

AI in Network Operations Market Forecasts to 2034 – Global Analysis By Solution Type (Network Monitoring and Observability, Network Automation and Orchestration, AIOps Platforms, Network Performance Management, Network Security and Threat Detection, Fault Detection and Root Cause Analysis, and Capacity Planning and Optimization), Deployment, Technology, Application, End User, and By Geography

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Abstracts

According to Statistics MRC, the Global AI in Network Operations Market is accounted for \$19.3 billion in 2026 and is expected to reach \$86.2 billion by 2034 growing at a CAGR of 20.6% during the forecast period. AI in network operations refers to the application of artificial intelligence and machine learning technologies to automate, optimize, and manage network infrastructure and services. The market encompasses solution types including network monitoring and observability, network automation and orchestration, AIOps platforms, network performance management, network security and threat detection, fault detection and root cause analysis, and capacity planning and optimization. These solutions are deployed across cloud-based, on-premises, and hybrid environments.

Market Dynamics:

Driver:

Growing network complexity and need for automated operations

The increasing complexity of modern networks, driven by cloud adoption, virtualization, 5G, and IoT, is a primary driver for AI in network operations. Traditional manual network management approaches cannot handle the scale and dynamism of modern networks. AI enables automated monitoring, anomaly detection, fault resolution, and performance optimization. Organizations are adopting AIOps to reduce operational costs, improve service quality, and free staff for strategic initiatives. As networks continue growing in complexity, demand for AI-powered network operations solutions expands, supporting sustained market growth.

Restraint:

Data quality challenges and integration complexity

Challenges related to data quality and integration complexity represent a major restraint for the market. AI models require large volumes of high-quality data for training and accurate predictions. Network data is often siloed across multiple tools and systems, creating integration challenges. Inconsistent data formats and incomplete data affect model performance. Integrating AI solutions with existing network management systems requires significant effort. These data and integration challenges may slow AI adoption in network operations, particularly among organizations with fragmented management tools.

Opportunity:

Adoption of generative AI and digital twins

The growing adoption of generative AI and digital twin technologies presents significant opportunities for AI in network operations market expansion. Generative AI enables natural language interfaces for network management and automated report generation. Digital twins provide virtual representations of networks for simulation, testing, and optimization. These technologies enhance predictive capabilities and enable more sophisticated automation. As generative AI and digital twins mature, innovative network operations solutions capture growing market share.

Threat:

Trust and explainability concerns in AI-driven decisions

Trust and explainability concerns regarding AI-driven network decisions pose significant threats to market growth. Network operations teams may be reluctant to trust automated decisions without understanding AI reasoning. Black-box AI models create

accountability challenges for critical network incidents. Regulatory requirements for explainable AI may affect adoption in some industries. These trust and explainability concerns may slow AI adoption in network operations, particularly for mission-critical functions.

Covid-19 Impact:

The COVID-19 pandemic dramatically accelerated AI adoption in network operations as organizations faced unprecedented network demands while managing with significantly reduced on-site technical staff. Remote network management and automated operations transformed from optional efficiencies into essential capabilities, driving rapid deployment of AIOps platforms. Surging remote work, online services, and digital collaboration created network complexity that manual approaches could not address. The pandemic highlighted the value of predictive analytics and automated fault resolution. Post-pandemic, sustained digital transformation and hybrid work models have maintained strong market growth.

The Network Monitoring and Observability segment is expected to be the largest during the forecast period

The Network Monitoring and Observability segment is expected to account for the largest market share during the forecast period, driven by the fundamental need for visibility into network performance, availability, and health. Network monitoring and observability solutions provide real-time insights into network behavior, enabling proactive issue detection and resolution. The segment benefits from broad applicability across all network types and industries. As network complexity increases, monitoring and observability maintain the largest solution type segment share.

The Telecommunications Service Providers segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the Telecommunications Service Providers segment is predicted to witness the highest growth rate, fueled by the complexity of 5G networks, growing demand for service assurance, and the need to reduce operational costs while improving customer experience. Telecom operators are deploying AI in network operations to manage increasingly complex infrastructure. The segment benefits from 5G deployment and network virtualization. As operators prioritize automation and

efficiency, this end-user segment delivers the fastest growth.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by early AI adoption, advanced network infrastructure, and presence of major technology vendors. The United States leads regional growth with substantial investment in network automation and AIOps. High awareness of AI benefits drives adoption. Well-established technology ecosystem supports innovation. With technology leadership and early adoption, North America maintains its dominant market position.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, driven by rapid 5G deployment, expanding cloud infrastructure, and increasing network complexity across China, Japan, India, and Southeast Asia. The region's large and growing telecommunications market creates substantial demand for AI network operations. Government digital initiatives support network modernization. As network complexity increases, Asia Pacific delivers the fastest market growth globally.

Key players in the market

Some of the key players in AI in Network Operations Market include Cisco Systems, Inc., IBM Corporation, Juniper Networks, Inc., Hewlett Packard Enterprise, Nokia Corporation, Ericsson, Huawei Technologies Co., Ltd., Broadcom Inc., SolarWinds Corporation, Dynatrace, Inc., Splunk LLC, ScienceLogic, New Relic, Inc., LogicMonitor, Inc., and Zabbix LLC.

Key Developments:

In September 2026, Cisco released its Impact of Agentic AI on Network Operations research, showing that over 80% of enterprise NetOps teams are transitioning toward autonomous "AgenticOps" operating models capable of making real-time closed-loop configuration and routing changes.

In September 2026, Hewlett Packard Enterprise expanded GreenLake with agentic AIOps and unified cloud operations software to manage and optimize enterprise AI clusters and distributed infrastructure.

In September 2026, Nokia partnered with Microsoft to integrate Nokia Data Suite with Microsoft Fabric's OneLake, enabling autonomous AI agents to perform real-time root-cause analysis, voice-over-new-radio assurance, and RAN diagnostics.

In July 2026, IBM advanced watsonx orchestration across its AIOps capabilities to automate hybrid cloud network monitoring, event correlation, and autonomous incident remediation.

Solution Types Covered:

Network Monitoring and Observability

Network Automation and Orchestration

AIOps Platforms

Network Performance Management

Network Security and Threat Detection

Fault Detection and Root Cause Analysis

Capacity Planning and Optimization

Deployment Modes Covered:

Cloud-Based

On-Premises

Hybrid

Technologies Covered:

Machine Learning

Deep Learning

Natural Language Processing

Generative AI

Predictive Analytics

Digital Twins

Reinforcement Learning

Applications Covered:

Network Fault Management

Performance Optimization

Predictive Maintenance

Traffic Optimization

Security Operations

Service Assurance

Configuration Management

Capacity Management

End Users Covered:

Telecommunications Service Providers

Cloud Service Providers

Enterprises

Data Centers

Managed Service Providers

Government and Public Sector

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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