VITRIA

TECH BRIEF

VIA IoT Analytics Platform

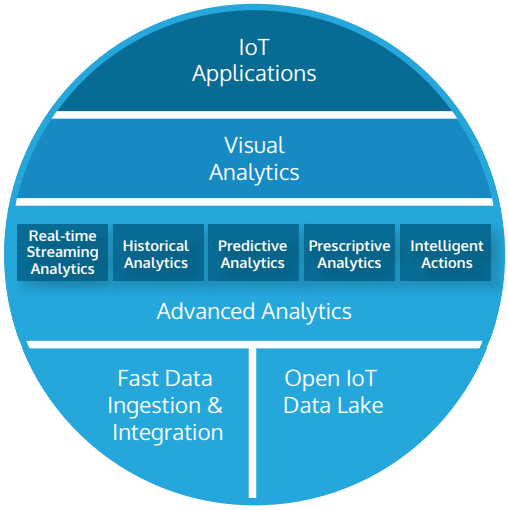
Problem

The vast quantity of data available today combined with advanced analytics capabilities can yield more revenue, lower costs, and improve business processes. While the market value and potential of IoT is high, the time and skill required to develop and implement these projects is often a barrier to implementation. Operations managers are being tasked to make effective use of a vast quantity of streaming data to detect anomalies, predict problems early, mitigate any disruption of service, and provide new customer experiences.

Solution

The **VIA IoT Analytics Platform from Vitria** delivers a unified platform that focuses on addressing the challenges of rapidly delivering better business outcomes and accelerating time-to-value for IoT initiatives and projects. VIA leverages fast analytics, a self-service, model-driven development environment, and machine learning to apply the power of predictive and prescriptive analytics to deliver highly effective IoT applications.

The VIA IoT Analytics platform helps organizations speed solution development and enables implementation of the right actions to improve processes and business outcomes.



Applications

IoT Analytics can play a pivotal role in Digital Transformation. Connecting and analyzing the people, processes, and things that affect your business delivers the insights needed to reduce risk, improve efficiency and grow revenue.

Reduce Risk

- Eliminate disruptions and service degradation with predictive maintenance and proactive actions to prevent problems before they occur
- Detect anomalies and fraud while in-progress

Grow Revenue

- Leverage real-time monitoring to enhance the customer experience, increase retention, and improve share of wallet
- Shape demand via personalized offers and promotions in real-time by matching available goods and services with location and preferences

Improve Efficiency

- Maximize equipment uptime and establish reliable and resilient manufacturing infrastructure with predictive maintenance
- Enhance client satisfaction and experience with faster deliveries and dramatic lead time reductions
- Improve operational efficiency with real-time monitoring of complex processes to spot anomalies, take automated action, and reduce defect rates

Features and Benefits

CAPABILITIES	FEATURE	ADVANTAGE	BENEFITS
Fast Data Ingestion and Integration	Real-time streaming data	Processes vast quantity of data from a multitude of IoT and smart devices	Provides the flexibility to support a diverse set of IoT applications at scale
Open IoT Data Lake	Open architecture	Ability to integrate with existing data warehousing and data management solutions	Leverage your existing investments and migrate them into a larger unified framework
	Scalable data services	Supports the full data lifecycle - raw data ingestion, data enrichment, data exploration, model building, and analytics processing	Provides a unified, integrated platform that is easier to manage and use
	Elastic query system	Enables self-service analytics; provides access to IoT applications and third party data consumers via SQL standards	Power users and business analysts can quickly access the information they need
Advanced Analytics	Unified Analytics Engine	Integrates streaming, historical, predictive, and prescriptive analytics, with contextual and situational data	Spend more time on insights and delivering better business outcomes and less time on operationalizing the solution
	Descriptive Analytics	Provides the functionality required with a portfolio of real-time analytics: • Correlation • KPIs • Multidimensional Analysis • Summary Statistics • Anomaly Detection • Geospatial • Pattern Matching • Time-series Analytics • Population Analytics • Trending • Activity Analytics • Behavioural Analytics • Track and Trace • Link Analysis • Hypothesis Testing • Root Cause Analysis	Delivers "as-is" contextual awareness and situational intelligence in real-time
	Historical Analytics	Comprehensive capabilities match those available for real-time streaming descriptive analytics and can also be used for batch processing	Provides historical context for interpreting real-time analytics, baselines for anomaly detection, and input for machine learning
	Predictive and Prescriptive Analytics	Supports regression, classification, and clustering using hundreds of predictive techniques based on machine learning algorithms	Enables the next best action based on the current situation and latest predication
	Machine Learning	Delivers a rich and flexible environment for continuous learning and refinement including: • Supervised and unsupervised learning • Classification, regression, and clustering algorithms • Visual design of analytic pipelines for model building and iterative refinement.	Provides the ability to continuously improve predictions and determine the "next-best" action to take
	Intelligent Action	Offers the flexibility to support fully automated processes and human-guided workflows	Enables intelligent business processes that are analytics-driven, situationally aware, and adaptive. Handles IoT use cases where both complex logic and fast actions are required.
		Enables development of IoT applications that leverage and integrate with existing enterprise management systems.	Improves ROI of IoT solutions

