FROST & SULLIVAN

2019
BEST PRACTICES AWARD

Visionary Innovation Leadership

DATA CENTRE INFRASTRUCTURE & OPERATIONS - GLOBAL

FROST & SULLIVAN

2019 BEST PRACTICES AWARD

NEXTDC

Contents

Background and Company Performance

Industry Challenges

With an increasing requirement for hybrid cloud solutions, the market is heading towards higher density computing which ultimately drives demand towards hyper-scale colocation facilities. The main challenge for data centre service providers is the fact that it is cumbersome and complex task to manage the infrastructure and ensure power usage is optimized and availability is uninterrupted. The underlying challenge pertains to issues around operation and maintenance (O&M) activities. More specifically, O&M activities associated with power and cooling have always been an area of concern for data centre managers as it has a direct impact on over all reliability, efficiency and cost. On the other hand, evolution of megatrends around cloud computing, edge computing, Internet of Things (IoT), artificial intelligence (AI) and virtual/augmented reality is creating a sense of anxiety among ICT providers. This is driven by the fact that these technologies demand flawless availability of systems with significant attention to business continuity planning, optimized operating environments, seamless connectivity to multiple cloud services and highest security levels.

Focus on the Future and Best Practices Implementation

Meticulous Focus on Unmet Needs

NEXTDC is the epitome of next generation cutting edge data centre design, engineering and operations. The company's best of breed facilities offer industry leading availability, resilience, energy efficiency, operational excellence and security, while remaining extremely cost competitive. Frost & Sullivan believes that this is a significant step forward in the right direction which marks a corner stone in the evolution of data centre infrastructure and operations. One of the most enthralling value propositions and a key differentiator for NEXTDC is the fact that it not only delivers their customers a 100% uptime guarantee, but also offers unparalleled Power Usage Effectiveness (PUE) levels that are second to none and have set a new benchmark in the Australian data centre industry. This is simply a boon to the end users as it addresses the most pressing unmet need in the industry.

Leveraging its vast technology know-how and innovation excellence in design, engineering and project management, NEXTDC has developed a novel "continuous development" concept aimed at addressing the evolving market needs and customer requirements. The company implements this unique approach as it expands its footprint of first and second-generation data centres across Australia. The continuous development concept is based on modular design and roll out process, which significantly increases speed of deployment and offers flexibility and agility of the highest magnitude. This provides a strategic advantage as it offers the critical power, connectivity and security without having to wait for the full construction of the fully fitted out hyper-scale facility. While this approach is highly beneficial to the customers, it also tactically positions NEXTDC to diversify its capital expenditure among other critical regions experiencing high demand. Its P2 facility in Perth employs the continuous build methodology and is a perfect testament to

demonstrate its excellence in enhancing customer value. With a 20MW hyper-scale site under construction and 18 months away from completion of the initial 10MW stage, the company deployed a microsite on the P2 site, built in parallel with the hyper-scale facility. Consequently, getting to market rapidly and delivering the critical ICT and connectivity services the local market needed.

NEXTDC underpins its commitment to be the most trusted data centre provider that has relentless focus on customer value enhancement by breaking new grounds and setting new industry benchmarks and standards around power, connectivity, security and overall operations. To illustrate with a few fine examples, NEXTDC is the only data centre solutions provider in Australia to achieve a NABERS 5-star energy efficiency rating for carbon minimization; it is the only data centre operator in Australia to achieve an Uptime Institute Tier IV certification for design and constructed facility and Tier IV Gold certification for Operational Sustainability; it is also noteworthy that NEXTDC built the world's first ever Tier IV certified IP bus data centre, it has built two such facilities since then and is in the process of building the third one.

Outstanding Growth Performance

Frost & Sullivan finds NEXTDC's growth trajectory in the data centre service industry highly impressive. It's intriguing to see the company evolve from being an Australian pioneer to becoming a global leader in visionary innovation and customer impact. The driving force behind its success is its astronomical perseverance and commitment to pursuing its vision of creating highly superior data centres that not only address customers' current needs, but also evolving future needs.

