

Digital Substation Market to Reach \$13.4 Billion, Globally, by 2033 at 8.1% CAGR: AMR

The global digital substation market is growing fast as rising renewable energy adoption, like wind and solar, drives demand for advanced, flexible substations.

WILMINGTON, DE, UNITED STATES, January 30, 2025 /EINPresswire.com/ -- Allied Market Research published a report, titled, "Digital Substation Market by Type (Distribution Substation and Transmission Substation), Module (Fiber Optic Communication Network, Supervisory Control & Data Acquisition, and Hardware), Voltage (Up to 220 kV, 220 kV to 550 kV, and Above 550 kV), and Vertical (Transportation, Mining, Metal, and Others): Global Opportunity Analysis and Industry Forecast, 2024-2033". According to the report, the digital substation market was valued at \$6.3 billion in 2023, and is estimated to reach \$13.4 billion by 2033, growing at a CAGR of 8.1% from 2024 to 2033.

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Prime Determinants of Growth

The digital substation market growth is driven by increasing demand for reliable and efficient power distribution systems, enhanced operational efficiency, and reduced maintenance costs. These substations integrate advanced communication and control technologies, offering improved monitoring and control capabilities over traditional substations. However, factors like high initial investment costs and the complexity of integrating existing infrastructure pose restraints. Factors such as the rising adoption of smart grid technology and renewable energy integration, drive the need for advanced substations capable of handling complex power flows. As utilities and industrial sectors worldwide seek to modernize infrastructure, the digital substation market is anticipated to witness significant growth opportunities, driven by its ability to enhance grid reliability and optimize energy management.

Based on type, the transmission substation sub-segment held the highest market share in 2023.

The transmission substation type segment growth is driven by the need for enhanced grid reliability and efficiency. Digital substations enable real-time monitoring, automation, and remote control, reducing operational costs and downtime. Increasing investments in smart grid technologies and the integration of renewable energy sources further boost the demand for advanced transmission substations.

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Based on module, the hardware sub-segment accounted for the highest market share in 2023. The hardware module segment in the digital substation market is driven by the rising need for reliable and efficient power distribution. Innovations in sensor technology, advanced communication systems, and robust protection devices enhance grid stability and operational efficiency. In addition, the rising demand for automation and real-time monitoring capabilities boosts investment in advanced hardware components.

Based on voltage, the above 550 kV sub-segment held the highest market share in 2023. The above 550 kV voltage segment in the digital substation market is driven by the need for reliable, high-capacity power transmission to support rising energy demands. This segment benefits from advancements in automation, improved grid stability, and enhanced monitoring capabilities, which reduce downtime and maintenance costs, ensuring efficient and uninterrupted power supply across vast distances.

Based on vertical, the transportation sub-segment accounted for the highest market share in 2023.

The transportation vertical segment in the digital substation market is driven by the need for reliable and efficient power supply to support expanding rail networks and electric vehicle (EV) infrastructure. Enhanced grid stability, reduced downtime, and real-time monitoring capabilities are crucial for maintaining seamless transportation operations, ensuring safety, and meeting the increasing energy demands of modern transportation systems.

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Based on region, North America held the highest market share in terms of revenue in 2023. The North America digital substation market growth is driven by increasing investments in smart grid technology, the need for grid modernization, and the rising demand for reliable and efficient power supply. Enhanced operational efficiency, improved grid reliability, and integration of renewable energy sources further boost the adoption of digital substations, driving market growth in the region.

Key Players in the Market

- · General Electric
- · Siemens
- · Schneider Electric
- · Honeywell
- \cdot ABB
- · Larsen & Toubro
- · Emerson

- · Cisco Systems
- · Eaton
- · NR Electric
- · Cadillac Automation and Controls

These players have adopted different strategies such as collaborations, new product launches, expansions, agreements, joint ventures, and others to fuel their market share and maintain dominance in globally. Following are some of the recent developments in the industry:

• In July 2023, ABB secured a contract with TOYO Engineering Corporation in Japan, deploying its ABB Ability Symphony Plus distributed control system (DCS). This system, known for its advanced automation and control capabilities, aligns with the technological advancements seen in digital substations, enhancing efficiency and reliability in power distribution and management across utility networks.

In addition to providing a detailed analysis of key players in the global market, the report is valuable in highlighting business performance, operating segments, product portfolio, and strategic moves of market players to showcase the competitive scenario.

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Allied Market Research (AMR) is a full-service market research and business-consulting wing of Allied Analytics LLP based in Wilmington, Delaware. Allied Market Research provides global enterprises as well as medium and small businesses with unmatched quality of "Market Research Reports" and "Business Intelligence Solutions." AMR has a targeted view to provide business insights and consulting to assist its clients to make strategic business decisions and achieve sustainable growth in their respective market domain.

We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Allied Market Research CEO Pawan Kumar is instrumental in inspiring and encouraging everyone associated with the company to maintain high quality of data and help clients in every way possible to achieve success. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

Contact us:

David Correa 1209 Orange Street, Corporation Trust Center, Wilmington, New Castle, Delaware 19801 USA.

Int'l: +1-503-894-6022

Toll Free: +1-800-792-5285

Fax: +1-800-792-5285

help@alliedmarketresearch.com

Web: https://www.alliedmarketresearch.com/reports-store/energy-and-power

David Correa Allied Analytics LLP help@alliedmarketresearch.com +1 503-894-6022

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