



## 2015 Global Analytical X-ray Instrumentation Price Performance Value Leadership Award



F R O S T & S U L L I V A N



50 Years of Growth, Innovation & Leadership

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## Background and Company Performance

### *Industry Challenges*

X-ray instrumentations have become indispensable in solving challenging applications such as marine emission control, metal & ore, pharmaceutical, cosmetics, food & beverage, wood treatment, coating thickness & thin films, petroleum & petrochemical, plastic, polymers & rubber and serve as a key product in material characterization for many end users across various industries. In today's unpredictable macro-economic conditions, material characterization within several minutes and a cost-effective solution are the needs of the hour from X-ray instrumentation manufacturers. X-ray instruments assess material characterization and other inspection, as well as utilize information in a useful manner that will raise the standards of existing quality inspection.

Systems that employ simple functionality have been commonly used in many industries for routine inspection and quality control. With advances in X-ray imaging and related technologies, mobile X-ray instruments are slowly gaining acceptance, with several market participants in this space trying to convince a traditional market to adopt a new and disruptive technology.

Frost & Sullivan's research indicates that the global analytical X-ray instrumentation market generated revenue of \$672.5 million in 2014. The market is likely to experience 3.0% growth year over year until 2019. A key challenge that has an impact on the proliferation of these systems is often the investment associated with implementing the X-ray instruments. Especially for benchtop and laboratory instruments, the cost of the solution can be a prohibitive factor. The need for improved X-ray instruments that can provide high accuracy in a multitude of industrial and other sectors has led to the development of a new breed of mobile X-ray technology that is becoming increasingly affordable.

Moreover, the vast number of market participants in the analytical X-ray instrumentation market has also led to price pressure. Globally, few companies have successfully overcome the glitches in providing advanced products at competitive prices. Frost & Sullivan's research indicates that Xenometrix is among the top Energy dispersive X-ray fluorescence (EDXRF) companies in the world, dominating the global analytical X-ray instrumentation market with its leadership role. Xenometrix has developed a range of X-ray instruments such as S-Mobile PD/SDD, S-Mobile ULS, and Petro-Marine, which is a smart solution for the needs of diverse industries, including a geological mapping solution. When compared to competing solutions available on the market, Xenometrix's system offers superb functionality at lower prices than those of competing solutions.

## *Price Performance Attributes and Customer Impact*

### **Ease of Use**

Xenemetrix's vision to lead the market in terms of its focus on customers is evident through its balanced portfolio of solutions. Its products target a wide range of end users that have different needs, with a perfect balance between cost-effective and high-end analytical X-ray products and solutions. The cost-effectiveness and performance of Xenemetrix's offerings—the S-Mobile PD/SDD, S-Mobile ULS, and Petro-Marine—can be attributed to the state-of-the-art technologies used to design them. For instance, The S-Mobile PD/SDD and S-Mobile ULS are portable analyzers that are specially adapted for ultra-low-sulfur applications. Both variants have a 50KV/50W EDXRF, which delivers sensitive, precise, and quick response performance, and complies with the latest, strict international standard methods for analyzing low sulfur concentration levels: D4294, ISO 20847, ISO 8754, ISO 13032, and IP 531. The systems also comply with the levels required by ASTM D7220, ASTM D7039, ISO 20846, ISO 20884, and ISO 13032. Research indicates that Xenemetrix product prices are at least 20.0 percent lesser than its competitors.

Preloaded with the optional ultra-thin detector (SDD LE), the S-Mobile PD/SDD solution provides a distinct advantage over other competing systems in analyzing light elements or low-Z elements. In comparison, the S-Mobile ULS solution produces the most effective results in analyzing ultra-low sulfur applications. Alongside complying with international regulatory standards, the accurate and real-time detectability of these systems offers customers a true "value-for-money" experience.

Another noteworthy product is the Easy nEXt. This software enables an operator to perform multiple tests within a short time and minimum effort. This Graphic User Interface (GUI) is simple and it can be operated by non-skilled technicians for both basic and detailed elemental analysis tasks. The Easy nEXt system can operate in a "stand alone" mode wherein all data and results are stored locally, as well as in a "client-server" configuration (advised) wherein all results and data are updated in real time or upon request to the company HQ server. This enables easy management of multiple systems at disperse global locations.