The company has made significant strides in the past five years in terms of revenue growth and has achieved a brilliant CAGR of 30%. It is highly intriguing to see NEXTDC's share price increase from $1 during its IPO to $6.70 currently; taking NEXTDC from a $40M Initial Public Offering to a $2.3BN market cap today. The even more interesting aspect is the fact that it has achieved this level of growth purely organically; a truly remarkable feat in the data centre services market. In terms of year-on-year (YOY) revenue growth for FY2018, the company hugely surpassed the industry average growth rate by registering a staggering 31%, while maintaining a solid EBIDTA growth rate at 28%. This incredible overall growth complemented by strong operating leverage fortifies its leadership position in technology and innovation.

Apart from NEXTDC's technology and innovation excellence, one of the critical strategic drivers for the company's exceptional growth is its unique "Channel-First go-to-market" model which enabled the company to nurture an excellent partner ecosystem. It has developed an interactive "Cloud Centre" portal where its ICT providers and value-adding channel partners manage their own complimentary digital shopfront. This can be seen as a truly end to end approach as it not only allows NEXTDC to effectively engage with its value-adding partners but it also helps its partners in executing the digital transformation strategies of their customers. With this model, the company ensures that its partners can complement their own expertise through collaboration with ICT and ecosystem peers. This

unique channel strategy has witnessed significant traction where the company has increased its number of partners by 40% in a short period (between end of H1, FY2018 and 31st May 2019). NEXTDC's strong and diversified recurring revenue model is also an interesting aspect contributing to the company's excellent growth performance. On the other hand, with an organic development pipeline of 300MW of data centre capacity over the next few years, there is no doubt that NEXTDC is poised for an accelerated growth in the coming years. Frost & Sullivan firmly believes that NEXTDC's customer focused innovation and technology excellence will further elevate its leadership position in the global market.

Seamless Vision Alignment

NEXTDC's executive team is seamlessly aligned with the organization's mission, vision, strategy and execution backed by a strong two-pronged top down/bottom up approach. Frost and Sullivan's research findings suggest that NEXTDC is on the right track and is perfectly positioned to achieve its ambitious goal of delivering 600MW of data centre capacity and becoming a $30 billion enterprise. Two things clearly stood out during the course of the research, its razor sharp focus on each of its thoroughly vetted strategic priorities and the sheer passion of its executive team to make it a reality; a perfect amalgamation that Frost & Sullivan believes will make NEXTDC achieve its goal sooner than expected. The company's unique business value can be characterized by its strategic priorities that include product leadership, operational excellence, ecosystem development, new business, channel first and new developments. NEXTDC's excellence in each of these aspects also serves as crucial market differentiators that provide the company with a unique competitive edge.

NEXTDC employs a scaling up methodology to keep operational activity in alignment with the rapid growth and its customer centric vision. The scaling up framework essentially represents the disciplines that the company has adopted as part of its business strategy and it ensures that its executive team is aligned to the vision. It ensures communication of a clear vision from the top down and also bottom up. Furthermore, it offers a high degree of fluidity that makes NEXTDC the dynamic and agile organization it is.

Industry Leading Operational Efficiency

Frost & Sullivan believes that NEXTDC's multi-dimensional approach to implementing best practices will further accelerate its leadership position in the market. One of the key focus areas for the company in this regard is implementing best practices for operational efficiency. Its process design excellence is underpinned by continuous improvement and development of operating and construction efficiencies within its data centres. Its B2 facility is a classic example, where NEXTDC modelled and tested every individual component of the design to arrive at final configurations. This helped assess optimal utilization of differential fault protection and isolation of transformers for the electrical system as well as innovative pre-fabricated, modular continuous cooling units with indirect free-cooling economy cycles. It is noteworthy that the company tasked its central operations team in 2017 with a specific focus on further optimizing power efficiency across

 "We Accelerate Growth"

its footprint. The objective of this team is to ensure that the company's exceptional design and engineering excellence fully translates in to adding value to its customers through unparalleled operational efficacy. Indeed a highly commendable initiative.

NEXTDC's operational excellence is not just limited to delivering unprecedented low Power Usage Effectiveness (PUE), but also extends to its sustainability and environmental interest. The company's NCOS and NDEVR certified colocation solutions (in partnership with Qantas Future Planet) showcase its commitment to carbon neutrality and driving positive business outcomes for their own business, their customers and the environment. It has a high focus on not just reducing power consumption, but also reducing water consumption in its data centres. The company employs a unique and innovative data hall climate control approach where it leverages free cooling as well as direct and indirect evaporative cooling (IEC) through fans and cooling towers.

