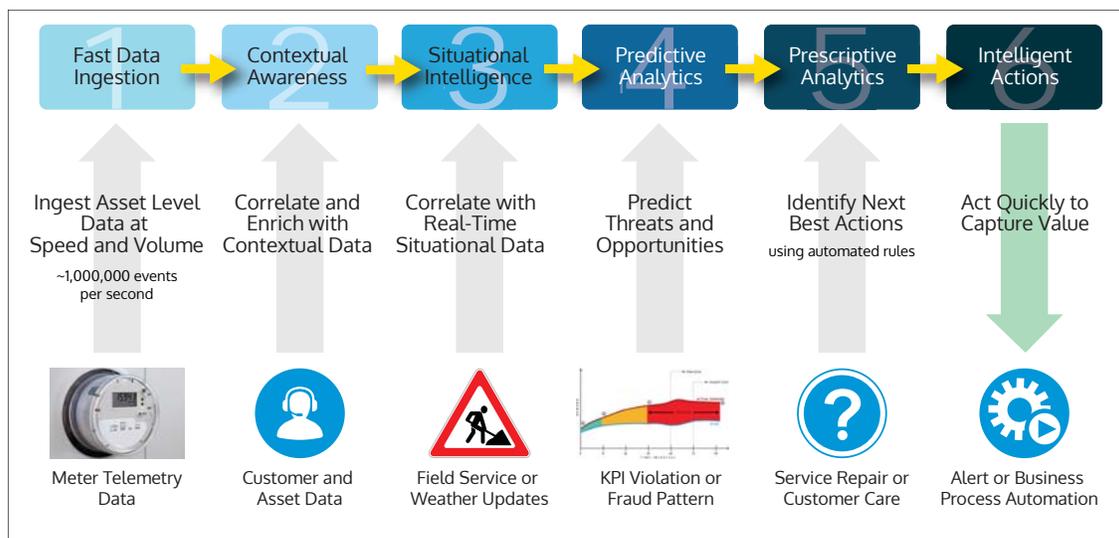# Vitria Analytics Value Chain
## for Smart Meter Management

**CHALLENGE**: Managing the millions of smart meters in a widely dispersed utilities environment is incredibly complex. Fraud, weather, and ongoing maintenance are just a few of the challenges faced by operations managers. Furthermore addressing these issues often requires rapid action, or the issues become more acute.

**SOLUTION**: Stepping through the analytics value chain used in Vitria's IoT Analytics Platform provides a methodology to assess smart meter health and status in real-time and take the necessary actions to preserve healthy operations and capture business value before it goes away.



| 1 Fast Data Ingestion | 2 Contextual Awareness | 3 Situational Intelligence | 4 Predictive Analytics | 5 Prescriptive Analytics | 6 Intelligent Actions |
|---|---|---|---|---|---|
| Ingest Asset Level Data at Speed and Volume  ~1,000,000 events per second | Correlate and Enrich with Contextual Data | Correlate with Real-Time Situational Data | Predict Threats and Opportunities | Identify Next Best Actions  using automated rules | Act Quickly to Capture Value |
| Meter Telemetry Data | Customer and Asset Data | Field Service or Weather Updates | KPI Violation or Fraud Pattern | Service Repair or Customer Care | Alert or Business Process Automation |

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 meter health and performance.

2) Next is to correlate that data with context on the location, performance, and profile of the full range of smart meters in service.

3) Situational intelligence is critical to the value chain and understanding the real-time status of meters. Weather and field service status are common types of situational information that can affect real-time operations & decisions.

4) With the first three steps of the value chain in place, utilities operations managers can now predict possible service degradation, service repair/technician requirements, or other events.

5) Prescriptive analytics focused on identifying the next best action to address the potentially serious service issues is the next key step. In this case, it usually means service requests, field investigations, or power adjustments.

6) The prescriptive analytics lead to the final step of intelligent actions such as dispatching a technician or initiating a fraud investigation.

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# 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.
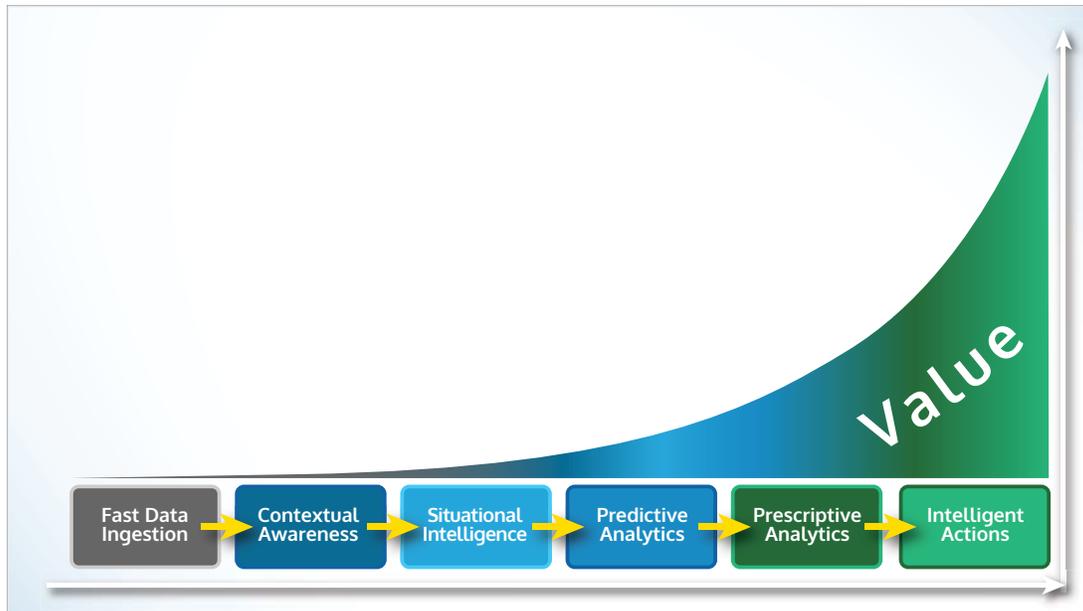


1) Ingesting data at speed and volume from IoT sensors and devices sets the stage for additional processing.

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 are 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.

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