

# Radiflow

## FROST & SULLIVAN BEST PRACTICES AWARD: 2019: IT/OT SECURITY FOR SMART BUILDINGS - GLOBAL

CIARA, THE FIRST OT-BAS PLATFORM

BLACK & VEATCH

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

## Contents

Background and Company Performance .....	3
<i>Industry Challenges</i> .....	3
<i>Customer Impact and Business Impact</i> .....	3
<i>Conclusion</i> .....	7
Significance of Customer Value Leadership .....	8
Understanding Customer Value Leadership .....	8
<i>Key Benchmarking Criteria</i> .....	9
Best Practices Award Analysis .....	9
<i>Decision Support Scorecard</i> .....	9
<i>Customer Impact</i> .....	10
<i>Business Impact</i> .....	10
<i>Decision Support Matrix</i> .....	11
Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices .....	12
The Intersection between 360-Degree Research and Best Practices Awards.....	13
<i>Research Methodology</i> .....	13
About Frost & Sullivan .....	13

## Background and Company Performance

### *Industry Challenges*

According to a recent Frost & Sullivan study – Global IoT Devices Market, Forecast to 2024 – the total number of IoT devices is now more than three times the world population. Interestingly, about 54% of these devices are building devices - such as Building Automation Systems (BAS), smart elevators, HVAC systems and smart lighting.

As enterprises increase investment in smarter building spaces, security teams report to Frost & Sullivan how they find themselves dealing with issues that transcend IT networks and devices; today, they also have to help secure operational technology (OT) systems. As such, the focus of Chief Information Security Officers (CISOs) is no longer restricted to the IT and network security domain.

More than ever, ensuring OT security is business critical. The Ponemon Report on Cybersecurity in Operational Technology reveals that more than 50% of organizations surveyed experienced at least one cyber-attack that impacted OT infrastructure and caused significant downtime. Operational downtime can cost an enterprise millions of dollars. In some cases, a converged IT/OT environment leads to malware finding its way to critical and confidential data through a gap in OT security.

The impact of an expanded attack surface is compounded by the lack of visibility and understanding of OT systems by security teams. In addition, Frost & Sullivan points out that the presence of too many stakeholders – including facility managers, third party vendors and employees – make threat monitoring, detection and response an arduous task.

Implementation of a converged IT/OT security solution is an extensive process, requiring multiple steps, such as asset inventory management, vulnerability assessment and, perhaps most importantly, stakeholder alignment. During post implementation, CISOs and security teams are flooded with numerous reports on asset behavior. As a consequence, over-burdened analysts have a high probability of overlooking a critical anomaly that could lead to a data breach or operational downtime.

Frost & Sullivan believes that the clear challenge lies in implementing all of these processes effectively, efficiently and comprehensively within the constraints of time, budget and resources. Yet Frost & Sullivan analysis reveals that few vendors in the IT/OT security market offer solutions that are easily deployable and operationally efficient post implementation.

### *Customer Impact and Business Impact*

Radiflow, founded in 2009, is a company focused on cybersecurity for industrial automation systems, including building management systems (BMS). Radiflow has a global presence, with offices in the US, Israel, the UK, Germany, and Italy. By the end of 2018, Radiflow had over 50 customer deployments, securing over 2,000 sites using its solutions.

## **A High-end, Feature-rich Product Portfolio**

Radiflow offers a broad portfolio that enables enterprises to gain further visibility and control security of their building assets and operations. The company's product suite encompasses wide-ranging features including vulnerability assessment, threat detection, and prevention.

Radiflow's iSID Detection and Analysis Platform enables passive monitoring of networks to identify changes in topology and behavior. The platform provides a logical map of all building systems, offering the ability to view interdependencies and data flow between devices. Each building device in the map can be further examined to view device attributes and protocols.

In addition, each device is associated with possible threat and attacker capabilities in the logical map. This helps operators to make more informed decisions in identifying high risk devices that need to be prioritized for risk mitigation. It also enables enterprises to implement a targeted IT/OT security solution at a fraction of the expenditure required for enterprises not using the iSID platform.

The iSID platform builds a baseline of normal operations during the initial implementation and uses it as a benchmark to detect anomalies. The platform employs multiple security engines pertaining to each type of network activity to detect anomalies such as behavior, network topology, task policy, asset operation, M2M policy, and cyber exploits.

## **Hassle-free and Optimized Experience for Customers**

Many enterprises do not have the expertise and/or bandwidth to set up an in-house Security Operations Center (SOC) dedicated to address OT specific cybersecurity issues. In such cases, Managed Security Service Providers (MSSPs) provide cloud-based services to monitor IT/OT networks. Therefore, enterprises increasingly prefer to engage with MSSPs.

