

AI-Based Telecom Service Automation Market Forecasts to 2034 – Global Analysis By Solution Type (Network Automation Platforms, Service Orchestration Solutions, Intelligent Workflow Automation, AI- Powered OSS/BSS Automation, Customer Service Automation, Network Performance Optimization Solutions and Predictive Maintenance Platforms), Deployment Mode, Technology, Application, End User and By Geography

<https://marketpublishers.com/r/AD37B9B64F04EN.html>

Date: June 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: AD37B9B64F04EN

Abstracts

According to Statistics MRC, the Global AI-Based Telecom Service Automation Market is accounted for \$2.8 billion in 2026 and is expected to reach \$8.9 billion by 2034 growing at a CAGR of 15.5% during the forecast period. AI-based telecom service automation refers to artificial intelligence systems that automate network operations, service provisioning, and customer support within telecommunications infrastructure. These solutions include network automation platforms, service orchestration, intelligent workflow automation, AI-powered OSS and BSS systems, and predictive maintenance platforms. The technology encompasses machine learning, natural language processing, computer vision, generative AI, and robotic process automation. AI-based telecom automation serves mobile operators, internet service providers, and enterprise communication providers seeking operational efficiency.

Market Dynamics:

Driver:

Network complexity growth

The exponential growth of network complexity is driving demand for AI-based automation across telecommunications infrastructure. 5G deployment introduces massive device connectivity and network slicing requirements. Edge computing proliferation creates distributed management challenges. IoT connectivity demands automated provisioning at scale. The transition from hardware to software-defined networks requires intelligent orchestration capabilities.

Restraint:

Legacy system integration

Integration of AI automation with legacy telecom infrastructure presents significant technical challenges. Proprietary protocols and closed systems limit interoperability. Existing OSS and BSS platforms require extensive modification for AI integration. Data silos across network domains constrain training data availability. These integration barriers increase deployment costs and extend implementation timelines.

Opportunity:

Generative AI applications

Integration of generative AI for network configuration and customer support presents substantial opportunities. Large language models enable natural language interfaces for network management. Generative AI automates code generation for network function virtualization. Intelligent chatbots and virtual assistants improve customer experience. The technology reduces reliance on specialized technical expertise.

Threat:

Vendor consolidation

Consolidation among telecom equipment vendors threatens to limit AI automation platform choices. Major vendors integrate AI capabilities into comprehensive solution stacks. Open-source alternatives challenge commercial platform positioning. The dominance of hyperscale cloud providers in AI infrastructure constrains specialized vendors. Market concentration increases pricing pressure.

Covid-19 Impact:

The COVID-19 pandemic dramatically increased network traffic, highlighting the need for automated capacity management. Remote work requirements accelerated digital service adoption. Initial disruptions affected deployment timelines. Post-pandemic, sustained digital transformation sustains demand. The experience catalyzed investment in resilient automated networks.

The customer service automation segment is expected to be the largest during the forecast period

The customer service automation segment is expected to account for the largest market share during the forecast period, due to critical importance in subscriber retention and operational efficiency. Automated customer service reduces support costs while improving response times. AI-powered chatbots handle routine inquiries at scale. Integration with CRM systems enables personalized service delivery. The segment benefits from measurable ROI and quick deployment.

The on-premises segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the on-premises segment is predicted to witness the highest growth rate, driven by security requirements and data sovereignty concerns. On-premises deployment provides direct control over sensitive network data. Regulatory requirements in certain jurisdictions mandate local data processing. Large operators prefer capital expenditure models over recurring cloud costs. Integration with existing data centers reduces latency.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to advanced telecom infrastructure and early AI adoption. The United States leads with major operators investing heavily in network automation. Well-developed cloud infrastructure supports hybrid deployment models. Strong vendor ecosystem drives innovation. Regulatory clarity supports investment.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest

CAGR, driven by massive 5G deployment and digital transformation. China represents the dominant market with government-supported network modernization. India presents emerging opportunities with expanding mobile subscriber base. Government digital initiatives create favorable environments. The region's manufacturing strength sustains vendor ecosystem.

