FROST & SULLIVAN

2015

AIRSYS
Expert In ICT Cooling

2015 Global Cooling Solutions
Product Line Strategy Leadership Award

FROST & SULLIVAN

50 Years of Growth, Innovation & Leadership

Contents

Background and Company Performance

Industry Challenges

Air conditioning and other cooling equipment account for nearly 12% of the total energy consumption in commercial and industrial buildings. Data centers form the most important end user application in terms of energy-efficient cooling solutions. The challenge for cooling solution manufacturers is to identify the trends pertaining to regional markets and develop products based on those trends in order to satisfy the needs of those individual markets. The key challenge is to strike an optimum balance between developing solutions that are highly reliable and technologically advanced while keeping costs down. Manufacturers must evaluate unmet customer needs in detail in order to develop and design solutions that address these needs in the most effective and efficient manner.

Product Line Strength and Customer Impact

Breadth of Product Line

One of Airsys' key strengths is its extremely broad and comprehensive product portfolio. It provides cooling solutions for both commercial and industrial businesses, covering a wide gamut of applications including data centers, telecom, healthcare, electronic equipment rooms, precision processing and manufacturing, industrial process control centers, facilities requiring precision environments such as museums, wine cellars, libraries, laboratories, calibration chambers, machine shops, etc. As a part of its product line strategy, Airsys has increased its focus on the data center and telecom segments and has further strengthened them by adding new products incorporating leading edge technologies. Some of the key products it offers are CRAC units, free cooling chillers, free cooling dry coolers, ice storage tanks, in-row units, in-rack units, adiabatic cooling units, and monitoring systems.

Product Line Scalability

Airsys has a truly optimized product portfolio because it's products range in price and functionality, from cost effective value products targeting customers in developing economies to highly sophisticated, energy efficient, and intelligently controlled products catering to customers in developed countries. For instance, it has specifically engineered products for markets such as India and Africa, which are nearly half the price when compared to its competitors, while still maintaining superior quality and reliability. At the same time, the company highly emphasizes technology and innovation while designing products for customers in western economies such as the US, UK, Germany, etc. Airsys has built a sterling reputation for its flexibility to meet unique customer requirements, where its products offer the best value for the price in today's market.

Excellence in Technology Leverage

Frost & Sullivan firmly believes that Airsys' strategy of incorporating the latest technologies into its product offerings, for greater product performance and unrivaled value, is a critical component to its leadership in the industry. The company has a strong R&D team with over 90 registered patents. It employs Electronically Commutated Motors in all its fans, which increase the energy efficiency on a cubic scale as it drastically reduces energy consumption. It also incorporates DC inverter compressors in its products, which play a crucial role in energy efficiency, especially while operating at partial load conditions. In order to control the super-heat of the refrigeration circuit more precisely, it employs Electronic Expansion Valves (EEV) (as opposed to Thermal Expansion Valves); this also increases the efficiency of the system by a further 3% - 5%. Airsys has also incorporated a unique Supply Air Pressure Control system in its products, which enables the fan speed to be automatically adjusted by the supply air pressure, hence minimizing the fan's energy consumption. The other interesting technology aspect is the use of a Refrigerant Pumping Group, which facilitates the circulation of refrigerant during winter seasons, bypassing compressor functions and resulting in further energy savings.

Excellent Product Features

As mentioned earlier, Airsys' products offer a comprehensive line-up of features to best serve multiple functionality needs; not to mention that all of its products are of the highest quality and offer unmatched reliability in the industry. It has implemented a thorough quality assurance system in all its business processes, certified with ISO9000, ISO14000, ISO18000 and ISO13485. Its products for regional markets are also designed with acute attention to detail when it comes to quality and meeting local certification requirements such as UL/ETL, CE, KA, GOHST, etc.

