

3D Printed Brain Model Market Projections and Trends Leading to a Projected USD 129.14 Million by 2031

3D Printed Brain Model Market Set For Remarkable Growth Driven By Personalized Healthcare And Technological Advancements

AUSTIN, TEXAS, UNITED STATES, June 11, 2024 /EINPresswire.com/ -- The Global <u>3D Printed Brain Model Market</u> <u>Size</u> valued at USD 38.32 million in 2023 and is anticipated to surpass USD 129.14 million by 2031, and grow at a CAGR of 16.4% over the forecast period 2024-2031.



3D Printed Brain Model Market Poised For Remarkable Growth

The 3D Printed Brain Model Market experienced a setback in 2020 due to the COVID-19 pandemic, which led to delays in neurological surgeries and a decline in financial resources for healthcare organizations. This situation resulted in reduced investments in advanced technologies. Additionally, the economic slowdown, lockdowns in various regions, and the temporary shutdown of some market players disrupted the supply chain, further impacting the market negatively. However, the market is expected to regain momentum in the coming years, driven by the increasing demand for personalized healthcare, technological advancements in neurological tools, techniques, and 3D printed materials, as well as the rising prevalence of numerous neurological diseases.

3D printed brain models offer valuable benefits in understanding, teaching, and learning for new surgeons. 3D printed brain models are being used to train surgeons, thanks to organizations like the Walter E. Dandy Neurosurgical Society. This innovative approach aims to improve patient outcomes. Additive manufacturing enables neurosurgeons to gain better spatial orientation within the brain and simulate surgical steps with high fidelity. These models contribute to market growth by facilitating a deeper understanding of complex neurological structures and procedures.

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List of 3D Printed Brain Model Companies Profiled in Report:

- Rokit Healthcare Inc.
- 3D Systems
- Formlabs
- MedPrin
- Voxeljet

Key Market Segmentation By Technology Type

- MultiJet/PolyJet Printing
- Stereolithography (SLA)
- Fused Deposition Modeling (FDM)
- ColorJet Printing
- Others

By Materials Type

- Plastics
- Polymer
- Others

By Technology, the Fused Deposition Modeling (FDM) or Fused Filament Fabrication (FFF) technology segment dominated the 3D Printed Brain Model Market, capturing over 26% market share in 2023. This technology is expected to maintain steady growth over the forecast period due to its ability to produce strong, durable, and stable 3D brain models. FDM/FFF offers advantages like cost-efficiency, office-friendly operations, and flexibility in material choice, making it well-suited for creating complex brain structures. Other prominent technologies in this market include Stereolithography (SLA), ColorJet Printing (CJP), MultiJet/PolyJet Printing, Selective Laser Sintering (SLS), binder jetting, and digital light synthesis.

By Material, the plastic materials segment dominated the 3D Printed Brain Model Market, capturing over 42% market share in 2023, and is expected to maintain steady growth during the forecast period. The key drivers for this segment are the feasibility, biodegradability, compatibility with a wide range of 3D printing technologies, and the efficiency offered by plastic materials, along with the availability of various advanced thermoplastics. After plastic materials, the polymer segment is anticipated to witness lucrative growth owing to the benefits of product development and the versatility of the material. Other materials used in this market include metals, ceramics, calcium phosphate salts (HA), glass, and oxides of aluminum and titanium.

Regional Analysis

North America dominating in this market, holding over 34% market share in 2023. This dominance is expected to continue with a steady growth rate (CAGR) throughout 2031. Several factors contribute to this regional strength such as there's a rising demand for personalized healthcare solutions, coupled with an increasing prevalence of neurological diseases and, the US boasts a culture of rapid adoption for new technologies and advancements. Finally, the market benefits from established players, a favorable reimbursement process, and significant investments. As an example, CELLINK's public listing on the Nasdaq Stockholm in April 2020 is expected to further fuel market growth.

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Impact Of Global Tensions On The 3D Printed Brain Model Market Global tensions can disrupt the 3D printing industry, affecting technologies like Stereolithography (SLA), Fused Deposition Modeling (FDM), MultiJet/PolyJet Printing, ColorJet Printing, and others. This disruption can occur in several ways. Shortages of materials or critical components due to trade restrictions or supply chain disruptions could limit production and raise costs. Additionally, tensions might hinder collaboration between international researchers and companies, potentially slowing down innovation in 3D printing techniques. The impact will vary depending on the specific technology and its reliance on globally sourced materials or expertise.

Key Takeaways Of The 3D Printed Brain Model Market

• Understand the market size, growth projections, and future trends to make informed business decisions.

• Identify lucrative segments within the market for potential investment in specific technologies or materials.

• Gain insights into key players, their strengths and weaknesses, and the overall competitive landscape.

• Develop effective strategies for product development, marketing, and sales based on market trends and customer needs.

• Identify and mitigate potential risks associated with global tensions and other market fluctuations.

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