

Smart Grid Cyber Security Market – Global Industry Size, Share, Trends, Opportunity, and Forecast. 2018-2028 Segmented By Security Type (Network Security, Endpoint Security, Application Security, Database Security, Others), By Solution Type (Identity & Access Management, Risk & Compliance Management, Encryption & Decryption, Data Loss Prevention, Unified Threat Management, Firewall, Antivirus & Malware, Intrusion Detection/Prevention System, Others), By Deployment Mode (On-Premises and Cloud), By Function (SCADA/ICS, Advanced Metering Infrastructure, Demand Response System, Home Energy Management), By Region, Competition

<https://marketpublishers.com/r/S8F170FFDAEFEN.html>

Date: September 2023

Pages: 188

Price: US\$ 4,900.00 (Single User License)

ID: S8F170FFDAEFEN

Abstracts

Global Smart Grid Cyber Security Market is growing rapidly owing to the increasing demand for more automation software and solutions and increasing number of cyber-attacks on national infrastructure after the surge in Covid-19 pandemic. Smart grid cyber security is becoming the foundational technology model for safeguarding the power infrastructure. Many enterprises are adopting smart grid cyber security solutions as a cost-effective approach to bolster real-time analysis. The high usage for security solutions across various industries has become one of the significant factors offering cutting edge services for better efficiency, scalability, and customers experience. Additionally, the growth of the market is on account of the continuous evolution of smart grids extensively integrating with emerging technologies such as Artificial Intelligence

(AI), Internet of Things (IoT), digital twins, cloud computing and cybersecurity solutions across the globe during the forecast period. Technology has become the key enabler of excellence and businesses are gradually becoming mobile as digitalization emerges which is expected to boost the global smart grid cyber security market during the forecast period.

Smart grid cyber security is an electrical grid with automation, communication and IT systems that can monitor power flows from points of generation to points of consumption and control the power flow or curtail the load to match generation in real time. A reliable and secure smart grid system provides protective approaches to improve security from cyber-attacks, such as distributed denial-of-service (DDoS) attacks. Smart grid cyber security has three key components: systems data sources, network data sources, and distribution network. Smart grid cyber security can monitor grid conditions, energy consumptions and automate many of its operators and run sophisticated algorithms, which cannot be achieved by locally implementing SCADA or ICS. The solution generally evaluates the conditions and performance of equipment through periodic or continuous assets condition monitoring and alert technicians for an upcoming failure. The organizations use smart grid to make use of different technologies such as advance components, improved decision support & interfaces, integrated communication, advance control methods and measurement & sensing to manage the energy saving through reducing consumption. Cost maintenance reduction, increased asset utilization, real-time monitoring, assets life extension, lower cost of distribution and generation, reliability improvement of the electrical grid, quality risks, efficiency improvement benefits are enabling smart grid cyber security as a significant role in effective asset management and maintenance.

Increasing Technological Advancement and Growing Demand for Energy

The increase in technological advancement and growing demand for energy across the globe is driving the smart grid cyber security market as owing to the requirement of continuous advancement such as communication and advance computing power with real-time control and monitoring in smart energy technologies. Smart grid real-time monitoring and control enable the better generation of electricity power and an efficient way for transmission and distribution of the power over the traditional business intelligence solutions. Technological advancement with the concept of smart grid design allows businesses to create controllability of assets, enhancing the performance, grid observability and better security of power system. Developing economies which lack infrastructure are relying more on smart grid advance solutions for reliability of power transmission and distribution as the technology has a huge potential to maintain the

high transmission losses. Furthermore, rising urbanization, amplifying living standards and advancement in technologies has increased the demand for electricity requirement vividly in various countries that are cost-effective, secure and offer flexibility during power delivery structure with good service reliability is enabling the growing adoption of smart grid security systems. Thus, this rising demand and adoption has anticipated the growth of smart grid cyber security in the market.

