TYCHO DATA | BEACON

DATASHEET

> “**Beacon** gives our engineers an early signal when something isn’t quite right. It learns how equipment normally behaves and flags subtle changes long before alarms trip or production is impacted”
>
> **Digital Solution Technical SME, Largest Private Agriculture Manufacturer**

# What is **BEACON**?

**Beacon** is an AI-driven Asset Performance Management application that continuously analyzes operational data to detect abnormal equipment behavior early. It identifies emerging faults, forecasts failures, and guides engineers toward root causes before downtime occurs.

# Features

## Fault Detection

Machine learning models monitor asset behavior and detect subtle deviations before alarms or trips occur.

## Failure Forecasting

Predict remaining useful life and estimate time to maintenance windows.

## Root Cause Insight

Highlight which sensors, signals, or process variables contribute most to abnormal behavior.

## Case Management

Automatically create investigation cases with anomaly timelines, signals, and recommendations.

# How Beacon Works

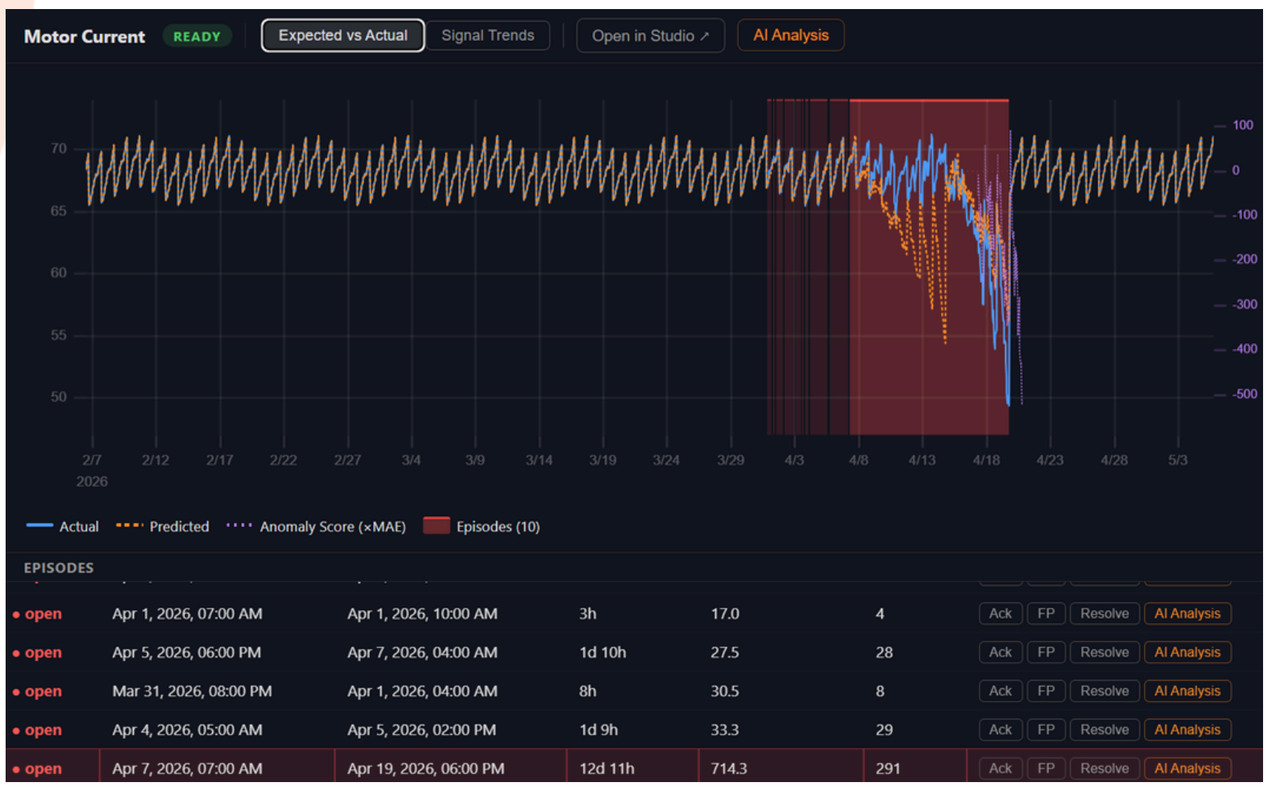
I **Baseline Modeling**
Learn normal equipment behavior using historical sensor data and operating conditions.

II **Continuous Monitoring**
Live streams are evaluated in real-time to detect deviations.

III **Signal Contribution Analysis**
Identify sensors that are driving abnormal behavior to guide root cause.

IV **Failure Risk Forecasting**
Estimate equipment health and remaining useful life.

