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3D Printing Market Research Report- Forecast 2032

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Description:

Global 3D Printing Market Overview:

The 3D printing market size was valued at USD 8.9 Billion in 2022. The 3D printing market industry is projected to grow from USD 10.9 Billion in 2023 to USD 54.47 Billion by 2032, exhibiting a compound annual growth rate (CAGR) of 22.30% during the forecast period (2023 - 2032). Rising demand for 3D printing in digital dentistry and government investments in 3D printing projects are the key market drivers enhancing the market growth.

Global 3D Printing Market

Source: Secondary Research, Primary Research, MRFR Database, and Analyst Review

3D Printing Market Trends

Substantial investments of governments are driving the market growth

Market CAGR for 3D printing is driven by the rising government investment in 3D projects. Various countries across the globe are experiencing massive digital disruptions in advanced manufacturing technologies. China is taking significant measures to preserve the competitive index of the manufacturing enterprise in the market. Chinese factories expect this technology as both a threat and a possibility for the Chinese manufacturing economy, and hence they manage to invest in the research and expansion of this technology.

Additionally, techno-savvy start-ups and established market players are upgrading and developing new technologies. The advancements in hardware have led to faster and more reliable 3D printers for production applications. Polymer printers are one of the most utilized 3D printers. As per a 2019 report by Ernst & Young Limited, 72% of the enterprises leveraged polymer additive manufacturing systems, whereas the remaining 49% utilized metal additive manufacturing systems. The statistics show that developments in polymer additive manufacturing would create recent market opportunities for market players.

Rising demand for 3D printing in the automotive sector for the construction purpose of lightweight vehicle components is another factor driving market revenue growth. Desktop 3D printers allow engineering and design teams to utilize this technology inside. Certain plastic materials, such as polypropylene, are widely used in the automotive sector. Polypropylene is used in 3D print dashboard parts, airflow, and modified fluid systems, driving market revenue growth. Fixtures, cradles, and prototypes are the most frequent items the auto industry prints, which require rigidity, strength, and durability, driving the 3D printing market revenue.

3D Printing Market Segment Insights:

3D Printing Type Insights

The 3D printing market segmentation, based on components, includes hardware, software, and services. The hardware segment dominated the market, accounting for 35% of market revenue (3.81 Billion). In developing economies, category growth is driven by increasing penetration of consumer electronic products. However, software is the fastest-growing category. 3D printing software is widely utilized in different industry verticals to design the objects and parts to be printed.

3D Printing Application Insights

The 3D printing market segmentation, based on application, includes prototyping, tooling, and functional parts. The prototyping category generated the most income (70.4%). Prototyping permits manufacturers to achieve higher accuracy and develop reliable end products. However, tooling is the fastest-growing category owing to the extensive adoption of the tooling across several industry verticals.

3D Printing Printer Type Insights

The 3D printing market segmentation, based on printer type, includes desktop 3D printers and industrial 3D printers. The industrial 3D printer category generated the most income. This is due to the comprehensive adoption of industrial printers in heavy industries, such as electronics, automotive, aerospace and defense, and healthcare. However, desktop 3D printer is the fastest-growing category owing to its cost-effectiveness.

3D Printing Technology Insights

The 3D printing market segmentation, based on technology, includes stereolithography, fused deposition modeling, selective laser sintering, direct metal laser sintering, polyjet printing, inkjet printing, electron beam melting, laser metal deposition, digital light processing, laminated object manufacturing, and others. The fused deposition modeling category generated the most income owing to the extensive adoption of the technology across various 3DP processes. However, stereolithography is the fastest-growing category owing to the ease of operations associated with stereolithography technology.

3D Printing Software Insights

The 3D printing market segmentation, based on software, includes design software, printer software, scanning software, and others. The design software category generated the most income. Design software is used to construct the object's designs to be printed, particularly in automotive, aerospace and defense, and construction and engineering verticals. However, scanning software is the fastest-growing category owing to the growing trend of scanning objects and storing scanned documents.

3D Printing Vertical Insights

The 3D printing market segmentation, based on vertical, includes industrial 3D printing {automotive, aerospace & defense, healthcare, consumer electronics, industrial, power & energy, others}), and desktop 3D printing {educational purpose, fashion & jewelry, objects, dental, food, and others}. The industrial 3D printing category generated the most income owing to the active adoption of technology in various production processes associated with these verticals. However, desktop 3D printing is the fastest-growing category owing to the extensive adoption of 3D printing in manufacturing imitation jewelry, miniatures, art and craft, and clothing and apparel.

3D Printing Material Insights

The 3D printing market segmentation, based on material, includes polymer, metal, and ceramic. The metal category generated the most income as metal is the most frequently used material for 3D printing. However, the polymer is the fastest-growing category owing to the increasing R&D for 3DP technologies.

Figure 1: 3D Printing Market, by Material, 2022 & 2032 (USD Billion)

3D Printing Market, by Material, 2022 & 2032

Source: Secondary Research, Primary Research, MRFR Database, and Analyst Review

3D Printing Regional Insights

By region, the study provides market insights into North America, Europe, Asia-Pacific, and the Rest of the World. The Europe 3D printing market will dominate, owing to the comprehensive adoption of additive manufacturing in the region. Further, the German 3D printing market held the largest market share, and the UK 3D printing market was the fastest-growing market in the European region.

