

Robotic Large-Scale Three-Dimensional (3D) Printing Market to Reach USD \$4.17 Billion by 2029 at 21.7% CAGR

*The Business Research Company's
Robotic Large-Scale Three-Dimensional
(3D) Printing Global Market Report 2025
– Market Size, Trends, And Forecast 2025-
2034*

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/EINPresswire.com/ -- How Big Is The

Robotic Large-Scale Three-Dimensional (3D) Printing Market In 2025?

There has been a remarkable growth in the market size of large-scale three-dimensional (3D) robotic printing in recent years. The market is expected to expand from \$1.56 billion in 2024 to \$1.90 billion in 2025, representing a compound annual growth rate (CAGR) of 22.0%. The notable

growth during the historic period can be ascribed to factors such as increased demand in the construction industry, rapid urbanization, the need to reduce labor costs, government initiatives related to infrastructure, and its implementation in the aerospace and automotive sectors.

The market size for large-scale 3D robotic printing is predicted to experience significant expansion in the upcoming years, increasing to \$4.17 billion in 2029 with a Compound Annual Growth Rate (CAGR) of 21.7%. This surge during the projection period can be attributed to the

escalating investment in intelligent construction, a rising necessity for eco-friendly building substances, advancements in prefabricated construction, an enhanced focus on swift prototyping and a notable reduction in construction waste. Key trends expected during this forecast period are improvements in multi-axis robot printing technology, the utilization of recyclable and bio-based printing elements, the adoption of modular construction, digital twins incorporation for strategizing, and a transition to de-centralized manufacturing locations.



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What Are The Key Driving Factors For The Growth Of The Robotic Large-Scale Three-Dimensional (3D) Printing Market?

The growing demand for automation is anticipated to fuel the expansion of the robotic large-scale three-dimensional (3D) printing market. Automation utilizes control systems to operate manufacturing equipment, limiting human involvement. This surge towards automation is due to the requirement for heightened productivity to quicken task completion, decrease human mistakes, and amplify overall operational performance. The rising necessity for automation propels innovations in robotic large-scale three-dimensional (3D) printing, making production processes quicker, more accurate, and scalable. These processes cut labor expenses, lessen human errors, facilitate intricate and personalized designs, and ultimately, improve efficiency and uniformity in various industrial applications. For instance, in April 2024, the International Federation of Robotics, a professional non-profit organization based in Germany, reported that total industrial robot installations escalated by 12%, achieving 44,303 units in 2023. In the automobile industry, sales increased by 1% with a record of 14,678 robots installed. This was after a notable 47% increase in installations in 2022, which amounted to 14,472 units. Consequently, the surging demand for automation is spurring the growth of the robotic large-scale three-dimensional (3D) printing market.

Who Are The Key Players In The Robotic Large-Scale Three-Dimensional (3D) Printing Industry? Major players in the Robotic Large-Scale Three-Dimensional (3D) Printing Global Market Report 2025 include:

- ABB Limited
- Sika AG
- Alquist 3D LLC
- Caracol S.r.l.
- Contour Crafting Corporation
- Branch Technology Inc.
- MX3D B.V.
- SQ4D Inc.
- Apis Cor Inc.
- Vertico B.V.

What Are The Future Trends Of The Robotic Large-Scale Three-Dimensional (3D) Printing Market?

Prominent players in the large-scale robotic 3D printing market are turning towards advanced solutions like multi-axis robotic systems. These systems speed up the production process while ensuring the cost-effective and accurate construction of intricate, larger components. These robots, with multiple movement degrees past the regular three axes, boost flexibility, precision, and efficiency, enabling the creation of complex 3D parts from different angles, eliminating the

requirement for repositioning. For example, in August 2023, MX3D BV, a company based in the Netherlands, introduced the MX Metal AM System. This advanced turnkey robotic wire-based directed energy deposition (DED) platform, adorned with an 8-axis heavy-duty industrial robot, facilitates the crafting of enormous, certified metallic components up to five tons in weight with deposition rates surpassing 10 kg per hour. Through its unique MetalXL software paired with cutting-edge sensors and closed-loop controls, it pioneers 24/7 automated manufacturing, providing sectors like energy, maritime, and heavy manufacturing a more efficient and affordable substitute to conventional casting and forging methods.

What Segments Are Covered In The Robotic Large-Scale Three-Dimensional (3D) Printing Market Report?

The robotic large-scale three-dimensional (3D) printing market covered in this report is segmented

- 1) By Component: Hardware, Software, Services
- 2) By Material Type: Polymers, Metals, Concrete, Composites, Other Material Types
- 3) By Application: Construction, Aerospace And Defense, Automotive, Industrial Manufacturing, Art And Design, Other Applications
- 4) By End-User: Commercial, Industrial, Academic And Research Institutes, Other End-Users

Subsegments:

- 1) By Hardware: Robotic Arms, Controllers, Sensors, Printers, Materials Handling Systems, Power Supply Units
- 2) By Software: Design Software, Simulation Software, Process Control Software, Monitoring And Analytics Software, Workflow Management Software
- 3) By Services: Installation Services, Maintenance Services, Training Services, Consulting Services, Support Services

View the full robotic large-scale three-dimensional (3d) printing market report:

<https://www.thebusinessresearchcompany.com/report/robotic-large-scale-three-dimensional-3d-printing-global-market-report>

Which Region Is Expected To Lead The Robotic Large-Scale Three-Dimensional (3D) Printing Market By 2025?

In the 2025 Global Market Report for Robotic Large-Scale Three-Dimensional (3D) Printing, North America was identified as the leading region in 2024. It is projected that the most rapid growth will be seen in the Asia-Pacific region within the forecast period. The report provides coverage for various regions, namely, Asia-Pacific, North America, Western Europe, Eastern Europe, South America, Middle East, and Africa.

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