thingworx®

ThingWorx Analytics

DELIVERING POWERFUL, OPERATIONALIZED ANALYTICS TO SOLUTIONS BUILT ON THE THINGWORX PLATFORM

The Internet of Things (IoT) is driving a massive increase in data as billions of new devices are connected per year. Each device generates potentially millions of new data points every day – unprecedented in both volume and pace. For the growing number of enterprises implementing smart, connected strategies and solutions, this data holds invaluable insights.

With the number of connected devices expected to reach 30 billion by 2020, managing and extracting value from IoT data poses real and significant challenges for the enterprise. With decisions increasingly made in real-time, enterprises must be able to quickly, easily and proactively automate complex analytical processes that enhance IoT solutions with reliable, actionable information and insights.

Traditional reporting and visualization approaches are not well-suited for IoT data analysis. They are difficult and time-consuming to adapt and use for high volumes of complex IoT data in new and varying formats.

Meet ThingWorx Analytics

ThingWorx Analytics is designed to specifically tackle the challenges associated with the volume, velocity, and variety of IoT data. ThingWorx Analytics uses sophisticated artificial intelligence and machine learning technology to deliver reliable, actionable insights in real time to ThingWorx-powered solutions.

Integrated with the ThingWorx platform, ThingWorx Analytics automates complex analytical processes and seamlessly delivers powerful, operationalized analytics to ThingWorx-powered solutions.
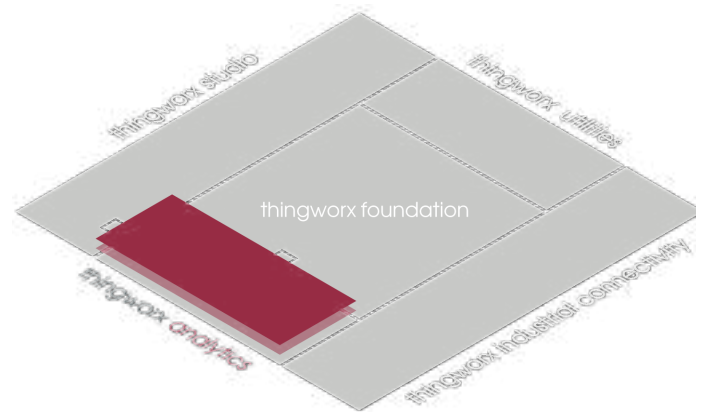
With ThingWorx Analytics, enterprises easily:

· Transform data into insight via intuitive, user-friendly interfaces that enable complex analytics capabilities for non-expert users

· Operationalize insights, predictions, and recommendations across enterprise functions with automated IoT data to enhance decision-making

· Detect anomalies in expected behavior in real-time through Edge analytics, minimizing time to resolution

· Optimize performance outcomes using prescriptive and simulative analytics that diagnose problems and generate recommendations

Key Benefits

- Automation of complex analytical processes simplifies the development of smart, connected products, operations, and solutions

- User-friendly interfaces, tools, and applications enable complex analytical capabilities for those who are not data experts

- Deep, real-time insights, predictions, and recommendations derived from "thing" data enhance operational planning and decision-making

- Replay functionality enables analysis of historical data and supports forensic investigation of data after an incident

- Production-ready deployment enables enterprises to get up and running quickly – at the edge, on premise, or in the cloud

How It Works

ThingWorx Analytics delivers powerful, automated analytics capabilities to ThingWorx-powered solutions – including real-time pattern and anomaly detection, automated predictive analytics, and contextualized recommendations.

Utilizing simple user-friendly interfaces, visualizations, and easy-to-use tools, ThingWorx Analytics eliminates the need for developer or user expertise in data modeling, complex mathematics, statistical analysis, artificial intelligence, or machine learning.

ThingWorx Analytics includes the following functionality:

- **Predictive Modeling** – Incorporates supervised machine learning into industrial IoT solutions and extends data science practices with automated predictive and prescriptive modeling – without the need for algorithm expertise by users

- **Explanatory Analytics** – Enables better understand ing of industrial IoT data, providing a variety of advanced algorithms that allows users to discover useful patterns and correlations within data

- **Anomaly Detection** – Monitors continuous and cyclic data streams to identify unexpected changes in behavior using machine learning technology to observe and learn "normal" patterns, then monitor for anomalies

- **Predictive Scoring** – Predicts future outcomes and offers the ability to make relevant outcome-based predictions based on data within ThingWorx

- **Prescriptive Scoring** – Improves future performance and results by automatically executing simulations to generate recommendations that will optimize the product and process performance

- **Digital Simulation** – Simulates behavior of physical products in the digital world using integrated simulation and other computational providers within the application

ThingWorx Platform Integration

The ThingWorx platform enables innovators to rapidly develop and deploy smart, connected solutions for industrial IoT. The platform contains the industry's most complete set of integrated IoT-specific development tools and capabilities - simplifying solution development, accelerating time-to-market, and making end-user solutions more compelling.

ThingWorx Analytics is tightly integrated into the ThingWorx platform, enabling organizations to build smart, connected solutions faster, at a lower cost, and using fewer resources. ThingWorx Analytics monitors data streams from connected devices directly via connectivity to the underlying ThingModel. Each piece of ThingWorx Analytics works in conjunction with other modules of the ThingWorx platform to automate the creation and delivery of proactive intelligence to ThingWorx-powered solutions.