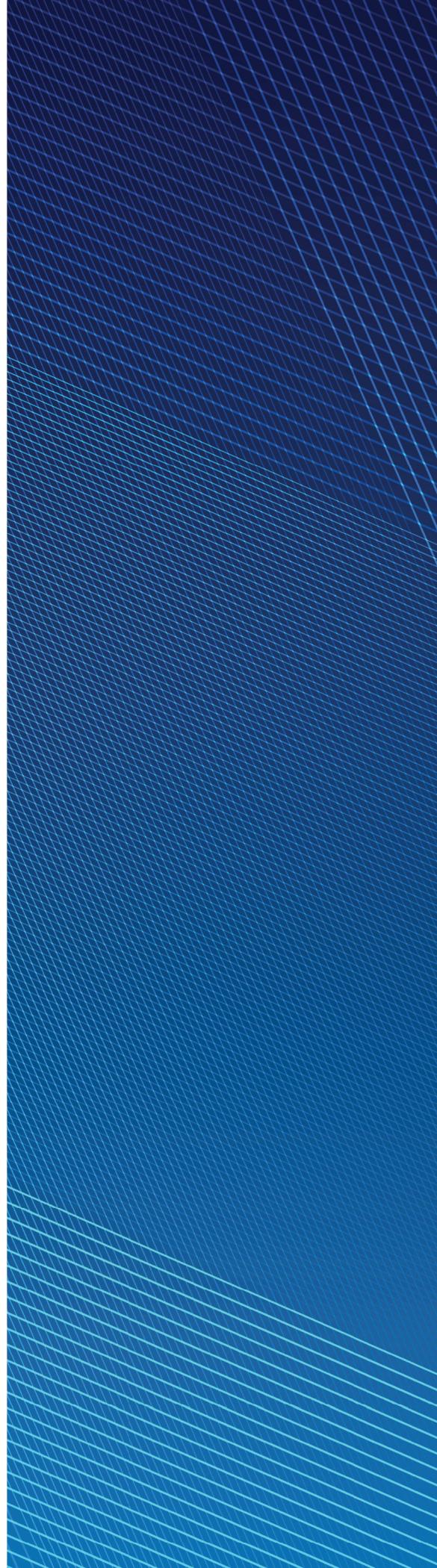


AIRSYS RECEIVES THE 2023 TECHNOLOGY INNOVATION LEADERSHIP AWARD

*Identified as best in class in the global
cooling solutions 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. Airsys excels in many of the criteria in the cooling solutions space.

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Business Impact</i>
Commitment to Innovation	Financial Performance
Commitment to Creativity	Customer Acquisition
Stage Gate Efficiency	Operational Efficiency
Commercialization Success	Growth Potential
Application Diversity	Human Capital

Commitment to Innovation

Technology innovation is embedded in Airsys’s DNA. The company’s targeted innovation is aimed at addressing the shortcomings of existing solutions and technology voids that are the root cause of customer pain points and frustrations. Airsys’s commitment towards unearthing market gaps and unmet customer needs is highly commendable. The company has demonstrated excellence in tracking, studying and understanding drivers of change that impact the current market dynamics and mega trends that will influence future market requirements. Its excellence and leadership in the cooling solutions market is primarily driven by its profound industry knowledge and technology know-how gained through years of experience. Airsys’s leadership position is further bolstered by its commitment towards constant product enhancements based on voice of customer analysis.

