

3D Printing Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 100 pages | Mordor Intelligence

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Report description:

The 3D printing market is expected to register a CAGR of 24.3% over the forecast period. 3D printing, also known as additive manufacturing, is a technology that creates objects. It offers a plethora of opportunities in the production, design, and performance of novel architectural forms, construction systems, and materials. It is an innovative, faster, and more agile product development and production method.

Key Highlights

With rapid advancements in material composition, such as the emerging use cases of polymers and metals, additive manufacturing is evolving from a prototyping tool to a functional part of fabrication. New materials, shorter lead times, and innovative finishes while adhering to standards (FDA, ASTM, and ISO) enable the technology to be integrated into manufacturing processes.

Further, the decreased prices of additive manufacturing-based machines and growing expertise and awareness have increased this technology's availability. Newer and advanced fused deposition modeling methods have enabled the use of diverse materials, thereby boosting widespread adoption across various industries over recent years.

Manufacturing units have been able to cut down on material wastage by using 3D printing. The growing demand for lightweight, fast, and fuel-efficient vehicles in countries like Germany, Japan, and China has fueled the growth of the metal additive manufacturing sector.

Governments worldwide have already started investing in R&D on 3D printing, which has had a positive impact on technology propagation and adoption. For instance, the Dutch government spent an additional USD 150 million on 3D printing-related research and innovation.

However, as technology advances, additive manufacturing may challenge the traditional forms of Intellectual Property (IP) protection and significantly boost illegal usage of printed weapons and drugs, which is expected to hinder the market's growth. Also, the market is constrained by the high equipment costs needed to achieve substantial economies of scale. Furthermore, the lack of an international standards body regulating manufacturers limits the market's standardization structure.

Due to COVID-19, Pandemic the demand for 3D printing has increased. 3D printing systems are rapidly being utilized to create

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medical devices, personal protective equipment (PPE), testing devices, and even emergency dwellings to isolate persons suffering from the disease. The various technological advancements, such as AI and ML, further augment the adoption of 3D Printing devices..

3D Printing Market Trends

Selective Laser Sintering (SLS) Technology is Expected to Lead the Market

Selective laser sintering (SLS) has been identified as the most preferred technology. It is expected to record the highest CAGR over the forecast period, owing to its various benefits over other technologies.

SLS utilizes 12 powder nylon as raw material as a substitute for the photosensitive resin used in stereolithography. Companies and research organizations worldwide have been identified to take advantage of this material and technology to tackle concerns, such as the brittle nature of the resin when exposed to sunlight. In addition, SLS has also been proven to be cost and material-friendly, as it does not require any dedicated support structure post-printing. In addition to that, SLS provides enhanced durability and can perform either functional parts or prototypes.

SLS further finds various applications across various verticals, including aerospace, defense, and automotive. With space exploration witnessing a paradigm shift, the demand for SLS printing is expected to mount, with an increasing number of countries gearing up to launch satellites.

In addition, SLS is also being increasingly used in sports vehicles and electric cars. According to IEA, the global stock of electric car sales was approximately 7 million in 2021, increasing to 80% by 2050. Leading automotive companies have increasingly utilized SLS 3D printing technology in EVs, which is expected to increase demand globally, driving growth.

North America Holds the Largest Share in the Market

The North American region is expected to dominate the 3D printing market as the area has dominated when it comes to technology adoption. A series of new product launches and innovations are expected to augment market growth further. Several 3D printing solution providers worldwide are expanding their presence in the North American market for an enhanced market presence.

Also, there have been a series of new product launches, mergers, and acquisitions in North America to utilize the potential on offer through 3D printing. For instance, In August 2021, ExOne announced the collaboration with Maxxwell Motors to develop 3D-printed copper windings. This collaboration allows Maxxwell Motors to use a newly developed, unique copper e-winding design in their innovative axial flux electric motors for electric cars, heavy-duty vehicles, and industrial devices.

The region is also witnessing a series of investments in North America's healthcare, aerospace and defense, industrial, and consumer products industries, which are expected to grow significantly in the future. Various government organizations, such as NASA, have identified that substantial investments in 3D printing technologies can contribute considerably to space applications and develop zero-G technologies, driving the market's growth.

Fitness trackers and smart apparel are also expected to be driving factors for 3D printing technology in the United States. Also, changing consumer preferences and a rising need for customization have bought about a need to create flexible bands and electronics systems that could be realized using 3D printing technology, thereby driving its growth.

3D Printing Market Competitor Analysis

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The 3D printing market is moderately fragmented, with the presence of global and regional players. The key players in the market, like Stratasys Ltd, 3D Systems Corporation, EOS GmbH, General Electric Company (GE Additive), and Sisma SPA, among others, are making partnerships, mergers, acquisitions, and investments in the market to retain their market position.

In February 2022, 3D Systems and Saremco Dental AG entered a strategic partnership to drive digital dentistry innovation. This collaboration combines the capabilities of 3D Systems' industry-leading NextDent digital dentistry solution with the materials science expertise of Saremco, allowing dental laboratories and clinics to address a wide range of indications with unparalleled accuracy, repeatability, productivity, and lower total cost.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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