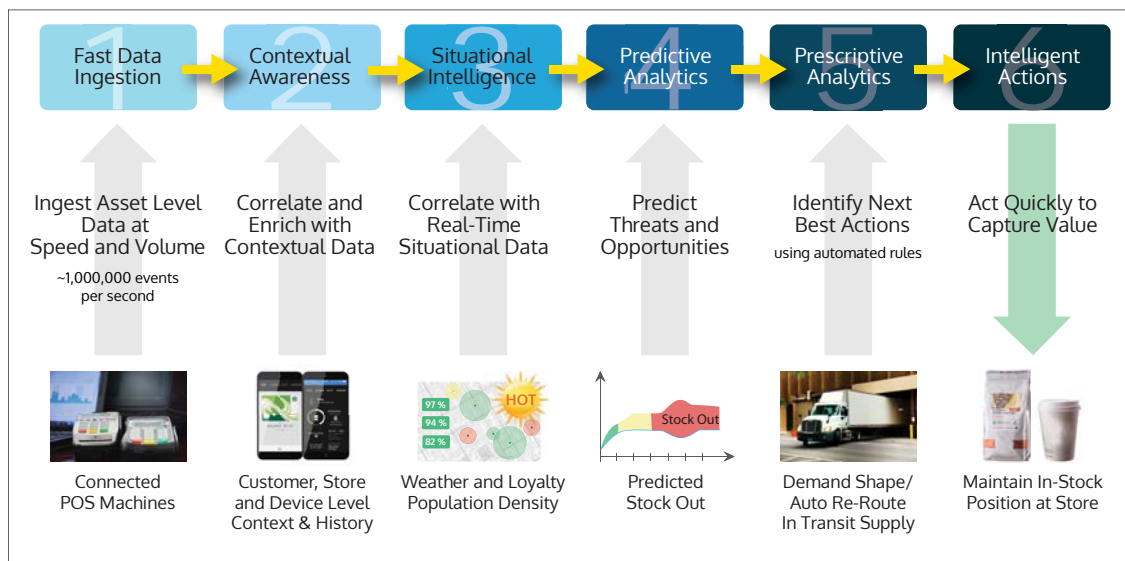# Vitria Analytics Value Chain
for Retail

CHALLENGE: Retailers need to adapt to the expectations of always connected consumers while maintaining an efficient supply chain.
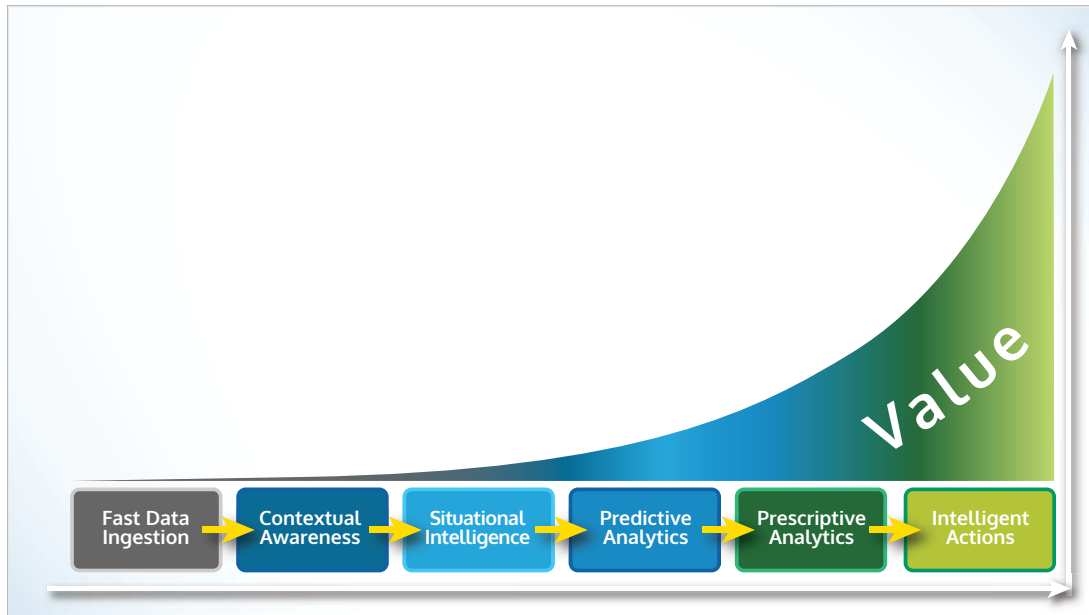
SOLUTION: Stepping through the value chain used in Vitria's IoT Platform demonstrates some of the key insights and capabilities needed to address these challenges.

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	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
~1,000,000 events per second					
Connected POS Machines	Customer, Store and Device Level Context & History	Weather and Loyalty Population Density	Predicted Stock Out	Demand Shape/ Auto Re-Route In Transit Supply	Maintain In-Stock Position at Store

1) Ingesting customer experience, store sales history, and other data at speed and volume from POS (point-of-sale) machines and other systems 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 includes information like customer preferences, store layout, or sales data for a particular store.

3) Situational intelligence includes important variables like weather at a particular location, or the density of population in the store itself.

4) The next step is to predict buying or patterns using predictive analytics that are based on machine learning. Examples include anticipation of stock outs to pre-empt inventory shortfalls and increasing inventory to capitalize on a successful promotion.

5) The next step in the analytics value chain is to apply prescriptive analytics to determine the next best action to take.

6) This next best action could be a wide variety of actions such as shaping demand with promotions and re-routing supply trucks to maintain in-stock positions to maximize revenue.

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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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