FROST & SULLIVAN

VITRIA®

2017 North American IoT Analytics Platform for Utilities Product Leadership Award

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2017 BEST PRACTICES AWARD

NORTH AMERICAN
IOT ANALYTICS PLATFORM FOR UTILITIES
PRODUCT LEADERSHIP AWARD

Contents

Background and Company Performance

Industry Challenges

Digital transformation through the Internet of Things (IoT) is rapidly changing the business world, including utilities companies. With an increasing level of networking and connectivity among people and machines/devices, exponential growth in new data is likewise occurring. Nevertheless, today's businesses already own massive volumes of historical data, so managing the complexity of both historical and new data, making sense of it, and translating it into critical business decisions proves challenging. Utilities companies have difficulty translating such massive volumes of data (generated by smart meters and smart grids, etc.) into actionable insights needed to better manage their grid, prevent outages, and balance demand and supply. IoT analytics holds the key to addressing this challenge and plays a critical role in converting large amounts of data into usable information so that utilities companies can observe in real-time, make timely decisions, seize opportunities, achieve desired business objectives, and generate optimal results.

While utilities companies aim to benefit from real-time analytics and IoT applications, part of the challenge stems from the fact that traditional processes and technologies are not cut out for IoT analytics, its data variety, volume, and velocity. They lack the capabilities needed including advanced and comprehensive real-time analytics techniques, visual analytics, and IoT apps, to name a few. Developing IoT solutions using traditional processes and technologies is difficult and requires specialized IT skills. Ultimately, these significant hurdles call for a completely new approach to IoT analytics and technologies. Under such circumstances, vendors that can provide a platform that is designed specifically to meet the challenges of IoT analytics are expected to secure a leadership position in the market.

Product Family Attributes and Business Impact

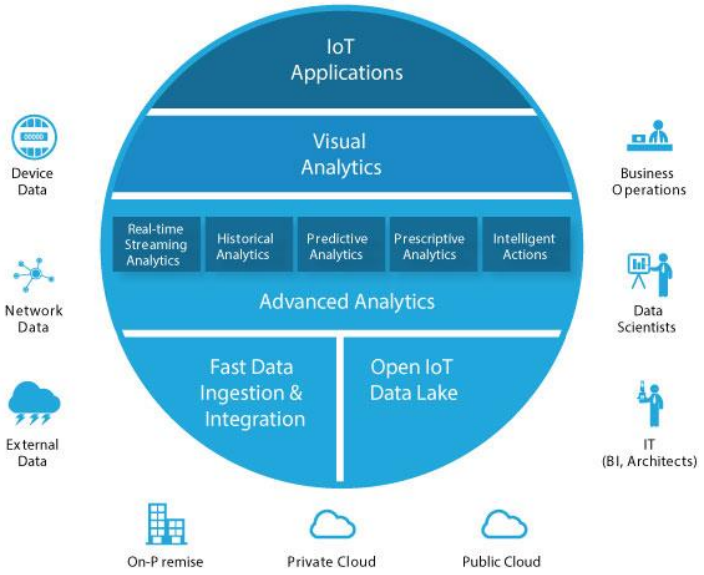
Match to Needs

Vitria's 23 years of industry experience and thorough understanding of leading–edge software development, business process improvement, real-time processing, and advanced analytics have empowered it to address industry challenges and enjoy a unique advantage in this space. For instance, Vitria started off by offering business process management software in 1994, followed by an operational intelligence platform in 2005, and in 2010, it developed a unified platform to discover, analyze, and act on insights from live streaming data.

The company continues to evolve. Remaining true to its core mission of improving software while deciphering the growing industry concerns surrounding existing conventional processes and technology platforms that prove insufficient in IoT analytics, Vitria has designed an IoT analytics platform specifically to meet the challenges of IoT analytics solution development. The unique approach in product leadership that Vitria took is to deliver not just one aspect of IoT analytics but rather a platform that combines analytics, streaming data, and business process automation. This approach enables its

customers to improve every aspect of their business as they can now leverage the data streaming from all IoT connections in their network.