Figure 1: **Early Fault Detection on Boiler Feedwater Pump**




Highlights a motor current instrument that contributes most to abnormal behavior and map to fault library

## Related Products

- Forge
- Osprey
- Compass
- Asset Framework Accelerator

## About Tycho Data

Tycho Data is a next-generation industrial data management company helping organizations derive value, trust and use their operational data. Industrial teams spend significant time preparing, validating, and troubleshooting OT data before it can be used for operations, analytics, or AI.

To learn more visit www.tychodata.com

# Advanced Technology

### Machine Learning Models

Multivariate behavioral model detects deviations across hundreds of signals.

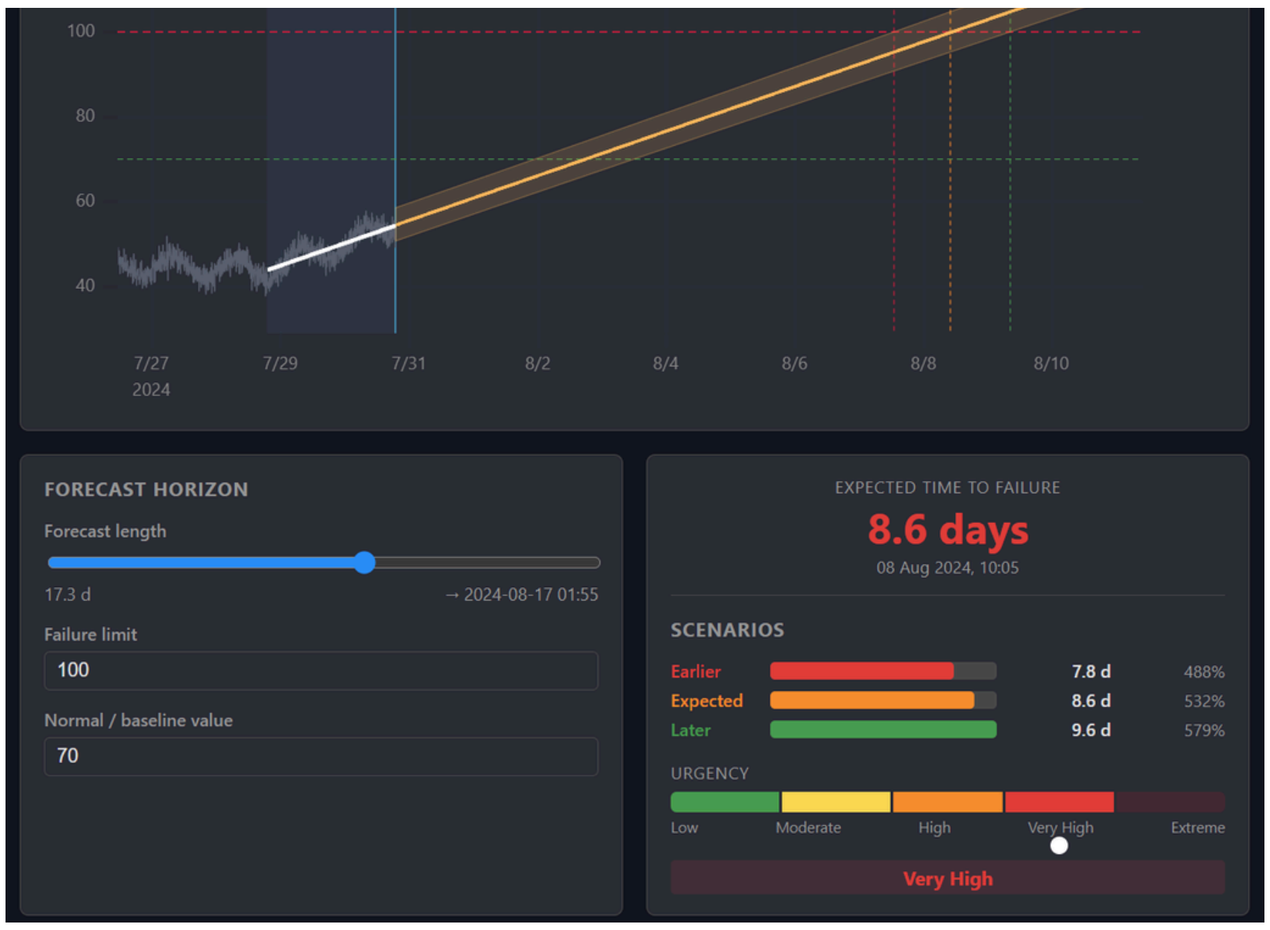
### Signal Contribution Analysis

Identify which variables drive abnormal behavior.

### Time-Series AI

Models trained on operational history continuously adapt to changing operating conditions.

Figure 2: **Failure Forecasting**




Predict remaining useful life and estimate maintenance windows

**12%** Less downtime

**93%** Faster fault detection and analysis

**Early** Detection before equipment issues


TYCHO DATA

Worldwide Headquarters
305 E Huntland Dr
5th Floor #3088
Austin, TX 78752

Visit: https://www.tychodata.com/product/beacon
Email: info@tychodata.com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