### **Performance Reliability**

Xenemetrix's high-quality EDXRF mobile systems are extensively used in a wide range of industrial applications, such as petroleum, marine, alloy and metal, mining, cosmetics, pharmaceuticals, environment, education, and forensics applications. Since its inception in 2008, the company has consistently focused on maintaining to deliver the industry's best-in-class, user-friendly EDXRF systems, along with guaranteeing equally commendable customer service to its broad-based global customers.

By successfully implementing its vision, the company has continued to receive significant exposure in the global X-ray instrumentation market. During its seven years of operation, Xenemetrix has expanded its distribution channels across five major market segments: Asia-Pacific, Europe, the United States, and Latin America and Africa.

The company's ability to deliver state-of-the-art analytical solutions with specific attention to its geographically diverse customer base has been explicitly helpful in providing Xenemetrix with international exposure, thus providing a leading edge over competition.

Throughout its span of operation, Xenemetrix has not only continued offering cutting-edge EDXRF spectrometers but has also focused on improving its existing functionalities on a frequent basis. Furthermore, it has seamlessly integrated in-house mobile systems with the global online network, in order to provide customers with a one-stop solution to access, view, and gather necessary information from the data center. Driving its passion for excellence, the company has been regarded as best-in-class amidst its competition for its abilities to offer "first-of-its-kind" solutions to customers at large. For instance, in 2010, the company introduced the industry's first Optional Silicon Drift Detector (SDD), along with a digitized MCA solution for secondary 300-watt systems. In the same year, it introduced another industry-first SDD for 50-watt mobile systems. Within three years of this launch, the company offered its next pioneering bench-top solution: Genius IF, featuring a seamless combination of secondary targets, tube filters with personalizing features, and direct excitation capability.

Traversing a path of innovation since 2008, Xenemetrix has not only developed robust, comprehensive EDXRF solutions but has also continued to provide uninterrupted customer support across the global market. The company's holistic network programs, in this context, are cohesively helping to build a close-knit communication structure, which will continue to establish strong relationships between the company and its end users. With such distinctive innovation, customers only need to press a button to allow service providers to manage and control the remote monitoring of their systems, an area that previously had not been addressed.

In 2013, Xenemetrix launched Genius IF. Its unique, patented geometry combines 8 secondary targets and 8 customizable tube filters for fast and accurate characterization of elements. Genius IF is a cost-effective product in today's elemental analysis market, with a high-resolution silicon drift detector of  $125 \text{ eV} \pm 5 \text{ eV}$  and fast response time, in order to minimize operational downtime.

The company has expressed keen interest in developing strategic collaborations with other prominent companies that offer innovative technologies for the semiconductor and microelectronics domains. Xenemetrix's inclusion in the Eurocontrol Technics Group strongly supports this observation. As an active participant of this group, the company not only receives an improved understanding of the market dynamics but also receives regular funding, encouraging it to delve deep into R&D activities and consequently implement the research findings.

This strategic alliance with other R&D firms and marketing initiatives have been made possible by its strong research and development (R&D) team, which continuously works with customers to identify unmet needs. Xenemetrix has spent more than 20% of its revenue on research and development. With these initiatives, Xenemetrix continues to win over clients across the globe by delivering high-quality products.

## Prioritization of Features

In tandem with the consistent changes in customers' behavioral patterns, Xenometrix has invested extensive time and effort to overhaul its existing product features and develop newer ones, in order to stay abreast of its competition. One of the company's innovative offerings is the Petro-Marine Solution, which has been developed to complement the increasing demand for analysis of Sulfur in Diesel, Sea Water Contamination, Cat Fines & Wear Metals in Lube Oil. The Petro-Marine analysis system is appropriate to be used onboard vessels, due to its robust design.

The Petro-Marine analyzer is designed to fulfill all key aspects of the marine fuels and oils industry. This includes: meeting the government regulations with regards to low Sulfur, and enhancing engine performance, avoiding engine failure at sea and minimizing operational costs. The Petro-Marine system provides a cost effective maintenance management tool that specifically designed to reduce the cost of operation and total cost of ownership, with returns of investment measured in a few months.

## Perceived Value

As an R&D-centered company, Xenometrix's primary focus was the premium X-ray instruments segment until 2008. New Look and S-Mobile were some of its strongest products and were regarded as some of the best X-ray instruments in the market. To cater to wider target market, within 3 years, the company manufactured a new product that was lighter, smaller, easier to use, faster to set up, and more affordable but had the same excellent quality and accuracy offered by the X-Cite PD/SDD.

