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2019 Frost & Sullivan Singapore
Data Center
Service Provider of the Year

STTelemedia
Global Data Centres

**ST TELEMEDIA
GLOBAL DATA CENTRES**

**ASIA PACIFIC
BEST PRACTICES
AWARDS**

"We Accelerate Growth"

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I am proud to present you with this year's award for Company of the Year in the Singapore Data Center industry.

Frost & Sullivan's global teams of analysts and consultants research a wide range of markets in multiple industries and regions and identify companies that are true industry leaders, delivering best practices in growth, innovation, and leadership. These companies have a keen eye on the future and drive innovation that meets upcoming needs before they become commonly visible, often being first to market with new solutions. They focus on delivering the best products at optimal prices to maximize customer value and experience. Identifying these companies involves extensive primary and secondary research across the entire value chain of specific products and/or markets. Against the backdrop of this research, Frost & Sullivan is pleased to recognize ST Telemedia Global Data Centres as the Company of the Year in the Singaporean Data Center industry.

Delivering excellence worthy of the Company of the Year recognition is never an easy task, and it is made even more difficult considering today's competitive intensity, customer volatility, and economic uncertainty—not to mention the difficulty of innovating in an environment of escalating challenges to intellectual property. In this context, your receipt of this award signifies an even greater accomplishment.

Moreover, Frost & Sullivan recognizes that this accomplishment is the result of many employees, customers, and investors making daily choices to support the organization and contribute in a meaningful way to its future.

I enthusiastically acknowledge and celebrate these achievements and wish you great success in the future. Frost & Sullivan is here to support you on any future endeavor.

Sincerely yours,

David Frigstad
Chairman
Frost & Sullivan

Industry **Challenges**

The data center industry is becoming increasingly complex, with intensifying challenges in implementing and maintaining virtual/cloud-enabled data center environments, which require the upskilling of existing talent or the acquisition of new talent. Given Singapore's current tight labor market, the availability of such talent is limited. In many cases, companies may have to relocate suitable employees from other countries, incurring additional labor costs and administrative efforts. Singapore has maintained its position as the most competitive data center market and has successfully attracted many global data center operators to step up its services because of its data speeds that are supported by its excellent and reliable infrastructure network, which routes 99% of Internet traffic worldwide. The data center megawatt (MW) in 2018 was 380 MW, which increased to 400 MW in Q1 2019.

Moving forward, the data center market is forecasted to increase by 100 MW in the data storage space by 2020.

As a land scarce country, Singapore is facing a space crunch for further data center expansion, with data center service providers paying premium prices for land acquisition. The number of new data center construction projects in Singapore slowed down in 2017, with less than a 10% recorded supply growth over 2016. Service providers are looking at high-rise, underground, and submerged data centers as alternatives; however, hyperscale cloud vendors have reservations regarding the risks, accessibility, and costs involved in running such data centers. Power availability is another key resource constraint that poses the greatest direct challenge to business growth, coupled with growing industry demand and the availability of a quality skilled workforce.

Visionary Innovation & Performance **and Customer Impact**

Founded in 2014, Singapore-based ST Telemedia Global Data Centres (STT GDC) offers colocation, connectivity and support services.

Customer Ownership Experience

Enterprises require service scalability, reliability, and flexibility across multiple markets. STT GDC's global platform, which consists of more than 90 data centers in over 16 major business markets worldwide, provides customers with the benefit of having localized expertise to ease their business transition into complex business markets all while experiencing a consistent experience, thereby enabling them to focus on their core businesses with a peace of mind.

With facilities strategically located in eastern and western Singapore, STT GDC provides multi-site redundancy, required especially by the public cloud, telecommunications and financial services industries. In addition, STT GDC's data center campus strategy has enabled its customers to expand into adjacent facilities with significant ease and considerable cost avoidance from eliminating the duplication of operations and networks.

To address land scarcity, STT GDC works closely with government authorities and real estate brokers to secure suitable plots as they become available through private sales or government allotment. In addition, STT GDC makes every effort to maximize the gross floor area of its facilities in accordance with each plot's permissible building area. Space efficiency is a factor in the company's procurement process for mechanical and electrical equipment. To secure the amount of power that data centers need, other than working with government authorities, the company constructs substations dedicated to its data centers when the need arises. Purchasing existing industrial buildings, which often have a ready of amount of power for conversion or redevelopment into quality data centers, provides another viable option in overcoming the land scarcity and power availability to meet strong customer demand.

