FROST & SULLIVAN BEST PRACTICES AWARDS

INDUSTRIAL CYBERSECURITY SOLUTIONS - GLOBAL

Enabling Technology Leadership 2019
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Background and Company Performance

Industry Challenges

In recent years, the industrial cybersecurity market has experienced rapid growth and gained widespread significance. High penetration of Industrial Internet of Things (IIoT) technology in critical infrastructure markets and the manufacturing sector causes an increase in threat attack surfaces both through information technology (IT) and operational technology (OT) systems. With cyber-attacks intensifying in sophistication, industrial control system (ICS) security approaches need to evolve. Cyber-attacks in the industrial market alone cost at least $250,000 or more per major attack, resulting in the increasing number of cybersecurity regulations enforced globally. Critical infrastructure organizations need to implement solutions from cybersecurity providers that understand the industrial environment—e.g., OT and ICS. Rising incidents of cyber-attacks, evolving compliance standards, and increasing awareness among market stakeholders accelerate the adoption of IIoT cybersecurity solutions. However, the high complexity of ICS cybersecurity and unclear return on investment (ROI) create ambiguity among organizations.

Uncertainty in regulatory policies and inadequate expertise of IT professionals remain significant restraints for critical infrastructure organizations. Furthermore, there is a crippling shortage of IT and OT experts in the cybersecurity field; thus, organizations are bringing in external ICS security services to secure their ecosystem. With security gaps existing in the IT and OT systems of the ICS space, market participants are establishing partnerships with vendors from different backgrounds to provide joint solutions for IT/OT security in the industrial environment to supplement the lack of in-house talent. Moreover, many IT/OT professionals struggle to fulfill the requirements necessary to meet ever-increasing industry compliance standards. Critical infrastructure organizations that inadequately secure their ecosystems and do not deploy proper compliance standards solutions can face steep consequences; thus, the implementation of sufficient ICS cybersecurity technologies is the first and most crucial step towards cybersecurity resiliency. Additionally, many ICS cybersecurity solutions cannot detect all the endpoints on a network, which leaves gaps in a company’s security posture, allowing hackers to breach their systems to steal confidential information and potentially damage assets or harm people.

Solutions providers that can automate the monitoring and managing aspects of ICS cybersecurity processes for critical infrastructure organizations will capture significant market share due to companies’ realization of increased ROI, safety, security, and productivity and decreased operational expenditures (OPEX). Companies want scalability and flexibility in cybersecurity amid an ever-changing threat landscape; thus, Frost & Sullivan’s research team confirms an IIoT cybersecurity vendor that can surmount these challenges and offer best-in-class, comprehensive technologies will succeed in the ICS cybersecurity solutions industry.
Technology Leverage and Customer Impact

Founded in 2013, with headquarters in San Francisco, California and offices around the world, Nozomi Networks provides game-changing ICS cybersecurity solutions. The company leverages machine learning and artificial intelligence to deliver an end-to-end, real-time, and open API ICS cybersecurity technology that provides clients with superior operational visibility. Nozomi Networks serves critical infrastructure organizations around the world such as utilities, oil and gas, manufacturing, pharmaceutical, chemical, and mining organizations.

