in aerospace and automotive sectors. Vendors faced supply chain interruptions that affected tooling and raw material availability. However, the crisis also highlighted the importance of resilient manufacturing processes that reduce costs and improve efficiency. Overall, Covid-19 acted as both a short-term restraint and a long-term catalyst for modernization.

The powder metallurgy segment is expected to be the largest during the forecast period

The powder metallurgy segment is expected to account for the largest market share during the forecast period as its ability to produce complex shapes with minimal machining. Enterprises benefit from improved material utilization and reduced production costs. Governments are supporting powder metallurgy adoption in aerospace and medical manufacturing. Vendors are investing in advanced sintering technologies to enhance performance. Academic institutions are researching powder blends to improve mechanical properties.

The titanium alloys segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the titanium alloys segment is predicted to witness the highest growth rate due to rising demand for lightweight, high-strength materials in aerospace and medical applications. Enterprises benefit from improved performance and reduced weight in critical components. Governments are funding titanium alloy research to support defense and healthcare industries. Vendors are developing near-net shape processes tailored for titanium to reduce machining requirements. Academic institutions are exploring alloy compositions to enhance durability. Awareness campaigns highlight the role of titanium alloys in sustainable manufacturing.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share owing to strong investment in aerospace and defense manufacturing. The US and Canada benefit from advanced infrastructure and early adoption of near-net shape technologies. Enterprises are increasingly deploying powder metallurgy and titanium alloy processes. Governments are supporting modernization through subsidies and favorable policies. Vendors headquartered in North America are leading innovation in precision manufacturing. Academic institutions contribute by researching advanced materials and processes.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by growing demand for lightweight components in automotive and aerospace sectors. Countries such as China, India, Japan, and South Korea are investing heavily in near-net shape manufacturing infrastructure. Affordable solutions are gaining traction among mid-sized enterprises, expanding adoption. Governments are supporting innovation through subsidies and regulatory reforms. Vendors are collaborating with regional manufacturers to deliver tailored solutions. Academic institutions are training skilled workforces to support industry growth.

Key players in the market

Some of the key players in Near-Net Shape Manufacturing Market include GKN plc, GE Aerospace, Sandvik AB, Carpenter Technology Corporation, ATI Inc., OC Oerlikon Corporation AG, Bodycote plc, Hitachi, Ltd., Hexagon AB, DMG MORI CO., LTD., TRUMPF SE + Co. KG, Renishaw plc, 3D Systems Corporation, EOS GmbH and SLM Solutions Group AG.

Key Developments:

In June 2026, DMG MORI globally debuted its ULTRASONIC 80 Precision 5-axis machining center during its Technology Days. The platform superimposes high-frequency vibrations onto tool rotation, achieving a positioning accuracy of 5  $\mu\text{m}$  while combining 5-axis milling and cylindrical grinding for ultra-hard or brittle materials. Concurrently, the firm expanded its North American footprint with a new \$40.5 million R&D and advanced manufacturing facility in Illinois.

In March 2026, TRUMPF unveiled its completely redesigned TruBend 3000 press brake series alongside the TruLaser 3040 Bevel Cut Edition. The updated laser system

integrates two additional rotary axes into the cutting unit, allowing it to execute complex chamfers and weld-edge preparations automatically on sheets up to 1 inch thick in a single processing step.

In October 2025, Hexagon partnered with an industrial automation provider to embed its absolute metrology probes directly into automated robotic fabrication cells. The closed-loop tracking setup measures fabricated dimensions inline, feeding real-time corrective geometry data back to the machine tool before final part ejection.

#### Manufacturing Processes Covered:

Powder Metallurgy

Investment Casting

Metal Injection Molding

Additive Manufacturing

Other Manufacturing Processes

#### Materials Covered:

Steel Alloys

Aluminum Alloys

Titanium Alloys

Superalloys

Other Materials

#### Production Methods Covered:

Conventional

Hybrid

High-Volume

Custom Manufacturing

Other Production Methods

#### Applications Covered:

Structural Components

Engine Components

Precision Parts

Tooling

Other Applications

#### Industries Covered:

Automotive

Aerospace

Industrial Manufacturing

Medical

Other Industries

#### 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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