

Medical Device 3D printing market to hit \$7.9B by 2031, driven by personalized implants and surgical guide innovations.

Medical device 3D printing market to reach \$7.9 Billion by 2031, led by 6 growth drivers including surgical guides and advanced materials.

AUSTIN, TX, UNITED STATES,
September 26, 2025 /
EINPresswire.com/ -- The [medical device 3D printing market](#) has emerged as one of the fastest-growing sectors in healthcare, enabling precision manufacturing and patient-specific customization. According to DataM Intelligence, the market was valued at US\$ 2.6 billion in 2022 and is projected

to reach US\$ 7.9 billion by 2031, expanding at a CAGR of 15.7% during 2024–2031. This rapid growth is being fueled by advances in additive manufacturing technologies, demand for personalized implants, and expanding applications across orthopedics, dentistry, and prosthetics. With its ability to shorten production timelines and reduce costs, 3D printing is reshaping how healthcare providers deliver patient care.

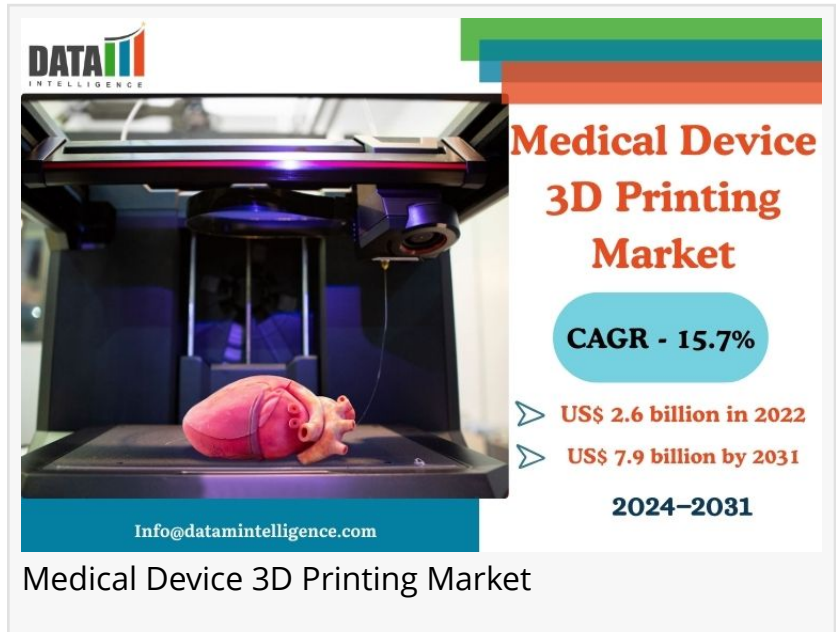
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Regulatory clarity, technological innovation, and patient-centric solutions are fueling the medical device 3D printing market's robust CAGR of 15.7%.”

DataM Intelligence

North America currently dominates the market with around 38.7% share, thanks to a supportive regulatory framework from the FDA, rapid adoption of advanced technologies, and rising investments in personalized medicine. Meanwhile, the surgical guides segment leads in applications, holding approximately 36.7% share in 2022, driven by increasing reliance on patient-specific surgical planning. The Asia-Pacific region is expected to grow at the

fastest pace, driven by growing healthcare infrastructure, a rising patient pool, and government support for innovation.



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Key Highlights from the Report:

- The global medical device 3D printing market is projected to grow at a 15.7% CAGR between 2024–2031.
- North America remains the largest regional market, holding nearly 38.7% share.
- The surgical guides segment leads applications, accounting for around 36.7% of the market in 2022.
- Dental and orthopedic applications are witnessing significant adoption of 3D printing solutions.
- Prosthetics manufacturing via 3D printing is reducing costs, weight, and production time compared to traditional methods.
- The Asia-Pacific region is anticipated to be the fastest-growing market due to rising demand for patient-specific medical devices.

Recent Developments:

United States: Recent Industry Developments:

1. In August 2025, 3D Systems partnered with U.S. hospitals to expand its biocompatible 3D printing solutions for patient-specific surgical instruments and implants.
2. In July 2025, Stratasys launched a new line of medical-grade 3D printers designed for orthopedic and dental applications, emphasizing speed and precision.
3. In June 2025, Desktop Health received FDA clearance for its 3D-printed dental resins, accelerating adoption in restorative and cosmetic dentistry practices.

Europe: Recent Industry Developments:

1. In July 2025, Materialise NV introduced advanced 3D-printed anatomical models to support pre-surgical planning across European healthcare centers.
2. In June 2025, EOS GmbH expanded production of polymer-based 3D printing materials tailored for prosthetics and orthopedic braces, strengthening its presence in the EU medical market.
3. In May 2025, EnvisionTEC collaborated with German universities to advance 3D-printed bioresorbable implants, targeting complex reconstructive surgeries.