The other interesting aspect of NEXTDC's operational excellence involves its unique customer portal, ONEDC. This platform is designed to offer its partners and customers with enhanced operational management and a higher level of transparency in managing their data center infrastructure. Perfectly complementing the ONEDC platform is its enterprise-wide IT improvement project called Intelligent Service Management (ISM). ISM streamlines the process of raising tickets for any service its customers are looking for. This offering serves as a significant operational overhaul that not only improves the efficiency of the process by cutting down ticket provisioning and action times for customers, but also allows its Customer Experience Team to be more proactive in offering high quality, targeted customer support. More importantly, it helps NEXTDC to create a 360-degree view of its customers, providing a highly granular level of visibility on their specific needs. This allows the company to cater to those needs more effectively and in a highly customized fashion.

Technological Sophistication

NEXTDC's futuristic approach towards product development has placed it at the forefront of this highly competitive industry. It constantly strives to be a step ahead of its competitors with respect to technology and innovation and has been successful thus far. This is primarily driven by ability to envisage visionary scenarios by constantly analyzing Mega Trends and creating revolutionary solutions to address those developments. NEXTDC's focus and efforts to continually innovate and ensure that its product offerings are state of the art is highly commendable. An integral part of the company's innovation effort is its unparalleled commitment to foster and incubate "bright ideas" that starts with its internal communications platform and extends to business units engaging third party resources, suppliers and partnerships where necessary in order to make the approach holistic.

In 2018 the company worked closely with global partners SMARDT and Aurecon to further enhance the operational efficiencies of its generation 1 cooling systems. In an effort to optimize fan speeds, pump speeds and approach temperatures of water in the evaporative cooling systems, the company applied a complicated machine learning analysis. By

applying machine learning to data collected over meaningful periods, NEXTDC was able to decipher trends and pull out learnings that could be applied to further optimize the data centre's efficiency. With its brilliant approach to match historic information on external temperatures and supply air set points the company was able to pre-define best-case configurations required to keep atmospheric conditions within the data centre as per their customer SLAs at a variety of external conditions; while also minimizing power consumption to the maximum possible extent.

Some of the other outstanding aspects that demonstrate NEXTDC's technological sophistication includes its design and engineering excellence pertaining to power quality, back-up power and mechanical cooling. NEXTDC is the first data centre operator in Australia to use Piller's isolated parallel bus distribution system with the Diesel Rotary UPS (DRUPS). Through further engineering efforts NEXTDC ensured that the isolated parallel bus design is compliant with the UTI Tier IV standards of fault tolerance, while also significantly reducing PUE levels. Frost & Sullivan finds NEXTDC's approach towards mechanical cooling highly interesting. It has implemented a combination of mechanical cooling that amalgamates multiple energy efficient measures into a singular data centre environment. Its unique design leverages water-side economization, free cooling air-side economization and magnetic bearing chillers enabling controlled optimization to manage power consumption.

Human Capital and Company Culture

NEXTDC's brand name is synonymous with technology excellence, innovation, and most importantly, customer focus. Its product positioning has played a crucial role in its brand equity; it has created a sense of excitement amongst its customers who are in pursuit of engaging with future technologies to enhance their overall user experience. It has gained a reputation of delivering services and solutions of the highest standard that specifically addresses customers' unmet needs. NEXTDC's tremendous efforts towards building and strengthening human capital and company culture is clearly evident in the company's year on year revenue growth and other key financial metrics as highlighted in one of the earlier sections. It is also characterized by its intimate relationship with its partners and customers. The company's unique channel first approach underpinned by a strict "no compete" rule, where it makes it a point not to sell against its partners is highly commendable. The company's employee retention rate is also impressive, in fact its total employee count jumped from 50 to 235 over the past 6 years. It also excels from a diversity mix perspective where 31% of its employees are females and its ethnic diversity is closely representative of the multicultural profile of Australia.

Conclusion

NEXTDC is a torch bearer in data centre infrastructure and operations; its passion towards enhancing customer value is insurmountable. Frost & Sullivan's research concludes that NEXTDC not only demonstrates unparalleled excellence in technology and innovation, but also shines the brightest in establishing excellent customer relationships and ensuring "best in class" practices to distinguish itself in this highly competitive industry. It is Frost & Sullivan's finding that NEXTDC is a company that is obsessed with constant improvement of its products and solutions with respect to quality and efficiency; a trait that is expected to drive its success to greater heights in the global arena.