The company also issues newsletters for its customers and distributors to keep them updated about the latest technological trends in the EDXRF spectrometry domain. It also collaborates with a website ([www.learnXRF.com](http://www.learnXRF.com)) to increase awareness on XRF inspection techniques. Such initiatives help prospective clients to understand the precise areas of improvement that they need to pursue, alongside enhancing their existing inspection capabilities.

Price, performance, and reliability are typically the key criteria for end users procuring analytical instruments. It is therefore critical to ensure an optimum balance among these parameters to draw interest from customers. A high-priced product will fail to succeed in the market without a strong value proposition, in terms of performance and sustainability. The Genius IF has been positioned as a high-performance X-ray instrument for mining and minerals, metallurgical, environmental, petrochemical, academic research, food, cosmetics and pharmaceutical applications. The company capitalizes on the product's technological sophistication, as it offers superior performance to its customers at an affordable price, unlike solutions offered by other analysis X-ray instrument manufacturers. Genius IF therefore has been proven to offer an optimum price performance index for customers.

### **Customer Purchase Experience**

Xenemetrix Ltd. started by acquiring the analytic division from Jordan Valley. The company follows customer feedback processes to measure customer satisfaction. Top-level management review the company's detailed feedback forms on a monthly basis by. As a key performance index (KPI), the company takes into account the date and time of a service request/lead, and the turnaround time for each task is calculated and reviewed on a monthly basis to ensure that the customer receives the appropriate services on time. This review process has enabled the company to reduce its response time and improve its installation time, giving Xenemetrix a distinct advantage over its competitors.

### **Customer Service Experience**

Xenemetrix's extensive distributor network across the global X-ray instrumentation market has played a pivotal role in ensuring the excellence of the overall customer service experience. Following the similar model of educating customer representatives, the company also conducts training sessions for its distributors to familiarize them about the diverse systems and solutions. Moreover, they are provided with specific technical know-how to diagnose problems in the system hardware and address them with ease. The company conducts both onsite and offsite training programs, with a keen aim to deliver customers the best service experience. Hands-on installation guidance, the ability to quickly diagnose problems, and staying in touch with aggrieved customers form the base of such training programs.

Considering that Xenemetrix is aggressively expanding its chain of distributors, the relevance of training sessions is becoming more important. As new distributors are added to the company's chain of service operations, the education program plays a key role in delivering the necessary skillsets to them, in order to ensure that Xenemetrix's reputation as a comprehensive customer service provider remains unaltered. Furthermore, the company issues newsletters and press releases for its customers and distributors in order to keep them updated about the latest technological trends in the EDXRF spectrometry domain.

Such initiatives help the service representatives to understand the precise areas of improvement that they need to pursue, as well as to enhance their existing skillsets.

The successful execution of such dynamic strategies is evidently portrayed by Xenemetrix's robust performance in the global analytical X-ray instrumentation market. Apart from enhancing the distributors' circle every year, the company also highly stresses building a strong foundation based on its customers' trust and reliability. The company's number of repeat customers is reportedly improving in every financial year, and they are also providing genuine referrals, further solidifying the company's position in the global analytical X-ray instrumentation market.

## *Conclusion*

Building on its proven ability to deliver high-accuracy X-ray instruments for characterizing elements, Xenometrix has reinstated its excellence in price and performance value leadership by designing innovative, top-quality products such as Genius IF, X-Calibur PD/SDD/LE, X-Cite PD/SDD, EX-6600/X-7600, S-Mobile PD/SDD/ULS, and X-PMA.

These high-performance solutions are truly aligned with the company's vision, which is customer focused and centers on developing superior products in terms of price, features, and functionality. In light of these achievements, Xenometrix Ltd. is considered the deserving recipient of the 2015 Frost & Sullivan Price and Performance Value Leadership Award in the Analytical X-ray Instrumentation Market.

## Significance of Price Performance Value Leadership

Ultimately, growth in any organization depends upon customers purchasing from your company, and then making the decision to return time and again. A key component of customer retention is the delivery of a high-quality product at a reasonable price. To achieve these dual goals (customer engagement and price performance), an organization must strive to be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



## Understanding Price Performance Value Leadership

Best-in-class organizations are particularly successful in two critical areas: first, helping customers to appreciate and enjoy the product at every price point; and second, ensuring that customers perceive a demonstrable difference in performance features at every escalating price point. Ultimately, this balance allows companies to profitably deliver a variety of product options to customers, differentiate the product suite, and compete at every level of the market.