Japan: Recent Industry Developments:

1. In July 2025, Sony Corporation invested in bioprinting research to develop 3D-printed tissue models for drug discovery and regenerative medicine.
 2. In June 2025, Ricoh Company, Ltd. launched a service in Japan offering customized 3D-printed bone models to surgeons, enhancing surgical accuracy and patient outcomes.
 3. In May 2025, Nikon Corporation expanded its medical division by integrating metal 3D printing technologies for spinal and joint implant manufacturing.
- ### Company Insights

Key players operating in the global market include:

- Stratasys Ltd.
- 3D Systems, Inc.
- EnvisionTEC
- Koninklijke Philips N.V.
- EOS GmbH
- Renishaw plc
- Materialise NV
- 3T Additive Manufacturing Ltd.
- General Electric Company
- Carbon, Inc.
- Prodways Group

Market Segmentation:

The medical device 3D printing market is segmented by product, technology, application, and end-user.

By Product, the market covers equipment, materials, software, and services. Materials such as polymers, ceramics, and metals are critical as innovation continues in biocompatible substances that meet regulatory standards.

By Technology, the market spans laser beam melting, photopolymerization, extrusion-based printing, electron beam melting, binder jetting, and others. Each technology caters to different use cases: photopolymerization is widely used in dental models, while laser beam melting is suited for metal implants requiring high strength.

By Application, surgical guides dominate with their vital role in accurate implant placement. Other major applications include prosthetics, hearing aids, custom implants, surgical instruments, and tissue-engineered products. The use of 3D printing in prosthetics is particularly

transformative, enabling affordable, lightweight, and customized devices.

By End-user, adoption is strongest in hospitals and surgical centers, followed by dental and orthopedic clinics. Academic institutions and research laboratories are also driving innovation through bioprinting research and clinical trials.

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Regional Insights:

North America dominates the market due to its strong healthcare ecosystem, technological leadership, and FDA regulatory support. The presence of leading players like Stratasys, 3D Systems, and GE Healthcare strengthens regional adoption.

Europe follows, driven by a strong focus on research and regulatory clarity, particularly in Germany and the UK. The region is seeing increasing collaborations between medical institutions and additive manufacturing companies.

Asia-Pacific is projected to experience the fastest growth, led by China, Japan, and India. Expanding healthcare infrastructure, large patient populations, and rising awareness of personalized medical solutions are key drivers.

South America and Middle East & Africa represent emerging markets. Growing medical tourism, rising healthcare expenditure, and partnerships with global manufacturers are likely to accelerate adoption in these regions over the coming years.

Market Dynamics:

Market Drivers

One of the strongest drivers is the growing demand in dentistry and prosthetics, where 3D printing significantly reduces time and cost. The rise in personalized healthcare solutions and the ability to manufacture patient-specific implants is fueling adoption. Furthermore, advances in bioprinting and materials science are opening doors to tissue engineering applications.

Market Restraints

Despite its benefits, adoption faces barriers such as high initial costs for equipment, infrastructure challenges, and the need for specialized training. Additionally, the limited availability of biocompatible materials restricts broader application in long-term implants. Regulatory hurdles also add complexity for manufacturers.

Market Opportunities

Opportunities abound in bioprinting and regenerative medicine, where 3D printing can produce

living tissues for transplants. Partnerships between healthcare providers and technology companies also open new growth avenues. The increasing use of AI to optimize designs for patient-specific implants further enhances market potential.

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Reasons to Buy the Report:

- Gain access to accurate market size, share, and growth projections validated by DataM Intelligence.
- Understand key drivers, restraints, and opportunities shaping the industry.
- Benefit from detailed segmentation insights across product, application, technology, and end-user.
- Leverage comprehensive regional analysis highlighting growth opportunities.
- Stay ahead with insights into competitive landscapes, mergers, and product innovations.

Frequently Asked Questions (FAQs):

- How Big is the Global Medical Device 3D Printing Market?
- Who are the Key Players in the Medical Device 3D Printing Market?
- What is the Projected Growth Rate of the Medical Device 3D Printing Market?
- What is the Market Forecast for 2031?
- Which Region is Estimated to Dominate the Industry through the Forecast Period?

Conclusion:

The medical device 3D printing market is at the forefront of healthcare innovation, offering unprecedented opportunities to customize, reduce costs, and improve patient outcomes. Backed by supportive regulations, technological advances, and increasing awareness of personalized medicine, the market is poised for strong growth through 2031. As bioprinting, prosthetics, and dental applications expand, 3D printing is not just a manufacturing technology it is becoming a cornerstone of modern healthcare delivery.

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