

Generative Artificial Intelligence (AI) In Telecom Market In 2029

*The Business Research Company's
Generative Artificial Intelligence (AI) In
Telecom Market Report 2025 – Market
Size, Trends, And Global Forecast 2025-
2034*

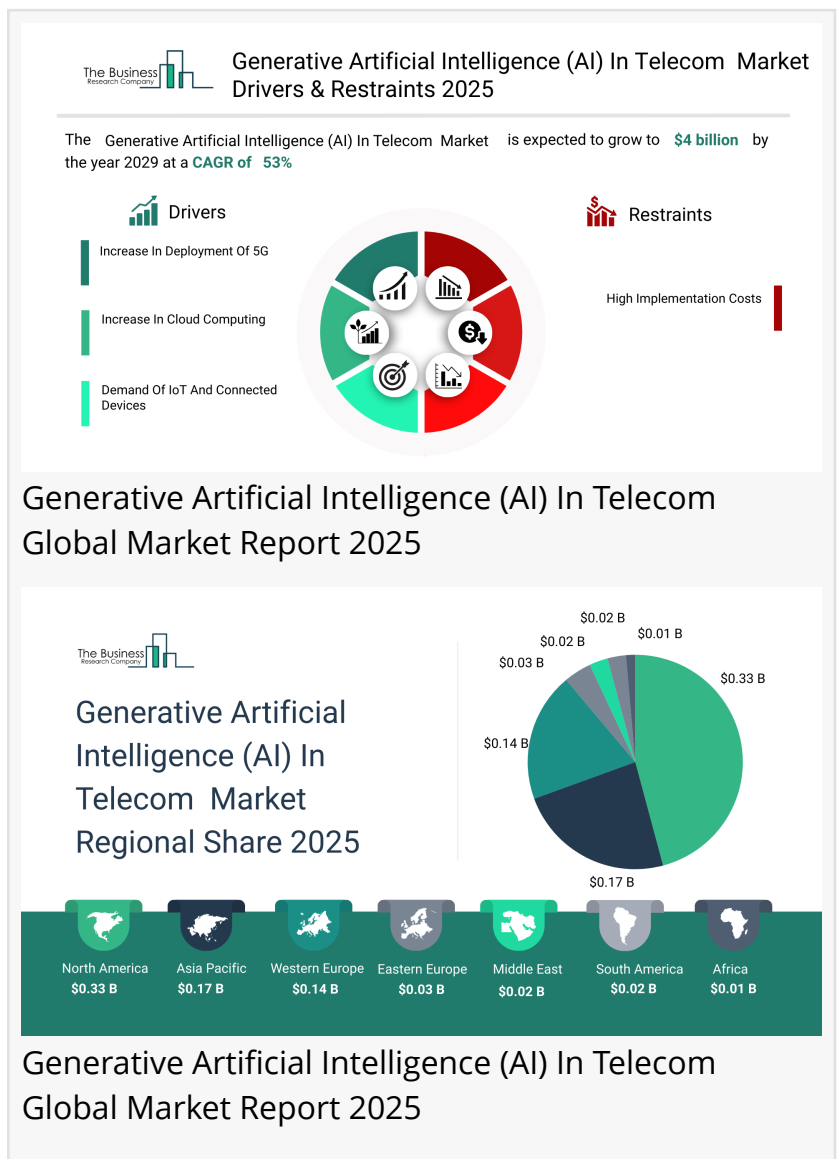
LONDON, GREATER LONDON, UNITED KINGDOM, December 19, 2025 /EINPresswire.com/ -- "[Generative Artificial Intelligence \(AI\) In Telecom Market](#) to Surpass \$4 billion in 2029. Within the broader Information Technology industry, which is expected to be \$12,711 billion by 2029, the Generative Artificial Intelligence (AI) In Telecom market is estimated to account for nearly 0.03% of the total market value.

