

Surging Adoption of Additive Manufacturing with Metal Powders Drives Market Growth

Discover the latest trends and growth drivers in the additive manufacturing with metal powders market

VANCOUVER, BC, CANADA, June 20, 2024 /EINPresswire.com/ -- The global [Additive Manufacturing \(AM\) with metal powders market](#) size was USD 490.30 Million in 2022 and is expected to register a revenue CAGR of 21.6% during the forecast period. The global market for additive manufacturing with metal powders is experiencing significant growth, driven by increasing adoption across various industries and advancements in manufacturing processes. This innovative technology, also known as 3D printing, enables the creation of complex components with high precision, opening new opportunities in sectors such as aerospace, automotive, medical, and dental.



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Key Drivers of Market Growth

The widespread adoption of additive manufacturing by different industries is a major factor boosting market revenue. In aerospace and automotive industries, the emphasis on fuel efficiency and sustainability has led manufacturers to explore ways to reduce the weight of vehicles and aircraft without compromising structural integrity. For instance, Equispheres received USD 8 million in 2020 to scale up production of a unique metal powder that can significantly reduce vehicle mass, equivalent to removing 75 million cars from the road.

Advancements in manufacturing processes, particularly in the production of metal powders, are also contributing to market growth. Techniques like gas atomization and plasma atomization produce high-quality metal powders essential for 3D printing. Gas atomization, in particular,

allows precise control over particle size and shape, making it ideal for producing homogeneous powders for additive manufacturing.

Challenges Facing the Market

Despite its potential, the market faces several challenges. High material costs and the need for post-processing to address quality issues can restrain market growth. Additive manufacturing remains specialized due to slower build rates and limited capacity to produce large quantities of parts compared to traditional methods. Achieving economies of scale continues to be a significant challenge.

Emerging Trends

Recent trends in the market include the adoption of Electron Beam Melting (EBM) and Direct Metal Laser Sintering (DMLS) technologies. EBM is gaining popularity in aerospace and healthcare for its ability to lower production costs, reduce cycle times, and produce lightweight components. DMLS, on the other hand, is favored for developing low-cost, high-quality items that meet the evolving needs of consumers. Both technologies are expected to see increased adoption in the coming years.

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Segment Insights

Material Insights: The market is segmented into stainless steel, alloys, and others. The stainless steel segment is expected to grow rapidly due to its widespread use in automotive components and increased research and development efforts to enhance its properties. The alloy segment, including nickel, aluminum, and titanium alloys, holds the largest revenue share due to their adoption in various high-performance applications.

Manufacturing Technique Insights: The market is divided into powder bed and blown powder techniques. The powder bed segment, popular in automotive and aerospace industries, accounted for the largest revenue share in 2022. This method enables the precise manufacturing of complex components with desirable material properties. The blown powder segment is expected to grow fastest, particularly in Directed Energy Deposition (DED) applications, which are essential for manufacturing critical components in aerospace and automotive industries.

End-Use Industry Insights: The market caters to aerospace and defense, automotive, medical and dental, and tooling industries. The aerospace and defense sector held the largest revenue share in 2022, thanks to the commercial and performance benefits of metal additive manufacturing. The medical and dental segment is expected to see significant growth due to rising health concerns, an aging population, and increasing demand for medical devices and

dental implants.

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Additive Manufacturing with Metal Powders Top Companies and Competitive Landscape

The global Additive Manufacturing (AM) with metal powders market is moderately fragmented, with many large and medium-sized players accounting for the majority of market revenue. Major players are deploying various strategies, entering into mergers & acquisitions, strategic agreements & contracts, developing, testing, and introducing more effective Additive Manufacturing (AM) with metal powders solutions.

Advanced Technology & Materials Co., Ltd.

ATI Inc.

CRS Holdings, LLC.

GKN Sinter Metals Pvt. Ltd.

Höganäs AB

LIBERTY Steel Group

Polema

RusAL

Sandvik AB

Rio Tinto

Renishaw plc.

Praxair

Arconic

Miba AG

Matsuura Machinery Ltd

3D system Corporation

Aubert & Duval

BÖHLER GmbH & Co KG

Metaldyne Performance Group Inc.

ExOne

Additive Manufacturing with Metal Powders Latest Industry Updates

In November 2020, Mitsubishi Power, a part of the Mitsubishi Heavy Industries (MHI) Group, signed a technology licensing agreement with Aubert & Duval, a metal processing company based in France, for the formulation and manufacturing of 3D printable metal powders. The agreement is the first step toward the full-scale launch of Mitsubishi Power's additive manufacturing business, which will combine Aubert and Duval's metal powder expertise with Mitsubishi's patented 3D printing technologies.

On 03 May 2022, SLM Solutions Group AG introduced the SLM800, a new metal additive manufacturing system. The SLM800 efficiently constructs large components and opens up new production opportunities. To enable successful large builds, all of SLM Solutions' patented inventions have been scaled up and combined with features such as a metal recoating brush, permanent filter module, and centralized powder supply. The system has a huge build volume and a modular design that makes customization and scalability simple. It also contains advanced process controls, which allow for the fabrication of high-quality parts with exceptional precision and surface perfection.

Additive Manufacturing with Metal Powders Market Segment Analysis

For the purpose of this report, Emergen Research has segmented the global Additive Manufacturing (AM) with metal powders market on the basis of material, manufacturing technique, end-use industry, and region:

Material Outlook (Revenue, USD Million; 2019-2032)

Stainless steel

Alloys

Others

Manufacturing Technique Outlook (Revenue, USD Million; 2019-2032)

Powder Bed

Blown Powder

End-Use Industry Vertical Outlook (Revenue, USD Million; 2019-2032)

Aerospace and defense

Automotive

Medical and Dental

Tooling

Regional Outlook (Revenue, USD Million; 2019–2032)

North America

U.S.

Canada

Mexico

Europe

Germany

France

U.K.

Italy

Spain

Benelux

Rest of Europe

Asia Pacific

China

India

Japan

South Korea

Rest of APAC

Latin America

Brazil

Rest of LATAM

Middle East & Africa

Saudi Arabia

UAE

South Africa

Turkey

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