Further, the major countries studied in the market report are The US, Canada, German, France, the UK, Italy, Spain, China, Japan, India, Australia, South Korea, and Brazil.

Figure 2: 3D PRINTING MARKET SHARE BY REGION 2022 (USD Billion)

3D PRINTING MARKET SHARE BY REGION 2022

Source: Secondary Research, Primary Research, MRFR Database, and Analyst Review

North America 3D printing market accounts for the second-largest market share. It is home to various additive manufacturing industry players which hold strong technical expertise in additive manufacturing processes. Further, the US 3D printing market held the largest market share, and the Canada 3D printing market was the fastest-growing market in the North America region.

The Asia-Pacific 3D printing Market is expected to grow at the fastest CAGR from 2023 to 2032. This is due to the developments and upgrades across the manufacturing industry within the region. Moreover, China 3D printing market held the largest market share, and the India 3D printing market was the fastest-growing market in the Asia-Pacific region.

3D Printing Key Market Players & Competitive Insights

Leading market players are investing heavily in research and development to expand their product lines, which will help the 3D printing market grow even more. Market participants are also undertaking various strategic activities to expand their footprint, with important market developments including new product launches, contractual agreements, mergers and acquisitions, higher investments, and collaboration with other organizations. To expand and survive in a more competitive and rising market climate, the 3D printing industry must offer cost-effective items.

Manufacturing locally to minimize operational costs is one of the key business tactics manufacturers use in the 3D printing industry to benefit clients and increase the market sector. Major players in the 3D printing market, including 3D Systems, Inc., Netherlands Organization for Applied Scientific Research, NATURAL MACHINES, Choc Edge, Systems & Materials Research Corporation, and others, are attempting to increase market demand by investing in research and development operations.

Materialise NV operates as a rapid prototype designer and manufacturer. The company focuses on 3D imaging software and plastic molding to develop products for the industrial, medical, and dental industries. Materialise offers design software and prototype solutions to businesses around the world. Materialise and Exactech joined up in March 2023 to give cutting-edge treatment options for patients with severe shoulder deformities. Exactech is a developer of novel instruments, implants, and other smart technologies for joint replacement surgery.

Desktop Metal Inc designs, manufactures and sells 3D printing systems. The company offers a production system platform, shop system platform, studio system platform, and X-series platform products. Its printer models comprise P-1; P-50; mid-volume binder jetting printer; studio system 2; X160Pro; X25Pro; and InnoventX. Desktop Metal's integrated additive manufacturing solutions support metals, elastomers, ceramics, composites, polymers, and biocompatible materials. The company also carries out equity investment and research and development activities. It serves the automotive, manufacturing tooling, consumer goods, education, machine design, and heavy industries. In February 2023, Desktop Metal launched Einstein Pro XL, an affordable, high-accuracy, high-throughput 3D printer ideal for dental labs, orthodontists, and other medical device manufacturers.

Key Companies in the 3D Printing market include

Stratasys, Ltd.
Materialise
EnvisionTec, Inc.
3D Systems, Inc.
GE Additive
Autodesk Inc.
Made In Space
Canon Inc.

3D Printing Industry Developments

Voxeliet AG

February 2023: Stratasys collaborated with Ricoh USA, Inc. to offer on-demand 3D-printed anatomic models for clinical settings. Under this agreement, Stratasys' patient-specific 3D solutions integrated with its 3D printing technology; the cloud-based segmentation-as-a-service solution from Axial3D, a medical technology manufacturer; and precision additive manufacturing services from Ricoh combined to develop a single, convenient solution.

February 2022: Imaginarium partnered with Ultimaker to introduce a desktop & industrial 3D printer range in India. This partnership would help Ultimaker expand its business in India, where additive manufacturing is anticipated to reach a breakthrough point in the coming years.

3D Printing Market Segmentation:

3D Printing Component Outlook

Hardware

Software

Services

- **3D Printing Application Outlook**
 - Prototyping
 - Tooling
 - Functional Parts

3D Printing Printer Type Outlook

- Desktop 3D Printer
- Industrial 3D Printer

3D Printing Technology Outlook

- Stereolithography
- Fused Deposition Modeling
- Selective Laser Sintering
- Direct Metal Laser Sintering
- Polyjet Printing
- Inkjet Printing
- Electron Beam Melting
- Laser Metal Deposition
- Digital Light Processing
- Laminated Object Manufacturing
- Others

•	Design Software			
•	Printer Software			
•	• Scanning Software			
٠	• Others			
3D Printing Vertical Outlook				
•	Industrial 3D Printing			
	• Automotive			
	Aerospace & Defense			
	• Healthcare			
	Consumer Electronics			
	• Industrial			
	Power & Energy			
	• Others			
• Desktop 3D Printing				
	• Educational Purpose			
	• Fashion & Jewelry			
	• Objects			
	• Dental			
	Food			
	• Others			

3D Printing Material Outlook

Polymer

Metal

Ceramic

3D Printing Regional Outlook				
• North	America			
	US Canada			
• Europe	Э			
•	Germany			
٠	France			
•	UK			
•	Italy			
•	Spain			
•	Rest of Europe			
• Asia-P	'acific			
•	China			
•	Japan			
•	India			

	South Korea
•	Australia
•	Rest of Asia-Pacific
• Rest o	f the World
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	Middle East
•	Africa
•	Latin America
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