

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

FROST & SULLIVAN BEST PRACTICES AWARD

SMART INFRASTRUCTURE MONITORING  
NORTH AMERICA

New Product Innovation 2019

Aclara ®

FROST & SULLIVAN

2019

BEST  
PRACTICES  
AWARD

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## Background and Company Performance

### *Industry Challenges*

The North American utilities sector continues to grow with the inclusion of more and more customers as well as innovative, connected devices. It is also evolving to become one of the world's smartest infrastructure setups with the addition of network monitoring and automation features. New edge devices like smart meters and sensors in the utility distribution sector emphasize the importance of gathering network data and identifying overall network health by improving visibility.

Frost & Sullivan feels that the utility industry needs a single, unified solution to track network health and performance. The ideal solution would monitor the entire network—starting from the meters through to the overall network and on to the distribution line—to ease the job of utility operators, making monitoring much more streamlined and less time consuming. A single solution would also reduce the network's maintenance downtime by enabling faster fault identification.

Frost & Sullivan also believes that having a unified solution that can monitor different multi-service utilities like water, gas, and electric networks would be an important step for the industry. Although these three networks may appear similar in terms of distribution, the way they operate and the data that drives the monitoring of each are quite different. Hence, a single solution that can collect, analyze, and present data would make life simpler for both operators and end users. This approach also helps in transforming a network, irrespective of the type, into a faster, smarter, and more interactive infrastructure.

### *Technology Attributes and Future Business Value*

#### **Match to Needs and Design**

Aclara, part of the Hubbell Power Systems family of brands and headquartered in St. Louis, Missouri, has developed the AclaraONE® (One Network for Everyone) platform, a software-as-a-service (SAAS) offering that provides a one-stop solution for distribution network monitoring, customer engagement, data analytics, and network optimization with a single shared view of electric, water and gas networks.

Enabled by Aclara's communications technology, the AclaraONE platform delivers six key business applications that utilities require to monitor, optimize and improve the operation of their infrastructures including:

- Distribution Operations
- Sensors and Analytics
- Consumer Engagement
- Network Management
- Meter-to-Cash
- Installation Services



*Pic 1: AclaraONE®: Key Business Applications*

Each of these applications plays a critical role in improving the reliability and overall visibility of the utility's distribution network, allowing them to optimize operations and engage with their consumers to promote energy efficiency and conservation, therefore enhancing customer satisfaction.

The AclaraONE platform enables utilities to get the actionable insights they need to operate their networks and manage their demand response or reliability programs for applications such as load control, distribution automation, outage management, gas safety and non-revenue water reduction among many others. All data is collected utilizing the utility's AMI network including information from smart meters and other edge devices like sensors. AclaraONE manages the complex network of meters and sensors in one place, while allowing the utility to also perform advanced analytics on the data they collect.

The first thing about the AclaraONE platform that really impressed Frost & Sullivan is that it unifies analytics and monitoring capabilities for each of a multi-service utility's distribution segments under a single platform. AclaraONE is highly flexible, with ingrained features like multitenancy, high adaptability and scalability. Because of its unique architecture, AclaraONE enables electric, gas or water utilities to easily access network management features such as improved security for data exchange, as well as the collection and analysis of network data to optimize their operations.

AclaraONE is changing the way utility networks run, transforming business operations, reducing costs, increasing efficiencies, and augmenting customer satisfaction. For instance, the enhanced network visibility provided by the AclaraONE's Grid Insights solution allows electric utility customers to better manage power outages. Grid Insights combines fault detection and location capabilities from its advanced metering infrastructure network (AMI) and Predictive Grid® analytics from Aclara's smart grid sensors.

For instance, Platte-Clay Electric Cooperative in Kearney, Missouri, was like many cooperatives. It often didn't learn of these smaller outages until a member called in to say the power was out. Last summer, the co-op began using Aclara's fault detection and localization (FD&L) solution that uses data analytics and visualization to change the game when it comes to spotting outages. Jared Wolters, Electric's manager of engineering at Platte-Clay said: "We're finding a lot of outages a lot quicker," says. In fact, initial results indicate the cooperative is now detecting 37 percent of outages before members call to tell them the power's out. Those numbers should improve further, Wolters says, as the algorithms that are part of the analytics improve with feedback from the system's operations.

Utilities like Minnesota Power and UK Power Networks are also seeing the benefits from Aclara's sensors grid insight information : "Aclara power sensors can be used on 33kV networks to improve reliability, to reduce the duration of supply interruptions by directing linesmen to the most likely fault locations and to monitor power flow, current and voltage, providing improved network visibility. We are regularly reviewing Aclara power sensor data as part of UK Power Networks' overall quality of supply improvement program and hope to make more strides in improving the reliability of our distribution networks," said Peter Lang, Project Manager, UK Power Networks.