Features and Benefits (Cont'd)

CAPABILITIES	FEATURE	ADVANTAGE	BENEFITS
Analytic Data Flow (ADF	Visual Modelling Environment	Rapid creation of IoT applications by citizen developers or analysts with little or no coding leveraging an extensible library of reusable "drag and drop" building blocks including: • Data sources and target connectors • Data preparation • Descriptive analytics • Machine learning, • Predictive and prescriptive analytics, based on machine learning models and supporting real-time streaming, online, and batch processing • SDK for encapsulating custom-built or imported code and creating custom libraries of reusable blocks. • Time-series analytics with deep capabilities for handling delayed and out-of-order events • Geo-spatial analytics • State machines for pattern matching	Increases productivity of solution developers and speeds time to implementation for new IoT applications
	Run Time Environment	Supports and manages the full lifecycle from interactive testing deployment and secure running of ADF analytic pipelines. Provides interactive testing with runtime debugging. Manages the data flows and the handling of late and out-order-events	Accelerates testing and improves efficiency of the environment.
	Big Data Technologies	Can handle volumes exceeding tens of billions of events per day. Leverages leading big data technologies, including Spark and Hadoop.	Provides a robust, scale-out architecture
Visual Analytics	Visual Explorer Tool	Easily explore and visualize analytical results, identify key relationships, spot anomalies, test hypotheses, and diagnose problems. • Joins data from disparate data sources • Interactively explores real-time and historic data • Ad-hoc computation of roll-ups and aggregations • Saves analytic perspectives into operational dashboards • Implements pivot analysis with rich visual options • Discovers correlations • Tests hypotheses	Accelerates IoT insight and enables the right decision or action to be taken at the right time. With diagnostic analytics, you can rapidly discover patterns, uncover root causes, and gain the insight needed to address issues and opportunities.
	Visual Dashboard	Easily create visually rich interactive dashboards that include: • Real-time "single pane of glass" view • Streaming of real-time analytics to the glass • "Mash-up" real-time, historical, and contextual data • Overlay datasets on geospatial maps, charts, and other visualizations • Configure interactive controls for drill-down, drill-in, zooming, and roll-ups. • Custom forms to enable seamless integration of actions • Library of charts and graphs • Playback time series using innovative "DVR-like" controls	Interactive dashboards that deliver real-time visibility of Key Performance Indicators Provides situational awareness, and enables the interactions to analyse faults, action and implement problem resolution
IoT Applications	Unified Platform	Integration and harmonization of the user interface, model-driven development environment, analytics engine, data access and visualization tools.	IoT applications that drive faster analytics, developed rapidly and enable smarter actions.

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About Vitria Technology

Vitria VIA IoT Analytics Platform empowers enterprise and industrial customers to analyze faster, act smarter, and achieve better outcomes in their IoT and business operations. The company has a history of success in streaming analytics, business process management, enterprise application integration, and operational intelligence.

Vitria is now a leading player in the rapidly growing IoT (Internet of Things) analytics market. Customers include Fortune 500 companies and enterprises across a wide range of industries, including finance, manufacturing, telecommunications, utilities, retail and more. For more information, visit www.vitria.com.