

Transforming Industrial Data into Actionable Insight

Make data-guided decisions that increase operational efficiency and cost savings

At-A-Glance

Solution Type

Easily and rapidly prepare operations and business data for analytics. Get predictive models with machine learning and visualize actionable insights in applications like PI Coresight, Power BI, Azure ML and more.

Regions Available

US, Canada, Western Europe

Industries

- › Oil & Gas (Upstream, Midstream, and/or Downstream)
- › Chemicals
- › Utilities
- › Mining
- › Paper and Manufacturing
- › Diversified

Features & Benefits

- › Automate data preparation
- › Keep using and build on what you have, no rip and replace
- › Leverage existing data to get more value out of your PI System
- › Prevent asset failures to save costs and increase uptime and revenue capture
- › Use predictive insights to improve maintenance and operations efficiency
- › Make faster, data-guided decisions (vs. intuition-based decisions)

Implementation Requirements

- › Access to PI System data or access to operational data through a historian that can connect to the PI System
- › A subscription to Microsoft Azure

BUSINESS CHALLENGES

Today, industrial organizations face challenges such as a transitioning workforce and unexpected asset downtime and failures that can cost millions annually. For industrial operators to continue to streamline and work more efficiently, they need data in the form of analytical insights to make faster, better informed decisions. Predictive insights, in particular, can be extremely valuable. They can help organizations prevent failures, for example. But the key barrier to deriving insights from data is inconsistent and unorganized data, which is difficult to use and requires time-consuming data wrangling.

It's important to make data work *for* operators, proactively surfacing insight where it's needed most. And technology needs to do the heavy lifting of processing and preparing data so that people can have ready-to-use data.



BUSINESS IMPACT

The web-based, user friendly Element Platform rapidly joins and prepares business and operations data for analytics. It also enables data scientists to create predictive models with machine learning, and connects to applications for visualizing actionable insights. For example, a predictive insight can reveal which submersible pump parts will fail when and what the costs and potential fixes would be. This enables maintenance to act sooner and more effectively. The result is greater operational efficiency and cost savings as well as increased asset uptime and revenue capture.

SOLUTION APPROACH

Asset Data Modeling

Asset Data Modeling rapidly turns raw data into workable data in 3 steps: Tag Mapping, Event Labeling, and Sensor Auditing. Semi-automated tag mapping allows you to rapidly map tags in bulk to an Asset Data Model, which reflects the relationships between people, process, and physical equipment. Event Labeling adds the context necessary for analytics by enriching time-series data with event metadata. Sensor Auditing surfaces data model and value issues for IT and engineering to address. The resulting Asset Data Model is continuously and automatically updated to ensure it remains up to date as tag changes occur, equipment comes online, etc. It can be exported in diverse forms (e.g., PI Asset Framework) for use by anyone or any application.

Data Transformation

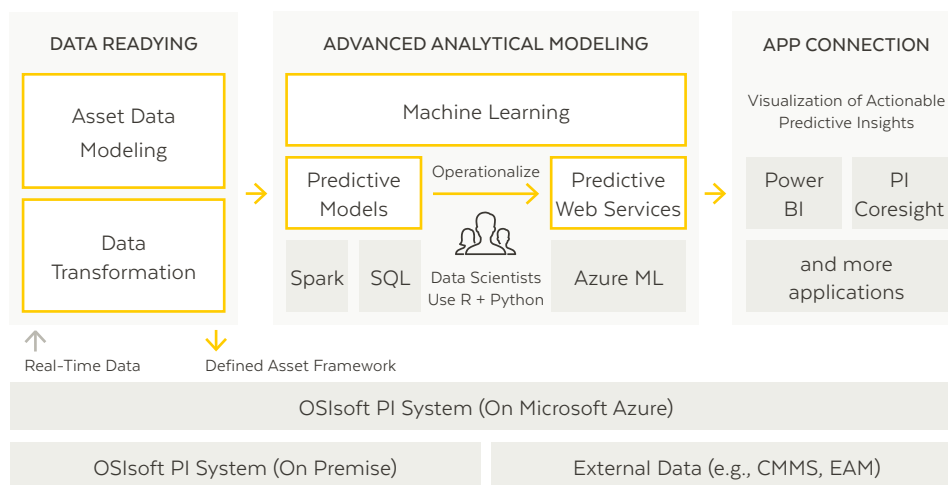
To lay groundwork for advanced analytics such as predictive modeling, data undergoes treatment to ensure data is high quality and free from issues such as gaps, stale and null values. A series of transformations can be performed on numerous datasets to create advanced metadata events and prepare data for business intelligence.

Predictive Modeling with Machine Learning

Using prepared data, our team of experienced, industrial data scientists can help you develop and operationalize custom predictive models using R and Python scripts. Predictive models may include time until equipment failure, efficiency recommendations, forecasting, and system modeling.

Application Connection for Visualizing Predictive Insights

The Element Platform connects predictive models as well as selected subsets of PI system data to your preferred applications to display actionable insights. Insights may include: production by asset, time until equipment failure, prioritized asset maintenance, short- and long-term cost impact of various fixes, and the utilization of service team members in the field.



ABOUT THE PARTNER ECOSPHERE

The OSIsoft Partner EcoSphere provides a collection of third-party services, applications, and technology to help customers maximize the value of the PI System.

Explore more solutions and the OSIsoft Partner EcoSphere at: partners.osisoft.com.



FOR MORE INFORMATION

Element Analytics™ empowers industrial companies to achieve new levels of operational performance by making data easy to use for analytics in order to surface reliability, productivity, and sustainability insights.

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