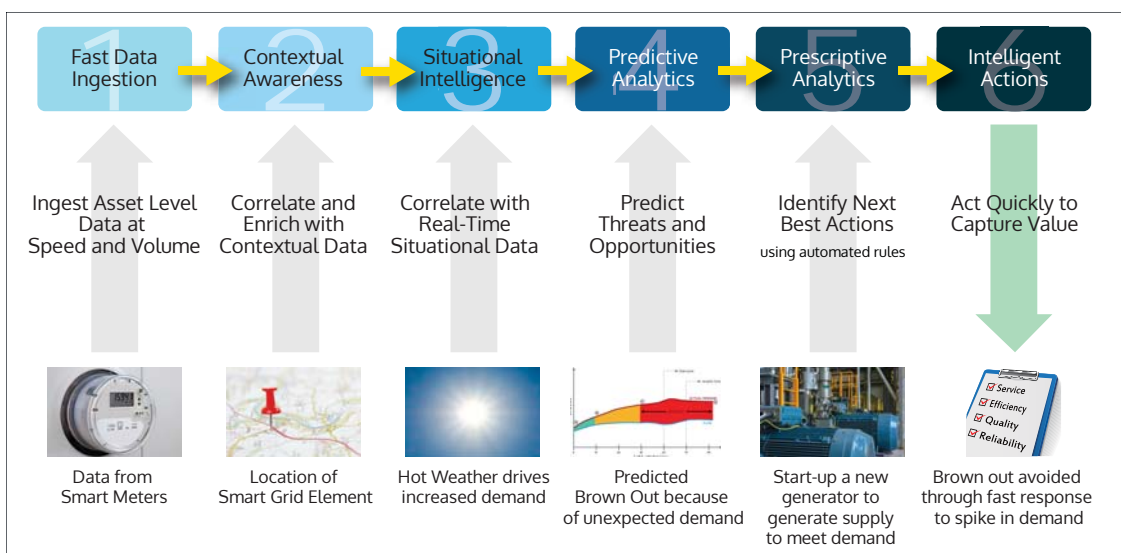


# Vitria Analytics Value Chain for Utility Smart Grid Supply/Demand Balance

**CHALLENGE:** Ensuring that the supply of power can meet customer needs even during periods of unexpected surges in demand is critical for utility companies to meet customer expectations and avoid costly service degradations or outages.

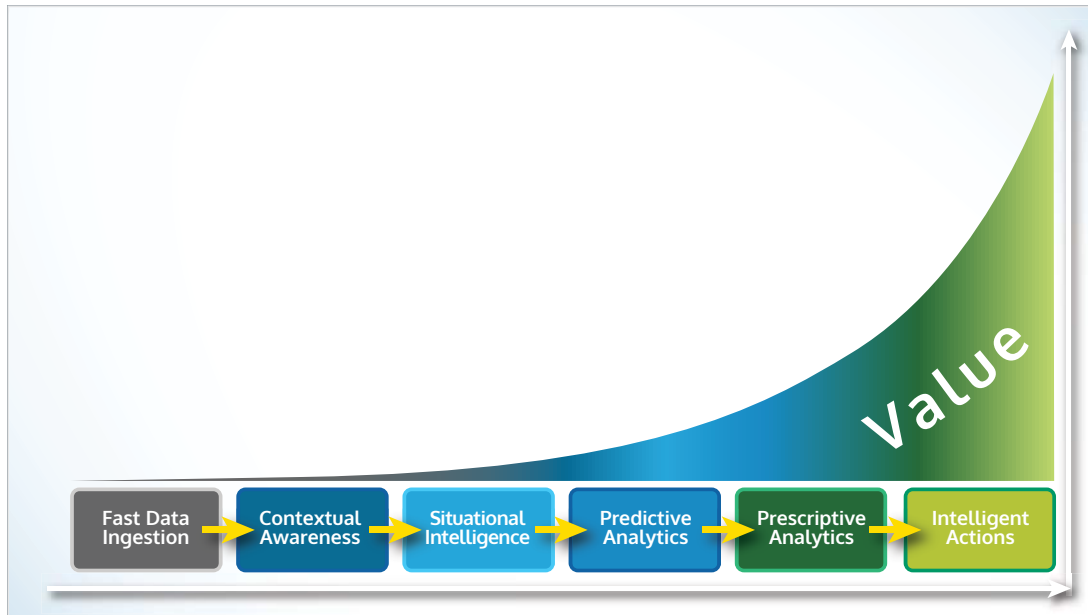
**SOLUTION:** Stepping through the analytics value chain used in Vitria's IoT Platform provides a methodology to anticipate demand and increase power supply to avoid outages or poor service.



- 1) The first step is to connect the large volume of smart meters for a typical utility and ingest all the critical data at speed and volume to ensure all the necessary context to assess energy demand.
- 2) Next is to correlate that data with context on the location of smart meters registering the changing customer demand.
- 3) Situational intelligence is critical to the value chain and understanding the real-time status of demand. For utilities, weather is a common critical piece of situational information that drives demand.
- 4) With the first three steps of the value chain in place, utilities operations managers can now predict possible brownouts or service degradation.
- 5) Prescriptive analytics focused on identifying the next best action to address potentially serious service issues is the next key step. In this case, it usually means new power generation.
- 6) Prescriptive analytics lead to the final step; an intelligent action of initiating a generator to increase the supply of power that will meet the increased demand.

## Vitria's Analytics Value Chain – The Key to Timely Outcomes in IoT

Analytics on the tremendous volume of data in The Internet of Things (IoT) offers great potential to create new business value – but it requires a unified approach to analytics. Analytics must be executed in real-time across the Analytics Value Chain (streaming, historical, predictive, and prescriptive analytics) with relevant contextual and situational data. This capability paired with the next best action creates the greatest value - as shown in the figure below. Vitria's Advanced Analytics Platform for IoT is the fastest way to achieve these results.



- 1) Ingesting data at speed and volume from IoT sensors and devices sets the stage for additional processing.
- 2) This data is then correlated with contextual and historical data to provide a baseline for advanced analytics. Contextual data can include information like geographic data or historical sales information.
- 3) Situational data and intelligence is the next stage of refinement and increased value. This includes information such as weather or customer location.
- 4) The next step is to predict failures, anomalies, or patterns using predictive analytics based on machine learning over historical and situational data.
- 5) The next step in the analytics value chain is to apply prescriptive analytics to determine the next best action. This could be a wide variety of actions such as better customer service or avoiding equipment downtime.
- 6) The final critical step in the value chain is to execute the real-time action to capture value.

### About Vitria Technology

Vitria's advanced analytics solutions empower enterprises and industrial customers to achieve better outcomes faster in their business operations.

The company was founded in 1994 and has a long history of success in streaming analytics, business process management, enterprise application integration, and operational intelligence. Vitria is also a leading player in the rapidly growing IoT (Internet of Things) analytics market.