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aqua

2018 European Container Security New Product Innovation Award

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2018 BEST PRACTICES AWARD

EUROPEAN CONTAINER SECURITY
NEW PRODUCT INNOVATION AWARD

2018
BEST PRACTICES
AWARDS

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Background and Company Performance

Industry Challenges

The emerging market for application containers is evolving at a very fast pace with many enterprises, including Microsoft, Google, and Amazon, moving their legacy application systems into container systems. Containers significantly increase the efficiency and speed of application development and delivery; however, they are vulnerable to new security and control gaps that cannot be addressed by traditional manual security approaches and tools. Traditional host-based security agents are not capable of understanding containers comprehensively and often lack the context to enforce different policies on different containers within the same host.

Two serious security threats to containers are the lack of visibility into the container itself, due to its short life cycle and the additional layer of abstraction from the OS, and the changing nature of applications, especially web-scale applications, that consistently receive new updates and are instantly modified. In today's cloud-native environment, existing security tools with manual approaches cannot provide full-scale container protection.

Securely handling sensitive information such as passwords and security tokens in a container environment is critical. Companies are finding it difficult to manage container image security where critical information is stored due to the dynamic nature of containers. Lack of visibility and scanning of container images enables access to potential intruders, thereby compromising security. For instance, security teams are not able to see the code inserted into container images, so they cannot determine if there are any issues underway. This usually means that code is not scanned for vulnerabilities before or after being deployed to production.

Securing containers has become a top priority for many organizations. Enterprises are increasingly looking for a security solution able to provide visibility into their entire network, understand the level of risk, and provide protection throughout the entire life cycle of their application containers.

New Product Attributes and Customer Impact

Match to Needs

Israel-headquartered Aqua Security Software Ltd. (Aqua Security) introduced its breakthrough container security platform to address the rising challenges faced by companies in the container security arena. The Aqua Container Security Platform provides a comprehensive security solution for containerized environments, supporting Docker and Windows containers while also available for on-premises deployment.

Aqua Security designed this platform to provide companies with a complete security strategy, unmatched protection covering the entire container life cycle, from development to production. The platform gives real-time visibility into container activity and enforces policies to detect and prevent configuration errors and attacks, thereby ensuring the runtime protection of container application. Once the network topology is identified it automatically creates a security policy based upon container metadata and its actual activity that captures all interactions, essentially whitelisting them as legitimate connections. The Aqua platform hardens the containers and container environment to minimize the potential attack surface by reducing overall security risk through full-scale visibility.

Quality

Aqua Security's developer team equipped its container security platform with a complementary set of features and functionalities, including image assurance, full visibility, and runtime protection, thus allowing organizations to both detect and prevent suspicious activity and attacks in real time. The platform's ability to integrate with monitoring and analytics tools at every stage of container life cycle and its nano-segmentation functionality prevent any unauthorized container access attempt. The platform helps to identify network topology and creates security policy by monitoring the network activities in a runtime environment. This process enables enterprises to apply context-based firewall rules that alert or prevent unauthorized network connections and whitelist the legitimate connections.

The platform enables automatic discovery of containerized applications and creation of network nano-segments depending upon the container activity. The image assurance function comprises scanning for vulnerabilities, malware, embedded 'secrets' and configuration issues, and also locks down the container images and denies access to unauthorized images across the container environment. In other words, Aqua Security developers have equipped the platform with deep scanning capability for detecting any sort of vulnerability in images, thus ensuring image integrity throughout the container life cycle.

Frost & Sullivan finds that the increasing trend of securing critical information in container images within a runtime environment is quite challenging due to lack of visibility and centralized control. With its Aqua Management Console functionality, however, the Aqua platform is providing centralized access control to critical information such as passwords and other highly sensitive material by allowing only authorized users and containers. Enforcement of runtime controls by the Aqua platform that include detection and blocking of suspicious activities will empower enterprises to meet their native container application security needs in the near future.

