

Global Dental 3D Printing Market Assessment, By Product and Services [Services, Materials, Equipment], By Technology [VAT Photopolymerization, Fused Deposition Model, Selective Laser Sintering, Polyjet Printing, Others], By Applications [Prosthodontic, Orthodontics, Implantology, Others], By Material [Metals, Photopolymer, Ceramic, Others], By End-user [Dental Laboratories, Dental Hospitals and Clinics, Dental Academic and Research Institutes] By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global dental 3D printing market size was valued at USD 3.03 billion in 2023, which is expected to reach USD 9.82 billion in 2031, with a CAGR of 15.84% for the forecast period between 2024 and 2031F. The anticipated growth of the market over the forecast period is expected to be driven by factors such as the rise in dental caries, advancements in technology, introduction of new products, and advantages offered by 3D printing technology. The increasing elderly population, rising prevalence of dental cavities, and other oral health issues indicate a promising future for the cosmetic dentistry field. Technological advancements and intensified research and development have accelerated the advancement of 3D printing in healthcare, which can be a life-saving solution for conditions such as dental disorders and various implant needs.

Numerous large and medium-sized companies are competing fiercely in the dental 3D printing sector. Manufacturers in dental 3D printing market are investing more in

research and development due to the growing demand for progressive dental technology. They are collaborating to provide 3D-printed crowns and bridges for dental applications, both temporary and permanent. Also, a shift in consumer priorities has led to an increased demand for dental implants. Consequently, the rising need for advanced medical technology and implants to address dental issues is propelling the global growth of dental 3D printing market.

High Incidence of Dental Caries and Other Dental Diseases

The incidence of dental caries is increasing globally. The escalation in various oral health concerns is expected to result in an increased need for dental restorative procedures. Consequently, 3D-oriented dental prostheses are gaining popularity as the preferred choice for restoration among numerous dentists. As per an article titled 'Oral Illnesses: A Global Public Health Concern' published in July 2019, oral diseases stand out as some of the most prevalent health issues on a global scale. They impose significant health and economic burdens while notably diminishing people's quality of life. The most widespread and severe oral disorders worldwide encompass dental caries (tooth decay), periodontal disease, tooth loss, and malignancies affecting the lips and oral cavity. Furthermore, data updated by the World Health Organization (WHO) in March 2020 reveals that approximately 3.5 billion people across the globe, affected by oral disorders, with severe periodontal (gum) disease, a potential precursor to tooth loss, are being particularly common.

Strategic Collaboration Among Key Players

A strategic collaboration among key players in the global dental 3D printing market has emerged as a pivotal driver of innovation and growth in the industry. To harness cutting-edge technologies and expand their market presence, leading dental 3D printing companies have joined forces, forging alliances that transcend traditional competitive boundaries. These collaborations focus on synergizing expertise, sharing research and development resources, and enhancing product offerings. For instance, in May 2023, 3D SYSTEMS CORPORATION forged a deal to purchase Wematter Gravity, a company offering a cost-effective, all-in-one SLS solution for the market. The strategic move was part of 3D Systems' broader strategy to broaden its Selective Laser Sintering (SLS) product portfolio. In May 2023, Desktop Metal, Inc. and Stratasys Ltd. formally announced their intention to merge through a definitive agreement. The merger is anticipated to unite Stratasys' polymer expertise with the complementary industrial-scale production capabilities offered by Desktop Metal's brand portfolio.

Introduction of New Products

The global dental 3D printing market continues to witness the introduction of innovative products that are revolutionizing the field of dentistry. Cutting-edge technologies and materials are being harnessed to produce advanced dental equipment and prosthetics. These new products encompass a wide range of applications, from custom-made crowns and bridges to orthodontic devices, all offering improved precision and patient-specific solutions.

With a focus on efficiency and accuracy, the market is experiencing a constant influx of groundbreaking offerings, further improving dental care, and propelling the industry's growth. For instance, in March 2022, Dentsply Sirona, a global dental product manufacturer, unveiled the Primeprint 3D printer and accompanying post-processing unit. The cutting-edge printer, driven by a 385 nm light engine, has been meticulously crafted to empower dentists in effortlessly creating precise models, guides, provisionals, and splints.

Technological Advancements

In the field of dentistry, technological advancement serves as a driving force for innovation and expansion, with digital dentistry being a prime example. While not everyone has fully embraced this technological transformation, most dental practitioners agree that adopting digital approaches is a way forward. To begin with, the benefits of incorporating 3D printing in dentistry are manifold. It enables dental professionals to remain up to date while proving more cost-effective than traditional methods. Moreover, there are frequent software updates with the introduction of new dental materials, and a rapidly evolving landscape of dental applications. For instance, in February 2022, Nobio unveiled the official release of Infinix, a cutting-edge line of antimicrobial restorative materials designed to combat recurring decay.

Desktop Health unveiled the introduction of its 'Einstein' line of dental 3D printing systems in February 2022. These systems leverage the digital light processing technology (DLP) acquired by Desktop Metal through its acquisition of EnvisionTEC.

