

3D Printing - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The 3D Printing Market size was estimated at USD 20.24 billion in the current year to USD 56.21 billion in five years, registering a CAGR of 22.66% during the forecast period. This growth of the 3D printing market is pinned to the trend that large manufacturers are increasingly using the technology for mass production.

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, growing expertise, and awareness have increased 3D manufacturing adoption. Newer and advanced fused deposition modeling methods have enabled the use of diverse materials, thereby boosting widespread adoption across various industries over recent years.
- Governments worldwide have already started investing in R&D on 3D printing, which has positively impacted technology propagation and adoption. For instance, in February 2022, the government of India aims to capture 5% of the global market share in 3D printing by adding nearly USD 2-3 billion to the GDP in the coming 2-3 years. The government plans to create 50 India-specific technologies for material, machine, process, and software to make India a 3D-printed design and manufacturing hub.
- However, as technology advances, additive manufacturing challenges the traditional forms of Intellectual Property (IP) protection. It significantly boosts the 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.

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-COVID-19 pandemic increased the demand for 3D printing. 3D printing systems are rapidly being utilized to create 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.

-The pandemic hit the metal and polymer 3D printing markets hard. Whereas growth has been slower for metals and polymers than pre-pandemic expectations, these markets are returning rapidly with growing demand from end-user industries.

3D Printing Market Trends

Rapid Advancement in Printing Technologies and Materials to Drive Market

- Rapid developments in production technologies and materials are helping to drive demand for the 3D printing market. The rapid growth of 3D printing techniques and materials is taking place worldwide, opening up new possibilities in 3D printing and creating complex and custom design products.
- For example, new printing technologies like selective laser sintering (SLS) and direct metal laser sintering (DMLS) make it possible to create complex metal parts with high precision. This is opening up new opportunities for 3D printing in the automotive, aerospace, and defense industries. 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.
- New materials like carbon fiber and graphene are also being developed for 3D printing. These materials are solid and lightweight, making them ideal for various applications. For example, carbon fiber is used to create 3D-printed racing car parts, and graphene is used to create 3D-printed medical implants. For instance, in November 2022, Inkbit, a Massachusetts-based additive manufacturing company, introduced its latest additive manufacturing material, the Titan Tough Epoxy 85 elastomer, at Formnext. This material improves performance for applications requiring high accuracy and production-grade mechanical properties.
- The rapid advancement in printing technologies and materials is one of the key trends contributing to the growth of the 3D printing market. As these technologies continue to develop, manufacturers can use 3D printing in various end-use applications.

North America Holds the Largest Share in the Market

- The North American region is expected to dominate the 3D printing market as the region is an early adopter of technology. A series of new product launches and innovations are expected to augment market growth. Several 3D printing solution providers worldwide are expanding their presence in the North American market for an enhanced market presence.
- Several players in the United States market are expanding their focus on 3D printing research and development. In May 2023, Siemens announced its increasing emphasis on 3D printing initiatives in the United States to accelerate the transformation of the US additive manufacturing industry through serial additive manufacturing. With these initiatives, the company is working on bringing fundamental changes to the landscape, end-to-end, from product to machine to manufacturing.
- 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 November 2022, Med-tech start-up Axial3D received an investment round of USD 15 million led by a strategic investment of 10 million USD from Stratasys. The collaboration between the two companies would provide a combined offering to make 3D printing solutions that are patient-specific for hospitals and medical device manufacturers more accessible, pushing for its adoption as a mainstream healthcare solution.
- In addition, 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 drive factors for 3D printing technology in the United States. Also,

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changing consumer preferences and a rising need for customization have brought about a need to create flexible bands and electronics systems that could be realized using 3D printing technology, thereby driving its growth.

3D Printing Industry Overview

The 3D printing market is fragmented with 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 April 2023, Stratasys Ltd., one of the leaders in polymer 3D printing solutions, acquired Covestro AG's additive manufacturing materials business. The acquisition includes R&D facilities and activities, global development, and sales teams in Europe, the United States, and Asia.

In October 2022, AML3D Australian metal 3D printing expanded its partnership with Boeing aircraft manufacturer. Boeing tasked AML3D earlier this year with 3D printing aluminum prototype airplane components as part of an intensive testing procedure. They were tested against the requirements of AS9100D quality assurance for 'fly' parts. Building on this contract, it has now been decided to broaden the scope of the project to include additional 3D-printed components, increasing the agreement's value by 150%.

In June 2022, Israel-based Stratasys planned the expansion of its 3D printing sector in India. Ashok Leyland, Hero MotoCorp, AIIMS, Symbiosis, and IITs are among the company's clientele, with extensive experience in design prototyping, manufacturing tools, and production parts.

Additional Benefits:

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

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