Positioning

To differentiate its solution and cement its leadership position, Aqua Security strategically designed its platform with an additional layer of security across the entire container life cycle, with particular focus on the runtime environment. By implementing a layered security approach, the company secures container applications in learning mode. That is, the platform studies container behavioral patterns, with respect to the context of application, and creates granular runtime parameters depending on files, processes and network connections. This multi-layered approach protects software containers from multiple risks, including internal and external threats.

The major differentiating factor for Aqua Security is the platform's ability to achieve early integration into container development among various image registries, continuous delivery (CI/CD) tools, SIEM, and analytics tools. Integration allows the platform to use a combination of intelligent defaults, machine learning, and threat research to provide life cycle security for container-based applications, even during runtime. In addition, the binary hash functionality uniquely identifies images and prevents them from experiencing tampering or spoofing, from development to production.

Frost & Sullivan understands that in a volatile container ecosystem, active security measures with full visibility scanning and monitoring ensures container security. The Aqua platform rightly leverages declarative and behavioral methods with adaptive learning to address all security concerns of container applications, thereby providing this pioneering company a competitive edge over its closest competitors in the container security market.

Design

Aqua Security has designed its Aqua Container Security Platform to help enterprises in automating and simplifying their application security in containerized environments. The comprehensive platform for container security enables full visibility and control over containerized environments, supporting Linux and Windows containers. It provides programmatic access to all its functions through an application program interface (API).

The Aqua platform, which can run on both on-premises deployments as well as on Amazon Web Services (AWS), Azure, Google Cloud Platform (GCP), and other public clouds, has two main components, Aqua Console and Aqua Enforcers, complemented by Aqua Cyber Intelligence service. Aqua Console manages Aqua Enforcers and the system settings as well as integrates with registries for user authentication and identity management throughout the application life cycle. Aqua Enforcers are sidecar containers that run on hosts for protecting containers running on the same host. Aqua Cyber Intelligence updates and maps various container vulnerabilities. This mapping enables enterprises to implement the automated policy for up-to-date protection across the container ecosystem.

Frost & Sullivan appreciates the multi-layered security design approach devised by Aqua Security, which enables enterprises to gain visibility into every image in the public and private registries as well as the containers in a runtime environment. The layers of protection, full-scale scanning, and policy enforcement throughout all stages of the container ecosystem set Aqua Security's platform a step ahead of all other competitive offerings available in the market.

Customer Ownership Experience

The Aqua Container Security Platform is designed to work with any cloud-based solution and empowers enterprises to configure their deployment and integration, set policies, and monitor the containerized applications. Aqua Security has acquired many global fortune 500 customers, including some of the largest financial services companies and top 10 software companies.

For instance, US-based insurer selected Aqua Security to automate and integrate its container security before commencing the production cycle. The platform provided improved isolation and network segmentation with regulatory compliance during runtime as well as a full audit trail and reporting of each and every event across the container life cycle.

Additionally, a top 10 software vendor chose Aqua Security to facilitate the application of a uniform security policy and controls over applications deployed across on-prem and multiple cloud environments, allowing the company to deploy applications to different clouds with zero changes to security configuration.

Frost & Sullivan applauds Aqua Security for enabling enterprises to seamlessly integrate the DevOps process and automate the triggering of various events, with specific focus towards runtime protection. As direct evidence of customer satisfaction, an HPE representative stated: “With Aqua's Container Security Platform we can help our customers automate and improve their security and compliance posture in a fully automated, integrated solution.”

Customer Service Experience

Though containers have a significant impact on business productivity and efficiency, the technology also represents unique security challenges due to the dynamic and open nature of container environments. When stacked up against its competitors, Aqua Security serves customers a superior experience through its natively architected platform for containers, providing protection with full visibility and control over all activity. For instance, it provides a pay-per-scan version of its image scanner on the AWS Marketplace, which can be installed and run by AWS users ad-hoc, and paid for via their AWS bill.

Moreover, it has successfully enabled hundreds of diverse development teams to adopt to agile (CI/CD) methodologies while positioning various software companies to run workloads in hybrid cloud environments with full visibility tailored to their need. For instance, Aqua Security deployed its container security platform for Red Hat OpenShift Container environment. With full visibility into container activity, the solution demonstrated a valuable impact on Red Hat customers by providing additional layers of security protection with tight runtime security controls and intrusion prevention capabilities.