Impact of COVID-19

The COVID-19 pandemic had a negative impact on various sectors, and dentistry has been particularly severely affected. According to an essay published in August 2020 titled 'COVID-19 and Dentistry: Challenges and Opportunities for Providing Safe Care,'

the pandemic led to the temporary closure of approximately 198,000 active dentists and dental specialists in the United States. Additionally, the dental equipment and procedures market suffered a decline in demand and sales due to global restrictions and lockdowns implemented in many countries. Furthermore, several device manufacturers redirected their efforts towards combating the coronavirus. For example, in March 2020, Formlabs, a 3D printer company, announced that it was utilizing its extensive 3D printing facility in Ohio to manufacture up to 150,000 COVID-19 test swabs per day. However, the medical device industry is in the process of recovering from the impact of the COVID-19 pandemic.

Key Players Landscape and Outlook

The dental 3D printing market is characterized by its fragmented and competitive nature, featuring numerous prominent players. These companies have implemented various strategies, including expansion, product launches and approvals, partnerships, acquisitions, collaborations, and integrations, as part of their efforts to strengthen their positions within the dental 3D printing industry.

In February 2023, Stratasys Ltd. finalized a deal with Ricoh USA, Inc. to offer 3D-printed anatomical models on demand for use in clinical environments. This partnership brings together the cloud-based segmentation-as-a-service solution offered by Axial3D (a subsidiary of Stratasys) with the precise additive manufacturing services provided by Ricoh, creating integrated and user-friendly solutions.