Which Will Be the Biggest Region in the Generative Artificial Intelligence (AI) In Telecom Market in 2029

North America will be the largest region in the generative artificial intelligence (AI) in telecom market in 2029, valued at \$1,479 million. The market is expected to grow from \$225 million in 2024 at a compound annual growth rate (CAGR) of 46%. The exponential growth can be attributed to the growth of IoT (internet of things) and connected devices and development of smart cities.

Which Will Be The Largest Country In The Global Generative Artificial Intelligence (AI) In Telecom Market In 2029?

The USA will be the largest country in the generative artificial intelligence (AI) in telecom market



in 2029, valued at \$1,323 million. The market is expected to grow from \$198 million in 2024 at a compound annual growth rate (CAGR) of 46%. The exponential growth can be attributed to the government and industry support, fraud detection and prevention, expansion to rural area and expansion of cloud computing.

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What will be Largest Segment in the Generative Artificial Intelligence (AI) In Telecom Market in 2029?

The generative artificial intelligence (AI) in telecom market is segmented by type into text-based, image-based and voice-based. The text-based market will be the largest segment of the generative artificial intelligence (AI) in telecom market segmented by type, accounting for 36% or \$1,429 million of the total in 2029. The text-based market will be supported by the increasing need for automated report generation and documentation, advancements in natural language processing (NLP) technologies, telecom companies' focus on enhancing personalized messaging and marketing campaigns and the growing adoption of AI-powered chatbots for customer service.

The generative artificial intelligence (AI) in telecom market is segmented by component into software and services. The software market will be the largest segment of the generative artificial intelligence (AI) in telecom market segmented by component, accounting for 69% or \$2,775 million of the total in 2029. The software market will be supported by the growing adoption of AI-driven platforms for network optimization, advancements in machine learning algorithms and natural language processing (NLP), the increasing demand for automated customer service solutions and telecom companies' focus on enhancing operational efficiency through AI-powered analytics and automation tools.

The generative artificial intelligence (AI) in telecom market is segmented by deployment into on-premises, cloud-based, edge and hybrid models. The cloud-based market will be the largest segment of the generative artificial intelligence (AI) in telecom market segmented by deployment, accounting for 30% or \$1,190 million of the total in 2029. The cloud-based market will be supported by the increasing adoption of AI-as-a-service (AlaaS) solutions, the growing need for scalable and cost-effective AI deployment, advancements in cloud computing infrastructure and telecom companies' focus on enhancing flexibility and operational efficiency through cloud-based AI models.

The generative artificial intelligence (AI) in telecom market is segmented by application into network optimization, predictive maintenance, improved call center operations and customer support, personalized product or service recommendations, security and fraud detection, marketing and personalized product recommendations and other applications. The network optimization market will be the largest segment of the generative artificial intelligence (AI) in telecom market segmented by application, accounting for 21% or \$837 million of the total in

2029. The network optimization market will be supported by the increasing demand for AI-driven traffic management, the growing need for predictive maintenance to reduce network downtime, advancements in machine learning algorithms for dynamic network optimization and telecom companies' focus on enhancing service quality and operational efficiency.

What is the expected CAGR for the Generative Artificial Intelligence (AI) In Telecom Market leading up to 2029?

The expected CAGR for the generative artificial intelligence (AI) in telecom market leading up to 2029 is 51%.

What Will Be The Growth Driving Factors In The Global Generative Artificial Intelligence (AI) In Telecom Market In The Forecast Period?

The rapid growth of the global generative artificial intelligence (AI) in telecom market leading up to 2029 will be driven by the following key factors that are expected to reshape network automation, customer engagement, service innovation, and operational efficiency across the telecommunications industry worldwide.

Increase In Deployment of 5G - The increase in deployment of 5g will become a key driver of growth in the generative artificial intelligence (AI) in telecom market by 2029. The increase in the deployment of 5G technologies is driven by the growing demand for high-speed, low-latency connectivity to support advanced applications across industries. As digital transformation accelerates, businesses and consumers require faster and more reliable networks for IoT, AI-driven automation, smart cities and high-definition streaming. 5G technologies enhance generative AI in telecom by providing high-speed, low-latency connectivity for real-time applications. Faster data transmission enables AI-driven fraud detection, automated customer support, predictive maintenance and personalized services. 5G also supports seamless AI automation, edge computing and cloud-based AI, improving network optimization and anomaly detection. As a result, the increase in deployment of 5G is anticipated to contributing to annual growth in the market.