With its strong overall performance, NEXTDC has earned Frost & Sullivan's 2019 Visionary Innovation Leadership Award.

Significance of Visionary Innovation Leadership

A Visionary Innovation Leadership position enables a market participant to deliver competitive products and solutions that transform the way individuals and businesses perform their daily activities. Such products and solutions set new, long-lasting trends in how technologies are deployed and consumed by businesses and end users. Most importantly, they deliver unique and differentiated benefits that can greatly improve business performance as well as individuals' work and personal lives. These improvements are measured by customer demand, brand strength, and competitive positioning.

Understanding Visionary Innovation Leadership

Visionary innovation is the ability to innovate today in light of perceived changes and opportunities that will arise from Mega Trends in the future. It is the ability to scout for and detect unmet (and as yet undefined) needs and proactively address them with disruptive solutions that cater to new and unique customers, lifestyles, technologies, and markets. At the heart of visionary innovation is a deep understanding of the implications and global ramifications of Mega Trends, leading to the correct identification and ultimate capture of niche and white space market opportunities.

Key Benchmarking Criteria

For the Visionary Innovation Leadership Award, Frost & Sullivan analysts independently evaluated 2 key factors—Focus on the Future and Best Practices Implementation—according to the criteria identified below.

Focus on the Future

Criterion 1: Focus on Unmet Needs
Criterion 2: Visionary Scenarios through Mega Trends
Criterion 3: Growth Pipeline
Criterion 4: Blue Ocean Strategy
Criterion 5: Growth Performance

Best Practices Implementation

Criterion 1: Vision Alignment
Criterion 2: Process Design
Criterion 3: Operational Efficiency
Criterion 4: Technological Sophistication
Criterion 5: Company Culture

Best Practices Award Analysis for NEXTDC

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 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
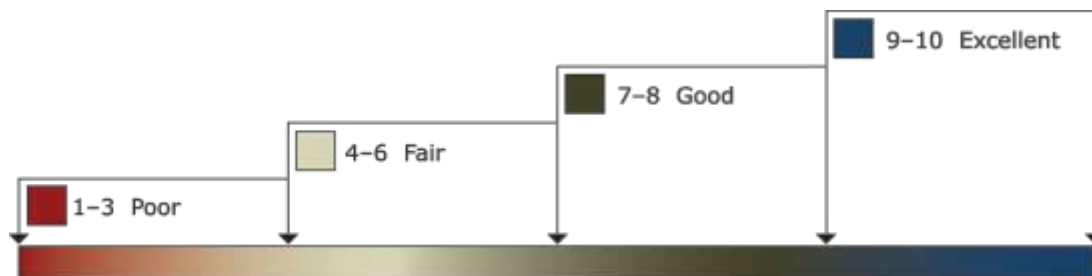
The Decision Support Scorecard considers Focus on the Future and Best Practices Implementation (i.e., the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard). The research team confirms the veracity of this weighted scorecard 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, Frost & Sullivan has chosen to refer to the other key participants as Competitor 1 and Competitor 2.

Measurement of 1–10 (1 = poor; 10 = excellent)			
Visionary Innovation Leadership	Focus on the Future	Best Practices Implementation	**Average Rating**
NEXTDC	**9.0**	**9.5**	**9.25**
Competitor 1	8.0	7.0	7.50
Competitor 2	7.0	7.0	7.00

Focus on the Future

Criterion 1: Focus on Unmet Needs
Requirement: Implementing a robust process to discover customers' unmet or underserved needs and create 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: Growth Pipeline
Oh okRequirement: Best-in-class process to identify and prioritize growth opportunities leveraging both internal and external sources.

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: Growth Performance
Requirement: Growth success linked tangibly to new growth opportunities identified though visionary innovation.

Best Practices Implementation

Criterion 1: Vision Alignment
Requirement: The executive team is aligned with the organization's mission, vision, strategy, and execution.

Criterion 2: Process Design
Requirement: Processes support the efficient and consistent implementation of tactics designed to implement the strategy.

Criterion 3: Operational Efficiency
Requirement: Staff performs assigned tasks seamlessly, quickly, and to a high quality standard.

**Criterion 4: Technological Sophistication**

Requirements: Systems enable companywide transparency, communication, and efficiency.

Criterion 5: Company Culture

Requirement: The executive team sets the standard for commitment to customers, quality, and staff, which translates directly into front-line performance excellence.

