

F R O S T & S U L L I V A N

SIEMENS

2022 COMPANY OF THE YEAR

*GLOBAL DATA CENTRE CRITICAL
INFRASTRUCTURE 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. Siemens excels in many of the criteria in the data centre critical infrastructure space.

AWARD CRITERIA	
Visionary Innovation & Performance	Customer Impact
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Excellence in Addressing Unmet Needs

Siemens displays a strong commitment to uncover market gaps and unmet customer needs. It places significant emphasis in tracking, studying, and understanding drivers of change that impact the current market dynamics and mega trends that will influence future market requirements. The foundational

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element of the company's innovation strategy is creating value through addressing unmet and underserved market needs. This has served as a catalyst for the company's excellence in the data centre industry where its products and solutions offer high levels of uptime, efficiency, scalability, and cost savings. Siemens' Integrated Data Centre Management Suite (IDCMS) offering is a vivid testament to demonstrate its excellence in this regard. IDCMS brings a truly holistic approach to data centre infrastructure management; it provides a high degree of operational transparency and significantly reduces human errors, thereby building a reliable information

technology ecosystem that is highly efficient and seamless to operate. The fact that IDCMS has been created by leveraging its core and well-proven BMS (building management software), "Desigo CC" and EPMS (Energy and Power Management Systems), makes it more special. This is especially evident in the

level of sophistication it brings with its seamless integration and impeccable user interface. It is noteworthy that Siemens' IDCMS has played a crucial role in preventing unplanned downtime across numerous data centres, ultimately leading to trust building with Siemens stakeholders.

Data centre operators have the opportunity to leverage Siemens technology in order to mitigate larger viability concerns that are challenging data centre technology development today. In 2021, a Frost & Sullivan study revealed that the first choice for data centre power backup in the future would be Li-ion batteries. However, there are certain challenges associated with it, such as fire risks. Responding to the increasing scrutiny in this regard, Siemens developed its fire protection solution that addresses all major challenges of Li-ion batteries. One of the key value additions it brings to data centre operators is its flawless early detection capabilities, which potentially prevents events such as thermal runaways. Its unique patented dual wavelength detection technology substantially elevates the level of fire protection within data centres; the pace at which it can detect a potential fire event far exceeds that of competing solutions. This is a perfect testament to Siemens' ability to enhance customer value through addressing technology shortcomings.

With a keen eye to preempt global market trends such as building at accelerated pace, Siemens developed its prefabricated modular (PFM) power solutions for the new data centre industry. PFM technology is deeply embedded into the company's DNA. Its vast know how and exposure in creating prefabricated solutions over the past three decades has been instrumental in perfecting a PFM design for the data centre industry. Siemens' PFM design has a unique distinction as it incorporates all the merits of a traditional data centre while eliminating the shortcomings; making it a perfect purpose-built power infrastructure that is built to fit from the start. It offers great level of agility where speed of deployment is increased significantly. This is followed by a host of value additions in the form of cost savings, efficiency gains, high degree of scalability and flexibility leading to future proofing. Siemens further disrupted the hyperscale market through its power skids and E-house solutions; a customized, modular power substation which is a more viable alternative to traditional power distribution solutions.

Visionary Scenarios Through the Use of Mega Trends

Siemens possesses a laser-like focus on leveraging megatrends to pursue market opportunities. Over the course of the research, it was evident that Siemens employs a highly structured and robust collaborative process to evaluate the implications of mega trends and the opportunities they present. A key attribute driving the company's excellence in implementing visionary scenarios through use of megatrends is its proximity to the market and its customers. This holistic approach has enabled Siemens to establish a sound product position strategy focused on critical aspects such as sustainability, resilience and life cycle performance including cost efficiency, time to market, OT/IT integration and flexibility to adapt to changes. It is also noteworthy that Siemens' risk mitigation capabilities are second to none. Siemens' White Space Cooling Optimization (WSCO) solution is a perfect example to demonstrate its excellence in translating megatrends in to meaningful and impactful products and solutions. This highly innovative and path breaking solution leverages artificial intelligence (AI) and machine learning (ML) algorithms to optimize data centre cooling to unprecedented levels, in real-time. The AI based system is designed to identify the exact cooling needs of the data centre based on real time IT loads and autonomously adjust the cooling units to deliver airflow patterns to match real-time conditions. This presents data centre