Game-changing ICS Cybersecurity Technology

Nozomi Networks’ SCADAguardian™ appliance automatically, continually, and passively searches and discovers endpoints within an organization’s OT environment, creating an up-to-date, real-time asset inventory. The solution monitors a client’s OT network for anomalies and vulnerabilities while the dashboard displays a prioritized cybersecurity risk list that is rich in detail—e.g., threat severity and location on the network—equipping IT professionals with sufficient information to remediate issues promptly. Many OT and IT teams can spend hours or even days troubleshooting cybersecurity risks and devices affected by such vulnerabilities; however, SCADAguardian enables clients to detect, monitor, and mitigate risks in a matter of minutes, ultimately increasing productivity and decreasing OPEX. The solution integrates seamlessly with third-party OT and IT systems, allowing an organization’s network to transmit data efficiently and securely, with limited downtime or system disruptions. SCADAguardian’s dashboard provides comprehensive network visualization and modeling that empowers operators to monitor OT and other devices in their ecosystem with superior operational visibility and awareness, enabling them to locate and rectify vulnerabilities. Furthermore, the SCADAguardian appliance is available in various formats to meet the needs of any industrial organization, regardless of business size or company-specific needs—e.g., network configurations and legacy technologies. Notably, Nozomi Networks’ appliance is available as both on-premises and virtual device; and deploys via a container embedded into select switches and routers as well as within the security infrastructure of Nozomi Networks’ partners. Such flexibility allows operators to manage fewer devices and deploy across a wide variety of embedded network devices and security architectures, gaining improved resource efficiencies, simplified implementation, and reduced overall total cost of ownership.

SCADAguardian Advanced™, a separate and distinct product, offers a safe approach for even deeper ICS network visibility. The solution leverages Nozomi Networks’ strengths in passive-only discovery and analysis and safely incorporates active capabilities, giving operators the option to discover and monitor a more complete set of ICS data. SCADAguardian Advanced includes Smart Polling™, a technique that uses low volume, very precise communications to identify and describe assets, vulnerabilities, and threats actively. Operators can choose easy-to-use default configurations or manually apply Smart Polling to query specific devices or selected network areas to discover firmware, patch level, and other device details safely; confirm vulnerabilities for faster, more efficient
response; and monitor a complete set of ICS data, improving threat and process anomaly detection.

Nozomi Network’s Central Management Console (CMC) allows customers to access SCADAguardian remotely, connecting to numerous distributed industrial facilities through a centralized platform. The solution is highly scalable, enabling organizations of any size to utilize the technology. The CMC saves valuable time and increases productivity by automatically summarizing key cyber security metrics and providing the details and insights needed for fast remediation. Nozomi Networks provides best-in-class encryption between CMC and SCADAguardian, empowering clients to focus on running their business rather than the security of their organization’s data transmission processes. The company’s solution allows clients to realize a high ROI through its ability to work out-of-the-box and require little to no training to operate.

Nozomi Networks’ OT ThreatFeed makes it possible for IT and OT teams to find, understand, and respond quickly to anomalies and threats. With this service Nozomi Networks security experts curate, test and enhance ICS threat and vulnerability information gathered from their own research and that of the ICS security community. The OT ThreatFeed arms SCADAguardian customers against emerging OT threats with precise automated threat alerts and recommendations for remediation. Enhanced updates delivered through the service include identified threat signatures, indicators of compromise and zero-days discovered by Nozomi Networks; curated malware indicators from the ICS community, with enhanced Yara Rules & Packet Rules; enriched updates from the U.S. Government’s National Vulnerability Database (NVD), and more.

**Strong Partnerships and Customer Satisfaction Driving Astounding Company Growth**

Nozomi Networks boasts an impressive global partner network that enables the company to meet the needs of clients and the market by developing easily integrated, innovative solutions that empower organizations to monitor and manage their ecosystems with comprehensive security and operational visibility, increasing productivity and revenue. Nozomi Networks’ alliance network includes major brands such as Atos, Cisco, FireEye, Fortinet, General Electric, IBM, Leidos, and—most recently announced—Accenture and Schneider Electric. The company’s proof-of-concept strategy for potential clients earns it a 90% conversion rate, demonstrating the superiority of its solutions.

