Europe's Switch to Sustainable Power: The Rise of Solid-Insulated Switchgear

Solid Insulated Switchgear (SIS) is experiencing a significant rise in prominence within the European medium-voltage (MV) switchgear market. This infographic delves into the key factors driving this trend:

- **Environmental Friendliness:** SIS presents a sustainable alternative to SF_6 Gas Insulated Switchgear (GIS), aligning with increasingly stringent European regulations aimed at reducing greenhouse gas emissions.
- **Space Optimization:** Compared to traditional Air Insulated Switchgear (AIS), SIS offers a more compact design, making it ideal for applications with limited space availability.
- **Market Drivers:** The burgeoning growth of data centers and ongoing grid modernization initiatives are serving as key catalysts for SIS adoption, particularly in regions like the Nordics and Germany.

Solid Insulated Switchgear

This comparison highlights the key differences among Solid Insulated Switchgear (SIS), Gas Insulated Switchgear (GIS), and Air Insulated Switchgear (AIS) in terms of size, safety, environmental impact, CAPEX, and OPEX. SIS is compact and eco-friendly, with high safety but higher initial costs and lower operational costs. GIS offers moderate safety and size, with a very high environmental impact if SF_6 is used, initial costs higher than AIS, and moderate operational costs. AIS has the largest footprint and lower safety, with neutral environmental impact, lower initial costs, and higher operational costs.

	Solid Insulated Switchgear (SIS)	Gas Insulated Switchgear (GIS)	Air Insulated Switchgear (AIS)
Size	▮	▮▮	▮▮▮
Safety	⚡⚡⚡⚡	⚡⚡⚡	⚡⚡
Environmental Impact	Eco Friendly	Very high if SF_6 , Neutral if alternative gases	Neutral
CAPEX	$$$$	$$	$
OPEX	$	$$	$$$
OEM / Product Offering	ABB Elastimold	Schneider Electric PremSet	SIEMENS Type 8DJH	EATON Magnefix
Voltage Range	<24kV | Primary/Secondary Topology		

SIS Market Growth (CAGR (2024-2026)

33% Revenue

25% Units

- The SIS market is expected to grow fastest in switchgear insulation classes.
- Growth will be driven by increasing demand in the 1-24kV voltage segment.
- Higher costs of SIS contribute to a higher revenue CAGR.

MV SIS Market Dynamics in Europe

Data Center Expansion	The hyperscale data center market is expected to grow rapidly, driving demand for MV SIS.
Grid Modernization	Utilities are investing in grid expansion and modernization. SIS is preferred in areas with space constraints and where higher capacity equipment is needed due to its compact size and enhanced resiliency to extreme weather events.
F-Gas Regulation	The upcoming deadline on the prohibition on the sale of new SF_6-GIS in Europe, effective for the 1-24kV segment by 2026, will significantly impact the market. According to PTR research, many consumers are inclined to switch to SIS due to concerns about the compatibility of SF_6-free GIS alternatives.

Major Economies Driving the MV SIS Market in Europe

Western European economies will drive the sale of MV SIS. Nordics are expected to take the lead, followed by Germany and the rest of Europe.