A great example to demonstrate Airsys’s innovation excellence is its revolutionary ZeroOne – LiquidRack which is a liquid cooling solution based on a unique server-spray technology developed by the company. The fundamental design concept of the path breaking solution is focused at solving the limitations and drawbacks associated with existing liquid (immersion) cooling technologies. To that end, the ZeroOne – LiquidRack addresses two key aspects that impede high penetration of liquid immersion cooling in the data center market. The first one is related to the infrastructure changes required to accommodate the immersion cooling solution, which involves specialized containers / tanks to hold the liquid along with related design and layout changes. The next aspect is pertaining to the maintenance challenges caused by

the handling of the liquid. Airsys's liquid cooling is a rack-based solution where a "spray-type" liquid coolant is delivered in a standard 19" rack. The unit is designed based on a dual drawer system which houses both the liquid cooling module and the server module. The Airsys liquid cooling system is designed to meet the exact dimensions of the existing server racks where it enables a seamless rack-to-rack transfer of existing servers onto the ZeroOne – LiquidRack. This eliminates the need for complex infrastructure modifications. On the other hand, its unique drawer system ensures there is no leakage of liquid, offering peace of mind and ease of maintenance. Simply put, the Airsys liquid cooling solution allows entire data centers to be converted into ultra-efficient facilities in a matter of days.

The other intrinsic value addition Airsys's liquid cooling brings to the end users is the ability to control the amount of energy used to cool the servers with a highly targeted precision. As opposed to traditional air cooling (where all the air is cooled), and the traditional liquid cooling (where all the liquid is cooled),

"The Airsys liquid cooling system set the new industry record on the Liquid Temperature, which allows for 100% free cooling anywhere in the world. It is designed to meet the exact dimensions of the existing server racks where it enables a seamless rack-to-rack transfer of existing servers onto the ZeroOne – LiquidRack. This eliminates the need for complex infrastructure modifications. On the other hand, its unique drawer system ensures there is no leakage of liquid, offering peace of mind and ease of maintenance. Simply put, the Airsys liquid cooling solution allows entire data centers to be converted into ultra-efficient facilities in a matter of days."

**- Gautham Gnanajothi,
Vice President of Research**

Airsys's liquid cooling spray technology prioritizes and cools highly targeted hot spots such as microchips that need cooling the most. It is noteworthy that this right-on-spot spray technology is designed to use 80% less liquid and achieve 300% higher efficiency when compared to traditional methods, whilst fully eliminating compressor cooling even in locations with high ambient temperatures. Another game changing facet of Airsys's liquid cooling is that it pushes the temperature limits to a great extent; it is intriguing to note that it generates heated water at temperatures exceeding 70C/ 150F. Once the heat is

removed via liquid transfer, it repurposes the recovered heat for use in district heating including a myriad of applications that require heating such as apartments, hotels, vertical farms, hospitals etc.

Commitment to Creativity & Application Diversity

Airsys's highly rooted approach in leveraging technology advancements to push the limits of form and function in the pursuit of white space innovation is highly commendable. The company's excellence in this regard is demonstrated by the high degree of emphasis it places on R&D and product development. Airsys goes to great lengths to tailor its value proposition to ensure its products and solutions perfectly resonate with each of its diverse set of customer segments. One of the crucial factors driving the company's success in this aspect is its close proximity to the market and highly structured and coordinated customer feedback mechanism. This allows Airsys to incorporate invaluable customer inputs at every stage of the product development process; the end result is a product that is not only tailored to address current customer pain points and frustrations, but also takes into account some of the anticipated future needs that are driven by technology evolution. While this agile product development strategy has empowered the

company to swiftly adapt and respond to market shifts and customer preferences, it also helps minimize any risks associated with these shifts; ultimately enabling it to stay ahead of the competition.

Airsys's excellence in application diversity is underpinned by its deep-seated strategy to incorporate value added features and innovative functionalities in different cooling technologies to target specific market segments. While the company has increased its focus on the fast-growing advanced cooling solutions such as liquid cooling, it is impressive to see the level of reinvigorated sophistication Airsys brings to the traditional cooling solutions such as CRAC units. The OPTIMA2-DFC precision air conditioning product is a great testament to this. OPTIMA2 is Airsys's next generation product that seamlessly addresses three critical customer pain points: energy efficiency, speed to market, and configuration flexibility.

