

FROST & SULLIVAN

VERTIV

2022 PRODUCT LEADER

*EMEA PREFABRICATED MODULAR
DATA CENTRE 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. Vertiv excels in many of the criteria in the Prefabricated Modular (PFM) data centre 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

Vertiv’s ability to uncover unmet market needs and under-served customer requirements is second to

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Global Research Director**

none. The company has demonstrated excellence in the modular data centre industry when it comes to developing products and solutions that not only match the current market needs, but also anticipated future customer requirements. Its high level of success in this area can be attributed to its focus on tracking, analyzing and comprehending market trends and voice of its customers; this is ultimately translated into developing meaningful and impactful products and solutions. With a far-reaching product positioning strategy, Vertiv has been highly successful in establishing a distinct position and significant competitive edge in the market. The company has

developed a diverse and comprehensive product portfolio that allows it to cater to all segments in the data centre market including colocation, cloud, enterprise and edge. Given the inherent nature and dynamics of these individual market segments, they each exhibit their own unique set of constantly evolving needs and requirements. Frost & Sullivan research findings suggest that Vertiv is well placed to address all of these segments.

The company's prefabricated modular data centre portfolio is built on three key pillars; standard product platform, custom-built solutions, and hybrid designs. Over the course of the research, it was evident that there was one common theme at the core of Vertiv's product development strategy for all three solutions – addressing customer pain points and evolving needs. The company has strong customer engagement process which forms the basis of its product roadmap for next three to five years, where the design elements of the products are directly influenced and nurtured by customer feedback. This process involves closed feedback loop and questionnaires where the company shares both technical and commercial information with its customers. More importantly, Vertiv goes to great lengths to unearth their evolving requirements, unmet needs, current technology gaps, pain points and pressing issues. The outcome of this customer engagement process are leveraged in the product development phase.

As traditional PFM solutions have limitations in terms of deployment size, they are more suited for smaller deployments below 1MW IT load; Vertiv is well positioned to address this market segment with its standard product platform, Vertiv™ SmartMod™, Vertiv™ SmartMod™ Max and Vertiv™ SmartMod™ Combo. An intriguing aspect that provides the company with a unique edge in this particular market segment is the high flexibility offered by its online product configurator. On the other hand, Vertiv's hybrid design for hyperscale data centres is a perfect testament to its technology expertise and innovation capabilities. This particular solution has empowered the company to expand its potential target market for PFM solutions. The company has developed a hybrid portfolio of PFM products by creating prefabricated components (such as power modules, cooling modules, IT modules, hydromodules etc.). These hybrid components / modules act as building blocks that enable rapid construction of multi-megawatt hyper scale data centres, while maintaining the integrity of a true modular deployment and retaining all the inherent benefits and advantages of a traditional, smaller scale modular deployment.

Unrivalled Quality and Reliability

Vertiv is a class apart when it comes to offering holistic modular data centre products and solutions. Its focus on enhancing customer value through continuous product development and technology innovation is highly commendable. The company's focus on quality and reliability is underpinned by one of its core values of putting the customer first. It is impressive to see this core value translating into its quality policy of surpassing customer expectations. Vertiv's attention to product reliability is manifested right from the design stages where it carefully analyses reliability of individual components and equipment, product usage conditions, serviceability and other key features. It raises the bar even higher by implementing manufacturing best practices of the highest standard, resulting in an end product that excels in quality and reliability. Some best practice examples of continuous improvement initiatives to boost quality and reliability include Vertiv's internal processes which are based on the Six Sigma method and the following principles: Standard Work, Quality at the Source, Demand Management & Flow, Daily Controls, Problem Solving and Eliminate Waste.

The other impactful differentiator that sets Vertiv's product quality and reliability apart from its competitors is its technology expertise and know-how in system integration. The scale and precision at which the company brings together its design elements and structural elements on both component level and system level is unprecedented. This ultimately results in superior performance, solid interconnections and a high degree of synergy between technologies. Quality and reliability are further reinforced by two

crucial aspects; its financial strength and global reach. Vertiv's financial strength is a unique advantage that many of its competitors lack, it is also a critical attribute that differentiates it in the market, especially in the eyes of large data centre operators. It is noteworthy that the company's global reach and exposure empowers it to serve its global customers at the same level, with the same quality, irrespective of the location of the project. On the other hand, its specialized PFM engineering team, which is based out of Europe, has global responsibilities. This provides a wealth of exposure and unique opportunities to better understand its global customers' local needs, incorporate best practices and new learnings from regional projects across the globe. This is ultimately translated into adding more value to the customer. The above aspects are complemented by Vertiv's industry leading service quality, which can be categorized as truly end-to-end and holistic.

Industry Leading Product and Service Value

Vertiv has established a solid brand in a highly competitive market; it has gained a reputation as a company that delivers what it promises. The company's value proposition is centered around technology excellence, innovation, and, most importantly, customer focus. The company's innovative product development strategies and unique customer value enhancement initiatives are two key aspects that characterize its product and service values. It is a known fact that the overarching value drivers for PFM solutions are its inherent benefits such scalability, agility, efficiency, lower TCO, etc. While the company leads the way in offering all of these advantages with its PFM solutions, its ability to manage on-time project delivery is a unique value proposition that goes above and beyond the traditional value drivers. This is a key differentiator that significantly elevates the competitive advantage of Vertiv. The company achieves this by following strict discipline and implementing best practice measures and robust processes through all stages of the project, right from pre-sales, project qualification, project quoting, design engineering, right through to project delivery. At the heart of this highly efficient process is its "RASCI Matrix" of responsibilities that clearly maps out and defines the entire project process from end-to-end with a high degree of emphasis on accountability and responsibility.