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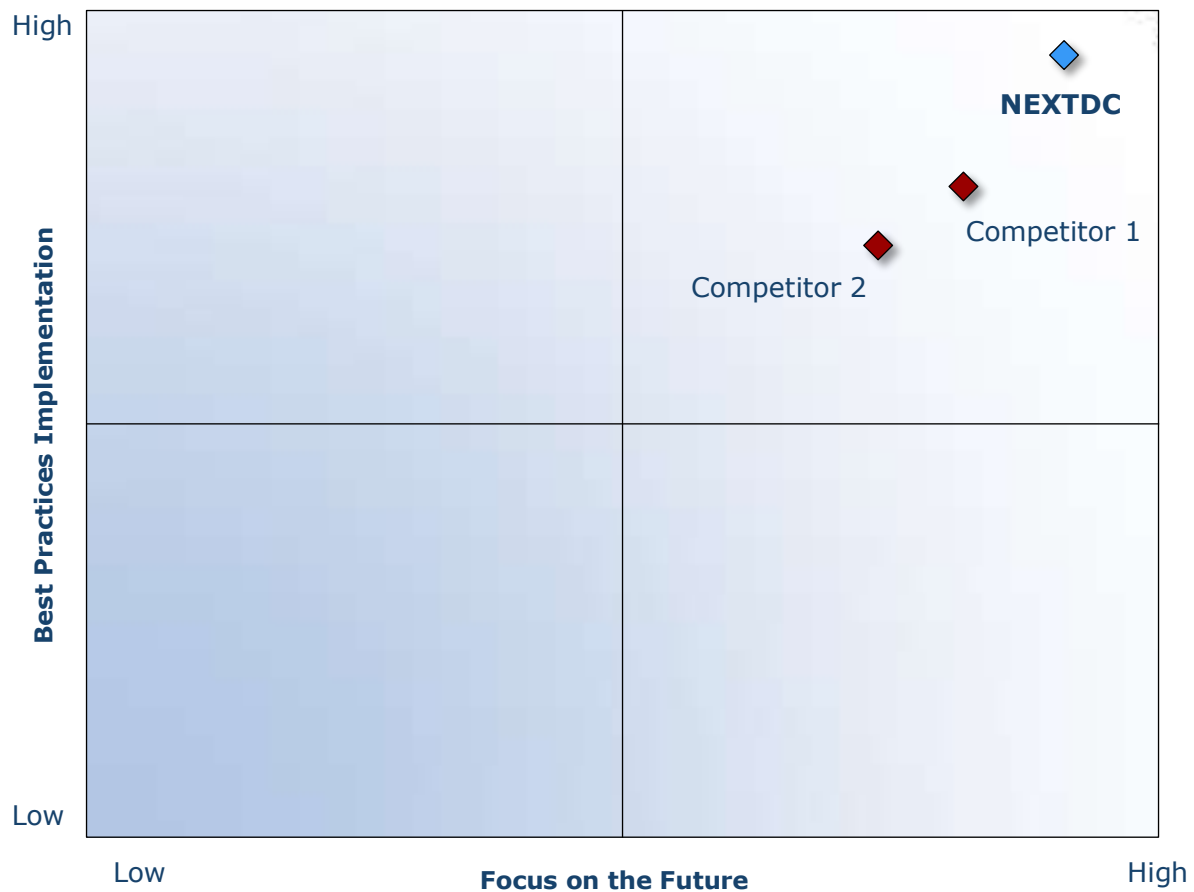
Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate award candidates and assess their fit with select best practices 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 world	• Conduct in-depth industry research • Identify emerging industries • Scan multiple regions	Pipeline of candidates that potentially meet all best practices 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 practices criteria • Rank all candidates	Matrix positioning of all candidates' performance relative to one another
3 **Invite thought leadership in best practices**	Perform in-depth examination of all candidates	• Confirm best practices 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 practices 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 practices award recipient	• Review analysis with panel • Build consensus • Select recipient	Decision on which company performs best against all best practices criteria
9 **Communicate recognition**	Inform award recipient of 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 is able to share award news with stakeholders and customers	• Coordinate media outreach • Design a marketing plan • Assess award's role in strategic planning	Widespread awareness of recipient's award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of the 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, resulting in 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

About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, helps clients 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 practices models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages nearly 60 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on 6 continents. To join Frost & Sullivan's Growth Partnership, visit http://www.frost.com.