

Gas Insulated Switchgear Market worth \$38.31 billion by 2030 - Exclusive Report by 360iResearch

The Global Gas Insulated Switchgear Market to grow from USD 23.76 billion in 2022 to USD 38.31 billion by 2030, at a CAGR of 6.15%.

PUNE, MAHARASHTRA, INDIA , December 8, 2023 /EINPresswire.com/ -- The "<u>Gas Insulated Switchgear</u> <u>Market</u> by Installations (Indoor, Outdoor), Voltage Ratings (37 to 73 kV, 74 to 220 kV, Above 220 kV), Configuration, End User - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.



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A gas insulated switchgear (GIS) is a specific type of electrical switchyard equipment designed to moderate or regulate voltage levels in an electrical power system. An effective gas insulation mechanism is typically used to eliminate the probability of electrical outages caused by atmospheric conditions or short circuit scenarios. Gas-insulated switchgear, known for its high reliability and compact nature, is most widely used in sectors that demand robust and efficient power supply systems, such as the manufacturing, energy, utilities, and infrastructural domains. Its end-use varies from essential industrial plants and utility networks to big infrastructure projects. This switchgear with higher power capacity ratings is also in rising demand for use in high-voltage transmission networks, further driving its market value. The GIS class of switchgear is highly compact, requiring considerably less space than traditional air-insulated switchgear

(AIS), making them especially beneficial in urban areas where space is often limited. The expansion of this market is due to the rising need for efficient power transmission systems globally, expanding infrastructure development coupled with rapid urbanization, and growing investments in renewable energy projects. However, the GIS market faces potential challenges. A significant obstruction is the high cost attached to installation and associated infrastructure that may deter potential users, particularly in economically restrained regions. Moreover, the availability of alternative technologies, such as air-insulated switchgear and hybrid switchgear, pose formidable constraints. On the other hand, the GIS market presents many opportunities. The burgeoning trend of smart grids and the rising wave of digitization opens up new opportunities for AI-driven, digital GIS systems, unleashing a wide array of potential business avenues.

End-User: Expanding application of gas insulated switchgear in Industrial settings In the commercial and residential segment, the demand for GIS is primarily driven by the need for reliable, compact, and efficient power distribution systems. With growing urban populations and the rapid expansion of commercial spaces, deploying GIS systems has become critical. Industrial users of GIS depend heavily on continued electricity supply to meet their production volumes. Such users often operate in adverse conditions where traditional insulation switchgear might struggle, preferring GIS, known for its robustness and minimal maintenance needs. The power utility segment is one of the leading adopters of GIS primarily due to the growing need for scalable and efficient power transmission and distribution systems. Substations form the backbone of power utility networks, with increasing GIS application in these areas for meeting power demands and grid stability. While all three end-user sectors share the need for reliable and efficient power distribution, the scale and specific requirements differ significantly. Commercial & residential users demand compact and customizable solutions; the industrial sector counts reliability and toughness as crucial, while power utilities emphasize scalability and efficiency.

Voltage Ratings: Increasing usage of 220 kV voltage range gas insulated switchgear in power utilities

The 37 to 73 kV range of GIS accommodates medium voltage needs, primarily used in distribution networks and small-scale power substations. This range is preferred when circuit disruption can be hazardous or damaging to industrial processes or large data centers. 74 to 220 kV voltage range caters extensively to transmission network services. Moreover, it provides versatility by being operable under challenging terrains such as mountainous areas, coastal areas, and deserts. GIS devices above 220 kV are pivotal in long-distance power transmission and large-scale power generation facilities. Their application spans across various sectors, including power utilities, metals, and mining industries. Up to 36 kV, low-voltage GISs are commonly utilized in commercial buildings, hospitals, and smaller industrial facilities where the risk of electrical faults can have serious operational ramifications.

Installations: Growing installation of gas insulated switchgear in indoor settings Indoor gas insulated switchgear installations come with their own set of benefits such as indoor GIS can offer an effective solution for areas with high pollution levels since they are protected from dirt, dust, or even corrosive atmospheres. The indoor GIS is an efficient solution where space constraint is a significant issue. Indoor GIS are smaller and hence physically easier to manage than traditional open switchgear. Also, they are resistant to earthquakes and electromagnetic interference. On the other hand, outdoor gas insulated switchgear is designed to withstand any weather condition. Although exposure to outdoor conditions would cause more wear and tear compared to indoor installations, these systems come fitted with elements that resist outdoor climates. They offer a reliable and efficient long-term service and also reduce the amount and cost of maintenance required. Comparing indoor and outdoor GIS installations, indoor systems require ample indoor space and ventilation inside the building. However, outdoor systems can tackle weather considerations and constraints related to indoor space but might demand more maintenance due to exposure to outdoor environments.

