

# **Healthcare 3D Printing Market Analysis By Application (Surgical Guides, Implants, Surgical Instruments, Bioengineering), By Technology (Electron Beam Melting, Stereolithography, Droplet Deposition Manufacturing), By Raw Material (Metals, Biological Cells, Polymers, Ceramics) And Segment Forecast to 2020**

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## **Abstracts**

The global market for healthcare 3D printing is expected to reach USD 1,129.8 million by 2020, growing at an estimated CAGR of 15.6% from 2014 to 2020. Growing need to produce automated products and increasing number of cost curbing initiatives undertaken by medical device manufacturers are expected to drive market growth during the forecast period. In addition, this technology serves as an effective tool in rendering simulations and clarity to healthcare practitioners while performing or preparing for complicated medical procedures.

Implants dominated the overall market in 2013, accounting for over 60.0% of global revenue, primarily owing to high procedure volumes. Growing demand for this technology as a cost effective and accurate tool is expected to drive segment growth during the forecast period.

Further key findings from the study suggest:

Polymers dominated the raw materials market in terms of share at over 35% in 2013 owing to their high usage rates in printing bio-models. The market for ceramics is expected to grow at a lucrative CAGR of 15.6% during the forecast period as it is widely used to manufacture the tooth or the mandible (jaw bone). Both these raw materials

have been included in the U.S. FDA's list of approved materials to be used for manufacturing implants that will be in contact with the body for long duration of time.

Photo-polymerization dominated the overall technology market and was valued at over USD 140 million in 2013. This technology is used widely by research organizations and companies to manufacture efficient and accurate bio-models.

Laser beam melting is expected to be the fastest growing technology, at an estimated CAGR of over 16% from 2014 to 2020 on account of its growing demand in manufacturing orthopedic implants and hip stems

North America was the largest regional market in 2013, accounting for over 35% of global revenue owing to the presence of high patient awareness levels, increasing healthcare expenditure, sophisticated healthcare infrastructure and increasing investment in R&D facilities pertaining to the development of 3D technologies based products

Europe is expected to be the fastest growing regional market over the forecast period. Presence of a large number of R&D funding programs and increasing demand for customized medical devices in this region is expected to drive market growth over the next six years

Key participants of this market include Envision TEC, Stratasys Inc., Materialise NV, 3D Systems Software, Bio-Rad Laboratories, Organovo, SOLS, Simbionix, Metamason, RegenHU Ltd., Youbionic, Bio3D Technologies Pte Ltd, 3D Matters Pte Ltd., 3D Systems Corporation (3DS), Ekso Bionics, Roche Pharmaceuticals, Renishaw plc., Robohand, Delcam India, Worrell, mobileOCT, Archam, Rainbow Biosciences, ALD Vacuum Technologies, and 3T RPD Ltd.

For the purpose of this study, Grand View Research has segmented the healthcare 3D printing market on the basis of application, technology, raw material and region:

## Healthcare 3D Printing Application Outlook

### Surgical Guides

#### Orthopedic Surgical Guides

#### Crani-maxillofacial Surgical Guides

Dental Surgical Guides

Implants

Orthopedic Implants

Crani-maxillofacial Implants

Dental Implants

Surgical Instruments

Bioengineering

Healthcare 3D Printing Technology Outlook

Electron Beam Melting

Laser Beam Melting

Photopolymerization

Stereolithography

Digital light processing (DLP)

Two-Photon Polymerization (TPP)

Droplet Deposition

Inkjet Printing (IJP)

Fused Deposition Modeling (FDM)

Multiphase Jet Solidification (MJS)

Healthcare 3D Printing Raw Material Outlook

Metals Market

Biological Cells

Polymers

Ceramics

Healthcare 3D Printing Regional Outlook

North America

Europe

Asia Pacific

RoW

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