

FROST & SULLIVAN

BEST PRACTICES

AWARDS

FROST & SULLIVAN

2020 BEST PRACTICES AWARD



**2020 GLOBAL
IOT SOLUTION FOR PUMPS
PRODUCT LEADERSHIP AWARD**

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Background and Company Performance

Industry Challenges

In today's turbulent business environment there is a lot of economic uncertainty, a decline in new project investment and cut throat competition in global markets; thus, customers are acutely focused on improving financial discipline and reducing operational expenditure (OPEX). To achieve this, many customers are revisiting their existing plant maintenance strategy while concomitantly exploring next-generation technology that would improve asset performance and production efficiency.

Pump maintenance is a paramount area of concern for customers because of the frequent need for maintenance and repair services. The main roadblock for customers is the lack of visibility on machine health. Limited transparency into plant operations and pump performance often leads to unexpected asset downtime and costly production disruption.

Customers need pump solutions that are capable of translating the abundance of data that they produce into meaningful insights; ultimately improving plant maintenance and business decisions. With the rise of machine learning, cognitive intelligence and advanced analytics platforms, pump vendors can now precisely detect and solve asset problems early on. Moreover, this helps pump vendors enhance their prognostic capabilities by delivering in-depth insights on pump performance, therefore helping customers avoid outrageous maintenance costs.

Since customers are looking for the best possible asset reliability, pump vendors will have to design and deliver a capable and well-rounded IIoT-based asset monitoring solution. Pumps companies are likely to invest and collaborate with niche IoT vendors to offer accurate diagnostics and improve pump lifecycle. This will be critical for pump vendors to remain competitive and cement their position in this mature market.

Product Family Attributes and Business Impact

Game Changing IoT Solution Built with a Unique Design and Positioning

Frost & Sullivan is quite impressed with a company named Augury who has designed a revolutionary IoT-based machine diagnostic solution, known as Halo. The design and engineering in this solution is truly unique and it has been instrumental in Augury's continued success in the market.

The first thing that impressed Frost & Sullivan is that Augury is a 'one-stop-solution provider'. The company offers in-house hardware, software and a best-in-class analytics platform that enables continuous monitoring of plant assets. This innovative feature ensures that customers have complete visibility into asset health, thus addressing the industry's most critical challenge.

As mentioned earlier, OEMs in the pump industry are looking to minimize unexpected downtime and improve pump efficiency. 2019 Frost & Sullivan research highlighted pumps and valves as the top most plant assets incurring higher operational and maintenance costs. Despite the introduction of basic monitoring solutions such as vibration analysis, challenges with respect to pump performance continued to persist due to periodic analysis and inadequate parameters for assessing pump health.

Augury’s holistic IoT platform enables pump vendors to overcome these barriers by integrating deep machine learning algorithms and artificial intelligence. Unlike traditional monitoring solutions that employ a reactive and preventive maintenance approach, with Augury, pump vendors are able to accurately predict asset failures. These real-time insights on pump health are crucial in helping customers improve asset reliability and focus on asset optimization.

Augury’s solution uses a one-of-a-kind, three layer approach:

- **Anomaly Detection** – The solution uses temperature, vibration and magnetic field sensors, in concert with powerful algorithms, to constantly monitor and detect any abnormalities in asset performance.

- **Fault Analysis** - Detected deviations are compared with voluminous machine data assimilated in the database repository using a second set of algorithms.

- **Expert Verification** – Data insights are verified and authorized by in-house vibration and reliability experts.

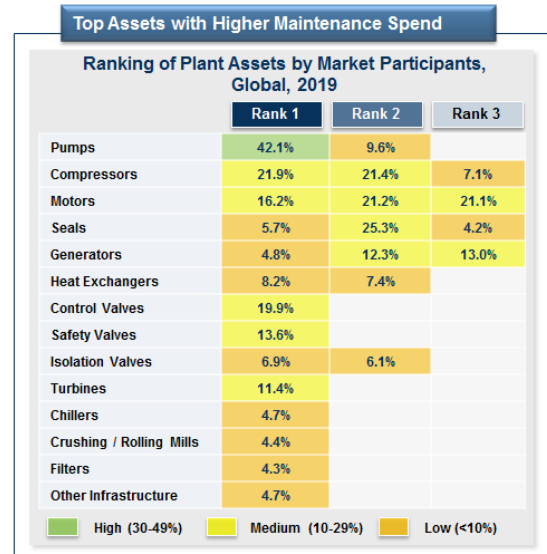
Augury’s foolproof method enables the most effective and efficient execution of pump maintenance where plant engineers can actually focus on understanding the root cause of potential failures and take corrective measures. Unlike other complex asset monitoring solutions, Augury’s Halo requires no IT experts and it can be operated and managed directly at the plant by any employee.

Augury delivers ease-of-access to critical data. Pump vendors and their customers can instantly visualize reports on desired assets without hassle, and at any time and any place through the web or mobile application. Moreover, this interactive and intuitive platform helps plant managers measure KPI’s, identify assets requiring immediate attention and generate customized, in-depth reports on asset performance.

