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Protolabs 3D Printing Report Reveals Accelerated Industry Growth through Emerging Applications

June 3, 2024

A survey of more than 700 members of the global engineering community and key market data identify the current and future state of additive manufacturing

MINNEAPOLIS--(BUSINESS WIRE)--Jun. 3, 2024-- Protolabs' [newly published 3D Printing Trend Report](#) provides a snapshot of the additive manufacturing industry and highlights emerging trends as applications for 3D printing's continued growth. Through key market data and a survey of more than 700 members of the global engineering community, Protolabs' annual report depicts a healthy level of confidence in the 3D printing market driving more potential for production-level manufacturing as the technology's uses expand beyond prototyping. In addition, micro and large-format applications continue to expand.

Key findings include:

- 3D printing market growing 10.5% faster than predicted
- 2024 market size estimated at \$28.1 billion
- Market to reach \$57.1 billion by the end of 2028
- 70% of businesses printed more parts in 2023 than in 2022
- 77% reported the medical sector has most potential for impact

3D Printing's Potential for Production

The data shows that 3D printing is steadily moving beyond prototyping towards production applications. Protolabs' annual report reveals a steady growth in production-run volumes: Respondents who said they printed more than 10 parts rose from 36% in 2020, to 49% in 2021 and to 76% in 2023.

The mindset around additive and production is slowly changing as well: "Production volume and scale" was named by 45% of survey respondents as a factor for choosing other manufacturing methods over 3D printing—down from 47% in the previous year.

Innovative Materials on the Rise

Moving forward, the report found the expansion of available materials and related technologies will play a vital role in shaping future use cases. For example, nearly a third of respondents reported multi-material printing will have the biggest impact on 3D printing growth, second only to hybrid manufacturing, which combines additive technology with traditional services.

Industry experts agree that highly specialized materials designed for 3D printing applications are coming to market, providing even more scope for innovation. Adam Hecht from 3DP design studio DIVE said:

"Companies are designing blends actually tailored for 3D printing. They're creating a lot of materials that are geared for very specific applications within 3D printing, whether that's conventional thermoplastics that have been re-engineered for 3D printing, or resins that aren't just for prototyping, but for very specialized, high-temperature, high-elasticity types of applications."

Where AI is Taking the Technology

As the excitement of AI permeates almost every sector, 3D printing is no exception. Protolabs' report reveals the big promise of an AI-disrupted industry has yet to be fully realized; however, smart printers are getting smarter and improving the user experience. Nearly a third of respondents identified automated print tuning as the top impact from AI, followed by non-planar FDM printing through improved slicer software (25%). Design for additive manufacturing will also benefit from AI innovations—think topology optimization, multiphysics process simulation, and AI-generated CAD.

To find out more about the status of additive manufacturing—broken down by industry and region—and where 3D printing is heading next, [download the full report](#).

Protolabs works with customers globally as an additive manufacturing partner, utilizing plastic and metal 3D printing technologies to serve customer needs for prototype and production parts. In 2023, Protolabs' 3D printing service generated more than \$84 million in revenue through its quick-turn factories and Protolabs Network manufacturing partners.

About Protolabs

Protolabs is the fastest and most comprehensive digital manufacturing service in the world. Our digital factories produce low-volume parts in days while [Protolabs Network](#) unlocks advanced capabilities and volume pricing through its highly vetted manufacturing partners. The result? One manufacturing source—from prototyping to production—for product developers engineers, and supply chain teams across the globe. See what's next at [protolabs.com](https://www.protolabs.com).

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Investor Relations Contacts:

Protolabs

Ryan Johnsrud, 612-225-4873

Manager, Investor Relations and FP&A

ryan.johnsrud@protolabs.com

Gateway Group, Inc.

949-574-3860

PRLB@gateway-grp.com

Media Contact:

Protolabs

Brent Renneke, 763-479-7704

Marketing Communications Manager

brent.renneke@protolabs.com

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