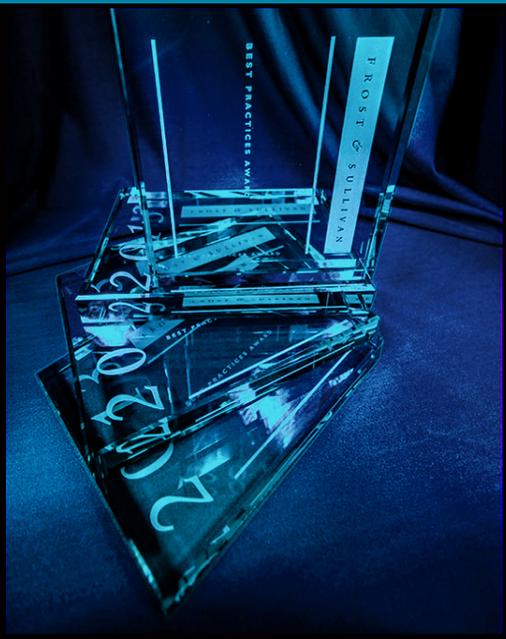




OCTOPUS
control and command

2016 Global Command and Control
For Critical Infrastructure
New Product Innovation Award



FROST & SULLIVAN

BEST
2016 PRACTICES
AWARD

GLOBAL COMMAND AND CONTROL
FOR CRITICAL INFRASTRUCTURE
NEW PRODUCT INNOVATION AWARD

2016
BEST PRACTICES
AWARDS

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Background and Company Performance

Industry Challenges

The spread of terrorism poses many challenges in security to Critical National Infrastructure (CNI). CNI operators have accelerated investments in security systems such as access control, perimeter security, incident detection, surveillance systems as well as others. This creates a microcosm of a number of security solutions that operate in parallel with each other. It is critical that all of these security elements are integrated into a command and control suite to give the security operators greater situational awareness of security threats across their facility. This solution should be customizable according to the differing needs of each CNI facility, facilitate better informed decision making and measure the effectiveness of deployed security resources.

Though CNI Operators cannot afford to compromise on security, the budget available to deploy more advanced and newer security solutions is often constrained. Thus, CNI today is more cost sensitive and security managers and purchasers are looking for economical “force-multipliers” which can improve security outcomes.

Upgrades and improvements of security systems are usually staggered over time to allow for budget allocation. As a result of this, security systems are usually comprised of multiple different suppliers. Integrating multiple security systems from different providers into a Command and control system can be challenging.. CNI operators need a versatile C2 framework which supports easy addition and removal of security devices and capabilities as and when required.

Through its Physical Security Information Management (PSIM) System Octopus provides a tailored solution that makes the management of different security systems easier and optimizes resources to provide efficiencies on personnel costs whilst maintaining the high security levels required for CNI operators.

