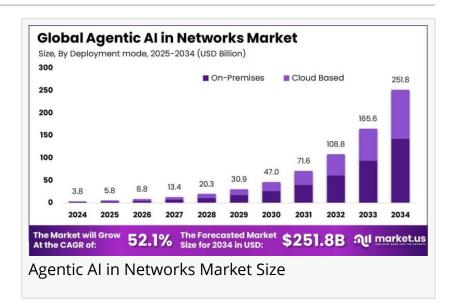


# Agentic AI in Networks Market Boosts Industry By USD 196.6 billion by 2034, Region at 38% Market Share

North America held a dominant market position in 2024, securing 40.5% of the market share and generating approximately USD 1.5 billion in revenue...

NEW YORK, NY, UNITED STATES, February 17, 2025 /EINPresswire.com/ -- The global <u>Agentic AI in Networks</u> <u>Market</u> is projected to grow from USD 3.8 billion in 2024 to USD 251.8 billion by 2034, with a CAGR of 52.1%. This surge is driven by technological advancements in AI such as Machine



Learning, Deep Learning, and especially Natural Language Processing, which dominated the market in 2024 with a 34.6% share. These technologies are integral not only in enhancing operational efficiency but also in driving automation across complex network infrastructures.

# "

In 2024, the Natural Language Processing (NLP) segment dominated the market, holding a 34.6% share..."

Tajammul Pangarkar

The segment analysis reveals an increasing preference for on-premise deployment over <u>cloud-based</u> solutions due to enhanced control and security. Key applications span Network Automation and Security Management, reflecting

the need for self-optimizing systems that handle vast data traffic with minimal human intervention. The presence of major players like AT&T and Verizon, along with substantial investment in AI-driven network solutions, bolsters market growth.

Key Takeaways

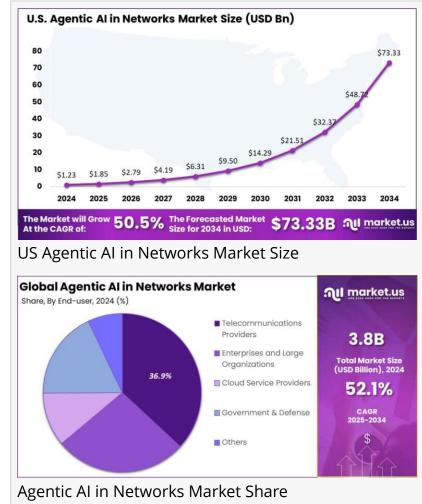
Projected market size: USD 251.8 Billion by 2034. 2024's market size: USD 3.8 Billion.

The dominant segment in 2024: Natural Language Processing with a 34.6% share.

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## **Experts Review**

Experts in the industry herald the rapid adoption of agentic AI as a transformative force in network management. Government incentives and technological innovations are crucial stimulants, allowing sectors like telecommunications and large enterprises to optimize operations and security measures. However, experts caution about inherent risks, such as



data privacy issues and regulatory challenges that need addressing to ensure ethical AI deployment.

Investment opportunities abound, especially as AI systems become more integrated with existing technologies, offering companies the chance to enhance their service offerings. Yet, risks persist, particularly concerning the technological impact on existing <u>infrastructure</u> and the need for regulatory compliance that varies across regions.

Consumer awareness is growing, leading to an increased demand for transparent AI usage and practices. These technological impacts are profound, revolutionizing traditional network operations and paving the way for efficient, automated processes. The regulatory environment remains a critical area of focus, influencing the pace and scope of AI adoption. Experts emphasize the importance of developing robust frameworks to guide these advancements safely and effectively.

The Agentic AI in Networks Market report provides detailed insights categorized by technology, deployment modes, applications, and end-users. Technologically, it covers advancements in areas such as Machine Learning, Reinforcement Learning, and Natural Language Processing among others. Deployment modes are bifurcated into On-Premise, which is preferred for its security and control, and Cloud-Based options that offer scalability.

Applications are observed in Network Automation for traffic management, Security Management for real-time threat detection, and Service Management, including performance monitoring. Key end-users span Telecommunications Providers and Large Organizations committed to leveraging AI for enhancing network infrastructure and service reliability.

