PRESENSO.

BIG DATA FOR PREDICTIVE MAINTENANCE

MACHINE LEARNING FOR PREDICTIVE ASSET MANAGEMENT

Presenso is a pioneer in the application of Artificial Intelligence for predictive asset management. Advanced Deep learning and Machine Learning algorithms analyze assets sensor behavior and automatically detect abnormalities and patterns within them. Presenso is an Unsupervised solution that requires no pre-defined rules for alerts or human expert input. Facility technicians are alerted in real time to potential breakdown, thereby giving them advance notice to remediate the problem.

KEY BENEFITS

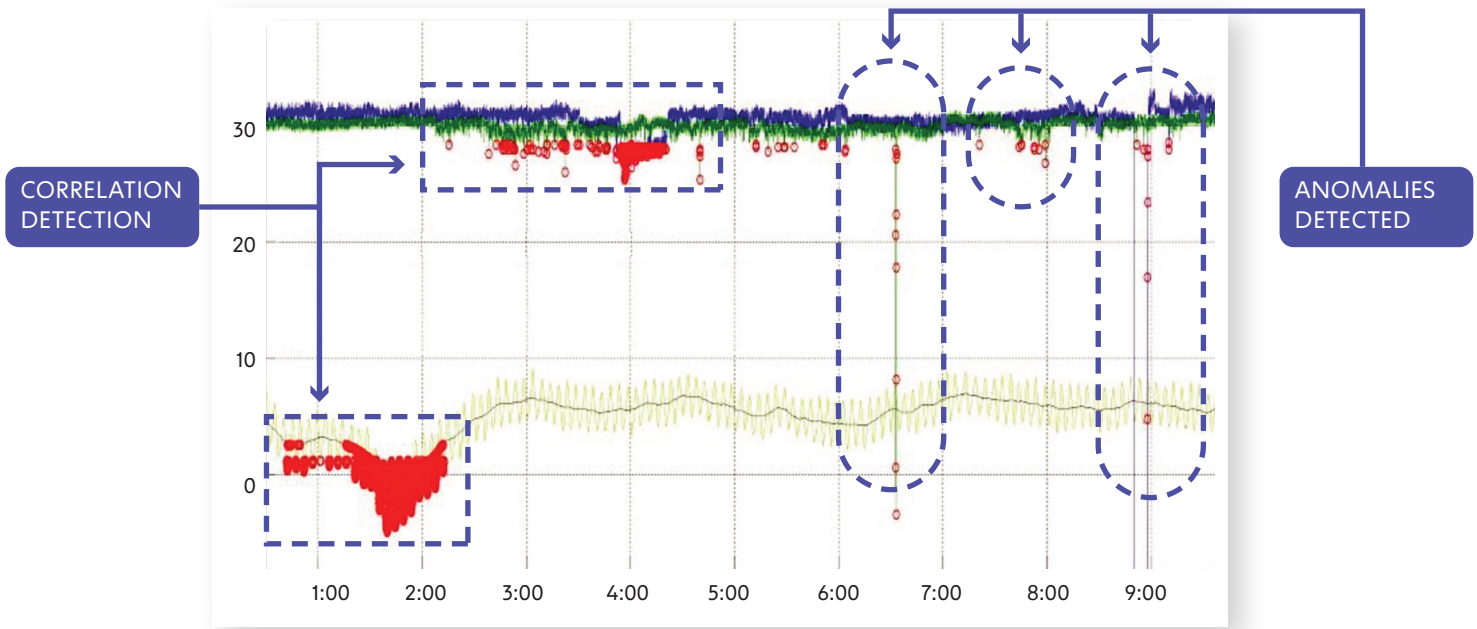
- REDUCES UNSCHEDULED DOWNTIME
- Prevents machinery breakdown before it occurs
- Uses big data without the need for human intervention
- Replaces partially effective rule-base monitoring
- Agnostic to sensor type, equipment type or asset age
- Easy and quick root cause analysis of historical event
- Analyzes ALL sensors without a need to select a partial list of high-priority ones

How does it work?