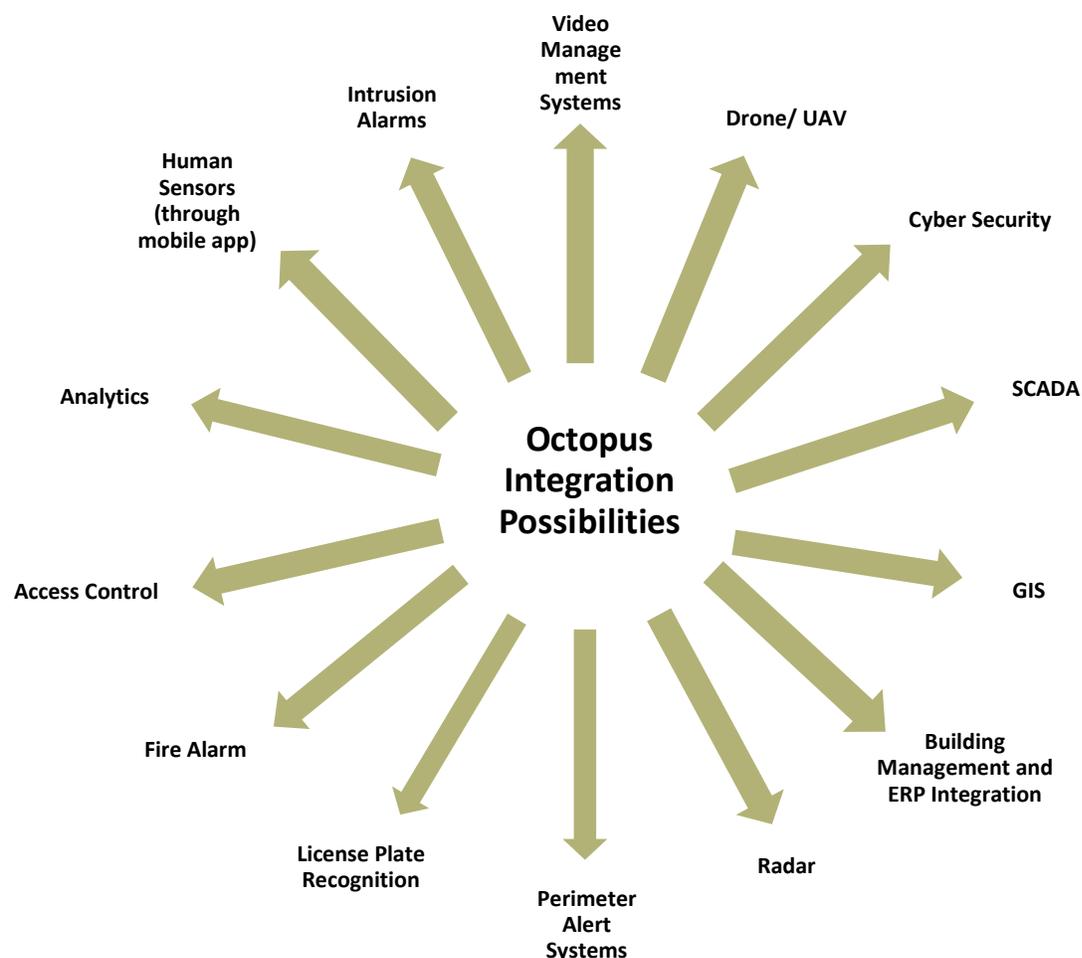
Product Family Attributes and Business Impact

Match to Needs, Design and Quality

Affordability and Ease of adoption – CNI operators need solutions that are affordable but high hardware, installation, upgrade and maintenance costs make C2 solutions a continual drain on security budgets. Many firms that provide C2 solutions offer only “server on-premise” installation option which requires significant investment in hardware. Whilst providing the option of “on premises” installations, Octopus also provides a complete cloud based C2 solution which requires minimal hardware installation and the accruing capital costs. The solution does not compromise on functionality, customizability or performance. The solution can be fully cloud-hosted using Microsoft Azure or any other cloud platform desired by the customer. System software and data are hosted on the cloud with secure communication to the main Octopus System. The Octopus client interface is designed to be

lean and thus enables it to seamlessly support cloud based solutions, whilst heavy client interfaces of competing products inhibit the ability to support the cloud.

Integration Capability – Octopus stays ahead of the curve in this aspect on two fronts – the sheer scale of integration capabilities the solution is capable of and the ability to integrate complex military grade systems to the CNI C2 system when required by the customer. The open architecture of the Octopus solution is powerful and almost OEM agnostic. Any new security device added to the existing set up can also be easily added to the C2 framework with just a click of a button. As the offering is cloud based, the data captured is always real time and the security snapshot can be viewed from different locations simultaneously.



The line between civilian security solutions and military grade solutions is blurring with high security installations like nuclear reactors moving towards adoption of more military grade C4I systems. The Octopus solution is versatile, and has successfully integrated ground radars, acoustic sensors, motion sensors and Electro Optic and Infrared devices. It also allows for automated correlation of deployed EO systems for visual line of sight with radar acquired targets for effective prioritization and incident management.

Certain C2 solution providers sometimes prefer to deploy in house video management systems because of integration concerns. This is an additional cost on the CNI operator. Octopus solutions does not impose any bundled costs on the CNI operator and can directly integrate any video systems or cameras to Octopus video cloud server.