A few examples of the best-in-class product features and functionalities that Airsys offers include it's packaged Precision Air Conditioner with built-in fresh air free cooling system adopts an integrated design, which eliminates the need for a connection of the cooling pipelines, significantly simplifying installation. With its intelligent control mechanism, the cooling mode (mechanical compression cooling vs. fresh air natural cooling) is determined automatically. Its air cooled and water cooled direct expansion (DX) units are equipped with DC inverter scroll compressors, which can adjust its speed to match the cooling demand in an instant. All its CRAC units offer multiple air supply schemes such as up flow and down flow, return air schemes, and up return, bottom return, front return and backward return. Its air cooled chiller (with free cooling) employs a patented three-way adjustment technology. The free cooling coils are made of special copper tube, aluminum-made fins and the steel-plating base of anodized aluminum alloys are sprayed with epoxy resin. Thus, it not only reduces the operational cost significantly, but also extends the service life of the unit.

Supply Chain Reliability

Airsys sharply focuses on supply chain and manufacturing to ensure availability of key components and thereby the availability of products in its product line. It has a manufacturing center in China, with plans to expand in Turkey (to serve EMEA) and Brazil (to serve Latin America). Its facility in China is one of the biggest for datacenter cooling products in the world with in-house sheet metal fabrication, heat exchanger manufacturing and final assembly. Airsys has collaborated with major international component suppliers such as EBM Papst (market leader in EC fans), Ziehl Abegg, Copeland, Carel, Danfoss, etc.

Brand Equity

The Airsys brand is becoming very popular in international markets. This is because of its commitment and dedication to providing unparalleled customer satisfaction. Its excellent brand reputation has been a key factor in bolstering new customer acquisition outside its home market. Its existing customers are extremely satisfied, which is illustrated through their high brand loyalty. This is further underscored by the fact that it has long standing relationships with companies such as GE, China Mobile, China Telecom, Vodafone, Verizon Wireless, British Telecom, Reliance Communication, GE Healthcare, and Philips Healthcare. Airsys' brand equity can be further substantiated by the fact that Vodafone Group and British Telecom (BT) have made Airsys their world-wide cooling solution supplier.

Conclusion

Airsys, with its comprehensive range of products and solutions, has been highly successful in expanding its geographic foot print outside of its home market, China. Its products offer superior reliability, energy saving, extensive working range, precise control and extended life time. Frost & Sullivan's independent analysis of the Cooling Solutions market confirms that Airsys has an industry leading product line strategy in place, which will further elevate its position in the global market place. Because of its strong overall performance, Airsys is recognized with Frost & Sullivan's 2015 Product Line Strategy Award.

Significance of Product Line Strategy

Ultimately, growth in any organization depends upon customers purchasing from your company, and then making the decision to return time and again. A full, comprehensive product line that addresses numerous customer needs and preferences is therefore a critical ingredient to any company's long-term retention efforts. To achieve these dual goals (customer value and product line strength), an organization must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.

- Acquire competitors' customers
- Increase renewal rates
- Increase upsell rates
- Build a reputation for value
- Increase market penetration

- Earn customer loyalty
- Foster strong corporate identity
- Improve brand recall
- Inspire customers
- Build a reputation for creativity

DEMAND

BRAND

Product
Line Strategy
Leadership

COMPETITIVE
POSITIONING

- Stake out a unique market position
- Promise superior value to customers
- Implement strategy successfully
- Deliver on the promised value proposition
- Balance price and value

Understanding Product Line Strategy Leadership

As discussed above, driving demand, brand strength, and competitive differentiation all play a critical role in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on building a superior and comprehensive product line.

Key Benchmarking Criteria

For the Product Line Strategy Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Product Line Strength and Customer Impact—according to the criteria identified below.

Product Line Strength

      Criterion 1: Breadth
      Criterion 2: Scalability
      Criterion 3: Technology Leverage
      Criterion 4: Features
      Criterion 5: Supply Chain Reliability
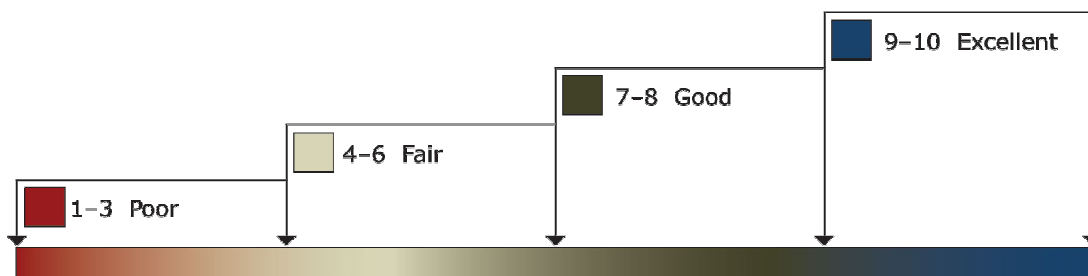
Customer Impact