Nozomi Networks’ customers recognize the benefits and value the company’s solutions bring to their organization. The company’s best practices increase customer loyalty and satisfaction, accelerating the company’s market share and earning it an unmatched 500% revenue growth in 2018. Clients’ testimonials speak volumes to the satisfaction achieved by utilizing Nozomi Networks’ solutions:

“Industrial customers require big data analytics that can span both IT and OT to not only improve the security and safety of their critical operational infrastructure, but also to extend
the value of those assets through predictive and prescriptive maintenance. Working with Nozomi Networks allows us to take advantage of their artificial intelligence-powered software to map, monitor, and identify threats in some of the largest industrial installations around the world.” —Jerome Sandrini, Head of Big Data and Security, Atos

"Together with Nozomi Networks, we are addressing the demand for top-notch ICS capabilities with a complete suite of solutions and services that minimize cybersecurity vulnerabilities for oil and gas, energy, and other large industrial clients.” —Luis Luque, Managing Director, Accenture Security

"Our clients are deeply concerned about escalating threats and cyber risks to critical infrastructure and industrial operations. By partnering with Nozomi Networks, our customers immediately gain market-leading OT network monitoring and threat detection technology that is fully integrated with key IBM security services and platforms such as QRadar. This partnership makes it simple and fast for our customers to improve the visibility and cyber security of industrial networks through the largest global security provider.” —Paul Garvey, Vice President, IBM Security

“Nozomi proved to us, through an extensive production pilot in Italy, that their non-intrusive in-depth technology was able to substantially improve the reliability, efficiency, and cyber security of our remote control system.” —Federico Bellio, Head of Power Generation Remote Control System, Enel

“Because our cyber security program uses technology from Nozomi Networks we are at the forefront of our industry and benefit from the same solutions as some of the world’s largest utilities.” —Victoria Brown, CEO, Vermont Electric Cooperative

The company estimates that 2019 will bring more staggering numbers, including doubling its number of employees and expanding its already astounding growth numbers. Frost & Sullivan’s research team believes Nozomi Networks is well on its way to achieving its goals.

**Conclusion**

As the industrial Internet of Things continues to grow, so do cybersecurity threats, requiring critical infrastructure organizations to secure their industrial control system (ICS) adequately. Nozomi Networks provides clients with its disruptive artificial intelligence-enabled ICS cybersecurity solutions that offer revolutionary operational visibility and secure remote access. The company’s robust partner network and open API infrastructure enable Nozomi Networks to provide seamless IT and OT integration with third-party technologies and innovative solutions; this strategy, combined with best ICS practices, delivers customer loyalty and satisfaction. With its strong overall performance, Nozomi Networks earns Frost & Sullivan’s 2019 Global Enabling Technology Leadership Award in the industrial cybersecurity solutions industry.
Significance of Enabling Technology Leadership

Ultimately, growth in any organization depends upon customers purchasing from a company and then making the decision to return time and again. In a sense, then, everything is truly about the customer—and making those customers happy is the cornerstone of any long-term successful growth strategy. To achieve these goals through enabling technology leadership, an organization must be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.

Understanding Enabling Technology Leadership

Product quality (driven by innovative technology) is the foundation of delivering customer value. When complemented by an equally rigorous focus on the customer, companies can begin to differentiate themselves from the competition. From awareness, to consideration, to purchase, to follow-up support, best-practice organizations deliver a unique and enjoyable experience that gives customers confidence in the company, its products, and its integrity.
Key Benchmarking Criteria

For the Enabling Technology Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Technology Leverage and Customer Impact—according to the criteria identified below.

Technology Leverage

Criterion 1: Commitment to Innovation
Requirement: Conscious, ongoing adoption of emerging technologies that enables new product development and enhances product performance.

Criterion 2: Commitment to Creativity
Requirement: Technology leveraged to push the limits of form and function in the pursuit of “white space” innovation.

Criterion 3: Stage Gate Efficiency
Requirement: Adoption of technology to enhance the stage gate process for launching new products and solutions.

Criterion 4: Commercialization Success
Requirement: A proven track record of taking new technologies to market with a high rate of success.

Criterion 5: Application Diversity
Requirement: The development and/or integration of technologies that serve multiple applications and can be embraced in multiple environments.

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.
# 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.

<table>
<thead>
<tr>
<th>STEP</th>
<th>OBJECTIVE</th>
<th>KEY ACTIVITIES</th>
<th>OUTPUT</th>
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| 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.

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.