Key players in the market

Some of the key players in AI-Based Telecom Service Automation Market include IBM Corporation, Microsoft Corporation, Google LLC, Amazon Web Services, Inc., Nokia Corporation, Ericsson, Huawei Technologies Co., Ltd., Cisco Systems, Inc., Oracle Corporation, SAP SE, Infosys Limited, Wipro Limited, Tech Mahindra Limited, Accenture plc, Amdocs Limited, Juniper Networks, Inc., VMware, Inc. and HCL Technologies Limited.

Key Developments:

In May 2026, Huawei Technologies Co. Ltd. launched an AI-powered network automation platform featuring self-healing capabilities for 5G standalone core networks, enhancing operational resilience, network efficiency, fault detection accuracy, service continuity, and intelligent telecommunications infrastructure management globally.

In April 2026, Oracle Corporation partnered with European telecom operators to deploy generative AI for automated network configuration and troubleshooting, improving operational efficiency, service reliability, predictive diagnostics, network scalability, and advanced telecommunications automation capabilities across regional infrastructure systems.

In March 2026, Google LLC introduced edge AI processing for real-time network optimization within distributed radio access networks, strengthening low-latency connectivity, intelligent traffic management, infrastructure efficiency, dynamic resource allocation, and next-generation telecommunications performance across digital ecosystems globally.

Solution Types Covered:

Network Automation Platforms

Service Orchestration Solutions

Intelligent Workflow Automation

AI-Powered OSS/BSS Automation

Customer Service Automation

Network Performance Optimization Solutions

Predictive Maintenance Platforms

Deployment Modes Covered:

On-Premises

Cloud-Based

Hybrid Deployment

Technologies Covered:

Machine Learning

Natural Language Processing

Computer Vision

Generative AI

Robotic Process Automation

Edge AI

Applications Covered:

Network Monitoring

Service Provisioning

Fraud Detection & Security

Customer Experience Management

Revenue Assurance

Network Traffic Management

Energy Optimization

End Users Covered:

Telecom Operators

Mobile Network Providers

Internet Service Providers

Enterprise Communication Providers

Data Center Operators

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

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL AI-BASED TELECOM SERVICE AUTOMATION MARKET, BY SOLUTION TYPE

- 5.1 Network Automation Platforms
 - 5.1.1 Self-Organizing Networks
 - 5.1.2 AI-Based Fault Management
- 5.2 Service Orchestration Solutions
- 5.3 Intelligent Workflow Automation
- 5.4 AI-Powered OSS/BSS Automation
- 5.5 Customer Service Automation
- 5.6 Network Performance Optimization Solutions
- 5.7 Predictive Maintenance Platforms

6 GLOBAL AI-BASED TELECOM SERVICE AUTOMATION MARKET, BY DEPLOYMENT MODE

- 6.1 On-Premises
- 6.2 Cloud-Based
- 6.3 Hybrid Deployment

7 GLOBAL AI-BASED TELECOM SERVICE AUTOMATION MARKET, BY TECHNOLOGY

- 7.1 Machine Learning
- 7.2 Natural Language Processing
- 7.3 Computer Vision
- 7.4 Generative AI
- 7.5 Robotic Process Automation
- 7.6 Edge AI

8 GLOBAL AI-BASED TELECOM SERVICE AUTOMATION MARKET, BY APPLICATION

- 8.1 Network Monitoring
- 8.2 Service Provisioning

- 8.3 Fraud Detection & Security
- 8.4 Customer Experience Management
- 8.5 Revenue Assurance
- 8.6 Network Traffic Management
- 8.7 Energy Optimization

9 GLOBAL AI-BASED TELECOM SERVICE AUTOMATION MARKET, BY END USER

- 9.1 Telecom Operators
- 9.2 Mobile Network Providers
- 9.3 Internet Service Providers
- 9.4 Enterprise Communication Providers
- 9.5 Data Center Operators