Contents

1. RESEARCH METHODOLOGY

2. PROJECT SCOPE & DEFINITIONS

3. IMPACT OF COVID-19 ON GLOBAL DENTAL 3D PRINTING MARKET

4. EXECUTIVE SUMMARY

5. GLOBAL DENTAL 3D PRINTING MARKET OUTLOOK, 2017-2031F

5.1. Market Size & Forecast

5.1.1. By Value

5.1.2. By Volume

5.2. By Product and Services

5.2.1. Services

5.2.2. Materials

5.2.2.1. Plastics

5.2.2.2. Metals

5.2.2.3. Other Materials

5.2.3. Equipment

5.2.3.1. Dental 3D Scanners

5.2.3.2. Dental 3D Printers

5.3. By Technology

5.3.1. VAT Photopolymerization

5.3.1.1. Stereolithography

5.3.1.2. Digital Light Processing

5.3.1.3. LCD

5.3.2. Fused Deposition Model

5.3.3. Selective Laser Sintering (SLS)

5.3.4. Polyjet Printing

5.3.5. Other Technologies

5.4. By Applications

5.4.1. Prosthodontics

5.4.1.1. Dentures

5.4.2. Orthodontics

5.4.3. Implantology

5.4.4. Others

5.5. By Material

5.5.1. Metals

5.5.2. Photopolymer

5.5.3. Ceramic

5.5.4. Others

5.6. By End-user

5.6.1. Dental Laboratories

5.6.2. Dental Hospitals and Clinics

5.6.3. Dental Academic and Research Institutes

5.7. By Region

5.7.1. North America

5.7.2. Europe

5.7.3. Asia Pacific

5.7.4. South America

5.7.5. Middle East & Africa

5.8. By Company Market Share (%), 2023

6. GLOBAL DENTAL 3D PRINTING MARKET OUTLOOK, BY REGION, 2017-2031F

6.1. North America*

6.1.1. Market Size & Forecast

6.1.1.1. By Value

6.1.1.2. By Volume

6.1.2. By Product and Services

6.1.2.1. Services

6.1.2.2. Materials

6.1.2.2.1. Plastics

6.1.2.2.2. Metals

6.1.2.2.3. Other Materials

6.1.2.3. Equipment

6.1.2.3.1. Dental 3D Scanners

6.1.2.3.2. Dental 3D Printers

6.1.3. By Technology

6.1.3.1. VAT Photopolymerization

6.1.3.1.1. Stereolithography

6.1.3.1.2. Digital Light Processing

6.1.3.1.3. LCD

6.1.3.2. Fused Deposition Model

6.1.3.3. Selective Laser Sintering (SLS)

- 6.1.3.4. Polyjet Printing
- 6.1.3.5. Other Technologies
- 6.1.4. By Applications
 - 6.1.4.1. Prosthodontics
 - 6.1.4.1.1. Dentures
 - 6.1.4.2. Orthodontics
 - 6.1.4.3. Implantology
 - 6.1.4.4. Others
- 6.1.5. By Material
 - 6.1.5.1. Metals
 - 6.1.5.2. Photopolymer
 - 6.1.5.3. Ceramic
 - 6.1.5.4. Others
- 6.1.6. By End-user
 - 6.1.6.1. Dental Laboratories
 - 6.1.6.2. Dental Hospitals and Clinics
 - 6.1.6.3. Dental Academic and Research Institutes
- 6.1.7. United States*
 - 6.1.7.1. Market Size & Forecast
 - 6.1.7.1.1. By Value
 - 6.1.7.1.2. By Volume
 - 6.1.7.2. By Product and Services
 - 6.1.7.2.1. Services
 - 6.1.7.2.2. Materials
 - 6.1.7.2.2.1. Plastics
 - 6.1.7.2.2.2. Metals
 - 6.1.7.2.2.3. Other Materials
 - 6.1.7.2.3. Equipment
 - 6.1.7.2.3.1. Dental 3D Scanners
 - 6.1.7.2.3.2. Dental 3D Printers
 - 6.1.7.3. By Technology
 - 6.1.7.3.1. VAT Photopolymerization
 - 6.1.7.3.1.1. Stereolithography
 - 6.1.7.3.1.2. Digital Light Processing
 - 6.1.7.3.1.3. LCD
 - 6.1.7.3.2. Fused Deposition Model
 - 6.1.7.3.3. Selective Laser Sintering (SLS)
 - 6.1.7.3.4. Polyjet Printing
 - 6.1.7.3.5. Other Technologies

6.1.7.4. By Applications

6.1.7.4.1. Prosthodontics

6.1.7.4.1.1. Dentures

6.1.7.4.2. Orthodontics

6.1.7.4.3. Implantology

6.1.7.4.4. Others

6.1.7.5. By Material

6.1.7.5.1. Metals

6.1.7.5.2. Photopolymer

6.1.7.5.3. Ceramic

6.1.7.5.4. Others

6.1.7.6. By End-user

6.1.7.6.1. Dental Laboratories

6.1.7.6.2. Dental Hospitals and Clinics

6.1.7.6.3. Dental Academic and Research Institutes

6.1.8. Canada

6.1.9. Mexico

*All segments will be provided for all regions and countries covered

6.2. Europe

6.2.1. Germany

6.2.2. France

6.2.3. Italy

6.2.4. United Kingdom

6.2.5. Russia

6.2.6. Netherlands

6.2.7. Spain

6.2.8. Turkey

6.2.9. Poland

6.3. South America

6.3.1. Brazil

6.3.2. Argentina

6.4. Asia-Pacific

6.4.1. India

6.4.2. China

6.4.3. Japan

6.4.4. Australia

6.4.5. Vietnam

6.4.6. South Korea

6.4.7. Indonesia

- 6.4.8. Philippines
- 6.5. Middle East & Africa
 - 6.5.1. Saudi Arabia
 - 6.5.2. UAE
 - 6.5.3. South Africa

7. MARKET MAPPING, 2023

- 7.1. By Products and Services
- 7.2. By Technology
- 7.3. By Applications
- 7.4. By Material
- 7.5. By End-User
- 7.6. By Region

8. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

- 8.1. Supply Demand Analysis
- 8.2. Import Export Analysis – Volume and Value
- 8.3. Supply/Value Chain Analysis
- 8.4. PESTEL Analysis
 - 8.4.1. Political Factors
 - 8.4.2. Economic System
 - 8.4.3. Social Implications
 - 8.4.4. Technological Advancements
 - 8.4.5. Environmental Impacts
 - 8.4.6. Legal Compliances and Regulatory Policies (Statutory Bodies Included)
- 8.5. Porter's Five Forces Analysis
 - 8.5.1. Supplier Power
 - 8.5.2. Buyer Power
 - 8.5.3. Substitution Threat
 - 8.5.4. Threat from New Entrant
 - 8.5.5. Competitive Rivalry

9. MARKET DYNAMICS

- 9.1. Growth Drivers
- 9.2. Growth Inhibitors (Challenges, Restraints)

10. REGULATORY FRAMEWORK AND INNOVATION

- 10.1. Clinical Trials
- 10.2. Patent Landscape
- 10.3. Regulatory Approvals
- 10.4. Innovations/Emerging Technologies

11. KEY PLAYERS LANDSCAPE

- 11.1. Competition Matrix of Top Five Market Leaders
- 11.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2023)
- 11.3. Mergers and Acquisitions/Joint Ventures (If Applicable)
- 11.4. SWOT Analysis (For Five Market Players)
- 11.5. Patent Analysis (If Applicable)

12. PRICING ANALYSIS

13. CASE STUDIES

14. KEY PLAYERS OUTLOOK

- 14.1. Stratasys Ltd.
 - 14.1.1. Company Details
 - 14.1.2. Key Management Personnel
 - 14.1.3. Products and Services
 - 14.1.4. Financials (As reported)
 - 14.1.5. Key Market Focus & Geographical Presence
 - 14.1.6. Recent Developments
- 14.2. Systems Corporation
- 14.3. Desktop Metal, Inc
- 14.4. DWS systems SRL
- 14.5. Align Technology, Inc.
- 14.6. Formlabs
- 14.7. Prodways Group
- 14.8. SLM Solutions Group AG
- 14.9. Carbon, Inc.
- 14.10. Renishaw
- 14.11. Roland DG
- 14.12. EnvisionTec

14.13. DentsPly Sirona

14.14. Planmeca

14.15. Institut Straumann AG

*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

15. STRATEGIC RECOMMENDATIONS

16. ABOUT US & DISCLAIMER

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