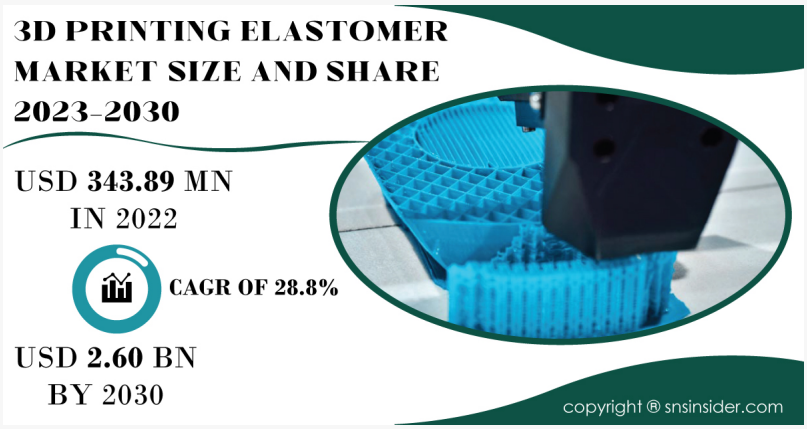
3D Printing Elastomer Market to Surpass USD 2.60 Billion by 2030, Fueled by Global Commercial Activity Industrialization

AUSTIN, TX, UNITED STATES, January 22, 2024 /EINPresswire.com/ -- The demand for elastomers is soaring, with a pressing need for remote production, weight reduction, high-speed production, and mass customization in the manufacturing sector.



3D Printing Elastomers Market Report

The 3D printing elastomers market has experienced notable growth within the 3D printing industry, driven by factors such as the demand for customization and rapid prototyping, ongoing material advancements, and the diversification of applications across industries like healthcare and automotive

The SNS Insider report indicates that the [redacted] Market is evaluated to be worth USD 343.89 million in 2022 and USD 2.60 billion by 2030, with a CAGR of 28.8% from 2023 to 2030.

> Rising industrialization and increasing commercial activities across the globe drive growth for the 3D printing elastomers market"
>
> *SNS Insider Research*

Elastomeric materials, known for their flexibility and resilience, are increasingly used in the production of personalized products, soft robotics components, and flexible seals. The market's expansion is further fueled by advancements in additive manufacturing technologies like selective laser sintering and fused deposition modeling, enabling more precise and accurate 3D printing of elastomeric materials.

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Market Report Scope:

3D printing, a revolutionary production method, utilizes elastomers, mainly rubbery materials composed of large molecules, offering flexibility, durability, high thermal stability, and resistance.

Elastomers, with low young modulus and high yield strength, uniquely recover their former size and shape after being stretched. 3D Printing Elastomers employ a sprayable liquid polymer with adjustable hardness, facilitating prototype pieces for eventual over-molding. While time-saving, high material prices hinder the market, prompting the need for low-cost materials and reduced lead times.

Market Segmentation and Sub-Segmentation Included Are:
By Material:
• TPE (Thermoplastic Elastomer)
• SBR (Styrene-Butadiene Rubber) & SBS (Styrene-Butadiene Styrene)
• Others
By Technology
• FDM/FFF
• SLA
• SLS
• Others
By Application
• Consumer Electronics
• Industrial
• Aerospace
• Automotive
• Healthcare
• Defense
• Education and research
• Others
By Form
• Powder
• Filament
• Liquid

Market Analysis:
The 3D Printing Elastomers Market is propelled by government initiatives, increased research and development, and emerging economies' demand. Factors such as lightweight designs, raw material efficiency, design flexibility, shorter manufacturing times, and customization contribute to market growth. Home 3D printers, thermoplastic vulcanizate utilization, and the pandemic's impact on healthcare needs also play pivotal roles. However, operational challenges in the automotive, aerospace, and consumer goods sectors during the pandemic pose temporary setbacks.