The company recognizes the importance of hiring the right person for the job and understands that recruiting experienced staff at all levels within the organization is essential. For a data center to run smoothly, the company needs experienced engineers and technicians with actual operational experience in mission-critical environments as well as experienced managers who can train and mentor the junior staff. To address the shortage of experienced talent, STT GDC emphasizes the following:

• Developing excellent programs that bring together academia, the public sector, and private enterprises
• Recruiting across similar or adjacent industries by providing opportunities for experienced individuals who come from similar mission-critical facilities
• Providing adequate training and development to grow the talent's existing skill set, such as through on-the-job training or external training

These initiatives are important because the data center industry is continuously evolving, and the technology supporting this industry requires more sophisticated providers than ever before.

Visionary Scenarios through Mega Trends

Frost & Sullivan has identified a number of Mega Trends, which are transformative, global forces that will define the future world with their far-reaching impact on businesses, societies, economies, cultures, and personal lives. STT GDC's initiatives in the data center industry are in line with the Connectivity and Convergence Mega Trend. The company's IT infrastructure management is increasingly outsourcing its data center services to third-party service providers, coupled with growing public cloud adoption.

As one of APAC's largest data center providers, STT GDC plans to build its seventh and largest facility in Singapore, STT Loyang, by the second half of 2020. The new $350 million facility is expected to meet the ever-growing demand for data centers in both Singapore and across APAC in the next few years. Moreover, STT Loyang will be built to comply with stringent global standards on business continuity and security, and will include market leading sustainable design features to ensure optimal energy efficiency.

STT GDC is constantly looking into new innovations in the way it builds, designs, and operates its data centers efficiently. The company has explored the idea of enabling partial free cooling in tropical climates, such as Singapore. Partial free cooling can substantially reduce the power used by traditional cooling that employ chiller systems and reduce a building's overall power usage effectiveness (PUE), paving the way for a more efficient data center design and operation in tropical countries and directly benefitting customers. STT GDC has shown strong commitment in sustainability by constantly investing in solutions that allow it to create a more sustainable future for the digital economy.

Frost & Sullivan commends STT GDC's ability to expand both its local and global presence, with high-quality data center investments through organic and inorganic growth strategies that include green field and brownfield developments.

Implementation of Best Practices and Brand Equity

STT GDC is a well-established brand in both Singapore and across APAC, and it is one of the largest providers that has a strong capability and capacity to offer data centers that exhibit scalability, flexibility, and security. With its business expansion strategies, STT GDC has optimized its brand value in Singapore.

STT GDC is constantly improving its data center operations by incorporating the latest in building technology, power, and cooling management to offer building tenants the best value and optimal operating environments. In addition, STT GDC established a center of Operational Excellence department to ensure the knowledge sharing of the industry's key growth drivers and challenges within the group portfolio, allowing the company to identify key global trends and stay ahead of the competition.

The company provides a wide range of products and services to support customers' varied needs. For example, customers in the government and public sectors require a high degree of sensitivity and mission criticality, with great emphasis on security, reliability, and operational excellence. To fulfill these strict requirements, STT GDC has implemented additional security measures, such as X-ray scanning, metal detection, and armed guard capabilities, in selected sites. Moreover, operational staff are screened to minimize any risk of sabotage, and mechanical and electrical redundancies are boosted to ensure uninterruptible operations for mission-critical applications.

By building and operating to global standards of excellence, STT GDC has received various international and national accreditations and certifications. For example, the company's international certifications include Leadership in Energy and Environmental Design (LEED), Telecommunications Industry Association (TIA) 942, Uptime Institute Tier III Certified, Payment Card Industry Data Security Standard (PCI DSS), and various ISO standards. Local certifications include BCA-IDA Green Mark, SS-564, and TVRA.

Blue Ocean Strategy

STT GDC has demonstrated sustainable growth by investing in new builds and by strategically entering new markets with high-quality partners through its investor-operator model. This model provides the company with the ability to enter fast-growing markets, where several competitors are strongly challenged to enter because of reluctance in accepting the ownership and partnerships models. The company's expansion strategies include mergers and acquisitions, joint ventures, and significant shareholding investments.

In Singapore, in addition to fully owned builds, STT GDC has formed joint ventures with StarHub and Tata Communications in which STT GDC held majority stakes of 70% and 74% respectively, STT GDC subsequently acquired Tata Communications' 26% stake in 2019.