      Criterion 1: Price/Performance Value
      Criterion 2: Customer Purchase Experience
      Criterion 3: Customer Ownership Experience
      Criterion 4: Customer Service Experience
      Criterion 5: Brand Equity

Best Practice Award Analysis for Airsys
Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are illustrated below.

RATINGS GUIDELINES

9–10 Excellent
7–8 Good
4–6 Fair
1–3 Poor

The Decision Support Scorecard is organized by Product Line Strength and Customer Impact (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criteria are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key players as Competitor 2 and Competitor 3.

Measurement of 1–10 (1 = poor; 10 = excellent)			
Product Line Strategy	Product Line Strength	Customer Impact	**Average Rating**
Airsys	**9.0**	**9.0**	**9.0**
Competitor 2	7.0	8.0	7.5
Competitor 3	7.0	6.0	6.5

Product Line Strength

Criterion 1: Breadth
Requirement: Product line addresses the full range of customer needs and applications

Criterion 2: Scalability
Requirement: Product line offers products at a variety of price points and functionality levels

Criterion 3: Technology Leverage
Requirement: Demonstrated commitment to incorporating leading edge technologies into product offerings, for greater product performance and value

Criterion 4: Features
Requirement: Products offer a comprehensive suite of features to serve customers at multiple levels of functionality, ease of use and applications

Criterion 5: Supply Chain Reliability
Requirement: There is sufficient control over the supply chain to ensure availability of key components and thereby the availability of products in the product line

Customer Impact

Criterion 1: Price/Performance Value
Requirement: Products or services offer the best value for the price, compared to similar offerings in the market

Criterion 2: Customer Purchase Experience
Requirement: Customers feel like they are buying the most optimal solution that addresses both their unique needs and their unique constraints

Criterion 3: Customer Ownership Experience
Requirement: Customers are proud to own the company's product or service, and have a positive experience throughout the life of the product or service

### Criterion 4: Customer Service Experience
Requirement: Customer service is accessible, fast, stress-free, and of high quality

Criterion 5: Brand Equity
Requirement: Customers have a positive view of the brand and exhibit high brand loyalty