KEY DRIVERS:
3D printing is transforming the manufacturing process. Technological progress has empowered the construction sector to create intricately designed and lighter structures at reduced expenses. The utilization of 3D-printed components is widespread in Formula 1, high-performance

supercars, and innovative concept cars. Major players in the automotive sector, like BMW, are collaborating with leading 3D printing companies such as EOS GmbH Electro Optical Systems and Carbon to manufacture commercial vehicle parts using advanced 3D printing techniques.

IMPACT OF COVID-19:
• Supply Chain Disruptions: The pandemic has caused disruptions in global supply chains, affecting the availability of raw materials and components essential for 3D printing elastomers. Delays in the supply chain can impact production timelines and lead to increased costs.
• Reduced Industrial Activities: Many industries, including automotive and aerospace, which are significant users of 3D printing elastomers, experienced disruptions due to lockdowns, social distancing measures, and reduced consumer demand. This, in turn, may have affected the demand for 3D printing elastomers in these sectors.
• Shift in Priorities:Industries may have shifted their priorities during the pandemic, focusing on essential products and reducing expenditures on non-essential areas. This could have influenced the adoption and investment in 3D printing technologies, including elastomers.
• Remote Working Challenges: Companies involved in 3D printing elastomers may have faced challenges related to remote working, affecting collaboration, research, and development activities. However, some companies may have adapted well to remote work setups.
• Opportunities in Healthcare: On the positive side, the pandemic highlighted the importance of additive manufacturing in healthcare, and 3D printing elastomers could find new opportunities in producing medical devices, personalized healthcare products, and components for healthcare equipment.

Segment Analysis:
By Form: The powder segment dominated the market in 2021, enabling complex structures and high-density products.
By Material: TPE led the market in 2022 due to tear resistance, elasticity, and thermal stability.
By Application: Automotive segment dominated the market in 2022, leveraging elastomers for complex designs and faster production.

Key Regional Development:
Asia Pacific dominated the 3D Printing Elastomers Market in 2022, driven by urbanization, a thriving consumer goods industry, international players' expansion, and technological advancements. Increased applications in the aerospace, defense, and healthcare sectors contribute to the region's demand for 3D printing polymers.

OPPORTUNITIES:
• Customization and Personalization: The ability of 3D printing elastomers to provide customized and personalized solutions opens up opportunities in various industries, including healthcare (custom prosthetics and orthopedic devices) and consumer goods (customized footwear and accessories).
• Healthcare Applications: The healthcare sector offers significant opportunities for 3D printing elastomers, especially in the production of medical devices, implants, andother healthcare-

related products. The flexibility and biocompatibility of elastomers make them suitable for a range of medical applications.
• Expansion in Automotive and Aerospace: The automotive and aerospace industries continue to explore 3D printing for lightweight components. Elastomers, with their flexibility and durability, can find applications in the manufacturing of specialized automotive parts, aerospace components, and even in the production of UAVs (Unmanned Aerial Vehicles).
• Soft Robotics and Wearable Technology: The development of soft robotics and wearable technology presents opportunities for 3D printing elastomers. These materials can be used to create flexible and durable components for soft robotic systems, as well as comfortable and adaptable wearable devices.
• Collaboration and Partnerships: Opportunities arise through collaborations between material manufacturers, 3D printer manufacturers, and end-users. Partnering with other companies or research institutions can lead to the development of innovative solutions and the expansion of the market.

Key Takeaways:
• Global commercial activity and industrialization fuel the 3D Printing Elastomers Market growth.
• Asia Pacific emerges as a key growth region, driven by urbanization and industrial development.
• Powder form, TPE material, and automotive applications dominate their respective segments.
• The pandemic accelerates demand for 3D printing elastomers in healthcare but hinders the automotive and aerospace sectors.

Recent Developments:
• In November 2023, 3D Systems planned to launch new additive manufacturing products, including hardware and materials for various applications.
• In October 2023, Evonik expanded its elastomeric materials portfolio with INFINAM® TPA 4006 P, optimized for open-source SLS 3D printing machines.
• In September 2023, Carbon released EPU 46, a high-performance elastomer material suitable for applications like saddles, footwear, and grips.

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