

FROST & SULLIVAN

SCHNEIDER ELECTRIC

2022
PRODUCT
LEADER

*LATIN AMERICAN MEDIUM-VOLTAGE
SWITCHGEAR INDUSTRY*

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Schneider Electric excels in many of the criteria in the medium-voltage switchgear space.

AWARD CRITERIA	
<i>Product Portfolio Attributes</i>	<i>Business Impact</i>
Match to Needs	Financial Performance
Reliability and Quality	Customer Acquisition
Product/Service Value	Operational Efficiency
Positioning	Growth Potential
Design	Human Capital

Match to Needs

The proliferation of renewable energy installations and other distributed generation assets is affecting the reliability of grid networks worldwide. Specifically, it disrupts conventional business models and grid stability, leading utilities to adopt digital strategies. Furthermore, growing environmental concerns

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among investors and governmental commitments toward net-zero emissions, particularly following the 2021 United Nations Climate Change Conference of the Parties, have exponentially increased the need for sustainable solutions across all aspects of businesses.

Switchgear manufacturers are developing cost-effective solutions that address the growing complexity of utility networks and commercial and the sustainability concerns of industrial (C&I) customers. Digital devices help prevent grid failure or blackouts and identify real-time performance

changes of a distribution asset. Real-time monitoring allows utilities to decrease unplanned downtimes and outages. Additionally, developing sustainable solutions to minimize carbon footprint and the harmful sulfur hexafluoride (SF6) gas with a high Global Warming Potential (GWP) has been an unmet

market need for a long time. Recognizing the market's changing dynamics and needs, Schneider Electric, the global energy and automation solutions provider, launched SM AirSet in 2021, the first of its SF6-free switchgears for utilities and C&I customers worldwide. These next-generation technology products position Schneider Electric as the vendor of choice among utilities and C&I customers.

Reliability and Quality

Reliability and resiliency are key performance indicators for utilities and critical end-users like data centers and hospitals. Regulators continuously monitor grid performance based on these two factors as countries witness the increased deployment of distributed energy resources. Frost & Sullivan notes that Schneider Electric's medium-voltage switchgear is known for its quality and reliability.

Schneider Electric's SM AirSet has one of the lowest carbon footprints in the industry as it uses air and vacuum for insulation and interruption, unlike competing products that utilize a mixture of air and other gases, including SF6. By using air and vacuum, SM AirSet significantly reduces carbon footprint and SF6 emission, which has a GWP 23,500 times higher than carbon dioxide. To ensure the operational reliability of its switchgears, Schneider Electric has developed them with built-in internet of things (IoT) systems that can integrate with existing supervisory systems in the network. This feature provides real-time data to users on equipment criticality. SM AirSet is also designed to prevent fast aging and faults from loose connections, which represent 25% of total electric installation failures in Latin America. The integration of SM AirSet with Schneider Electric's EcoStruxure Power functionalities also allows customers to deploy predictive maintenance strategies, decreasing unscheduled downtimes and overall operating and maintenance costs.

Positioning

Schneider Electric has positioned SM AirSet in the market as the most comprehensively designed solution addressing all facets of customer needs. SM AirSet is the evolved successor of the company's already recognized SM6, a series of air-insulated medium-voltage switchgears that uses air and vacuum as the interruption medium. Schneider Electric is estimated to increase its market share beyond what it currently has in the Latin American MV switchgear market in 2021. Its leading market position and its product's near-zero carbon footprint will consolidate its market position in Latin America and support the decarbonization initiatives of utilities and C&I customers.

Schneider Electric also prioritizes safety and service continuity in its solutions. The company ensures safety in SM AirSet through the Shunt Vacuum Interruption (SVI) mechanism, which has 67 new patents, by maintaining a physical footprint similar to old-generation switchgears while eliminating the use of SF6. The SVI system ensures a safe, reliable switching solution with zero operating cost for recycling gas that competing products find necessary.