Augury’s cutting-edge prognostic capabilities serve as a building block for pump vendors in the implementation of their digital transformation goals. It lays the foundation to discover invaluable insights on pump performance, thereby enhancing pump lifecycle and ultimately, the production efficiency of the plant.

Reliability and Quality – The Cornerstone of Augury’s IoT Solution

Another thing that really impressed Frost & Sullivan is Augury’s commitment to enhancing customer experience. This can be exemplified through its recent partnership with leading pump vendors like Grundfos. Grundfos’ goal to assist its water and wastewater customers in mitigating the risk of pump failure and emergencies is achieved through the integration of Augury’s IoT solution. With treatment of 36 million gallons of wastewater per day, it is



Source: Frost & Sullivan

paramount for Grundfos to ensure that critical pumps are performing optimally without breakdowns. To achieve this, all of the assets in a given plant are continuously monitored on multiple parameters. This has been pivotal in advanced detection of cavitation, wear and tear of bearings, seals, misalignment, etc. and timely replacement of the pump wetted parts before its failure.

Augury has shown itself to be the most reliable partner in the pumps industry owing to its exceptional IoT platform that guarantees efficient monitoring of pump health, maximum pump utilization, and more importantly, unrivaled customer satisfaction. Frost & Sullivan feels that Augury is pivotal in enabling pump vendors to expand their value-added services and help them create new revenue streams.

Rise in Customer Acquisition with Optimistic Growth Prospects

Augury's strong engineering prowess has been the backbone of its IoT platform. Unlike other asset monitoring solutions, Augury has been successful in demonstrating the tangible benefits achieved through IIoT technologies; enabling customers to make the jump into predictive maintenance. Since its inception, the company has been successful in diagnosing more than 70,000 machines and it is aggressively expanding its customer base. The proven capabilities of Augury's IoT solution has garnered wide interest from OEMS such as pumps and electronics as well as end-user industries such as food and beverage, consumer packaged goods (CPG), pharmaceuticals, oil and gas, chemicals and water and wastewater. Frost & Sullivan sees Augury's solution as a critical puzzle piece for digitalization because it facilitates customers in setting up 'connected plants'. This bolsters Augury's brand image and Frost & Sullivan expects Augury to achieve positive growth with higher adoption in the long run.

Conclusion

Frost & Sullivan firmly believes Augury's Halo solution to be superior in the market. This holistic solution delivers a best-in-class customer experience by reducing downtime, improving asset visibility, saving customers on maintenance costs, and helping customers achieve digitization in their plants.

Pump manufacturers have exhibited keen interest in these solutions owing to its ability to translate myriads of pump data into meaningful insights. As pump vendors strive to improve pump lifecycle for their customers and more importantly, enhance their product experience, Augury's IoT solution is gaining prominence in the market. With growing interest in various industries to move towards digitally connected enterprises, Augury's solution lays the foundation to improve the 'asset care' approach. The company's next-generation solution also shows immense growth potential. Frost & Sullivan feels that Augury is poised to witness a radical increase in the adoption of its IoT solution, giving it a strong edge in this market.

For its strong overall performance, Augury is recognized with Frost & Sullivan's 2020 Product Leadership Award.

Significance of Product Leadership

Ultimately, growth in any organization depends on customers purchasing from a company and then making the decision to return time and again. A comprehensive product line filled with high-quality, value-driven options is the key to building an engaged customer base. To achieve and maintain product excellence, an organization must strive to be best in class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



Understanding Product Leadership

Demand forecasting, branding, and differentiating all play critical roles in finding growth opportunities for your product line. This three-fold focus, however, must be complemented by an equally rigorous focus on pursuing those opportunities to a best-in-class standard. Customer communication, customer feedback, pricing, and competitor actions must all be managed and monitored for ongoing success. If an organization can successfully parlay product excellence into positive business impact, market share will inevitably increase.

Key Benchmarking Criteria

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

Product Family Attributes

Criterion 1: Match to Needs

Requirement: Customer needs directly influence and inspire the design and positioning of the product family.

Criterion 2: Reliability and Quality

Requirement: Products consistently meet or exceed customer expectations for performance and length of service.

Criterion 3: Product/Service Value

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

Criterion 4: Positioning

Requirement: Products or services address unique, unmet needs that competitors cannot easily replicate or replace.

Criterion 5: Design

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

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: Product strength enables 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: Product quality strengthens brand, reinforces customer loyalty, and enhances growth potential.

Criterion 5: Human Capital

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

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 Monitor, target, and screen	Identify award recipient candidates from around the world	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging industries • Scan multiple regions 	Pipeline of candidates that 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 practices 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	<ul style="list-style-type: none"> • Confirm best practices 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 practices 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 practices award recipient	<ul style="list-style-type: none"> • Review analysis with panel • Build consensus • Select recipient 	Decision on which company performs best against all best practices criteria
9 Communicate recognition	Inform award recipient of 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 is able to 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 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, 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.



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>.