Decision Support Matrix

Once all companies have been evaluated according to the Decision Support Scorecard, analysts can then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.
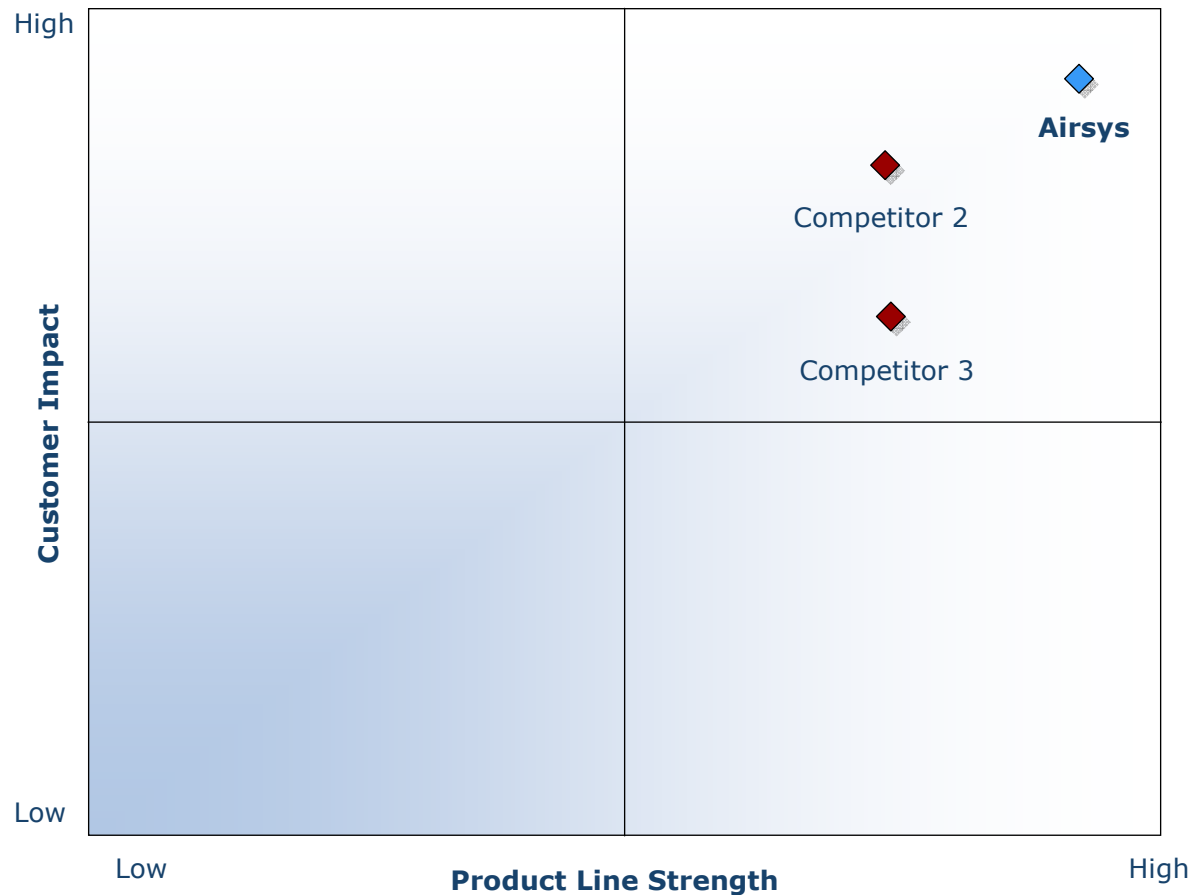
The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often, companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry players and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS

Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan Awards follow a 10-step process to evaluate award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 **Monitor, target, and screen**	Identify award recipient candidates from around the globe	• Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies	Pipeline of candidates who potentially meet all best-practice criteria
2 **Perform 360-degree research**	Perform comprehensive, 360-degree research on all candidates in the pipeline	• Interview thought leaders and industry practitioners • Assess candidates' fit with best-practice criteria • Rank all candidates	Matrix positioning all candidates' performance relative to one another
3 **Invite thought leadership in best practices**	Perform in-depth examination of all candidates	• Confirm best-practice criteria • Examine eligibility of all candidates • Identify any information gaps	Detailed profiles of all ranked candidates
4 **Initiate research director review**	Conduct an unbiased evaluation of all candidate profiles	• Brainstorm ranking options • Invite multiple perspectives on candidates' performance • Update candidate profiles	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 **Assemble panel of industry experts**	Present findings to an expert panel of industry thought leaders	• Share findings • Strengthen cases for candidate eligibility • Prioritize candidates	Refined list of prioritized award candidates
6 **Conduct global industry review**	Build consensus on award candidates' eligibility	• Hold global team meeting to review all candidates • Pressure-test fit with criteria • Confirm inclusion of all eligible candidates	Final list of eligible award candidates, representing success stories worldwide
7 **Perform quality check**	Develop official award consideration materials	• Perform final performance benchmarking activities • Write nominations • Perform quality review	High-quality, accurate, and creative presentation of nominees' successes
8 **Reconnect with panel of industry experts**	Finalize the selection of the best-practice award recipient	• Review analysis with panel • Build consensus • Select winner	Decision on which company performs best against all best-practice criteria
9 **Communicate recognition**	Inform award recipient of award recognition	• Present award to the CEO • Inspire the organization for continued success • Celebrate the recipient's performance	Announcement of award and plan for how recipient can use the award to enhance the brand
10 **Take strategic action**	Upon licensing, company may share award news with stakeholders and customers	• Coordinate media outreach • Design a marketing plan • Assess award's role in future strategic planning	Widespread awareness of recipient's award status among investors, media personnel, and employees

     "We Accelerate Growth"

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best in class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages almost 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 31 offices on six continents. To join our Growth Partnership, please visit http://www.frost.com.