From an energy efficiency perspective, the OPTIMA2 is stacked with a wide range of energy saving technologies. Firstly, the unit leverages an inverter compressor system that optimizes the speed of the compressor based on the actual cooling demand. Its intelligent controls offer precise temperature levels where the room temperature is maintained closer to the set point temperature even at constantly changing load conditions. While the inverter compressor offers industry leading efficiencies, it also offers noise reduction. The other crucial element leading to energy savings is the way Airsys has integrated free cooling into the product design. The OPTIMA2 features a direct free cooling (DFC) system as opposed to indirect free cooling in a manner of eliminating issues such as high cost and complexity of installation associated with latter. A key aspect that makes OPTIMA2's DFC stand out is its unique and patented laser particle counter that constantly samples air quality to ensure pollutants do not enter the data hall. It constantly senses the particles in the air and when it detects an increase above a certain level, it automatically shuts down free cooling. Furthermore, the unit is also designed to optimize the cooling point based on constant monitoring of temperature and humidity levels (both inside and outside the building) to enable the most optimum operational mode. OPTIMA2's energy efficiency is further bolstered by the leverage of EC fans and electronic expansion valves. Its EC fans are in the form of a compact and self-contained solution, which also further aids with noise reduction.

Speed to market is the next challenge addressed by OPTIMA2. It incorporates a highly innovative modular design that enables rapid deployment speeds and highly shortened delivery lead times. While it enables data center operators to go-to-market swiftly, it also offers them a high degree of scalability where additional capacity can be added to support future growth. Furthermore, the product's inherent modularity offers a high degree of flexibility, convenience and cost savings pertaining to the installation process. It is also noteworthy that the unique design elements of the product have made it possible to significantly cut down on the number of spare parts, offering unmatched operation and maintenance capabilities. On the other hand, it is intriguing to see the exceptional level of configuration flexibility offered by OPTIMA2. This is made possible by Airsys's highly innovative intelligent control system which raises the bar for design flexibility in the modular concept. The system offers configuration flexibility at three distinct levels; the first one being flexibility in cooling capacity, followed by flexibility pertaining to the number of units deployed in a given space and finally flexibility pertaining to various set points and cooling strategies in a given space. In addition to this high degree of configuration flexibility, it allows data center operators to change the configuration on site with minimal effort to meet the changing load requirements.

Excellence in Stage Gate Efficiency

Over the course of the research, it was evident that Airsys has a laser sharp focus on continuously enhancing its stage gate efficiencies for launching new products and solutions. Its meticulously structured stage gate process is primarily driven by cutting edge technology adoption. Airsys employs a unique multi-dimensional and multi-faceted approach towards implementing design best practices. This distinctive bottom-up design structure has enabled it to fine tune and perfect individual design elements and

“Airsys now has the ability to proposition solutions to the market that amalgamates its cutting technology suite with a highly attractive business model; this will play a crucial role in the company building stronger bonds and engagements with its customers, while eliminating expensive CAPEX costs for the customer and transitioning it to a much more manageable OPEX. The CaaS offering is a giant leap in the right direction and will mark a cornerstone in the landscape of data center cooling.”

***- Gautham Gnanajothi,
Vice President of Research***

incorporate these in to a far-reaching, panoramic technology to suit the data center segment. A vivid attestation to demonstrate the company’s excellence in this regard is the new Airsys Unicool-Edge™ hot/cold isle cooling solution, which is a direct result of Airsys’s relentless market research efforts coupled with superior R&D capabilities. This solution is designed to fit perfectly on the outside of modular and micro data centers, where the design allows units to be stacked to accommodate future growth and to support all levels of

redundancy requirements. With its Unicool-Edge, Airsys has created a true hot/cold isle solution that requires zero interior real estate. Given micro/modular data centers are highly expensive real estate, Unicool-Edge will be a perfect fit for this rapidly emerging data structure that the great majority of the Edge Data future is built around. The Unicool-Edge units leverage VFD technology and are also integrated with a free cooling function delivering high levels of efficiencies. Furthermore, this solution incorporates machine learning to deliver “adaptive free cooling”. This functionality enables the Unicool-Edge system to automatically learn and remember the optimal temperatures at which free cooling can take over; in other words, it optimizes free cooling hours with no human intervention. Frost & Sullivan finds Airsys’s meticulous efforts to implement value addition at every stage gate in each of these design elements highly commendable.