10 GLOBAL AI-BASED TELECOM SERVICE AUTOMATION MARKET, BY GEOGRAPHY

- 10.1 North America
 - 10.1.1 United States
 - 10.1.2 Canada
 - 10.1.3 Mexico
- 10.2 Europe
 - 10.2.1 United Kingdom
 - 10.2.2 Germany
 - 10.2.3 France
 - 10.2.4 Italy
 - 10.2.5 Spain
 - 10.2.6 Netherlands
 - 10.2.7 Belgium
 - 10.2.8 Sweden
 - 10.2.9 Switzerland
 - 10.2.10 Poland
 - 10.2.11 Rest of Europe
- 10.3 Asia Pacific
 - 10.3.1 China
 - 10.3.2 Japan
 - 10.3.3 India
 - 10.3.4 South Korea

- 10.3.5 Australia
- 10.3.6 Indonesia
- 10.3.7 Thailand
- 10.3.8 Malaysia
- 10.3.9 Singapore
- 10.3.10 Vietnam
- 10.3.11 Rest of Asia Pacific
- 10.4 South America
 - 10.4.1 Brazil
 - 10.4.2 Argentina
 - 10.4.3 Colombia
 - 10.4.4 Chile
 - 10.4.5 Peru
 - 10.4.6 Rest of South America
- 10.5 Rest of the World (RoW)
 - 10.5.1 Middle East
 - 10.5.1.1 Saudi Arabia
 - 10.5.1.2 United Arab Emirates
 - 10.5.1.3 Qatar
 - 10.5.1.4 Israel
 - 10.5.1.5 Rest of Middle East
 - 10.5.2 Africa
 - 10.5.2.1 South Africa
 - 10.5.2.2 Egypt
 - 10.5.2.3 Morocco
 - 10.5.2.4 Rest of Africa

11 STRATEGIC MARKET INTELLIGENCE

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications

12.4 Capacity Expansion and Investments

12.5 Other Strategic Initiatives

13 COMPANY PROFILES

13.1 IBM Corporation

13.2 Microsoft Corporation

13.3 Google LLC

13.4 Amazon Web Services, Inc.

13.5 Nokia Corporation

13.6 Ericsson

13.7 Huawei Technologies Co., Ltd.

13.8 Cisco Systems, Inc.

13.9 Oracle Corporation

13.10 SAP SE

13.11 Infosys Limited

13.12 Wipro Limited

13.13 Tech Mahindra Limited

13.14 Accenture plc

13.15 Amdocs Limited

13.16 Juniper Networks, Inc.

13.17 VMware, Inc.

13.18 HCL Technologies Limited

List Of Tables

LIST OF TABLES

Table 1 Global AI-Based Telecom Service Automation Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global AI-Based Telecom Service Automation Market Outlook, By Solution Type (2023-2034) (\$MN)

Table 3 Global AI-Based Telecom Service Automation Market Outlook, By Network Automation Platforms (2023-2034) (\$MN)

Table 4 Global AI-Based Telecom Service Automation Market Outlook, By Self-Organizing Networks (2023-2034) (\$MN)

Table 5 Global AI-Based Telecom Service Automation Market Outlook, By AI-Based Fault Management (2023-2034) (\$MN)

Table 6 Global AI-Based Telecom Service Automation Market Outlook, By Service Orchestration Solutions (2023-2034) (\$MN)

Table 7 Global AI-Based Telecom Service Automation Market Outlook, By Intelligent Workflow Automation (2023-2034) (\$MN)

Table 8 Global AI-Based Telecom Service Automation Market Outlook, By AI-Powered OSS/BSS Automation (2023-2034) (\$MN)

Table 9 Global AI-Based Telecom Service Automation Market Outlook, By Customer Service Automation (2023-2034) (\$MN)