The segmentation aids stakeholders in understanding diverse market dynamics, enabling strategic decisions that harness AI technologies effectively. This structure allows enterprises to navigate AI adoption, optimize operational strategies, and improve service offerings across global networks.

By Technology Machine Learning (ML) Reinforcement Learning (RL) Deep Learning (DL) Natural Language Processing (NLP) Computer Vision Others

By Deployment Mode On-Premise Cloud-Based

By Application

Network Automation Traffic Management Fault Detection and Prevention Network Slicing Others

Security Management Intrusion Detection Systems (IDS) Anomaly Detection Threat Intelligence Others Service Management Virtual Network Functions (VNFs) Network Performance Monitoring Others Others (Edge Computing, Customer Experience, etc.)

By End-User Telecommunications Providers Enterprises and Large Organizations Cloud Service Providers Government & Defense Others

Drivers, Restraints, Challenges, and Opportunities

Technological advancements and the urgent need for automation in complex networks drive the Agentic AI market. Businesses are particularly motivated by the efficiencies AI offers in terms of operational streamlining and decision-making improvement. Nevertheless, ethical concerns and regulatory challenges act as significant restraints, focusing on data privacy and security.

The complexity of AI integration into existing systems forms another substantial challenge, demanding meticulous planning and investment, often posing hurdles for smaller enterprises. Despite such challenges, opportunities are vast, particularly with AI's integration with cloud services. This aligns with emerging trends in resource allocation and network optimization, sparking interest among enterprises aiming for agile and resilient infrastructures.

Dynamic network adaptability further spurs opportunities, enhancing performance by aligning resources with demand fluctuations without overextending budgets. This adaptability is crucial in maintaining service quality efficiently across various sectors.

### Key Player Analysis

Leading market players like AT&T Intellectual Property and Verizon Communications Inc. are pivotal in the Agentic AI sector. Through strategic implementation of AI-driven technologies, these companies enhance network management and optimize 5G services.

AT&T focuses on automation and operational efficiency, utilizing AI to streamline network functionalities. Verizon, meanwhile, emphasizes AI in optimizing network capabilities, reducing latency, and ensuring high-quality services. Other significant players include Vodafone Group PLC, which leverages AI for predictive maintenance and real-time monitoring, enhancing decision-making processes.

These industry leaders prioritize innovation and infrastructure improvements, maintaining their competitive edge in the rapidly evolving agentic AI landscape by continuously investing in cutting-edge technology and AI solutions.

AT&T Intellectual Property Verizon Communications Inc. Vodafone Group PLC Deutsche Telekom China Mobile Limited Cisco Systems, Inc. Huawei Technologies Co., Ltd. Juniper Networks, Inc. Nokia Corporation Arista Networks, Inc. Amazon Web Services, Inc. International Business Machines Corporation (IBM) Others

#### **Recent Developments**

Significant recent developments include notable partnerships and technological advancements from 2024 to 2025. Lumen Technologies, for instance, secured a substantial \$5 billion deal, reflecting robust growth potential in the AI-driven network sector. This venture aims to provide advanced networking and cybersecurity solutions to meet increasing digital infrastructure demands.

Moreover, telecom providers are transitioning towards intuitive systems capable of autonomously adapting to changing conditions, optimizing service quality and responsiveness. This shift highlights the expanding role of AI in managing dynamic network environments, underlining the industry's momentum toward fully integrated intelligent solutions.

These developments signal a transformative shift in network management, underscoring AI's pivotal role in revolutionizing operational efficiency and strategic infrastructure deployment.

#### Conclusion

The Agentic AI in Networks Market is set for immense growth, fueled by technological innovations and increasing corporate demand for automation. While regulatory and ethical challenges persist, the opportunities for enhancing network functionality through AI integration are vast.

As industry leaders continue to innovate, there's potential for improved efficiency, security, and decision-making across various sectors. Continuous investment and strategic partnerships will be critical in leveraging AI advancements, ensuring competitive advantages in the evolving digital landscape. Businesses embracing these trends stand to gain significantly from enhanced operational capabilities and customer satisfaction.

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Lawrence John Prudour +91 91308 55334 Lawrence@prudour.com Visit us on social media: Facebook LinkedIn

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