Recognizing the importance of offering diverse connectivity options to its customers, STT GDC has formed partnerships with Singapore Internet Exchange (SGIX), Singapore's largest not-for-profit Internet exchange, and Megaport, a global-leading network-as-a-service provider, to deliver SDN-enabled, elastic interconnection and cloud exchange services to customers.

This partnership with Megaport provides STT GDC's customers with the ability to scale their access to multiple leading cloud service platforms, such as Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform, Alibaba Cloud, IBM Cloud, and Salesforce.

In addition, STT GDC offers a flexible, customer-centric approach across a range of customers, and size of business. For example, STT GDC's high-quality colocation offerings can provide a rack or a single-tenanted bespoke solution that comes with contract durations and pricing models tailored to customers' varied needs. The company offers a similar flexibility in its connectivity and support services, where customers can elect to consume services either on a predetermined or ad-hoc basis, thus providing STT GDC with a strong positioning in the Singaporean market. In addition, the company's own center of Operational Excellence department provides various insights on the global data center industry's opportunities and restraints, thus benefiting the company in terms of staying ahead of local competing data center providers.
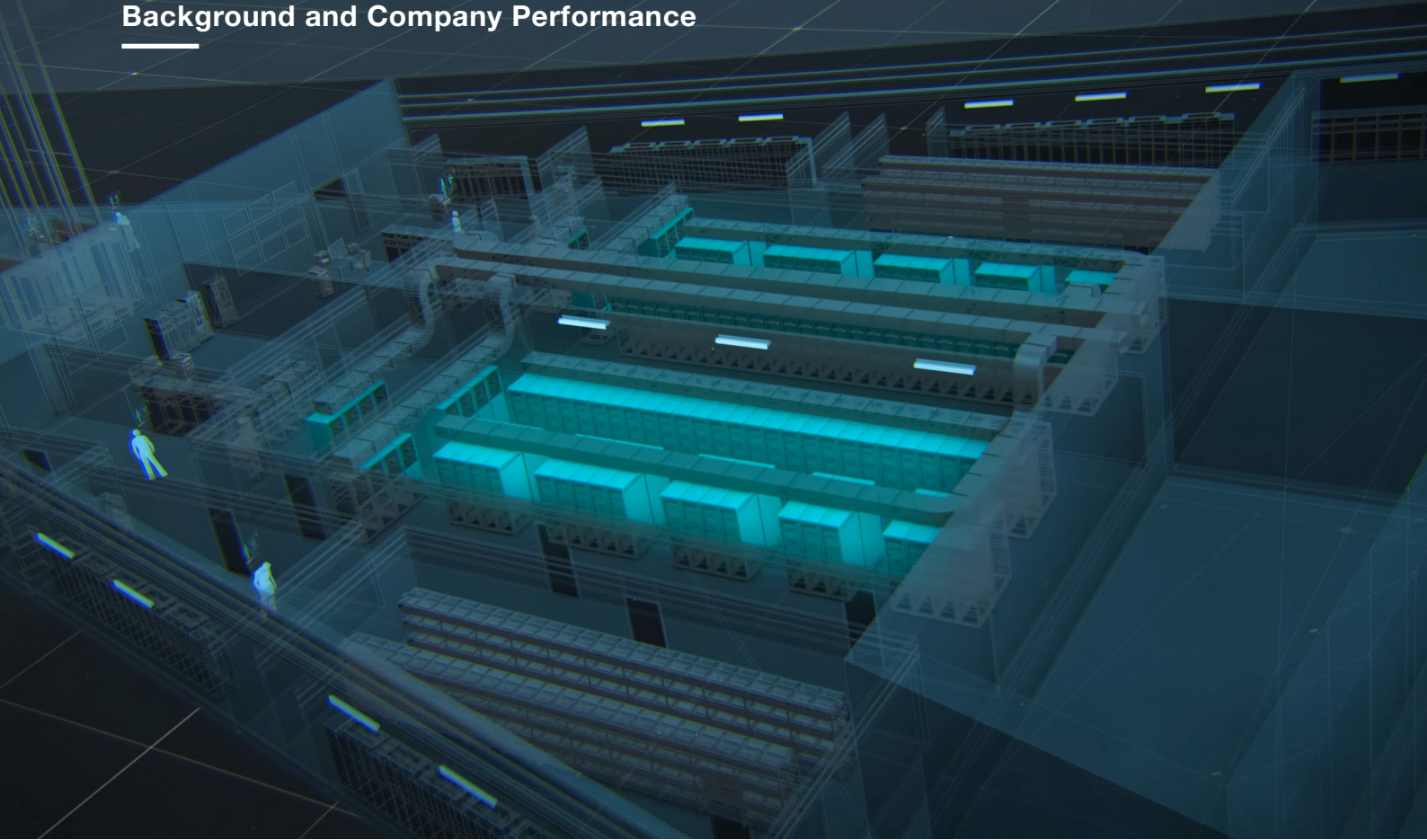
Financial Performance