Radiflow has recognized this shifting market trend and has proactively taken steps towards implementing partnership based strategy with MSSPs. Radiflow's OT-MSSP partnership program begins at the product level. After the self-learning period when the iSID platform establishes the baseline network topology model, the MSSP is capable of monitoring the network for any deviations.

Radiflow deploys smart collectors (also called smart probes) at each remote site – these collect network data from devices and feeds into the central iSID platform using port mirroring. Enterprises are therefore able to monitor multiple buildings in a central SOC, either on premise or by a MSSP. Compression and encryption of the data stream feeding into the central system ensures the security and integrity of data transferred while preventing network overload.

The architecture of smart probes is optimized to provide simple and distributed deployment at customer facilities. With smart probes, facility operators have the flexibility to analyze data streams for anomalies from multiple buildings: either in-house at a central location or outsourced to a MSSP. Once the smart collectors are put into the customer

facility, the facility operator or MSSP is able to run multiple instances for multiple sites in the Operations Centre. Enterprises that prefer to have security operations on-premise, but managed through an MSSP can enable one-way secure web access to MSSPs to monitor iSID.

In addition to the product capabilities, Frost & Sullivan recognizes how Radiflow ensures a positive customer experience by providing continuous support to its end customers. Along with its MSSP partners, Radiflow provides risk assessment and event analytics services to support customers at every step of their IT/OT security journey. Radiflow leverages visibility gained from customer operations to provide insights that help to improve the security posture of its clients.

### **More Power to the Customer**

A common concern for CISOs is the data deluge from alerts and reports generated from an anomaly detection platform. Often, these reports include a lot of false positives or data generated from non-critical systems. As a result, analysts often find it difficult to separate the noise from important data points.

Frost & Sullivan believes that Radiflow clearly addresses this issue using iSID's out-of-the-box Confidentiality, Integrity, Availability (CIA) Risk Evaluation triage model. The model takes into account the device position, communication between assets and business processes, while analyzing risks and threats. Subsequently, the model prioritizes alerts based on a classification of critical and non-critical assets determined by device function per business process and ranking of CIA parameters. More importantly, the customer is empowered to configure parameters and risk values on the CIA Risk Evaluation triage model for each device or controller group.

Additionally, the smart probes are designed to be lightweight and consume minimal network bandwidth. At the same time, they are packed with algorithms to provide intelligent analytics. The combination of intelligent analytics algorithm and a lightweight processing solution ensures that the iSID central analytics platform does not miss any critical data, while preventing a data deluge.

Furthermore, Radiflow enables network administrators to manage maintenance schedules by defining maintenance timeslots in iSID to mask irrelevant alerts at that time and further by enforcing remote access rules. This is made possible using iSEG Secure DPI Gateways that include Authentication Protection Access (APA) capability. The APA allows network administrators to define specific time windows when only the authorized technician is provided restricted remote access to the device. This feature prevents unauthorized access and ensures that there are no open ports for malware propagation.

### **A Win-Win Partnership-based Growth Strategy**

Frost & Sullivan points out that the current focus of most IT/OT security vendors is predominantly on industrial and manufacturing environments (rather than smart building spaces). Radiflow correctly recognizes building automation security as a promising growth opportunity and has developed specific use cases for this segment. In response to growing

market demand, the company has deployed a revenue sharing model with managed service providers specifically for this market.

Radiflow offers its OT solutions to MSSPs in two bundles, namely, silver and gold. The silver bundle includes features such as threat detection and monitoring, cyber reports, and support and maintenance services. The gold bundle additionally includes risk scoring, feed-based threat intelligence, advanced alerts, and cyber incident handling services. The company also offers its gold MSSP partners an option to purchase additional advanced services such as asset management, big data analytics, client portal, expert consultancy on translating cyber alerts into Standard Operating Procedures (SOPs), and more.

For instance, Radiflow's smart collectors use end-to-end IPsec VPN tunnels to send large volumes of data to a central iSID located at MSSP's SOC. The iCEN management utility enables management of multiple instances of iSID from multiple facilities, guaranteeing solution scalability. These features give customers or MSSP partners the flexibility to switch between different revenue models without any operational delay.

In the revenue sharing model, Radiflow provides tools, templates and back-office support to the MSSP, who in turn deploys the solution at the customer site. The customer is charged a monthly subscription fee and a percentage of that fee goes to Radiflow. This ensures a recurring revenue stream for Radiflow and makes client acquisition even easier. Radiflow enables its MSSPs with a free three month silver trial period per end user. This helps MSSPs attract and expand its end user base.