"Aclara is offering sensors for our 46kV and 35kV systems that will provide us valuable information to help provide better service to our customers, improve reliability, and provide visibility into these critical systems as part of our grid modernization effort," said Eric Clement, Supervising Engineer, Minnesota Power.

What's more, Aclara is now integrating its solutions with control capabilities from Hubbell's automation devices. The advanced analytics combined with the recent product integration enables utilities to manage distribution assets equipment including reclosers and capacitor banks. Moreover, with the Aclara leak detection solution, water utilities can now detect leaks along their water distribution network and pinpoint them within three feet.

One of Frost & Sullivan's favorite AclaraONE features is its consumer engagement capability. The Aclara Adaptive Consumer Engagement (Aclara ACE®) platform provides end users with visibility into their usage of water and energy, including their costs. It provides utility customers with personalized content, enabling them to better understand their utility bills and changes to their costs (My Bills). It also provides transparency into their consumption (My Usage), and tools/information to reduce their overall costs (My Savings). Additionally, the Aclara ACE Insights engine generates succinct, direct, and personalized messages for individual users that keep them informed of changes to their costs due to weather,

consumption patterns, or other factors, and promotes Ways to Save to help users control their costs.

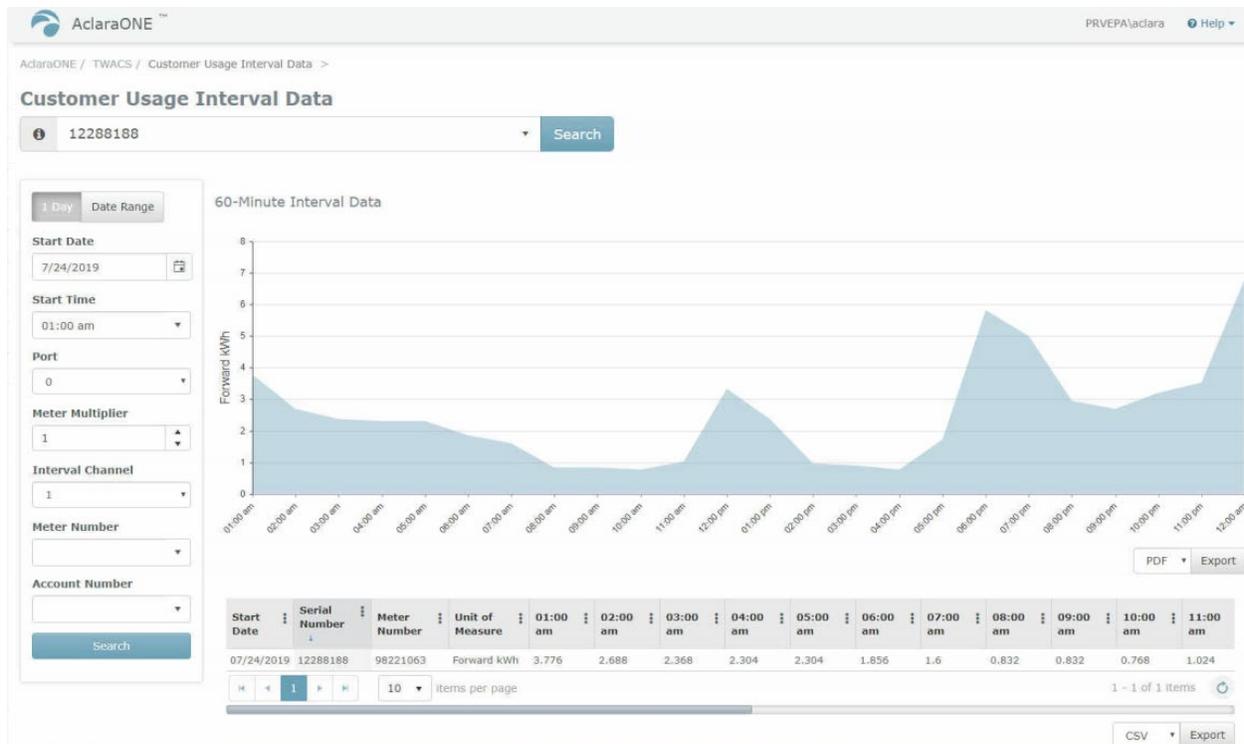
Customers have 24x7 access to billing and consumption details online through Aclara ACE's modern and interactive web platform. To implement behavioral programs that improve the relationship between utilities and customers, Aclara uses data disaggregation and other analytics to deliver a Ways to Save list and help customers build savings plans based on personalized recommendations. According to the ninth semiannual report by Southern California Gas Company, the programs have produced superior results compared to the competition.