STT GDC witnessed significant year-over-year (YoY) revenue growth in 2018, over 2017, which is considered more than or equal to the average industry growth rate of 9.9%. The demand for data centers is continuously increasing in Singapore because cloud service providers, media and content providers, and the public sector are the highest demand generators. STT GDC's strategic planning has helped it capture a sizeable portion of this demand, with a diversified presence in terms of number of facilities in both the eastern and western regions within Singapore.

Conclusion

As the preferred data center provider in Singapore, ST Telemedia Global Data Centres has developed an excellent portfolio of services by understanding relevant industry trends and addressing various customer needs. Continuous investments, numerous data center expansions, and constant investments to incorporate the latest systems in building technology have led to the company's success in enhancing its already strong brand name within Singapore.

In addition, supported with a strong financial fundamentals, a strategic investor-operator model, and highly skilled resources, the company is expected to maintain its leadership position in the long term.

With its strong overall performance, ST Telemedia Global Data Centres has earned Frost & Sullivan's 2019 Company of the Year Award in the Singapore data center industry.

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2019 BEST PRACTICES AWARD

To receive the Company of the Year Award (i.e., to be recognized as a leader not only in your industry, but among your non-industry peers as well) requires a company to demonstrate excellence in growth, innovation, and leadership. This kind of excellence typically translates into superior performance in three key areas: demand generation, brand development, and competitive positioning. These areas serve as the foundation of a company's future success and prepare it to deliver on the two criteria that define the Company of the Year Award (Visionary Innovation & Performance and Customer Impact).

Demand
Acquire competitor's customers
Increase renewal rates
Increase upsell rates
Build a reputation for value
Increase market penetration

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

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

Understanding
Company of the Year

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 Visionary Innovation & Performance to enhance Customer Impact.

Key Benchmarking Criteria

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated two key factors—Visionary Innovation & Performance and Customer Impact—according to the criteria identified below.

Visionary Innovation & Performance

Criterion 1: Addressing Unmet Needs
Criterion 2: Visionary Scenarios through Mega Trends
Criterion 3: Implementation Best Practices
Criterion 4: Blue Ocean Strategy
Criterion 5: Financial Performance

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

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

Chart 1: Performance-Based Ratings for Decision Support Matrix
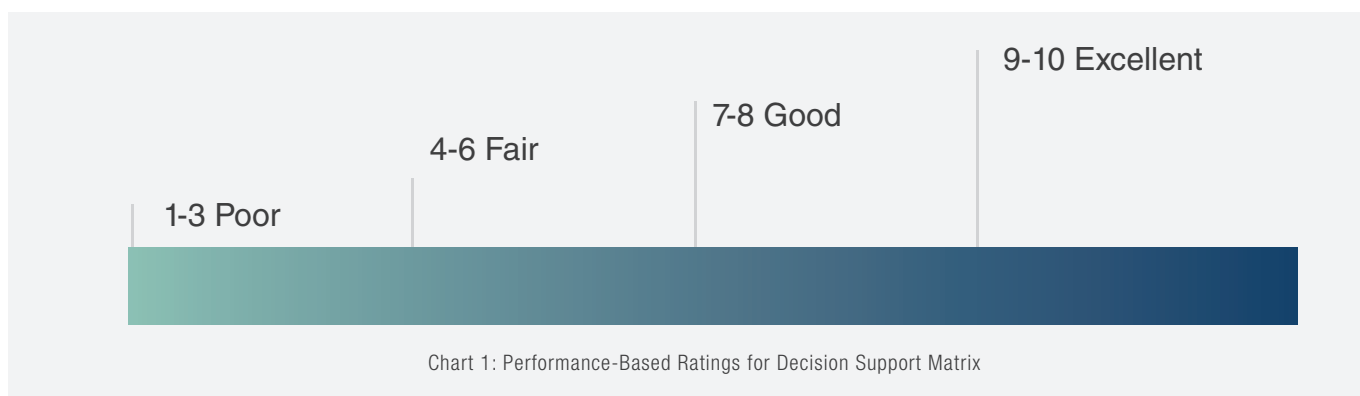
The Decision Support Scorecard is organized by Visionary Innovation & Performance and Customer Impact (i.e., these are the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard.). The research team confirms the veracity of this 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 participants as Competitor 1 and Competitor 2.