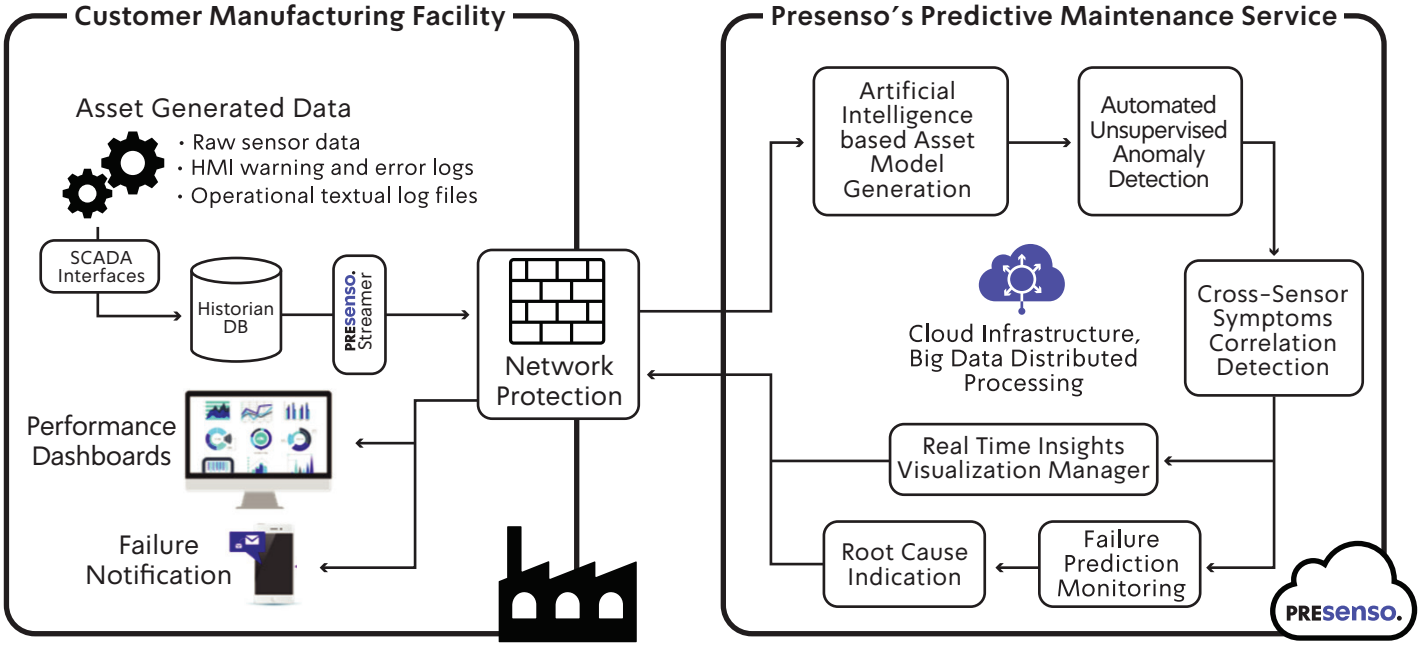
Presenso continuously streams asset sensor data to the cloud where Artificial Intelligence algorithms analyze it in real time. Presenso is sensor agnostic and monitors all signal data without the need for manually setting control limits or any other human input.

After the detection of anomalies in all the asset's signals, correlations and pattern detections between signals are performed in order to later present the operators with the exact sequence of abnormal events detected. Once an evolving failure has been detected, a failure alert is generated. This alert includes information on correlated sensor abnormalities. This valuable information significantly helps in tracking the failure origin.

ANOMALY AND CORRELATION DETECTION



PRESENSO SYSTEM ARCHITECTURE



The Presenso Cloud continuously acquires the Big Data generated by multiple sensors that are already installed in industrial manufacturing lines and machines.The real-time streamed-in data is run through an ensemble of unique "Machine Learning" and "Deep Learning" algorithms designed to predict and alert on any upcoming failure.

COMPATIBLE HISTORIAN DATABASES

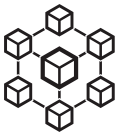
- OSIsoft PI Historian
- Aspen Tech InfoPlus Historian
- Emerson Ovation/DeltaV
- Schneider Electric – Wonderware/Citect Historian
- GE Digital (formerly Proficy)
- ABB Decathlon
- SAP HANA
- Siemens SIMATIC
- Honeywell Historian
- MS-SQL
- ORACLE
- Others (per client request)

SAMPLE ASSETS MONITORED

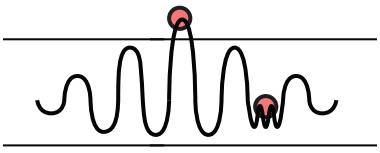
- Power Turbines
  - Gas
  - Steam
  - Geothermal
  - Hydro
  - Wind
- Condensers
- Electric Generators
- Pumps
- Chillers
- Assembly Robots
- Others (per client request)

1 Real Time Analysis of Sensor Data

2 AI Driven Anomaly Detection



3 Correlation Detection for Contextualization



4 Failure Prediction Based on Adaptive Learning