PREDICT▸*it*

Predictive Modeling for Process Data

BENEFITS

- Avoid catastrophic failure
- Shift unplanned downtime to planned downtime
- Increase proactive planning and execution
- Reduce repair costs and lost revenue
- Mitigate impact of minor problems
- Watch your plant 24/7
- Detect and notify on anomalies

Predict-It™ is ECG's state of the art process monitoring solution that utilizes Advanced Pattern Recognition (APR). Recent advances in modeling algorithms have made it possible to track trends in process variables on a continuous basis and compare them to historical operation. By these techniques, the drift of the process variable toward unacceptable areas of operation may be recognized and a potential future outage can be avoided with preventive management steps. Early detection and correction of performance degradation helps to keep equipment and process systems operating at a higher efficiency, which can reduce operating costs while increasing production and safety of the plant.

Unlike products that monitor equipment based on first-principle approach technology, Predict-It employs empirical models of normal operation based on historical data for each piece of equipment or system. Predict-It then compares the current operation in real-time to detect equipment-specific deviations from normal. This allows the earliest detection of statistically significant problems.
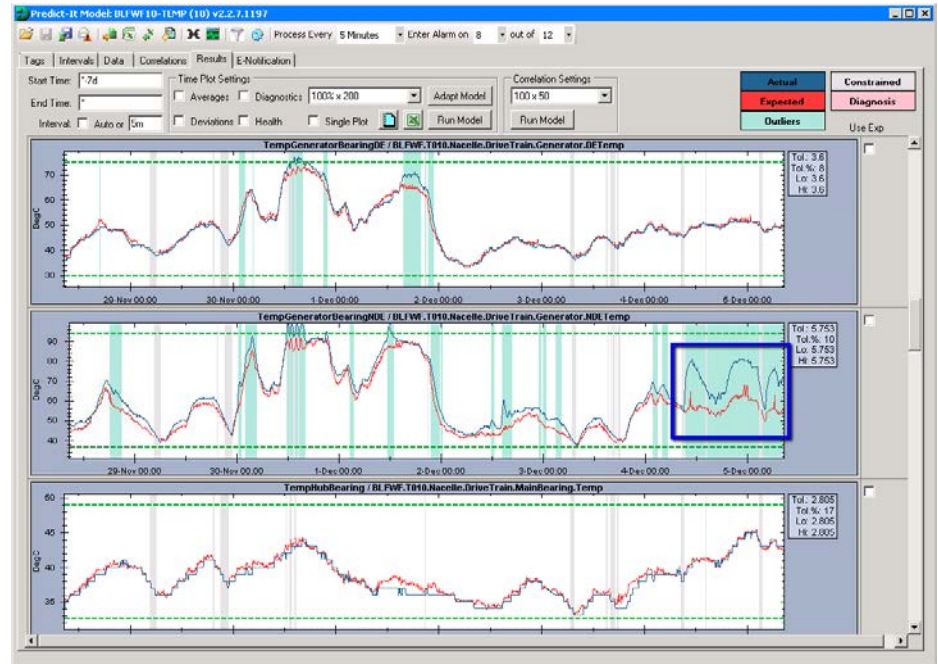
HOW DOES IT WORK?

Predict-It leverages existing process data stored in your plants' OSIsoft™ PI Historian. It compares readings received with those calculated. If the software identifies a deviation outside of a tolerance limit, it will initiate an event for an engineer or analyst to review. The early warning allows time to plan a proactive response. This reduces ancillary damage, minimizes cost to repair, avoids failure, and lost revenue.

Predict-It uses historical tag values to create models of critical assets. The modeling begins by retrieving tags using Microsoft® Excel® along with ECG's Predict-It Add-In or the Predict-It Model Builder. Multiple sensors can be assigned to each model. The Predict-It service runs the models 24/7 generating events if the process deviates from normal.

Process deviation highlighted in the Predict-It Model Builder

CASE STUDY

In a large utility turbine generator, deposits in the stator cooling passages caused gradual local overheating. Post-mortem studies found slow drifts in stator cooling water temperatures below alarm setpoint conditions that went unnoticed for over a year. After the initial indications, localized degradation with associated temperature anomalies continued without alarm until culmination in a catastrophic failure. Trending of these sub-critical conditions against historical data, as described in Predict-It, would have alarmed a serious condition near the onset of the problem.

This would have prompted an inspection and remedial maintenance during a scheduled outage as opposed to a costly unexpected generator overhaul.

As-found generator stator bar insulation damage

AGL Operations & Diagnostics Centre

ECG's knowledge and expertise helped AGL to start our journey towards proactive maintenance more effectively. ECG was fantastic to work with and we appreciate their continuous support. Seamless implementation of Predict-It has ensured our return on investment shall be in much shorter time than anticipated. We highly recommend ECG for Predict-It.

Deepak P.
Engineer Asset Reliability & Diagnostics Group Operations

AGL

"PREDICT-IT PAID FOR ITSELF WITHIN ONE YEAR."

WHY CHOOSE PREDICT-IT

- **Advanced Pattern Recognition (APR)**
  Anomaly detection through unique asset models based on prior running history improves availability and reliability.

- **Predictive Maintenance**
  Early warning and fault detection moves maintenance practice from reactive to proactive reducing downtime and damage to critical equipment.

- **Cost Effective**
  Reduces maintenance and operating expenses. Highest value, lowest cost APR solution available in the industry.

- **Highly Intuitive**
  Software models can easily be configured by subject matter experts.

- **OSIsoft™ PI® Compatibility**
  Leverages commonly used OSIsoft PI tools and software such as ProcessBook, DataLink, and Coresight.

- **ECG Support and Services**
  ECG offers monitoring services as an experienced extension of your staff.

ECG™

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