### *Key Benchmarking Criteria*

For the Price Performance Value Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Price Performance Attributes and Customer Impact—according to the criteria identified below.

#### **Price Performance Attributes**

- Criterion 1: Functionality
- Criterion 2: Ease of Use
- Criterion 3: Product/Service Quality
- Criterion 4: Performance Reliability
- Criterion 5: Prioritization of Features

#### **Customer Impact**

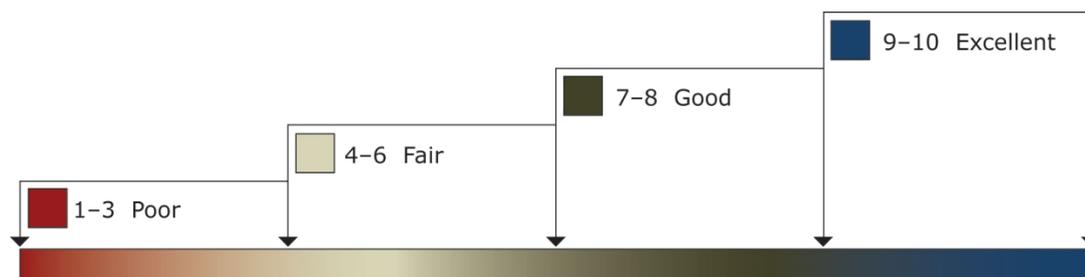
- Criterion 1: Perceived Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

## Best Practice Award Analysis for Xenemetrix

### 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



The Decision Support Scorecard is organized by Price/Performance Attributes 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.

#### DECISION SUPPORT SCORECARD FOR PRICE PERFORMANCE VALUE LEADERSHIP AWARD

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
<b>Price Performance Value Leadership</b>	Price Performance Attributes	Customer Impact	<b>Average Rating</b>
<b>Xenemetrix</b>	<b>9</b>	<b>9</b>	<b>9</b>
Competitor 2	8	8	8
Competitor 3	7	8	7.5

## *Price Performance Attributes*

### **Criterion 1: Functionality**

Requirement: The product offers enhanced functionality to serve the broadest range of applications

### **Criterion 2: Ease of Use**

Requirement: Customers typically feel that the products are easy to use to generate optimal performance

### **Criterion 3: Product/Service Quality**

Requirement: Products or services offer the best quality for the price, compared to similar offerings in the market

### **Criterion 4: Performance Reliability**

Requirement: The product consistently meets or exceeds customer expectations for performance over its life cycle

### **Criterion 5: Prioritization of Features**

Requirement: The features that customers most value and expect are most commonly available and most aggressively priced

## *Customer Impact*

### **Criterion 1: Perceived Value**

Requirement: Customers typically feel that they received more from the product or solution than they paid for it