Configuration: Rising preference for hybrid gas insulated switchgear structure The hybrid GIS structure is primed with a blend of air-insulated switchgear (AIS) and GIS technologies, delivering an optimal equilibrium between expenditure and performance. This configuration is indispensable for sites where space constraints are a major concern; a hybrid GIS often outperforms the conventional compact GIS in spatial optimization. The integrated three-phase GIS configuration is predominantly deployed for high-voltage applications, and this compact design is geared for enhanced reliability, thereby providing excellent power distribution to large-scale commercial and industrial sectors. The isolated phase GIS is designed to curtail the spread of phase-to-phase electrical faults, favoring applications demanding higher security and reliability. Each phase is isolated in its enclosure, reducing risk. Hybrid GIS adopts spaceoptimized functional directives, while integrated three-phase GIS focuses on high-voltage power delivery with high reliability. On the other hand, isolated phase GIS emphasizes fault isolation for enhanced security.

Regional Insights:

The United States represents a promising opportunity for GIS with the frequent upgrade of grid infrastructure and a growing focus on renewable power generation. In Canada, the abundant availability of renewable resources coupled with stringent emission norms is driving the demand for GIS. The innovations in GIS are crucial in attracting investment and fostering a favorable business environment. Furthermore, countries such as Canada and the U.S. have set goals to reduce their greenhouse gas emissions, which is expected to spur the market. The EMEA region indicates an increasing need for GIS due to massive investments in energy and industrial sectors. European countries are shifting towards sustainable energy, increasing the need for innovative, robust, versatile switchgear technologies such as GIS. The African continent portrays potential growth owing to increasing urbanization, whereas the Middle East shows a steady demand because of substantial expansion in the industrial and utility sectors. In APAC, China's urbanization process and constant upgrade of electric infrastructure in high-density cities contribute to the high demand for gas-insulated switchgear. Standards and regulations implemented by the Chinese government to reduce greenhouse emissions heighten the appeal for eco-friendly and space-saving solutions like GIS. Moreover, countries in the APAC region are

heavily investing in smart grid projects and are focusing on renewable sources for power generation, thus driving the demand for GIS. In addition, the region is witnessing substantial growth owing to technological advancement and numerous research initiatives by leading market players.

FPNV Positioning Matrix:

The FPNV Positioning Matrix is essential for assessing the Gas Insulated Switchgear Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the Gas Insulated Switchgear Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

Key Company Profiles:

The report delves into recent significant developments in the Gas Insulated Switchgear Market, highlighting leading vendors and their innovative profiles. These include ABB Ltd., ALSTOM Holdings, Bharat Heavy Electricals Limited, CG Power & Industrial Solutions Ltd. by Murugappa Group, CHINT Group Co., Ltd., Chung-Hsin Electric and Machinery Manufacturing Corp., Eaton Corporation PLC, Fuji Electric Co., Ltd., General Electric Company, Hitachi, Ltd., Hyosung Heavy Industries, Hyundai Electric & Energy Systems Co., Ltd., ILJIN Electric, Meidensha Corporation, Mitsubishi Electric Corporation, Nissin Electric Co., Ltd., Powell Industries, Inc., Schneider Electric SE, SEL S.p.A., Siemens AG, and Sumitomo Electric Industries, Ltd..

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Market Segmentation & Coverage:

This research report categorizes the Gas Insulated Switchgear Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Installations, market is studied across Indoor and Outdoor. The Indoor is projected to witness significant market share during forecast period.

Based on Voltage Ratings, market is studied across 37 to 73 kV, 74 to 220 kV, Above 220 kV, and Up to 36 kV. The 74 to 220 kV is projected to witness significant market share during forecast period.

Based on Configuration, market is studied across Hybrid, Integrated Three-phase, and Isolated Phase. The Hybrid is projected to witness significant market share during forecast period.

Based on End User, market is studied across Commercial & Residential, Industrial, and Power Utilities. The Commercial & Residential is projected to witness significant market share during forecast period.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Europe, Middle East & Africa commanded largest market share of 38.51% in 2022, followed by Asia-Pacific.

Key Topics Covered:

- 1. Preface
- 2. Research Methodology
- 3. Executive Summary
- 4. Market Overview
- 5. Market Insights
- 6. Gas Insulated Switchgear Market, by Installations
- 7. Gas Insulated Switchgear Market, by Voltage Ratings
- 8. Gas Insulated Switchgear Market, by Configuration
- 9. Gas Insulated Switchgear Market, by End User
- 10. Americas Gas Insulated Switchgear Market
- 11. Asia-Pacific Gas Insulated Switchgear Market
- 12. Europe, Middle East & Africa Gas Insulated Switchgear Market
- 13. Competitive Landscape
- 14. Competitive Portfolio
- 15. Appendix

The report provides insights on the following pointers:

1. Market Penetration: Provides comprehensive information on the market offered by the key

players

2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets

3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments

4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players

5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:

1. What is the market size and forecast of the Gas Insulated Switchgear Market?

2. Which are the products/segments/applications/areas to invest in over the forecast period in the Gas Insulated Switchgear Market?

3. What is the competitive strategic window for opportunities in the Gas Insulated Switchgear Market?

4. What are the technology trends and regulatory frameworks in the Gas Insulated Switchgear Market?

5. What is the market share of the leading vendors in the Gas Insulated Switchgear Market?

6. What modes and strategic moves are considered suitable for entering the Gas Insulated Switchgear Market?

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