SM AirSet is also the world's first switchgear to use Schneider Electric's new operation mechanism, CompoDrive. Made of composite materials used in automotive and aerospace industries, CompoDrive is 10 times more resistant to mechanical shock and wear throughout its 40-year expected lifespan and can withstand up to 10,000 operation cycles. Further, CompoDrive can be easily upgraded in conventional systems within 15 minutes without the need to de-energize the switchgear. This capability ensures safety, fewer operational disturbances, stronger performance, higher endurance, and lower

maintenance needs for customers. Schneider Electric's SM AirSet is uniquely positioned as an offering that addresses the inefficiencies of traditional switchgears in the market. Frost & Sullivan firmly believes Schneider Electric's strong product positioning is poised for long-term market success.

Product/Service Value and Modular Design Enable Robust Growth Potential

Schneider Electric focuses on the co-creation of customer-centric use cases for lasting business relationships. During the COVID-19 pandemic, most customers faced cash constraints and challenges in mobilizing their resources for field services. With the connected features of SM AirSet providing system health reports in real time 24/7, Schneider Electric prevents unscheduled downtime and enables customers to minimize the maintenance cost associated with expensive measures such as infrared thermography. Further, system health information can be accessed within 10 meters of the switchgear through smart devices, ensuring the safety of field crews.

In terms of value addition, Schneider Electric guarantees customers an easy transition to SM AirSet from existing switchgears like SM6. The new switchgear is fully compatible with older models, sharing the

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same connection points, dimensions, and physical footprint. The modularity and similar design parameters of SM AirSet enable customers to deploy it quickly in greenfield and brownfield or extension projects. Unlike competing products with varying dimensions, SM AirSet has design similarities that support customers in switching to eco-friendly solutions without modifying the electrical design of their systems. These similarities also allow customers to plan their transition to sustainable solutions. Utilities or other industrial users usually need to replace the whole substation to pursue sustainability. With SM AirSet, they can plan their transition in phases and save significant investments. The

transition is also efficient because SM AirSet operates in the same three-position switch (open, close, and earthed) as traditional switchgear models.

The connected features and design advantages of SM AirSet ensure significant cost savings for customers in the long run. These factors will accelerate customer adoption, increasing the market growth potential of SM AirSet. Frost & Sullivan commends Schneider Electric for incorporating client-centric approaches in its plug-and-play solution, which is set to expand the company's market share and cement its market leadership in Latin America.

Conclusion

Schneider Electric's SM AirSet is a superior product that effectively addresses the digitalization and decarbonization requirements of utilities and C&I customers. The company's ability to develop a medium-voltage switchgear product of similar configurations and physical footprint to existing systems helps operators accelerate their transition toward sustainable solutions. SM AirSet adds value to customers with its modular design and IoT-supported capabilities that provide real-time system health information for reduced unscheduled downtimes and operating and maintenance costs. SM AirSet also minimizes carbon footprint and harmful SF as it uses air and vacuum for insulation and interruption. Frost & Sullivan lauds Schneider Electric for combining resiliency, reliability, safety, and flexibility to result in the innovative SM AirSet that surpasses competing and traditional switchgears.

With its strong overall performance, Schneider Electric earns Frost & Sullivan's 2022 Latin American Product Leadership Award in the medium-voltage switchgear industry.

What You Need to Know about the Product Leadership Recognition

Frost & Sullivan's Product Leadership Award recognizes the company that offers a product or solution with attributes that deliver the best quality, reliability, and performance in the industry.

Best Practices Award Analysis

For the Product Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Product Portfolio Attributes

Match to Needs: Customer needs directly influence and inspire the product portfolio's design and positioning

Reliability and Quality: Products consistently meet or exceed customer expectations for performance and length of service

Product/Service Value: Products or services offer the best value for the price compared to similar market offerings

Positioning: Products serve a unique, unmet need that competitors cannot easily replicate

Design: Products feature innovative designs, enhancing both visual appeal and ease of use

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