Vitria's comprehensive IoT analytics platform effectively addresses the industry's need for deriving value quickly through a unique concept called an Analytics Value Chain. This concept is currently redefining IoT analytics by unifying fast data ingestion, real-time streaming analytics, historical analytics, predictive analytics, prescriptive analytics, and intelligent automated actions in real-time.



Source: Vitria

In this unified platform the data is ingested quickly in real-time, and its open approach leverages existing data warehouses as well as what Vitria calls an Open IoT Data Lake. The advanced analytics engine (real-time streaming, historical-, predictive-, prescriptive-analytics, and intelligent automated actions) provides all the context and real-time actionable insights from across an IoT network to enable a faster decision making process. In other words, real-time streaming analytics provides insights into current events, historical analytics provides insights into past events, predictive analytics pro into future events, prescriptive analytics recommends the next best actions, and, finally, intelligent automated actions enable the fast responses and best actions to be taken to maximize value from opportunities and threats. All the results are conveniently explored and visualized using visual analytics.

Design

With an aim to render a seamless user experience, the IoT analytics platform is designed with data ingestion and integration tools, elastic cloud computing, self-service analytics, a visual model-driven development environment, machine learning, and a mobile app. The platform also provides users a base for developing their IoT analytics applications. One of the most impressive strengths of the platform is its machine learning environment complete with tools that support the rapid operationalization and building of predictive and prescriptive models.

Fast data ingestion and integration provide the tools required to process and integrate the huge velocity, volume, and variety of data flowing in from not only IoT devices but also from CRM and ERP systems, cloud sources, BPMS, and workflow and work management systems. These tools deliver the context and situational intelligence required for actionable insights. Keeping in mind that the volume and velocity of data also requires a high level of scalability and elasticity, the Open IoT Data Lake is designed on a proven elastic scalability model that supports the massive volumes of IoT data as well as the

complete analytics lifecycle through open, scalable data services. Elastic scalability is supported by open source and proprietary technologies. Query service, part of the Open IoT Data Lake, is also designed for elastic scalability in order to meet the IoT analytics requirements.

In addition, a visual indicator of key performance metrics is a powerful means of accelerating operational analytics in IoT. Currently, data scientists are better served than operational analysts who lack the appropriate analytics tools. What largely differentiates Vitria's Visual Analytics is Visual Explorer, a visualization and analytics tool created specifically for operational and business analysts. Frost & Sullivan considers creation of this tool a strong best practice because it offers a self-service diagnostic capability that provides the insights required to address the challenges in IoT use cases such as supply/demand optimization, renewables and grid integration, and consumer services.

The ability to connect to raw data, blend data from disparate data sources, interactively explore and visualize real-time and historical data, and discover correlations, are activities that Visual Explorer enables. A series of interactive dashboards (built using a dashboard builder) can further provide a comprehensive view of the IoT network including the status of key performance indicators and the ability to drill into and diagnose problems; therefore, Vitria ensures its visual analytics is not only easy to use and understand but also that operations and business analysts are updated with the latest analytical results across the enterprise to make the right decision at the right time. In addition, the Vitria Go Mobile App supports any device (mobile or tablet) from any location.

Another hallmark of the platform is its Visual Analytic Flow Designer, a model-based development environment with low-code/no-code visual programming that enables the rapid development of IoT solutions in days as opposed to months.

Product/Service Value

The value and application of Vitria's platform, in terms of deployment in the utilities industry, centers on supply/demand optimization, renewables and grid integration, and consumer services. The volume of real-time actionable insights available to utilities companies using Vitria's advanced analytics platform enables them to rapidly transition towards a real-time operations environment resulting in increased revenue, operational efficiency, and reduced cost across their entire business. For instance, one of the challenges faced by energy utilities companies is balancing supply and demand so that brownouts and blackouts can be prevented. Vitria's platform helps utilities companies prevent major outages by minimizing variability in supply and demand. The platform's ability to leverage multiple data sources provides visibility into real-time supply and demand activity, and its predictive maintenance eliminates disruptions and service degradation. As a result, utilities companies can proactively balance supply and demand, take actions, and prevent problems before they occur. The platform's advanced analytics, in a similar fashion, helps utilities companies maintain a safe and secure grid by monitoring unsafe conditions and preventing problems in real-time.

