

Metal Casting Market Report by Process (Sand Casting, Gravity Casting, High-Pressure Die Casting (HPDC), Low-Pressure Die Casting (LPDC), and Others), Material Type (Cast Iron, Aluminum, Steel, Zinc, Magnesium, and Others), End Use (Automotive and Transportation, Equipment and Machine, Building and Construction, Aerospace and Military, and Others), Components (Alloy Wheel, Clutch Casing, Cylinder Head, Cross Car Beam, Crank Case, Battery Housing, and Others), Vehicle Type (Passenger Cars, Light Commercial Vehicles, Heavy Commercial Vehicles), Electric and Hybrid Type (Hybrid Electric Vehicles (HEV), Battery Electric Vehicles (BEV), Plug-In Hybrid Electric Vehicles (PHEV)), Application (Body Assemblies, Engine Parts, Transmission Parts, and Others), and Region 2024-2032

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Report description:

The global metal casting market size reached US\$ 165.0 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 314.9 Billion by 2032, exhibiting a growth rate (CAGR) of 7.3% during 2024-2032. The market is experiencing robust growth driven by the increasing demand from the automotive and aerospace industries, rapid technological advancements, sudden shift towards using recycled metals, expanding construction and infrastructure projects, and the rising investments in the

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defense and military sector.

Metal Casting Market Trends:

Increasing demand in automotive and aerospace industries

The increasing utilization of metal castings in the automotive and aerospace industries are major factors driving the market growth. In line with this, the rising demand for lightweight, strong and durable components due to growing safety standards and fuel efficiency requirements is fostering the market growth. Moreover, the widespread adoption of metal casting as they allow for the production of complex shapes and sizes, which are essential in manufacturing various parts of vehicles and aircraft, is providing a thrust to the market growth. Along with this, the heightened focus on innovation and efficiency, prompting the need for advanced metal casting techniques and materials is supporting the market growth. Besides this, the ongoing shift towards environmentally friendly and efficient transportation methods, encouraging the use of metal castings for developing electric vehicles (EVs) is bolstering the market growth.

Rapid technological advancements

The rising technological improvements in casting methods, such as investment, die, and sand casting, enhancing the quality and efficiency of the end products is providing a thrust to the market growth. Moreover, the growing advancements in computer-aided design (CAD) and computer-aided manufacturing (CAM), which increase precision and reduce waste is boosting the market growth. Along with this, the introduction of three-dimensional (3D) printing, allowing for the creation of complex geometries that were difficult to achieve through traditional casting methods is anticipated to drive the market growth. Additionally, rapid developments in material science, introducing new alloys and treatments that enhance the performance of cast products is acting as a growth-inducing factor.

Growing use of recycled metals

The burgeoning environmental concerns and the rising cost of raw materials, leading to an increased use of recycled metals in the casting industry is enhancing the market growth. Along with this, the growing realization of the importance of utilizing recycled metals in conserving natural resources and reducing the carbon footprint of the manufacturing process is providing a thrust to the market growth. Moreover, the increasing consumer preference for sustainable products, prompting manufacturers to adopt recycled metals and aluminum is favoring the market growth. Additionally, the increasing cost-effectiveness of using recycled materials, which allow manufacturers to avoid the fluctuating raw material prices is catalyzing the market growth.

Widespread expansion in construction and infrastructure projects

The increasing utilization of metal casting in the construction and infrastructure sector is stimulating the market growth. In line with this, the development of residential, commercial, and industrial infrastructure, driving the demand for metal cast components is fostering the market growth. Along with this, the increasing product utilization in the creation of structural components, fixtures, and fittings that require durability and strength is favoring the market growth. Additionally, the growing application of metal castings in renovation projects and maintenance of existing structures is strengthening the market growth. In addition to this, the heightened investment by governments and private sectors in infrastructure projects like bridges, tunnels, and public transportation systems, prompting the need for specialized metal casting solutions is fueling the market growth.

Rising investment in defense and military sector

The increasing adoption of metal castings in the defense and military sector for high-quality, durable, and reliable components is favoring the market growth. Along with this, the growing investment in defense and military equipment, including vehicles,

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aircraft, weapons, and protective gear, necessitating the use of advanced metal casting techniques is providing a thrust to the market growth. Besides this, the rising geopolitical tensions across the globe, prompting the demand for efficient and durable military equipment is supporting the market growth. In addition to this, the increasing ability of the defense sector to produce large, complex, and robust components to meet the stringent requirements of military applications is positively impacting the market growth. Furthermore, the ongoing research and development (R&D) to create more advanced and efficient military equipment is opening new avenues for the market growth.

Metal Casting Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the market, along with forecasts at the global and regional levels for 2024-2032. Our report has categorized the market based on process, material type, end use, components, vehicle type, electric & hybrid type, and application.