Radiflow uses a progressive pricing scheme for its MSSP partners based on the number of IP addresses monitored. The system report logs extracted by MSSPs every month is used in determining the subscription cost. Such a model helps the MSSPs and customers expand investment over time after assessing the RoI every month.

In 2018, Radiflow won projects in the range of hundreds of thousands of dollars for securing BMS networks and is expecting to significantly accelerate the growth in this vertical in 2019 by leveraging the MSSP model. Apart from sustained growth, this model ensures customer retention, thus promising high growth rates for Radiflow.

Moreover, Radiflow is working on including additional value added services in its portfolio. An example includes providing useful insights from the event analytics reports and from industry benchmarks and recommending standard operating procedures when an event occurs. The company also provides consulting services to customers in collaboration with the MSSPs.

### **Building Trust and Experience**

Radiflow employs a combination of strategies to educate the market about its products. Some of these include attending security conferences, presenting at tradeshows, and participating in webinars. The company also demonstrates true thought leadership by publishing insightful whitepapers and research reports on its website. Radiflow believes in educating customers to enable them to make informed security decisions.

The company also leverages testimonials from existing customers to build credibility in the

market. Its website includes extensive case studies of its solution implementations at various customer sites. Additionally, the MSSP model provides further opportunities for Radiflow to build brand awareness among enterprises and to facilitate easier customer acquisition.

### *Conclusion*

Security teams are impacted the most from enterprise digital transformation initiatives - as their roles now span both OT and IT devices. With limited resources to handle a converged IT/OT environment, CISOs are seeking vendors that can provide flexible and scalable solutions.

The combination of superior products and a hassle-free customer experience during and post-implementation is a rare find. Frost & Sullivan applauds the way that Radiflow offers an easily deployable product portfolio that empowers customers to better manage building security.

With its strong overall performance, Radiflow has earned the 2019 Frost & Sullivan Customer Value Leadership Award.

## Significance of Customer Value Leadership

Ultimately, growth in any organization depends on customers purchasing from a company and then making the decision to return time and again. Satisfying customers is the cornerstone of any successful growth strategy. To achieve this, an organization must be best in class in 3 key areas: understanding demand, nurturing the brand, and differentiating from the competition.



## Understanding Customer Value Leadership

Customer Value Leadership is defined and measured by 2 macro-level categories: Customer Impact and Business Impact. These two sides work together to make customers feel both valued and confident in their products' quality and performance. This dual



satisfaction translates into repeat purchases and a lifetime of customer value.

### *Key Benchmarking Criteria*

For the Global Customer Value Leadership Award, Frost & Sullivan analysts independently evaluated Customer Impact and Business Impact according to the criteria identified below.

#### **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

#### **Business Impact**

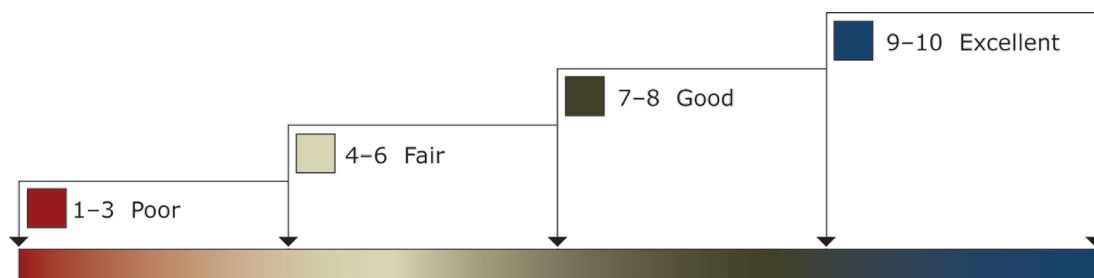
- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

## **Best Practices Award Analysis for Radiflow**

### *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 Customer Impact and Business Impact (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 2 and Competitor 3.

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
<b>Customer Value Leadership</b>	Customer Impact	Business Impact	Average Rating
<b>Radiflow</b>	<b>9.0</b>	<b>9.0</b>	<b>9.00</b>
Competitor 2	7.5	8.0	7.75
Competitor 3	8.0	7.0	7.50

### *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 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.

### *Business Impact*

#### **Criterion 1: Financial Performance**

Requirement: Overall financial performance is strong in terms of revenue, revenue growth, operating margin, and other key financial metrics.