Customer Acquisition

Vitria has successfully established a leading position for itself in the utilities industry. The company has remarkably scaled up its services, especially in smart metering and IoT

analytics where its real-time analytics platform has empowered some of the world's leading utilities companies to maximize their IoT programs by providing real-time analytics on large networks of smart devices. For instance, Vitria's platform successfully manages and monitors more than 4 million smart meters for a leading gas and electric carrier that operates in over 200 cities across Europe. Vitria currently has approximately 100 customers. Some of the leading utilities companies that have adopted its platform are Vattenfall, Gotland Smart Grid project, Gas Natural Fenosa, Salzburg, TXU, and ORES (Belgian Smart Grid Operations).

Growth Potential

Vitria's IoT analytics platform currently supports over 70 million IoT devices and is soon expected to support 100 million. The company's growth potential is clearly accelerating as numerous customers from different industry verticals are enthusiastic about the opportunity to create value from real-time analytics in a connected world. Indeed, with 25 to 50 billion connected devices estimated by 2020, demand for Vitria's IoT analytics platform will undoubtedly surge.

So far the platform has been successful in promoting product leadership in utilities, and now is drawing the attention of leaders from many other industries such as manufacturing, telecommunications, retail, supply chain, and connected transportation (real-time logistics visibility and order tracking). Two of its customers in these areas are O2 (UK's largest carrier and subsidiary of Telefonica) and Starbucks.

Currently, the company has 200 employees, the majority of which work in research and development (R&D). Vitria's overall vision is to offer the industry's best IoT analytics stack while continuing to build its partner network. With a dedicated focus on bringing innovation into the field of IoT analytics, Vitria invests more than 40% of its revenues in R&D. From an overall product growth and vision strategy, Vitria is continuing to leverage open source tools, expand and improve the cloud deployment options for supporting easy migration, focus on rapid solution development through the combination of low code/no code visual programming, and innovate self-service tools.

Conclusion

Industry veteran Vitria has yet again secured an edge over competitors, this time by developing a disruptive IoT analytics platform that leverages a unique Analytics Value Chain concept. Frost & Sullivan recognizes product leadership in several differentiating elements that enhance the product's value proposition for its customers, such as fast data ingestion, a comprehensive set of analytics techniques (ranging from descriptive to predictive and prescriptive analytics), visual analytics with self-service tools, and intelligent automated actions with a visual model-driven development environment. Most importantly, utilities companies once restrained by traditional processes and technologies are now able to successfully maximize value from their IoT initiatives and more quickly achieve their desired business outcomes. With its strong overall performance, Vitria has earned Frost & Sullivan's 2017 Product Leadership Award.

Significance of Product Leadership

Ultimately, growth in any organization depends upon 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 a critical role 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 communications, 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, increased market share will inevitably follow over time.

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
Criterion 2: Reliability and Quality
Criterion 3: Product/Service Value
Criterion 4: Positioning
Criterion 5: Design

Business Impact

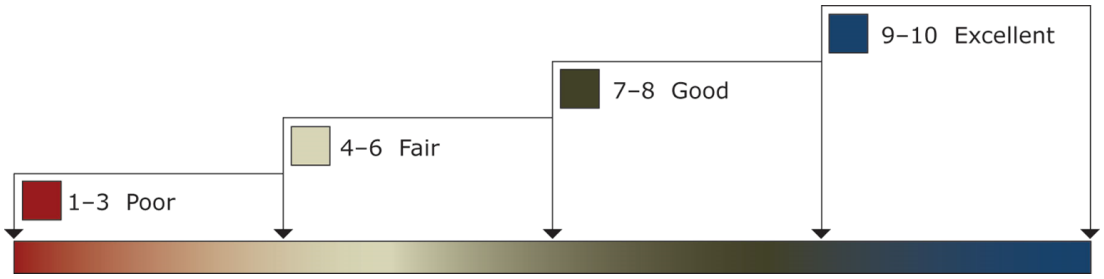
Criterion 1: Financial Performance
Criterion 2: Customer Acquisition
Criterion 3: Operational Efficiency
Criterion 4: Growth Potential
Criterion 5: Human Capital

Best Practices Award Analysis for Vitria

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 our 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 is organized by Product Family Attributes and Business Impact (i.e., these are 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, we have chosen to refer to the other key participants as Competitor 2 and Competitor 3.