### **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

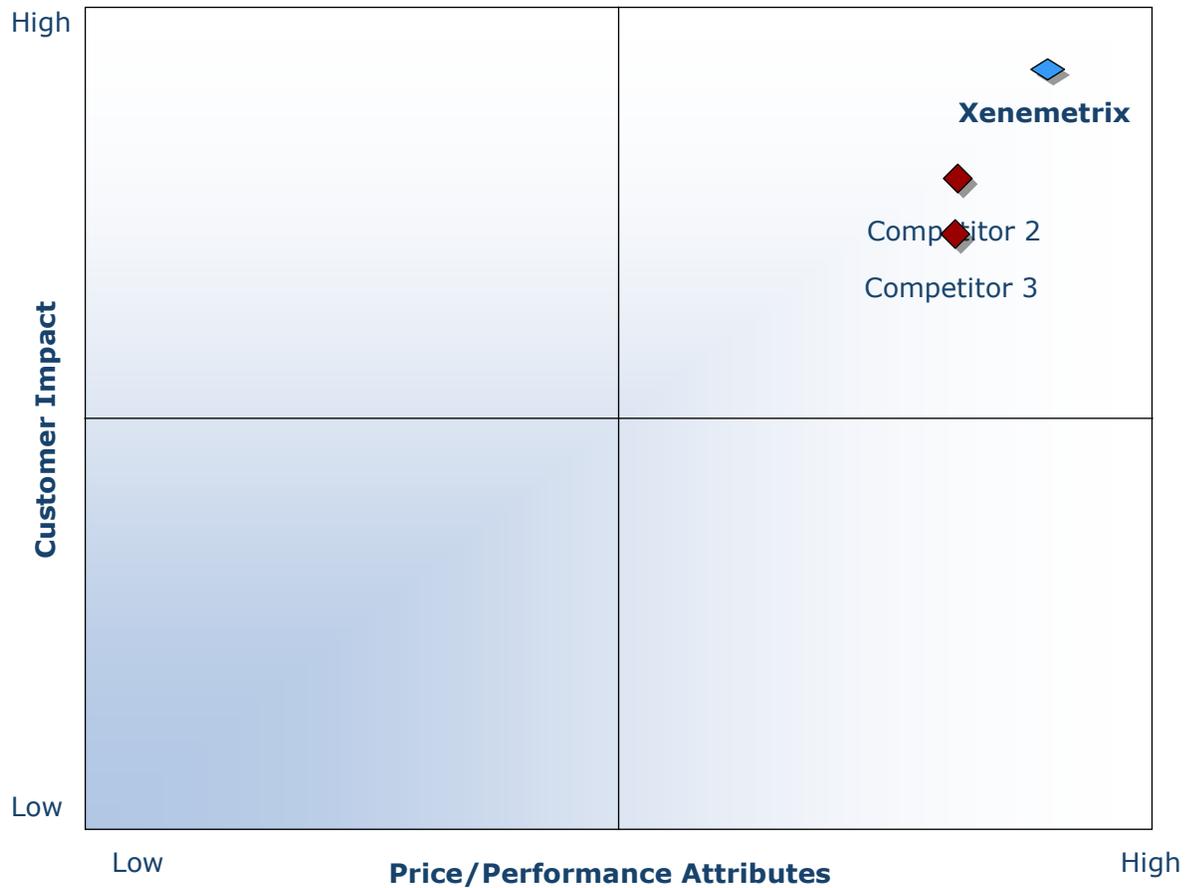
### **Criterion 5: Brand Equity**

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.

DECISION SUPPORT MATRIX FOR PRICE PERFORMANCE VALUE LEADERSHIP AWARD



## 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 <b>Monitor, target, and screen</b>	Identify award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging sectors</li> <li>• Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
2 <b>Perform 360-degree research</b>	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>• Interview thought leaders and industry practitioners</li> <li>• Assess candidates' fit with best-practice criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning all candidates' performance relative to one another
3 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>• Confirm best-practice criteria</li> <li>• Examine eligibility of all candidates</li> <li>• Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>• Brainstorm ranking options</li> <li>• Invite multiple perspectives on candidates' performance</li> <li>• Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 <b>Assemble panel of industry experts</b>	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>• Share findings</li> <li>• Strengthen cases for candidate eligibility</li> <li>• Prioritize candidates</li> </ul>	Refined list of prioritized award candidates
6 <b>Conduct global industry review</b>	Build consensus on award candidates' eligibility	<ul style="list-style-type: none"> <li>• Hold global team meeting to review all candidates</li> <li>• Pressure-test fit with criteria</li> <li>• Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible award candidates, representing success stories worldwide
7 <b>Perform quality check</b>	Develop official award consideration materials	<ul style="list-style-type: none"> <li>• Perform final performance benchmarking activities</li> <li>• Write nominations</li> <li>• Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
8 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best-practice award recipient	<ul style="list-style-type: none"> <li>• Review analysis with panel</li> <li>• Build consensus</li> <li>• Select winner</li> </ul>	Decision on which company performs best against all best-practice criteria
9 <b>Communicate recognition</b>	Inform award recipient of award recognition	<ul style="list-style-type: none"> <li>• Present award to the CEO</li> <li>• Inspire the organization for continued success</li> <li>• Celebrate the recipient's performance</li> </ul>	Announcement of award and plan for how recipient can use the award to enhance the brand
10 <b>Take strategic action</b>	Upon licensing, company may share award news with stakeholders and customers	<ul style="list-style-type: none"> <li>• Coordinate media outreach</li> <li>• Design a marketing plan</li> <li>• Assess award's role in future strategic planning</li> </ul>	Widespread awareness of recipient's award status among investors, media personnel, and employees

## 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>.