#### **Criterion 2: Customer Acquisition**

Requirement: Customer-facing processes support the efficient and consistent acquisition of new customers, even as it enhances retention of current customers.

#### **Criterion 3: Operational Efficiency**

Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard.

#### **Criterion 4: Growth Potential**

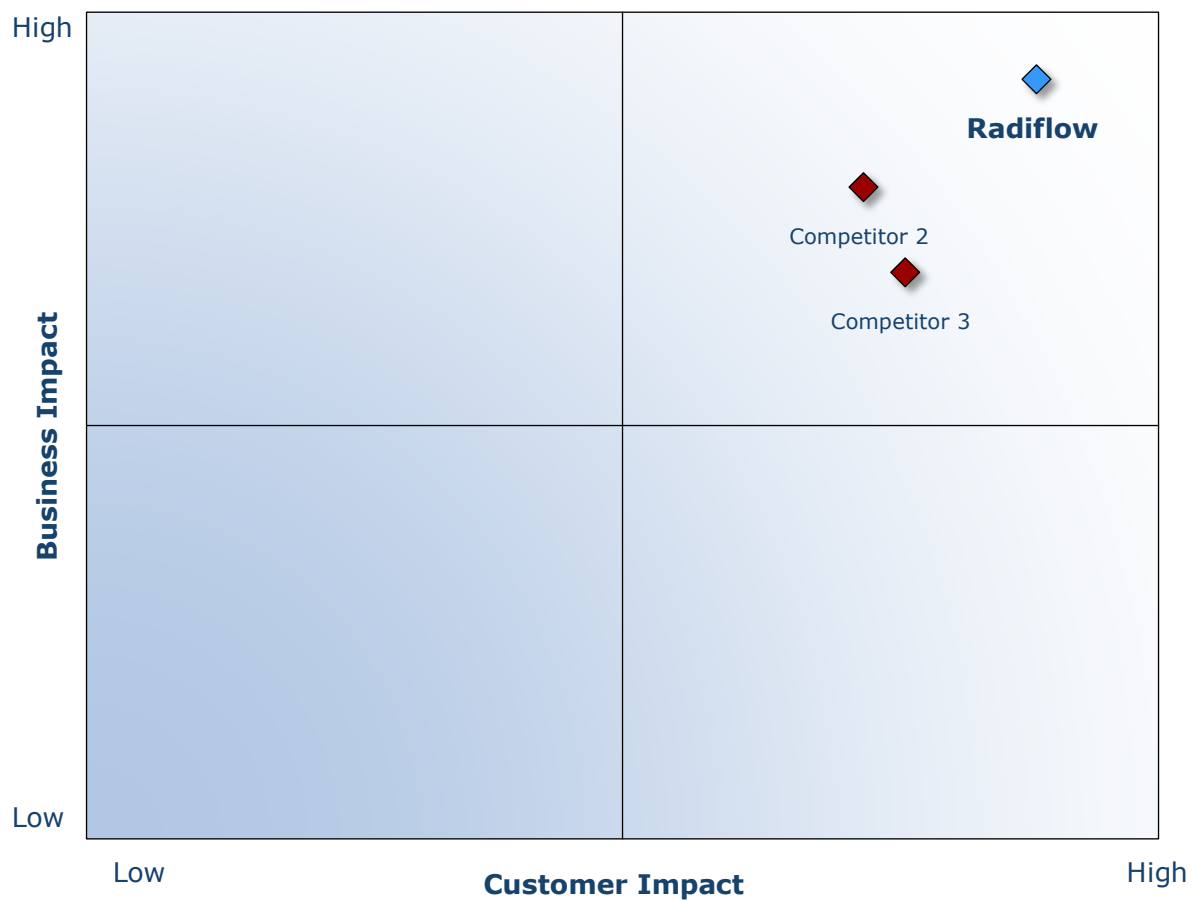
Requirements: Customer focus strengthens brand, reinforces customer loyalty, and enhances growth potential.

**Criterion 5: Human Capital**

Requirement: Company culture is characterized by a strong commitment to quality and customers, which in turn enhances employee morale and retention.

*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 <b>Monitor, target, and screen</b>	Identify Award recipient candidates from around the world	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging industries</li> <li>• Scan multiple regions</li> </ul>	Pipeline of candidates that potentially meet all best practices 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 practices criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning of 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 practices 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 practices 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 practices Award recipient	<ul style="list-style-type: none"> <li>• Review analysis with panel</li> <li>• Build consensus</li> <li>• Select recipient</li> </ul>	Decision on which company performs best against all best practices 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 is able to 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 strategic planning</li> </ul>	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 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, 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>.