The unmatched success of this future-ready platform is evident from Aqua Security’s clientele, including HomeAway, Telstra, and Cathay Pacific, among many other important customers. Frost & Sullivan finds the platform’s ability to provide image assurance, runtime control, protection against attacks, and visibility for on-premises and cloud containerized applications will boost the company’s popularity among diverse customers in the emerging container security arena.

Conclusion

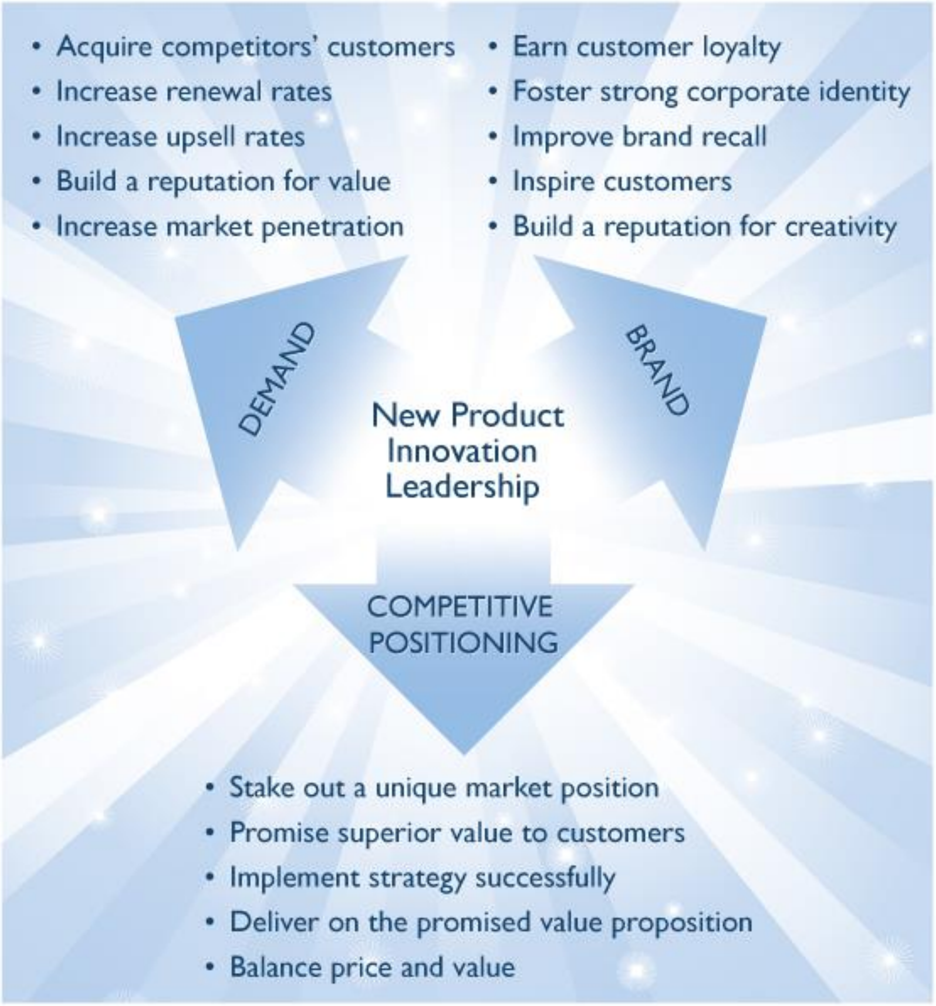
The rapid rise and convergence of DevOps, containers, and micro services-based applications has compelled companies to rethink their application security strategy, in fact, to re-conceptualize the dynamics of a cloud-native era altogether. Aqua Security certainly has. The image assurance, fine-grained and role-based user access controls, runtime protection, and integration capabilities of the Aqua Container Security Platform is enabling proactive companies an automated way to build secure container development pipelines.