operators with a unique edge as they are empowered to eliminate operational inefficiencies and risks. Furthermore, it creates new avenues of value addition pertaining to scalability, heat load prediction, cost savings, elimination of human error (which is a key root cause for unplanned downtime) and of course sustainability. Siemens' WSCO solution marks a cornerstone in the evolution of next-gen data centres that are truly smart and autonomous. The company's long-standing technology know how and deep-rooted expertise in automation and control business is a critical success driver for the WSCO solution.

The WSCO solution will play a crucial role in cementing data centre operators' trust in AI capabilities to transform data centre operations, leading to minimal on-site intrusion and providing businesses with maximum performance control. Siemens' integration of AI in data centre solutions has also fostered trust in the scope of automation in the industry. As Siemens increases its penetration in the data centre market, it is clear that sustainability dominates the company's social responsibility agenda. Its blue GIS solution is another fine example to showcase its efforts to address greenhouse gas emissions. It has designed its medium voltage switch gears to eliminate the use of Sulfur hexafluoride (SF6) gas, which has nearly 500 times more carbon footprint than CO₂. It is noteworthy that the system leverages ambient air to insulate the current-carrying conductors inside the housing of the metal-encapsulated gas-insulated switchgear (GIS).

Implementation of Best Practices

A consultative approach lies at the heart of company's technology development, orienting its solutions-based branding. The Siemens Financial Services branch (SFS) serves as one of the good examples to highlight its excellence in best practice implementation. Its corporate department oversees potential opportunities and projects to finance, particularly fostering Siemens role as technology supplier in the market. Siemens Financial Services has been an important growth lever for its data centre infrastructure solutions and has allowed the company to expand its portfolio, acting as reliable business facilitator in various companies scattered across all regions. Similar to IDCMS, Siemens employs other high degrees of integration in all aspects of its business. The company's partnership programs project several favorable outcomes, particularly driving the reach of its products to the market significantly faster than competitors. Siemens operational best practices have generated consistent and repeatable success in the data centre industry. Its key processes incorporate long-term relationship with clients, resulting in faster contract agreements, and subsequently a faster engineering process where all Siemens products are planned and commissioned to exceed industry standards. Its multi-dimensional approach towards implementing best practices also fosters earlier engagement with customers for greenfield projects and reduces non-conformance costs due to less interfaces to be managed and higher share of proven design configurations.

The company additionally runs several management support programs as a part of its best practice implementation strategy. For instance, it has a highly organized and diligent Key Account Management (KAM) focuses on addressing the needs of enterprises and ultimately supporting regional growth for industry specific accounts. The company's Centre of Competence (COC) is a specialized competency strategy that results in seamless planning, engineering, and commissioning for data centre customers. On the other hand, its specialized and dedicated portfolio division identifies novel use cases for standard products, while assisting with the roll-out of new products, systems, and solutions.

The company's excellence in best practice implementation complemented by its technology and innovation capabilities have served Siemens' flawless transition to this century's digital fluency in data centres.