Moreover, Vertiv being a global leader in critical infrastructure solutions further enhances its ability to accurately deliver a project on schedule. This is driven by its ability to leverage its own product portfolio for critical equipment and components; the company uses nearly 80% of its own products in its PFM solutions. This allows it to have complete coordination between the factories, and ultimately clear visibility on planning. The other aspect that drives Vertiv's excellence in accuracy of schedule is its use of cutting-edge BIM (building information modeling) tools. By leveraging advanced BIM systems, the company builds a comprehensive 3D model of the data centre it is constructing, which provides it with a clear visibility of all components, systems, interconnections, any physical considerations, and so on. This allows it to fix any anticipated issues that would otherwise appear on the construction site, ultimately delivering the project at the exact specifications and on time.

Outstanding Product Design

Vertiv's excellence in product design can be attributed to its highly accomplished engineering and R&D teams and its vast technology proficiency. The company has developed a wide-ranging portfolio of PFM solutions through standardization of building blocks. This allows it to cater to all segments of data centres,

at almost any size specification. For instance, it serves the smaller Edge deployments with its standard product platform through the datacenter-as-a-product concept. Additionally, the company's design

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excellence also allows it to cater to larger data centre operators' custom needs, while maintaining quality and rapidity of the build. Its power module platform is a good example of this. While it includes some standard design and building elements, the company is also able to customize it based on ad-hoc project requirements up to over 50MW in scale. It is noteworthy that the market perception of Vertiv's PFM solutions has been enriched with the addition of standardized products to its portfolio, allowing it to win more significant projects. This is clearly evident in the company's outstanding year-on-year revenue growth rate and constantly expanding customer base. It is intriguing to note that Vertiv's product design process is profoundly influenced and guided by its voice of the customer (VOC) analysis. Its

design strategy is further complemented by its highly efficient and proven gated design structure, where the design team leverages VOC inputs from various cross functions. This enables the company to capture and address customer requirements in a multidimensional manner. It is also noteworthy that this vigorous process incorporates a lean product development approach under the umbrella of six sigma principles.

Excellent Financial Performance

Vertiv has exhibited strong financial performance over the past three to four years. The company's excellence in financial performance last year can primarily be attributed to its production expansion and revenue & operating margin growth. At the same time, it is also noteworthy that Vertiv managed to keep its operating costs low, enabling it to produce excellent operating margins. 2020 was an excellent year for the company in terms of project wins; milestone projects include deployment of a 5MW modular data centre in Qatar and 34 units of 1.7MW PFM solutions deployed in the Netherlands. The key aspect driving financial stability for the company is the diversity in its projects and a good distribution in the amount and size of projects spread through the year. This constant flow of projects of varying size and nature allows it avoid peaks in manufacturing and maintain a sustainable growth pipeline.

High Future Growth Potential

Frost & Sullivan believes that Vertiv has a tremendous growth potential over the coming years. The company's deep understanding of customer segment needs and evolving requirements is the stepping stone of its product development process. It has developed a unique niche of products and solutions that are not only technically brilliant, but also embody safety, flexibility, scalability and ease of use; this will be a key driver propelling Vertiv's future growth potential. It essentially aligns its products and solutions to match the product strategy and business strategy of its customers, allowing it to grow along with its customers in a fast paced and high growth data centre market. By being a trusted partner for various data centre operators across the globe, Vertiv has a unique advantage of gaining insights and visibility on the

three to five year project pipeline of these operators. This offers the company the ability to be prepared and to develop / customize products to match the specific requirements of these operators. The company also further expanded and strengthened its offering portfolio with the recent acquisition of E+I Engineering, with which it is also able to bring in additional powertrain expertise to the table and further expand PFM manufacturing capacity. The other feather in its cap is the launch of a factory in Croatia last year, which has become the centre of excellence for both PFM solutions and custom-designed Air Handling units. More interestingly, the company has already started the expansion of this factory to double its capacity and is on the way to replicating its success in EMEA on a global scale. This is another vivid testament to its future growth potential.

On the other hand, compelling market factors and trends will also be instrumental in driving Vertiv's growth over the next few years. Some of the key trends include significant increase in data creation and consumption, high volumes of data traffic fueled by emerging technologies such as 5G, Edge, IoT, along with AI/ML developments, ever increasing enterprise outsourcing, continued high growth in the cloud market, increasing adoption of hybrid-cloud, high growth potential in the edge market and increasing demand from hyper-scale data centres.

Conclusion

Vertiv's focus on customer value enhancement through technology leverage is paramount. The company's technology innovation is driven and quantified by the value addition it brings to its customers. The company has gained a well-deserved reputation in the market. This is shaped and propelled by its ability to handle highly complex projects while matching the exact specifications and needs of its customers.

For its strong overall performance, Vertiv earns Frost & Sullivan's 2022 EMEA Product Leadership Award in the prefabricated modular data centre 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

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)**