Increase In Cloud Computing - The increase in cloud computing will emerge as a major factor driving the expansion of the generative artificial intelligence (AI) in telecom market by 2029. Cloud computing is the on-demand delivery of computing resources, such as servers, storage, databases, networking, software and analytics, over the internet. The increase in cloud computing is due to the growing need for scalable, cost-effective and flexible IT solutions across industries. Businesses are shifting to cloud-based infrastructure to reduce capital expenditures on physical hardware while benefiting from on-demand computing power, storage and advanced analytics. Generative artificial intelligence (AI) in telecom enhances cloud computing by optimizing resource management, improving security and enabling automation. AI-driven models analyze vast network data to predict traffic patterns, allowing telecom providers to allocate cloud resources and reduce operational costs dynamically. Generative AI also strengthens cybersecurity by detecting anomalies, preventing fraud and automating threat responses in cloud environments. Consequently, the increase in cloud computing is projected to

contributing to annual growth in the market.

Demand Of IoT And Connected Devices - The demand of IoT and connected devices will serve as a key growth catalyst for the generative artificial intelligence (AI) in telecom market by 2029. IoT (Internet of Things) and connected devices refer to a network of physical objects embedded with sensors, software and other technologies that enable them to collect and exchange data over the internet. The demand for IoT and connected devices is due to the need for greater automation, efficiency and real-time data insights across various industries. Businesses and consumers increasingly rely on smart devices to streamline operations, enhance convenience and improve decision-making. As more devices connect to telecom networks, vast amounts of data are generated, requiring AI-driven solutions to analyze, manage and secure this information efficiently. Generative AI helps telecom companies enhance network performance through predictive maintenance, automated troubleshooting and intelligent traffic management. Therefore, this demand of IoT and connected devices is projected to supporting to annual growth in the market.

The Increasing Government Initiative - The increasing government initiative will become a significant driver contributing to the growth of the generative artificial intelligence (AI) in telecom market by 2029. A government initiative refers to a strategic plan, program, or policy introduced by a government to address specific issues, promote economic growth, improve public services, or drive technological advancements. These initiatives can focus on various sectors, such as healthcare, education, infrastructure, digital transformation and sustainability. Governments worldwide are investing in AI research, digital transformation and 5G expansion, which creates a strong foundation for telecom companies to adopt generative AI solutions. Policies promoting AI innovation, cybersecurity and data privacy also encourage telecom providers to integrate AI-driven automation, predictive analytics and intelligent customer support. Consequently, the increasing government initiative is projected to contributing to annual growth in the market.

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What Are The Key Growth Opportunities In The Generative Artificial Intelligence (AI) In Telecom Market in 2029?

The most significant growth opportunities are anticipated in the text-based generative AI in telecom market, the generative artificial intelligence (AI) in telecom software market, the cloud-based generative artificial intelligence (AI) in telecom market, and the generative AI-driven network optimization and telecom market. Collectively, these segments are projected to contribute over \$5 billion in market value by 2029, driven by the rapid integration of AI-driven automation in network operations, growing demand for intelligent customer engagement platforms, advancements in cloud infrastructure, and the increasing adoption of generative models for network design, optimization, and predictive maintenance. This surge reflects the transformative impact of generative AI on telecom ecosystems enabling autonomous network

management, hyper-personalized service delivery, and next-generation operational efficiency thereby fuelling substantial growth within the broader AI-powered telecommunications industry.

The generative artificial intelligence (AI) in telecom software market is projected to grow by \$2,440 million, the text-based generative AI in telecom market by \$1,223 million, the cloud-based generative artificial intelligence (AI) in telecom market by \$1,076 million, and the generative AI-driven network optimization and telecom market by \$722 million over the next five years from 2024 to 2029.

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