Breakup by Process:

and Casting

Gravity Casting

High-Pressure Die Casting (HPDC)

Low-Pressure Die Casting (LPDC)

Others

Sand casting accounts for the majority of the market share

The report has provided a detailed breakup and analysis of the market based on the process. This includes sand casting, gravity casting, high-pressure die casting (HPDC), low-pressure die casting (LPDC), and others. According to the report, sand casting represented the largest segment.

Breakup by Material Type:

Cast Iron

Aluminum

Steel

Zinc

Magnesium

Others

Cast iron holds the largest share in the industry

A detailed breakup and analysis of the market based on the material type have also been provided in the report. This includes cast iron, aluminum, steel, zinc, magnesium, and others. According to the report, cast iron accounted for the largest market share.

Breakup by End Use:

Automotive and Transportation

Equipment and Machine

Building and Construction

Aerospace and Military

Others

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Automotive and transportation represents the leading market segment

The report has provided a detailed breakup and analysis of the market based on the end use. This includes automotive and transportation, equipment and machine, building and construction, aerospace and military, and others. According to the report, automotive and transportation represented the largest segment.

Breakup by Automotive and Transportation Market: Components:

- Alloy Wheels
- Clutch Casing
- Cylinder Head
- Cross Car Beam
- Crank Case
- Battery Housing
- Others

Alloy wheels exhibits a clear dominance in the market

A detailed breakup and analysis of the market based on the components have also been provided in the report. This includes alloy wheels, clutch casing, cylinder head, cross-car beam, crank case, battery housing, and others. According to the report, alloy wheels accounted for the largest market share.

Breakup by Automotive and Transportation Market: Vehicle Type:

- Passenger Cars
- Light Commercial Vehicles
- Heavy Commercial Vehicles

Passenger cars dominate the market

The report has provided a detailed breakup and analysis of the market based on the vehicle type. This includes passenger cars, light commercial vehicles, and heavy commercial vehicles. According to the report, passenger cars represented the largest segment.

Breakup by Automotive and Transportation Market: Electric and Hybrid Type:

- Hybrid Electric Vehicles (HEV)
- Battery Electric Vehicles (BEV)
- Plug-In Hybrid Electric Vehicles (PHEV)

Hybrid electric vehicles (HEV) is the predominant market segment

A detailed breakup and analysis of the market based on the electric and hybrid type have also been provided in the report. This includes hybrid electric vehicles (HEV), battery electric vehicles (BEV), and plug-in hybrid electric vehicles (PHEV). According to the report, hybrid electric vehicles (HEV) accounted for the largest market share.

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Breakup by Automotive and Transportation Market: Application:

- Body Assemblies
- Engine Parts
- Transmission Parts
- Others

Body assemblies is the predominant market segment

A detailed breakup and analysis of the market based on the application have also been provided in the report. This includes body assemblies, engine parts, transmission parts, and others. According to the report, body assemblies accounted for the largest market share.

Breakup by Region:

- Asia Pacific
- North America
- Europe
- Middle East and Africa
- Latin America

Asia Pacific leads the market, accounting for the largest metal casting market share

The market research report has also provided a comprehensive analysis of all the major regional markets, which include Asia Pacific, North America, Europe, the Middle East and Africa, and Latin America. According to the report, Asia Pacific accounted for the largest market share.

The market research report has provided a comprehensive analysis of the competitive landscape. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

- Nemak Sab De CV (Alfa, Sab De CV)
- GF Casting Solutions AG (Georg Fischer Ltd)
- Dynacast Ltd
- Ryobi Limited
- Rheinmetall Automotive AG
- Endurance Technologies Limited
- Ahresty Corporation
- Gibbs (Koch Enterprises Inc.)
- Aisin Automotive Casting, LLC (Aisin Seiki Co., Ltd.)
- MINO Industry USA, Inc
- Thyssenkrupp AG
- Shibaura Machine Co., Ltd

Key Questions Answered in This Report

1. What was the size of the global metal casting market in 2023?
2. What is the expected growth rate of the global metal casting market during 2024-2032?

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3. What are the key factors driving the global metal casting market?
4. What has been the impact of COVID-19 on the global metal casting market?
5. What is the breakup of the global metal casting market based on the process?
6. What is the breakup of the global metal casting market based on the material type?
7. What is the breakup of the global metal casting market based on the end use?
8. What is the breakup of the global automotive and transportation market based on the components?
9. What is the breakup of the global automotive and transportation market based on the vehicle type?
10. What is the breakup of the global automotive and transportation market based on the electric and hybrid type?
11. What is the breakup of the global automotive and transportation market based on the application?
12. What are the key regions in the global metal casting market?
13. Who are the key players/companies in the global metal casting market?

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