Aclara's approach is in sharp contrast to competitors that typically offer focused solutions covering only a certain part of the network, such as metering or analytics. Instead, Aclara provides a comprehensive, vertically integrated solution that encompasses the entire distribution network starting from meter installation right through providing the tools their customers need to understand their bills and everything in between. The AclaraONE platform architecture simplifies integration with third-party applications including SCADA systems for network monitoring, CIS systems for customer billing management, and data collection and analysis from additional providers to monitor network health.

Frost & Sullivan finds that, by acting as a one-stop solution for electric, gas, and water utilities, AclaraONE clearly stands out from the competition. AclaraONE is designed to work with all products offered by Aclara, in addition to third-party solutions, thereby making it simpler for existing customers to add value to their systems through the platform. If customers were to use a competing solution, they would have to go through the headache and expense of buying multiple software packages in hopes of achieving similar results.

### **Reliability and Quality**

Another factor that impressed Frost & Sullivan is that the AclaraONE platform is making intelligent automation a reality because of its analytics capabilities and its ability to enable data driven decisions. In addition, features like low latency, high throughput in data transfer, and authentication make data transmission via Aclara network communications reliable and secure. In fact, the Aclara AMI network supports features like two-way, time-stamped communication recording and scales up to 12 million endpoints. And since the platform is meter-agnostic, implementing AclaraONE is simple and hassle-free, making data transfer and analytics extremely efficient.



Pic 2: Customer usage interval data

Similarly, AclaraONE’s meter data management (MDM) application is streamlined to manage the advanced metering infrastructure (AMI) as well as the advanced sensors that also utilize the AMI network for communications. The MDM provides utilities with granular insights based on the various intervals. Moreover, AclaraONE’s MDM solution boasts secure data storage capabilities along with crucial data support to utilities’ billing departments. The data is used by the MDM application to analyze the load and to forecast usage in the network effectively. These forecasting models help utilities prepare their networks for upcoming peak demand.

The advent and proliferation of distributed energy resources in the electric segment is creating a major dynamic for utility grids. With Aclara’s load control solution, peak period loads such as air-conditioners, water heaters and the like, are effectively managed to ensure customer comfort. To facilitate load management, Aclara uses its intelligent load control to manage load and reduce peak power costs. The advanced communications technology ensures that messages are sent to all devices and confirmed within 15 seconds. Frost & Sullivan finds that this expeditious management of load shedding is not achievable in other control technologies in the market; this clearly demonstrates the immense improvement in reliability delivered by the AclaraONE platform.

## Brand Equity

Aclara's smart infrastructure platforms are used by major utilities in the US like Avista, NV Energy, Pedernales, PenTex Energy, Ameren, and DTE Energy. Aclara is also expanding its global market presence and has entered markets such as the United Kingdom, Europe, Chile and Asia.

Aclara was recently acquired for a value of \$1.1 billion by Hubbell Incorporated, an international manufacturer of electrical and electronic products for residential, non-residential, industrial and utility applications. It is now part of the Hubbell Power Systems family of brands. This move is expected to help Aclara gain additional market visibility by integrating the company's strong customer relationships, analytics solutions, metering infrastructure and communication capabilities, with Hubbell Power System's offerings.

## Conclusion

In short, Frost & Sullivan is impressed with how AclaraONE brings simplicity, efficiency, and true unification to the smart infrastructure space. By delivering streamlined utility monitoring, customers and operators alike can have a better grasp of their usage while simultaneously monitoring the network to detect faults, control their network's load and address issues before they become a serious problem. In addition, AclaraONE's device agnostic nature makes it easy for utilities to adopt and easily integrate with numerous other products and solutions. Aclara's partnerships that focus on improving customer relationships and the company's recent acquisition by Hubbell position the company for greater market visibility.

For its innovation and strong overall performance, Aclara is recognized with Frost & Sullivan's 2019 New Product Innovation Award.

## Significance of New Product Innovation

Ultimately, growth in any organization depends on 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**

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 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 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	Conduct in-depth industry research Identify emerging industries Scan multiple regions	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	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 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	Confirm best practices criteria Examine eligibility of all candidates Identify any information gaps	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	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 practices positioning paper
5 <b>Assemble panel of industry experts</b>	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 <b>Conduct global industry review</b>	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 <b>Perform quality check</b>	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 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best practices award recipient	Review analysis with panel Build consensus Select recipient	Decision on which company performs best against all best practices criteria
9 <b>Communicate recognition</b>	Inform award recipient of 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 <b>Take strategic action</b>	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 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 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>.