Synthetic Data Generation Market to Hit $3.5 Bn by 2031, Driven by AI & Data Privacy Needs

Synthetic data generation enhances AI model accuracy, boosts data privacy, and accelerates analytics innovation across industries.

WILMINGTON, DE, UNITED STATES, November 10, 2025 /EINPresswire.com/ -- According to a new report published by Allied Market Research Synthetic Data Generation Market Size, Share, Competitive Landscape and Trend Analysis Report, by Component (Solution, Services), by Deployment Mode (On-Premise, Cloud), by Data Type (Tabular Data, Text Data, Image and Video Data, Others), by Application (AI Training and Development, Test Data Management, Data Sharing and Retention, Data Analytics, Others), by Industry Vertical (BFSI, Healthcare and Life Sciences, Transportation and Logistics, Government and Defense, IT and Telecommunication, Manufacturing, Media and Entertainment, Others): Global Opportunity Analysis and Industry Forecast, 2021 - 2031, The global synthetic data generation market was valued at USD 168.9 million in 2021, and is projected to reach USD 3.5 billion by 2031, growing at a CAGR of 35.8% from 2022 to 2031.

The global synthetic data generation market is gaining significant traction as organizations increasingly rely on artificial intelligence (AI), machine learning (ML), and big data analytics. Synthetic data—artificially generated rather than collected from real-world sources—enables companies to overcome data privacy constraints, fill data gaps, and improve model performance without risking sensitive information.

As enterprises across healthcare, finance, retail, and autonomous systems adopt AI-driven applications, the demand for scalable and secure datasets continues to surge. Synthetic data offers a cost-effective and privacy-compliant alternative to real-world data, helping organizations accelerate development cycles while maintaining regulatory compliance, especially under stringent data protection laws such as GDPR and CCPA.

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□□□□□□: The growing adoption of AI and ML technologies is a key factor propelling market growth. High-quality, diverse datasets are essential for training effective models, and synthetic data provides a scalable solution when real-world data is limited or biased.

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□□□□□□□□□□□□: Increasing demand for privacy-preserving data solutions creates strong opportunities for market expansion. Industries handling sensitive information, such as healthcare and banking, are turning to synthetic data to conduct research and testing without compromising confidentiality.

□□□□□□: Integration of generative AI models, such as GANs (Generative Adversarial Networks) and diffusion models, is transforming the quality and realism of synthetic datasets. These advancements enable more precise simulation of complex data scenarios, improving AI training outcomes.

□□□□□□□□□□: Despite its advantages, the high computational cost of generating large-scale synthetic datasets may hinder adoption among small and medium-sized enterprises (SMEs). Vendors are increasingly focusing on offering cloud-based solutions to address this limitation.

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The synthetic data generation market is segmented by component (software, services), data type (text, image, video, tabular), deployment mode (cloud, on-premises), and industry vertical (healthcare, BFSI, retail, IT & telecom, automotive, and others). Among these, the software segment dominates due to rapid advancements in AI-based data simulation tools, while the healthcare sector shows the fastest growth owing to the need for secure patient data modeling.

Based on component, the solution segment dominated the synthetic data generation market in 2021 and is expected to maintain its lead throughout the forecast period. The adoption of synthetic data generation solutions offers multiple advantages, including streamlined business processes, reduced manual intervention, and lower operational time and costs, thereby driving market growth. However, the services segment is anticipated to record the highest growth in the coming years. This growth is driven by the increasing need to enhance software implementation, optimize existing installations, and minimize deployment costs and risks, further boosting the adoption of synthetic data generation across industries.

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Region-wise, North America dominated the synthetic data generation market in 2021 and is expected to maintain its lead during the forecast period. The growing adoption of synthetic data solutions to enhance business processes and improve customer experiences is creating lucrative opportunities for market expansion in the region. However, the Asia-Pacific region is projected to witness the highest growth over the forecast period, driven by the rising penetration of advanced technologies such as AI, big data, and IoT, along with the increasing adoption of cloud-based

solutions and services that are accelerating market growth.

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The key players that operate in the synthetic data generation market analysis Amazon.com, Inc., CVEDIA Inc., Datagen, Gretel Labs, IBM Corporation, Meta, Microsoft Corporation, Mostly AI, NVIDIA Corporation and Synthesis AI. These players have adopted various strategies to increase their market penetration and strengthen their position in the synthetic data generation industry.

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- By component, the solution segment accounted for the largest synthetic data generation market share in 2021.
- By deployment mode, the on-premise segment accounted for the largest synthetic data generation market share in 2021.
- On the basis of data type, the tabular data segment accounted for the largest synthetic data generation market share in 2021.
- On the basis of application, the AI training and development segment accounted for the largest synthetic data generation market share in 2021.
- Depending on industry vertical, the IT and telecommunication sector accounted for the largest synthetic data generation market share in 2021.
- Region wise, North America generated highest revenue in 2021.

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