

3D Printed Medical Devices - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 120 pages | Mordor Intelligence

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Report description:

The 3D Printed Medical Devices Market size is estimated at USD 3.98 billion in 2024, and is expected to reach USD 8.47 billion by 2029, growing at a CAGR of 16.32% during the forecast period (2024-2029).

Key Highlights

-As per the Organ Procurement and Transplantation Network (OPTN), in 2018, around 27,281 organ implantations were performed in the United States. Further, over 120,000 people in the country were waiting for an organ transplant by the end of 2018. This shortage could likely be reduced by using 3D bioprinting. The 3D bioprinting method deposits 'bioink,' droplets of living cells or biomaterials, onto a substrate according to digital instructions to reproduce human tissues or organs.

-Moreover, this technology is providing the benefits of personalized treatments at an affordable price to the patients. For instance, 3D printed skin are incorporated on the body of a burnt victim. By using bio-printed skins, doctors minimize the need for skin grafting surgeries. Thus, by applying 3D bio-printed skin, doctors can transfer healthy skin cells to those injury parts, thus making the treatment faster and easier.

-All the above factors are expected to contribute significantly toward the growth of the market. However, securing approval from regulators might impede the widespread medical application of 3D printing during the forecast period.

3D Printed Medical Devices Market Trends

Orthopedics and Prosthetics is Expected to Have the Fastest Growth

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- One of the advantages that 3D printers in medical devices provide is customized medical products and equipment. Thus the custom-built prosthetics and implants provide value addition for both patients and doctors. Also, customized implants, have a positive impact in terms of the time required for surgery, patient recovery time, and the success of the implant.
- For instance, in January 2019, Apollo Hospitals, at Mumbai in India performed a 3D printed titanium skull implant on one of its patient. 3D-printed titanium implant was opted because it would closely replicate the shape of the patient's skull. These 3D printed implants are MRI compatible, decrease the risk of infections and most importantly can be made to fit the patient's form.
- Moreover, 3D printed prosthetics help in improving the posture and balance for people suffering from Achondroplasia, a genetic disorder characterized by short-limbed dwarfism that is apparent at birth. According to the National Organization for Rare Disorders, the estimated frequency of achondroplasia has ranged from about one in 15,000 to one in 35,000 births.
- Further, according to the World Bank, the estimated share of the U.A.E.'s population above the age of 65 will increase to 4.4% by 2030 from 1.1% in 2018. This will stimulate demand for healthcare in general and geriatric care in particular which will create a demand for orthopedics products related to knee and hips.
- The Governments of the UAE has pledged to create a world-class healthcare facility in the UAE. They also want to boost medical tourism in the UAE by establishing Dubai as the center. The Emirate's good connectivity to the rest of the world through its airline and airport ensures that health tourists will be able to get to the Emirate in an expeditious manner.

North America to Account for the Largest Market Share

- The United States medical devices industry is known for offering high-quality products using advanced technology resulting from significant investment in research and development.
- According to the American Society for Aesthetic Plastic Surgery, around thirty thousand breast augmentations were performed among women in the United States in 2018. This breast augmentation is one of the five most common surgical cosmetic procedures among women in the United States in 2018. Further, the use of 3D implant avoids the complications and side effects that are associated with other implants such as implant leaking, contracting, rippling, or rupturing. Additionally, it also reduces surgery time and increases patient recovery time.
- Moreover, opportunities for expansion of U.S. medical device comes from specific key ongoing policy and activities. For instance, the U.S. Food and Drug Administration (FDA) in 2017 has reviewed more than 100 devices that were produced on 3D printers. These include knee replacements and cranial implants.
- Additionally, the FDA is also working to establish a regulatory framework with regards to applying existing laws and regulations that govern device manufacturing patients they are treating. To keep pace with evolving technology as well as encourage and support innovation, the FDA is involved in several research activities.
- For example, in 2016, the Radiological Society of North America (RSNA) launched the 3D Printing Special Interest Group (SIG). Intending to support radiology-centered, hospital-based, point-of-care 3D printing to impact more patients, they had set up several committees to work in different areas. The areas include prosthetics, Anaplastology, regulatory and compliance, and simulations amongst others.
- Apart from being the world's largest producer of medical devices, the United States is the largest consumer of these as well. Thus, 3D printed medical devices market is expected to witness significant adoption in several areas of the United States healthcare sector.

3D Printed Medical Devices Industry Overview

The 3D printed medical devices market is moderately competitive in nature. Increasing interest in the adoption of this technology from the hospital and surgical centers across the globe is creating an immense opportunity for investors who are looking to capitalize on the future. Further, the increasing number of innovative start-ups in the 3D printing ecosystem is fuelling the growth

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of the industry. Some of the key players are Materialise NV, 3D Systems Corporation, and Hewlett Packard (HP) amongst others. Some of the recent developments are:

- November 2018 -3D Systems launchedSimbionix ARTHRO Mentor Express training simulator. This is a portable training solution to help medical professionals to learn surgical procedures for knees, shoulders, and hips on a portable and affordable tabletop platform.
- August 2018 -3D Systems launchedNextDent 5100 whichenabled dental labs and clinics to produce dental devices faster while reducing material waste and capital equipment expenditure.

Additional Benefits:

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

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