Modular approach and Programmability – The Octopus solution is modular and offers a holistic solution which cuts across physical security, cyber events, safety, operations and risks. 35 customizable modules are offered for both the command room and mobile app. CNI operators can pick, choose and deploy what they want depending on their security priorities. Other competitors may have a certain degree of modularity in their solutions but they may also use 3rd party systems to implement certain capabilities. All the Octopus modules are built and deployed in house and very few solutions in the market offer such an expansive and customizable set. The mobile app is a very strong complement to the control system and helps track operational aspects of security. Through its patrol guard modules and GIS tracking deployment of security, personnel can be monitored and evaluated. This allows optimization of security dispatch and response whereas the closest security officer can be dispatched to the location of an incident

The programmability of the solution is crucial in incident response applications. In the event of an incident, the software provides the set of responses to the manager in a step by step fashion and he can execute each of these at just a click of a button. The suite is entirely programmable and any “if then” conditions (which list the set of actionable responses in case of an event) can be easily tailored to it depending on the security priorities of the CNI installation.

Reliability

The fact that all the security modules are developed in house and no third party support software is used makes the Octopus solution stands out. Unlike competing products, the solution requires no separate software client installation and Octopus’ command center web client can be accessed from multiple devices spread across geographies. In a worst case scenario where C2 hardware in one location is compromised, security control systems can be seamlessly operated from another location. This is another advantage of a cloud based system. In the case of maintenance or support requirements, non-cloud enabled competitors can provide support only via remote access support connections. Octopus’ cloud based solution provides for easier support systems. Maintenance and upgrades do not require expensive on site visits and upgrades for both server and the client can be done via the cloud without any hindrance or additional costs. The support of a 24*7 security center, combined with no third party dependence and cloud based real time trouble shooting makes Octopus a very reliable solution.

Business Impact

Performance Value

Automation - Security processes and responses are becoming more automated to reduce human error during emergency situations. The number of security personnel to be employed has also been brought down resulting in lower operational costs without compromising security measures in place. The solution can also be used to generate a performance snapshot of the security personnel thus decisions on improving skills through training can be effectively taken, which all drives improving efficiency of operations.

Capital Cost Savings and Customizability - The Octopus cloud based solution does not require physical servers, network components and hot backup solutions and associated additional licensing costs. Competitors usually offer a C2 solution with a small number of basic security modules and adding additional security modules such as dispatch services cost more. Octopus provides all modules at very price competitive cost compared to their competition. Also, any single module can be sold separately enabling more customizability for the customer.

The variability of security is usually in direct proportion to the number of sensors deployed. The Octopus mobile app, used in tandem with the control solution turns every security personnel deployed into a "security sensor". Apart from the ability to remotely monitor the security personnel, by using preinstalled barcodes to mark locations and facilities within the CNI environment Octopus provides the capability to monitor performance of employed personnel. Command communication is possible in real time between every security asset, this includes mobile video transmission between security asset and control center in case of an event.

Brand Equity

Brand Equity is increasingly important for security firms as it is becoming increasingly difficult to differentiate security solutions. Octopus has built a product after truly understanding the needs of the CNI operator. The product planning and development stage of Octopus involved active participation from security operators having years of experience in CNI security and CNI infrastructure operators. The needs of cost effectiveness, scalability, and customer support and integration has been effectively and innovatively addressed by the solution and the wide range of capabilities offered by a single solution has ensured that Octopus has a growing clientele. The solution has been recognized for its innovative approach by dependable sources like Forbes among others. It has built a very loyal clientele spread across continents over the last 5 years, standing itself out from its competition.

Conclusion

CNI operators find it increasingly difficult to make optimum use of the many security solutions that they deploy. This often involves large costs and complex integration processes. Octopus has successfully changed this by developing a truly versatile IT and mobile phone based system which is minimally intrusive and optimizes the security architecture by deploying a powerful C2 system. For these reasons Octopus is truly deserving of the New Product Innovation Award for Command and Control Solutions for CNI.

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.



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 Practice Award Analysis for Octopus

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 functionality

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 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

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.



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 Monitor, target, and screen	Identify award recipient candidates from around the globe	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Interview thought leaders and industry practitioners • Assess candidates' fit with best-practice criteria • Rank all candidates 	Matrix positioning all candidates' performance relative to one another
3 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Review analysis with panel • Build consensus • Select winner 	Decision on which company performs best against all best-practice criteria
9 Communicate recognition	Inform award recipient of award recognition	<ul style="list-style-type: none"> • 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 may share award news with stakeholders and customers	<ul style="list-style-type: none"> • 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

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>.