DECISION SUPPORT SCORECARD FOR COMPANY OF THE YEAR

Measurement of 1–10 (1 = lowest; 10 = highest)	Company of the Year		
	Visionary Innovation & Performance	Customer Impact	Average Rating
ST Telemedia Global Data Centres	*9.0*	*9.0*	*9.0*
Competitor 1	*8.0*	*9.0*	*8.5*
Competitor 2	*8.0*	*8.0*	*8.0*

Visionary Innovation & Performance

Criterion 1: Addressing Unmet Needs
Requirement: Implementing a robust process to continuously unearth customers' unmet or under-served needs, and creating the products or solutions to address them effectively

Criterion 2: Visionary Scenarios through Mega Trends
Requirement: Incorporating long-range, macro-level scenarios into the innovation strategy, thereby enabling "first-to-market" growth opportunity solutions

Criterion 3: Implementation of Best Practices
Requirement: Best-in-class strategy implementation characterized by processes, tools, or activities that generate a consistent and repeatable level of success.

Criterion 4: Blue Ocean Strategy
Requirement: Strategic focus on creating a leadership position in a potentially uncontested market space, manifested by stiff barriers to entry for competitors.

Criterion 5: Financial Performance
Requirement: Strong overall business performance in terms of revenue, revenue growth, operating margin, and other key financial metrics.

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 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 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.

DECISION SUPPORT MATRIX FOR COMPANY OF THE YEAR AWARD (ILLUSTRATIVE)
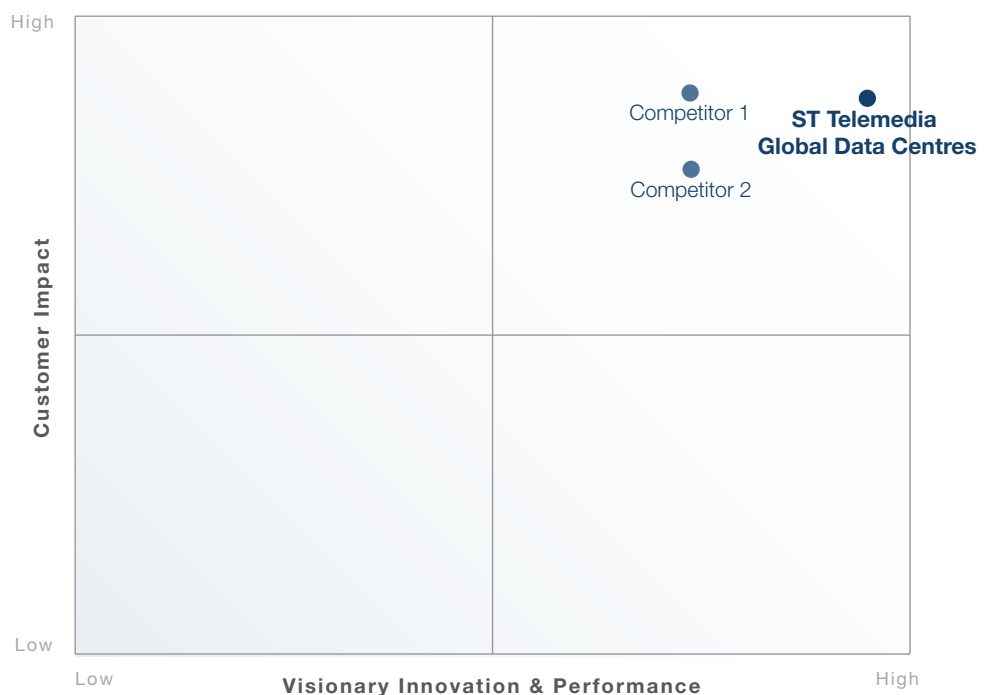
Best Practices Recognition: 10 Steps To Researching, Identifying, And Recognizing Best Practices

Frost & Sullivan analysts 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
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
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
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
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
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
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
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
Assemble board of advisors	Finalize the selection of the best-practice award recipient	• Present candidates to a Board of Advisors • Build consensus • Select winner	Decision on which company performs best against all best-practice criteria
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
Take strategic action	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

360-degree research: seeing order in the chaos

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.

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Auckland	Dubai	Milan	Silicon Valley
Bahrain	Frankfurt	Mumbai	Singapore
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Bogotá	Jakarta	Pune	Tel Aviv
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About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community.

Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

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