Increased Sophistication of Cyber-Attacks

One of the main drivers for the small and medium-sized enterprise is the increasing demand for better and secure solutions for overcoming recent cyber-attacks and safeguard critical power grids infrastructure. The recent cyber-attacks with increasing load and consumption demand have increased electricity complications along with problems such as blackouts, overloads, and voltage sags. Cyber-attack risks such as phishing, malware spreading, denial-of-services (DoS) and spoofing attacks have become common to hamper the power grid infrastructure. With the advent of integrating cyber security systems, enterprises can make business operations more functional, improve overall efficiency, develop risk assessments methodologies with real-time monitoring with great accuracy by addressing potential threats from disgruntled employees, terrorists, and espionage operations. Moreover, digitalization and 5G services in the emerging technology for streamlining the process are enabling the massive use of security solution, which is expected to drive the smart grid cyber security market during the forecast period.

Increasing Government Initiatives and Policies to Enhance Power Infrastructure

The increasing government initiatives and favorable policies to enhance the national power infrastructure are driving the demand of smart grid cyber security market during the forecast period. Several government initiatives and investments across the globe to secure the power infrastructure and increase the efficiency and productivity of energy while reducing the energy losses are helping enterprises to adopt more advanced solutions in the power grid. Different countries of the world have stepped forward in the era of smart grid and accept its reality. Government of different countries such as Australia, United States, China, Britain, South Korea, and Japan are already considering options such as smart grid for reducing carbon emission and energy security. Moreover, organizations such as The National Institute of Standards and Technology (NIST), European Network and Information Security Agency (ENISA) are developing guidelines with cohesive cyber strategy for smart grid cyber security. For instance, The Biden-Harris Administration through the U.S. Department of Energy

(DOE) recently announced the new financing opportunities of \$13 billion for the expansion and modernization of the nation's electric grid, reaching 100% clean electricity by 2035 and a zero-emissions economy by 2050. Thus, the rising government initiatives, favorable policies and investments are expected to propel the demand of smart grid cyber security market during the forecast period.

Market Segmentation

The smart grid cyber security market is segmented on the basis of security type, solution type, deployment mode, function, and region. Based on security type, the market is bifurcated into network security, endpoint security, application security, database security, and others. Based on solution type, the market is further split into identity & access management, risk & compliance management, encryption & decryption, data loss prevention, unified threat management, firewall, antivirus & malware, intrusion detection/prevention system, others. Based on deployment mode, the market is segmented into on-premises and clouds. Based on function, the market is segmented into SCADA/ICS, advanced metering infrastructure, demand response system, and home energy management.

Market Player

Major market players in the global smart grid cyber security market are IBM Corporation, Cisco Systems, Inc., BAE Systems PLC, Siemens AG, N-Dimension Solutions, Elster Solutions, AlertEnterprise, Intel Corporation, Symantec Corporation, Leidos.

Report Scope:

In this report, the global smart grid cyber security market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Smart Grid Cyber Security Market, By Security Type

Network Security

Endpoint Security

Application Security

Database Security

Others

Smart Grid Cyber Security Market, By Solution Type

Identity & Access Management

Risk & Compliance Management

Encryption & Decryption

Data Loss Prevention

Unified Threat Management

Firewall

Antivirus & Malware

Intrusion Detection/Prevention System

Others

Smart Grid Cyber Security Market, By Deployment Mode

On-Premises

Cloud

Smart Grid Cyber Security Market, By Function

SCADA/ICS

Advanced Metering Infrastructure

Demand Response System

Home Energy Management

Smart Grid Cyber Security Market, By Region

North America

United States

Canada

Mexico

Asia-Pacific

China

Japan

South Korea

India

Australia

Europe

United Kingdom

Germany

France

Spain

Italy

South America

Brazil

Argentina

Colombia

Middle East

UAE

Saudi Arabia

South Africa

Kuwait

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the global smart grid cyber security market.

Available Customizations:

With the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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