Measurement of 1–10 (1 = poor; 10 = excellent)			
Product Leadership	Product Family Attributes	Business Impact	**Average Rating**
Vitria	**9.5**	**9.5**	**9.5**
Competitor 2	8.0	8.5	8.25
Competitor 3	7.0	7.0	7.0

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 need 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 revenues, 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

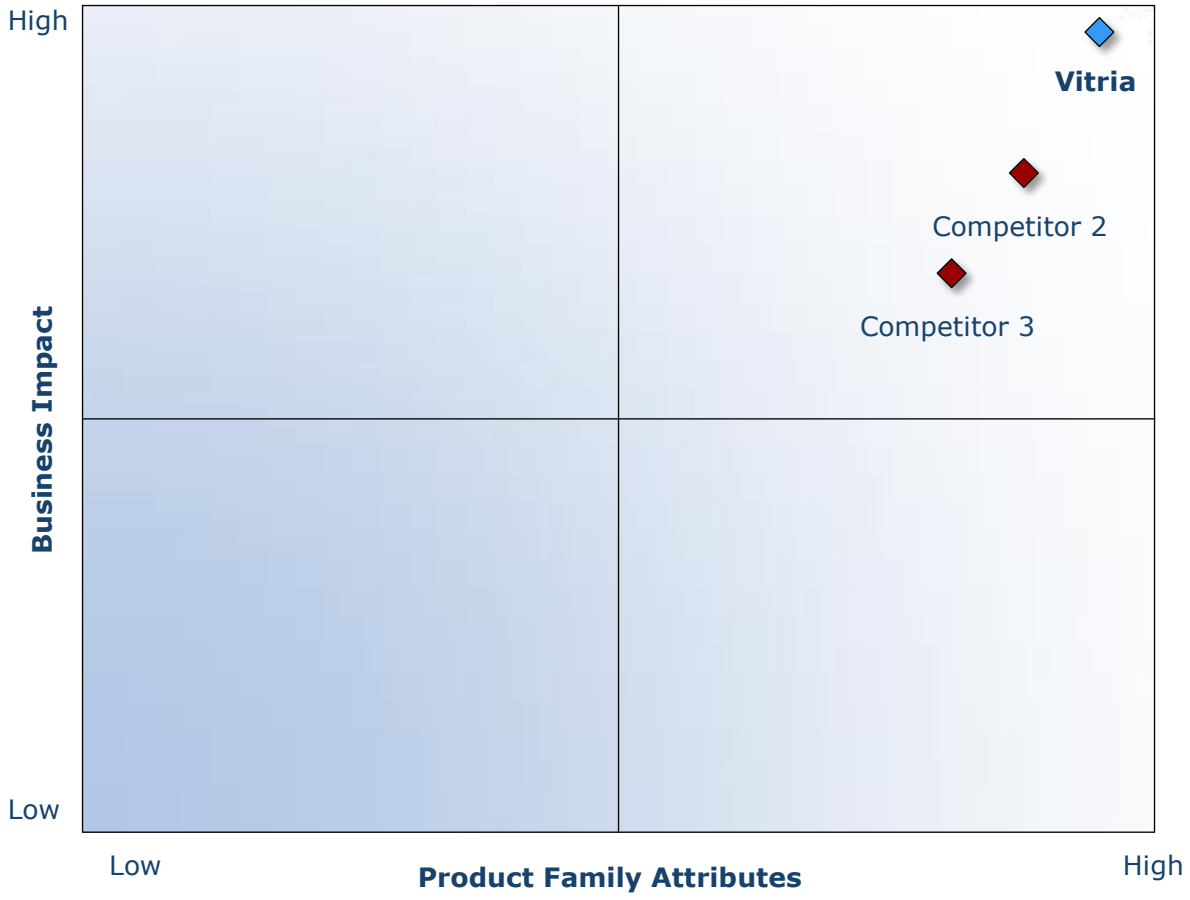
Requirements: Product quality strengthens brand, reinforces customer loyalty, and enhances growth potential.

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.

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 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	• 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.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS

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.

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