Table 10 Global AI-Based Telecom Service Automation Market Outlook, By Network Performance Optimization Solutions (2023-2034) (\$MN)

Table 11 Global AI-Based Telecom Service Automation Market Outlook, By Predictive Maintenance Platforms (2023-2034) (\$MN)

Table 12 Global AI-Based Telecom Service Automation Market Outlook, By Deployment Mode (2023-2034) (\$MN)

Table 13 Global AI-Based Telecom Service Automation Market Outlook, By On-Premises (2023-2034) (\$MN)

Table 14 Global AI-Based Telecom Service Automation Market Outlook, By Cloud-Based (2023-2034) (\$MN)

Table 15 Global AI-Based Telecom Service Automation Market Outlook, By Hybrid Deployment (2023-2034) (\$MN)

Table 16 Global AI-Based Telecom Service Automation Market Outlook, By Technology (2023-2034) (\$MN)

Table 17 Global AI-Based Telecom Service Automation Market Outlook, By Machine Learning (2023-2034) (\$MN)

Table 18 Global AI-Based Telecom Service Automation Market Outlook, By Natural

Language Processing (2023-2034) (\$MN)

Table 19 Global AI-Based Telecom Service Automation Market Outlook, By Computer Vision (2023-2034) (\$MN)

Table 20 Global AI-Based Telecom Service Automation Market Outlook, By Generative AI (2023-2034) (\$MN)

Table 21 Global AI-Based Telecom Service Automation Market Outlook, By Robotic Process Automation (2023-2034) (\$MN)

Table 22 Global AI-Based Telecom Service Automation Market Outlook, By Edge AI (2023-2034) (\$MN)

Table 23 Global AI-Based Telecom Service Automation Market Outlook, By Application (2023-2034) (\$MN)

Table 24 Global AI-Based Telecom Service Automation Market Outlook, By Network Monitoring (2023-2034) (\$MN)

Table 25 Global AI-Based Telecom Service Automation Market Outlook, By Service Provisioning (2023-2034) (\$MN)

Table 26 Global AI-Based Telecom Service Automation Market Outlook, By Fraud Detection & Security (2023-2034) (\$MN)

Table 27 Global AI-Based Telecom Service Automation Market Outlook, By Customer Experience Management (2023-2034) (\$MN)

Table 28 Global AI-Based Telecom Service Automation Market Outlook, By Revenue Assurance (2023-2034) (\$MN)

Table 29 Global AI-Based Telecom Service Automation Market Outlook, By Network Traffic Management (2023-2034) (\$MN)

Table 30 Global AI-Based Telecom Service Automation Market Outlook, By Energy Optimization (2023-2034) (\$MN)

Table 31 Global AI-Based Telecom Service Automation Market Outlook, By End User (2023-2034) (\$MN)

Table 32 Global AI-Based Telecom Service Automation Market Outlook, By Telecom Operators (2023-2034) (\$MN)

Table 33 Global AI-Based Telecom Service Automation Market Outlook, By Mobile Network Providers (2023-2034) (\$MN)

Table 34 Global AI-Based Telecom Service Automation Market Outlook, By Internet Service Providers (2023-2034) (\$MN)

Table 35 Global AI-Based Telecom Service Automation Market Outlook, By Enterprise Communication Providers (2023-2034) (\$MN)

Table 36 Global AI-Based Telecom Service Automation Market Outlook, By Data Center Operators (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) Regions are also represented in the same manner as above.

I would like to order

Product name: AI-Based Telecom Service Automation Market Forecasts to 2034 – Global Analysis By Solution Type (Network Automation Platforms, Service Orchestration Solutions, Intelligent Workflow Automation, AI-Powered OSS/BSS Automation, Customer Service Automation, Network Performance Optimization Solutions and Predictive Maintenance Platforms), Deployment Mode, Technology, Application, End User and By Geography

Product link: <https://marketpublishers.com/r/AD37B9B64F04EN.html>

Price: US\$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/AD37B9B64F04EN.html>