High Customer Acquisition Potential

Frost & Sullivan’s research findings indicate that while Airsys’s new customer acquisition potential will continue to be driven by its product and technology innovation, its excellence in business model innovation will elevate it to new heights. The data center industry globally is impacted by working capital shortages and budget availability issues that often make capital investments in innovative technologies a complex task to pursue. Beyond the industry’s periodic economic challenges, there are deep rooted technology implementation challenges, influenced by a disjointed value chain that can lead to sub optimal choices in technology adoption among data center operators. Airsys aims to address this pressing challenge with its unique business model innovation – the Cooling-as-a-Service (CaaS) offering. This strategic initiative will empower data center operators to move away from one-time product-based offerings to a CaaS offering, eliminating CAPEX with an outcome-based business model. In essence, Airsys

now has the ability to proposition solutions to the market that amalgamates its cutting technology suite with a highly attractive business model; this will play a crucial role in the company building stronger bonds and engagements with its customers, while eliminating expensive CAPEX costs for the customer and transitioning it to a much more manageable OPEX. The CaaS offering is a giant leap in the right direction and will mark a cornerstone in the landscape of data center cooling.

The company has invested a tremendous amount of time, effort and resources to go down to the roots and completely transform the traditional business model from the bottom up. While this step change enables data center operators to base their investment decision on the lifecycle cost rather than the initial purchase price of the equipment, it also empowers them to deploy cutting edge technology solutions that offer industry leading energy efficiencies. Airsys has designed its CaaS offering in a way that will maximize data center cooling efficiency by either improving performance of legacy equipment or replacing it with state-of-the art advance energy purpose-driven solutions. It will provide data center operators the much-needed flexibility to verge upon sustainability goals without the burden of heavy CAPEX, which is the need of the hour, especially for legacy sites.

Brand Equity and Human Capital Drive Growth Potential

Airsys has a tremendous growth potential over the coming years. The company's ability to serve a diverse set of end user verticals with solutions tailored to suit individual segment requirements will be one of its key growth drivers. Airsys's brand image is attested by its steadfast customer focus and its continuous focus on product enhancement through leverage of technology and innovation. Its product positioning strategy and the effectiveness of its customer centric approach towards product development has played a vital role in enhancing its brand image and creating a leadership position globally. Airsys has been successful in creating a sense of excitement and anticipation among its customers who are trying to gain a competitive edge in a rapidly evolving technology landscape. Airsys currently owns over 70 patents globally and continues to inculcate employee mindset for designs that are not just innovative, but intuitive and focused on reducing and repurposing energy. All Airsys cooling units are designed to meet the demand of the environment that they cool, ultimately resolving energy usage concerns by dropping the power required to cool in an intelligent manner that directly embraces and flexes with the project task.

Conclusion

Airsys is evolving from a being cooling solutions vendor to an energy solution provider. Frost & Sullivan research findings suggest that Airsys's solutions are paving the way for a highly efficient and sustainable data center ecosystem. Its products empower end users with unmatched performance, reliability, energy efficiency and accountability through cutting edge technology innovation. The company's futuristic approach towards product development combined with its staunch resolve to fill market voids and customer challenges is a key trait that will further elevate its position in this highly competitive market.

For its strong overall performance, Airsys earns Frost & Sullivan's 2023 Global Technology Innovation Leadership Award in the cooling solutions industry.

What You Need to Know about the Technology Innovation Leadership Recognition

Frost & Sullivan's Technology Innovation Leadership Award recognizes the company that has introduced the best underlying technology for achieving remarkable product and customer success while driving future business value.

Best Practices Award Analysis

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

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate.

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

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