And while the multi-layered behavioral security approach to containers whitelists good behavior and blocks anomalous activity, the full-time visibility and runtime containerized protection throughout the container life cycle will be the key factor driving adoption of Aqua Security's game-changing solution across global industries in the near future.

With its strong overall performance, Aqua Security has earned Frost & Sullivan's 2018 New Product Innovation Award.

Significance of New Product Innovation

Ultimately, growth in any organization depends upon continually introducing new products to the market and successfully commercializing those products. For these dual goals to occur, a company 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
New Product Innovation 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 New Product Innovation

Innovation is about finding a productive outlet for creativity—for consistently translating ideas into high-quality products that have a profound impact on the customer.

Key Benchmarking Criteria

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated two key factors—New Product Attributes and Customer Impact—according to the criteria identified below.

New Product Attributes

Criterion 1: Match to Needs
Criterion 2: Reliability
Criterion 3: Quality
Criterion 4: Positioning
Criterion 5: Design

Customer Impact

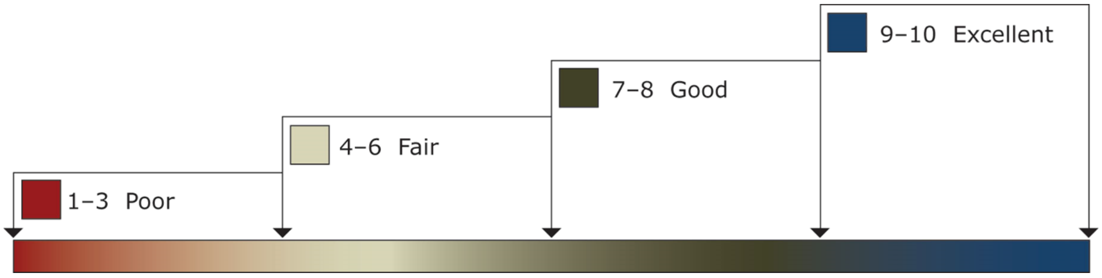
Criterion 1: Price/Performance Value
Criterion 2: Customer Purchase Experience
Criterion 3: Customer Ownership Experience
Criterion 4: Customer Service Experience
Criterion 5: Brand Equity

Best Practices Award Analysis for Aqua Security

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 New Product Attributes 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 2 and Competitor 3.

Measurement of 1–10 (1 = poor; 10 = excellent)			
New Product Innovation	New Product Attributes	Customer Impact	**Average Rating**
Aqua Security	**10**	**9.5**	**9.7**
Competitor 2	8.5	8.0	8.2
Competitor 3	8.0	8.0	8.0

New Product Attributes

Criterion 1: Match to Needs

Requirement: Customer needs directly influence and inspire the product’s design and positioning.

Criterion 2: Reliability

Requirement: The product consistently meets or exceeds customer expectations for consistent performance during its entire life cycle.

Criterion 3: Quality

Requirement: Product offers best-in-class quality, with a full complement of features and functionalities.

Criterion 4: Positioning

Requirement: The product serves a unique, unmet need that competitors cannot easily replicate.

Criterion 5: Design

Requirement: The product features an innovative design, enhancing both visual appeal and ease of use.

