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Energy Infrastructure Automation Market Forecasts to 2034 – Global Analysis By Automation Type (Process Automation Systems, Substation Automation Systems, Grid Automation Platforms, Asset Automation Solutions and Remote Monitoring Systems), Component, Technology, Application, End User and By Geography

https://marketpublishers.com/r/EB4B9B9C2DD0EN.html
Date: February 2026
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: EB4B9B9C2DD0EN

Abstracts

According to Stratistics MRC, the Global Energy Infrastructure Automation Market is accounted for $49.7 billion in 2026 and is expected to reach $68.4 billion by 2034 growing at a CAGR of 4.0% during the forecast period. Energy Infrastructure Automation involves deploying intelligent control systems to manage power generation, transmission, and distribution with minimal human intervention. It uses sensors, IoT devices, and AI-driven platforms to monitor grid performance, detect anomalies, and optimize energy flows. Automation reduces operational costs, improves reliability, and supports renewable integration by balancing variable supply and demand. Utilities employ these systems to modernize legacy infrastructure, enhance resilience against outages, and ensure efficient delivery of electricity in increasingly complex energy networks.

Market Dynamics:

Driver:

Rising demand for grid efficiency

Rising demand for grid efficiency is a major driver for the Energy Infrastructure

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Automation Market as utilities seek to optimize power generation, transmission, and distribution operations. Automation solutions enable real-time monitoring, faster fault isolation, and improved load balancing across networks. These capabilities reduce technical losses and enhance asset utilization. As electricity demand grows alongside renewable integration, utilities increasingly rely on automated infrastructure to maintain reliability, operational transparency, and cost efficiency across complex energy systems.

Restraint:

Complex regulatory compliance landscape

The complex regulatory compliance landscape acts as a restraint for the Energy Infrastructure Automation Market by increasing implementation time and cost. Energy infrastructure projects must adhere to varying regional standards related to safety, data protection, and grid interoperability. Frequent regulatory updates require continuous system modifications and documentation. This complexity can slow decision-making and deter smaller utilities from large-scale automation investments, limiting short-term market growth despite strong efficiency-driven demand fundamentals.

Opportunity:

Integration of AI-driven automation

Integration of AI-driven automation presents a significant opportunity within the Energy Infrastructure Automation Market as utilities adopt advanced analytics and machine learning. AI enables predictive maintenance, adaptive control, and demand forecasting, improving operational intelligence. These capabilities help utilities proactively manage assets and minimize outages. As digital transformation accelerates, AI-driven platforms enhance return on investment by enabling autonomous decision-making and scalable automation across energy infrastructure, supporting long-term efficiency and resilience objectives.

Threat:

Operational cybersecurity vulnerabilities

Operational cybersecurity vulnerabilities pose a critical threat to the Energy Infrastructure Automation Market due to increased digital connectivity. Automated

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systems rely on networked devices and centralized control platforms, expanding potential attack surfaces. Cyber incidents can disrupt power supply, compromise sensitive data, and undermine grid stability. Addressing these risks requires continuous investment in cybersecurity frameworks and skilled personnel. Failure to mitigate vulnerabilities may slow adoption and raise concerns among utilities and regulators.

Covid-19 Impact:

The COVID-19 pandemic initially disrupted the Energy Infrastructure Automation Market through project delays and restricted on-site activities. However, it also highlighted the importance of remote monitoring and automated operations. Utilities accelerated digital adoption to ensure continuity with limited workforce availability. Post-pandemic recovery saw renewed investments in automation to enhance operational resilience and reduce manual dependency. This shift strengthened long-term demand for energy infrastructure automation solutions across global power networks.

The substation automation systems segment is expected to be the largest during the forecast period

The substation automation systems segment is expected to account for the largest market share during the forecast period, due to widespread deployment across transmission and distribution networks. These systems enable centralized control, protection coordination, and real-time data acquisition, improving grid reliability. Utilities prioritize substation automation to modernize aging infrastructure and support renewable integration. Their proven impact on operational efficiency and outage reduction results in strong adoption, contributing significantly to overall market revenues.

The control systems segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the control systems segment is predicted to witness the highest growth rate, propelled by increasing complexity of energy networks. Advanced control systems support dynamic load management, automated switching, and integration of distributed energy resources. As grids become more decentralized, demand for intelligent control platforms rises. Continuous innovation in digital control architectures and analytics-driven decision-making accelerates adoption, positioning this segment as the fastest-growing within the market.

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Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, attributed to rapid grid expansion and modernization initiatives. Rising electricity demand, urbanization, and renewable deployment drive automation investments. Countries such as China and India are upgrading transmission and distribution infrastructure at scale. Strong government support and infrastructure spending reinforce the region's dominant market position.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR associated with accelerated digital transformation of energy infrastructure. Utilities are investing in automation to address aging grids, improve resilience, and mitigate climate-related disruptions. Policy support for smart grid technologies and increasing cybersecurity spending further stimulate growth. These factors position North America as the fastest-expanding regional market for energy infrastructure automation solutions.

Key players in the market

Some of the key players in Energy Infrastructure Automation Market include Schneider Electric, Siemens, ABB, Honeywell, Rockwell Automation, Emerson, General Electric, Mitsubishi Electric, Hitachi Energy, Cisco Systems, IBM, Microsoft, AVEVA, OSISoft (AVEVA Group), Siemens Energy, Cognizant and Tata Consultancy Services.

Key Developments:

In January 2026, Schneider Electric expanded its energy infrastructure automation portfolio with AI-enabled grid management and industrial automation solutions, enhancing real-time monitoring, asset optimization, and operational efficiency across utility-scale energy infrastructure.

In December 2025, Siemens introduced an advanced automation and digitalization suite integrating edge intelligence and cybersecurity, enabling predictive maintenance, improved grid resilience, and seamless integration of renewable energy assets.

In September 2025, Hitachi Energy enhanced its energy automation systems with advanced control, protection, and monitoring technologies, supporting grid

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modernization initiatives and accelerating large-scale renewable energy integration.

Automation Types Covered:

- Process Automation Systems
- Substation Automation Systems
- Grid Automation Platforms
- Asset Automation Solutions
- Remote Monitoring Systems

Components Covered:

- Control Systems
- Sensors & Actuators
- Communication Networks
- Software Platforms
- Edge Computing Devices

Technologies Covered:

- AI-Based Automation
- Industrial IoT Platforms
- Digital Twin Systems
- Cloud-Based Automation
- Cybersecure Automation Frameworks

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Applications Covered:

- Power Generation Facilities
- Transmission Networks
- Distribution Networks
- Renewable Energy Plants
- Energy Storage Systems

End Users Covered:

- Utility Companies
- Independent Power Producers
- Grid Operators
- Industrial Energy Consumers
- Government Energy Authorities

Regions Covered:

- North America
  - United States
  - Canada
  - Mexico
- Europe

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- United Kingdom
- Germany
- France
- Italy
- Spain
- Netherlands
- Belgium
- Sweden
- Switzerland
- Poland
- Rest of Europe

Asia Pacific

- China
- Japan
- India
- South Korea
- Australia
- Indonesia
- Thailand

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- 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

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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, 3032 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

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

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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.

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