Technology Leverage

One of the markers of Siemen's competency and digital fluency is its excellence in adopting cutting-edge technologies to serve company functions. After the release of WSCO, Siemens developed an Extension Module (EM) to integrate it in the BMS platform, Desigo CC. This integration resulted in several use cases

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in Desigo CC, resulting again in substantial product improvements. Key use cases include visualization of the influence or thermal maps, custom dashboards, advance reports, and alarm consolidation. In addition to this, Siemens recently signed an industrial partnership with Zscaler to ensure rapid remote operations through its Scalance network devices. The progressive adoption of Zero Trust OT/IT security along with the ability to form the right partnerships has directly influenced clients and businesses to work with Siemens. This is driven by the fact that it offers them enhanced capabilities in remotely managing and controlling diagnostics along with superior quality

assurance. The other key feature/functionality born out of Siemens' excellence in technology leverage is the ability to transmit data from power or energy meters to a management application through its powerline technology. Responding to the market requirement, Siemens also added a violation curve notification to its existing Power Quality Meters (PQM). Paying special attention to the security of racks with electronic handles, the company has extended its Access Control system platform (SiPASS) to the server rack' doors, where it seamlessly integrates the electronic handles into its software. Integrating such new technologies into the IDCMS value proposition enables Siemens to tap into a plethora of new projects. In other words, all newly developed Siemens products have served additional functions to enhance the overall value addition, be it in customer engagement or data management.

Excellent Product/Service Value

Siemens' excellence in product/service value is underpinned by its core belief in empowering its customers with total control with respect to data centre maintenance and management. The foundational element of the company's ethos is to not simply deliver a product, but rather a holistic solution and substantial value to its customers. With its extensive market exposure and technology know-how, the company has been highly successful in creating a comprehensive portfolio of data centre critical infrastructure products that embody a truly end to end avant-garde solution set. One of Siemens' key value propositions is designed to resolve critical challenges of the global supply chain system which is afflicted by decreased rates of production, and logistics issues due to labor shortages after COVID-19. The effects of inefficient transport of produced goods due to lockdowns continue to reverberate across the manufacturing sector today. As a result, Siemens offers competitive prices and efficient delivery models

that places the company at the top of its game. The company's multi-faceted approach to offering best value to its customers is highly commendable. This approach starts with a thorough understanding of its customer's goals and challenges, followed by development of mid- and long-term scenarios that carefully lay out the desired customer journey. The final step is an amalgamation of desired outcomes, which is essentially a tailor engineered solution package that accurately meet the needs of the market.

Siemens strives to maximize value addition to its customers by leveraging three core principles. The first one is value engineering, where its customers are offered design and optimization alternatives, including 3rd party integration during planning and design. This is followed by its IDCMS, which has led to open and integrated systems of architecture. Lastly, Siemens executes flawless lifecycle management of all products that are installed at customer premises. Today, it is difficult to exclude Siemens' technological contributions to data centre digitalization, efficiency, and sustainability discourse.

Industry Leading Customer Ownership Experience

Siemens is seasoned in creating a positive customer ownership experience throughout the life cycle of the product; the company identifies challenges and evaluates all outcomes with a service mentality. Siemens' technology and services endeavor to empower its users, ensuring tangible growth in client businesses. The solutions also encourage creativity and collaboration opportunities. The Siemens Smart Infrastructure development plan illustrates the flexibility of all Siemens-related systems as an intertwined web of decarbonization, decentralization, and digital transformations. To enhance the customer ownership experience, Siemens integrates its core values into its decision-making process. The values are comprised of ethical accountability, work excellence, and innovation. With such a resilient value system, Siemens has achieved long-lasting success and growth, setting an example to numerous businesses in the data centre industry today.

Conclusion

Siemens' mission is to provide data centre operators with reliable and outstanding critical infrastructure. By deploying Siemens products, data centres across the world have gained a competitive advantage in all aspects of electrification and automation. The company has time and again proven its mettle by raising the bar higher every time and developing products and solutions that address customer pain points and frustrations. Frost & Sullivan research findings suggest that Siemens' deep-seated focus on technology along with its customer centric approach towards innovation will further elevate its leadership position in the data centre market.

For its strong overall performance, Siemens earns Frost & Sullivan's 2022 Global Company of the Year Award in the data centre critical infrastructure industry.

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios Through Mega Trends: Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first-to-market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

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

Customer Impact

Technology Leverage: Company is committed to incorporating leading-edge technologies into product offerings to enhance product performance and value

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

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

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The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership

The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