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

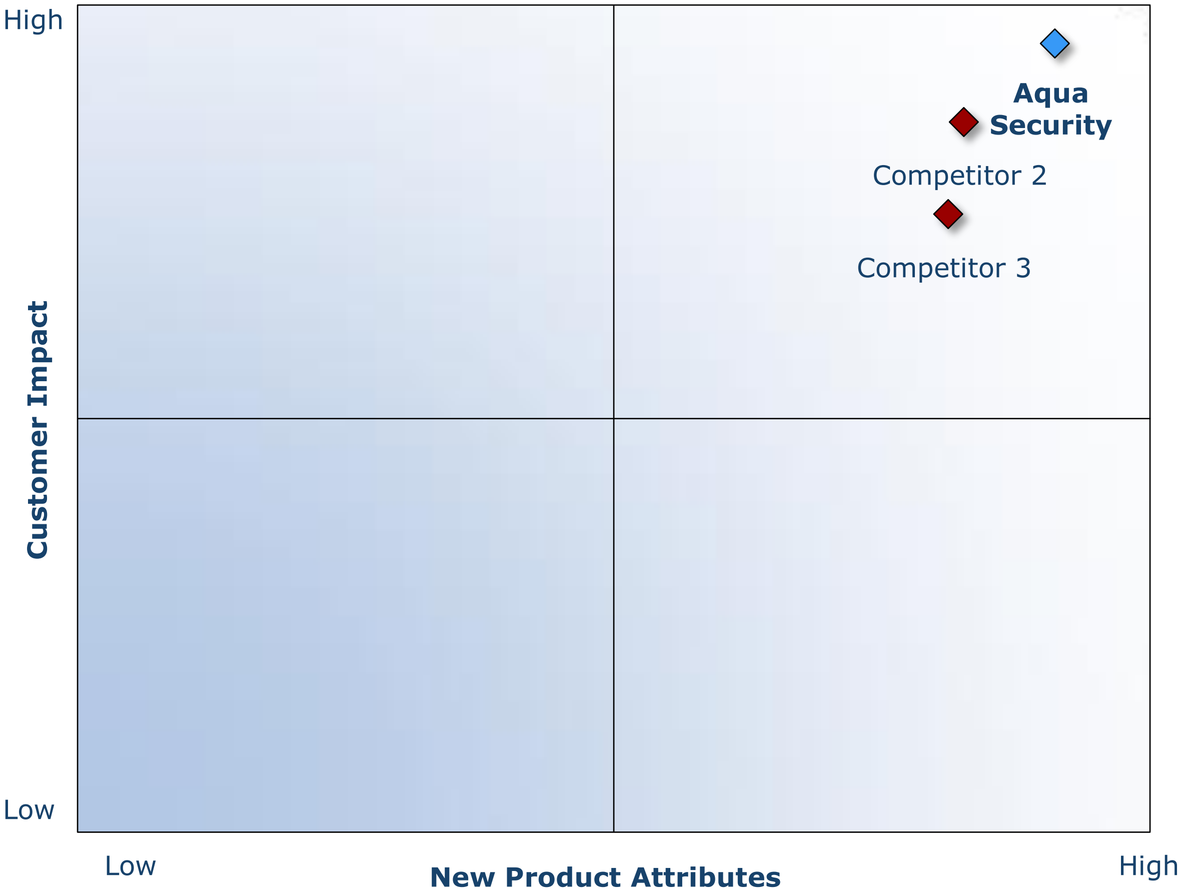
Requirement: Customer service is accessible, fast, stress-free, and of high quality.

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.



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.

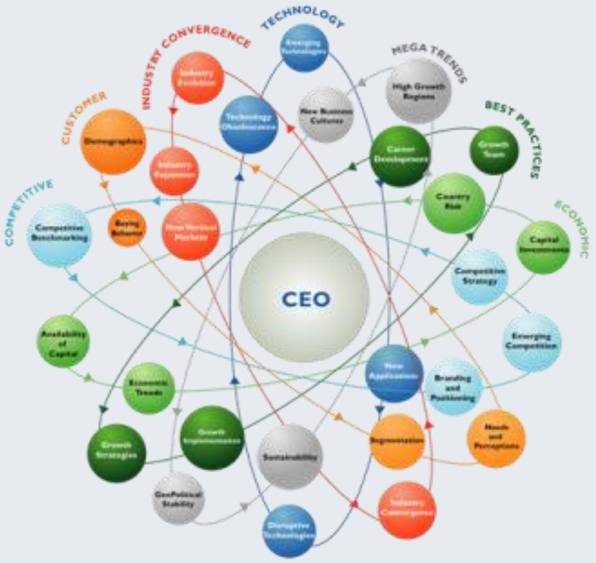
STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 **Monitor, target, and screen**	Identify Award recipient candidates from around the globe	• Conduct in-depth industry research • Identify emerging sectors • Scan multiple geographies	Pipeline of candidates who potentially meet all best-practice criteria
2 **Perform 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 of 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 recipient	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 is able to 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

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 participants 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, 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 more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit http://www.frost.com.