

# C3 Predictive Maintenance

## Prioritize and Optimize Asset Maintenance and Planning

C3 Predictive Maintenance™ provides maintenance planners and equipment operators with comprehensive insight into asset risk enabling them to maintain higher levels of asset availability across their entire installed base.

Using C3 Predictive Maintenance, asset operators are able to:

- Identify high-risk assets before they fail, prioritize maintenance expenditures, and operationalize identified maintenance needs
- Analyze equipment at any level of aggregation, from individual equipment units, to groups or families of equipment, to geographical aggregations of equipment
- Prioritize maintenance across equipment and directly initiate maintenance activities through existing work order management systems

To deliver these insights, C3 Predictive Maintenance aggregates petabyte-scale data from individual sensors, smart devices, enterprise systems (e.g. asset management, work management, outage management) and operational systems (e.g. SCADA, OMS, GIS) to generate accurate predictions of asset failure.

C3 Predictive Maintenance uses advanced machine learning algorithms to compute asset risk scores. The algorithms are trained using historical failure data and can be configured to estimate probability of failure over different operating horizons (e.g. 14-days, 30-days or 6-months).

In addition to supervised machine learning techniques that require historical failure data to train algorithms, C3 Predictive Maintenance also includes unsupervised learning techniques to identify and predict anomalous operating states without the use of historical failures. C3 Predictive Maintenance provides closed loop work order integration that enables continuous improvement of the underlying machine learning models.

### Feature Summary

- **Proactively assess real-time asset health**, along with failure predictions, anomaly scores, and maintenance expense projections.
- **Apply next-generation asset failure prediction algorithms** to assess probability and impact of equipment failure with a high degree of confidence and consistency, based on actual operating conditions and asset performance details.
- **Visualize risks across asset portfolios** and view details of asset risk across critical business and operating dimensions.
- **Enable asset-level diagnostics and projections** to diagnose the conditions affecting individual asset failure and translate individual equipment findings to the full asset portfolio.
- **Track, benchmark, and rank performance** of individual pieces of equipment based on probability and impact of failure using intuitive KPIs including Probability of Failure (PoF), MTTF and Risk Score (that combines PoF with the economic impact of failure).

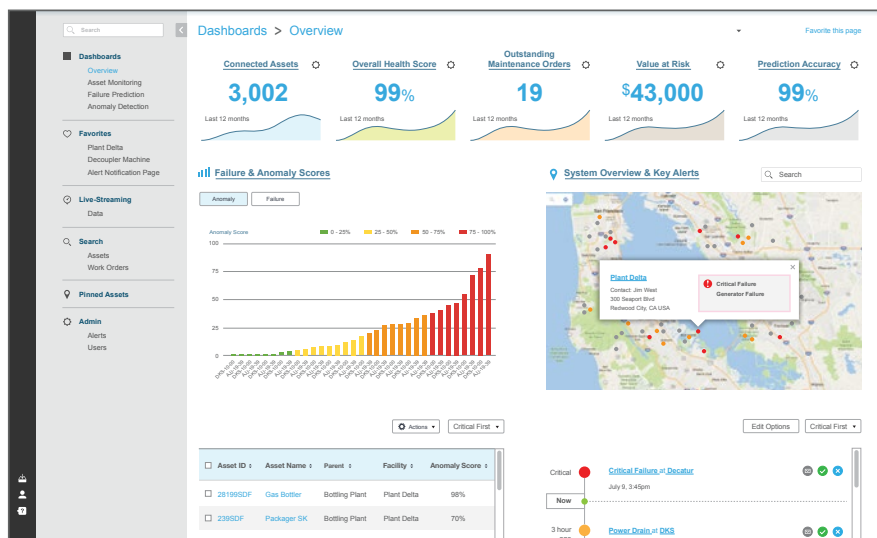


Figure 1. Using the C3 Predictive Maintenance dashboard, analysts can track the health of all monitored assets. Analysts can easily identify high risk assets and operationalize maintenance needs, including the creation of work orders from the application.

## Feature Summary (continued)

- **Comprehensive closed loop workflow support** to enable operators to construct maintenance packages based on risk scores. Enables operators to define and launch work orders directly from the C3 Predictive Maintenance application by leveraging bi-directional integration with Work Order management systems.
- **Alerts and Notification functionality** to facilitate effective coordination through configurable alerts and thresholds. Alerts are summarized and presented within the application and can be configured for delivery to designated contacts via SMS and/or email.

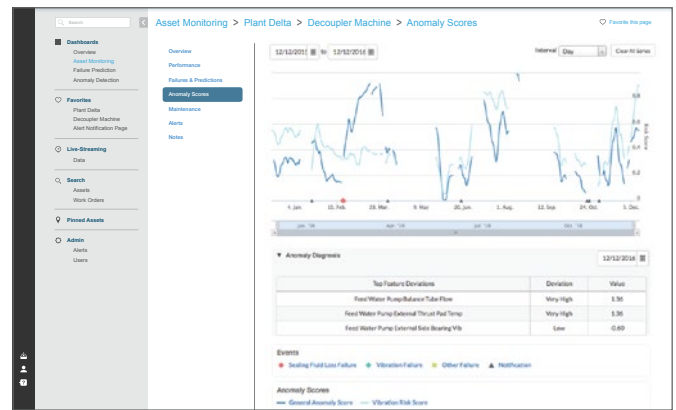


Figure 2. C3 Predictive Maintenance provides users with relevant detail from disparate source systems to a) help explain the prioritization of assets and b) facilitate a thorough assessment of the past, present and projected future operational state of each monitored asset.

## Shift Reactive Maintenance to Predictive Maintenance

### C3 Predictive Maintenance Benefits

C3 Predictive Maintenance is a cross-industry application that addresses a wide range of industry sectors (e.g. Energy, Oil & Gas, Industrial Manufacturing, Aerospace). Operational and economic value of the application accrue through multiple levers:

- **Reduced downtime** due to early identification and resolution of equipment at high-risk of failure.
- **Reduced operational costs** by shifting reactive maintenance to predictive maintenance. Streamlined workflow by defining maintenance packages that enable maintenance planners to effectively bundle high priority work and schedule it at the right time in the equipment operating cycle.
- **Reduced capital expenditures** by driving asset replacement decisions using asset risk scores.
- **Reduction in inventory costs** by anticipating the need for replacement parts

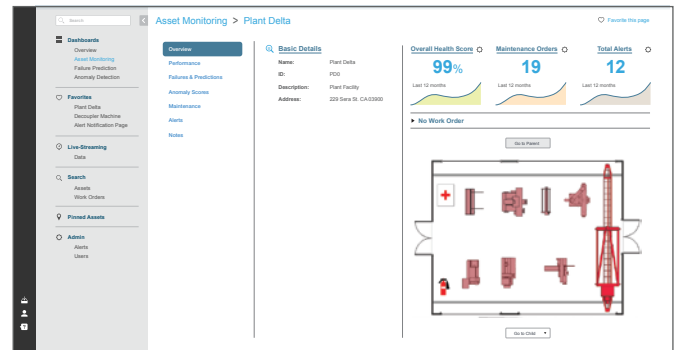


Figure 3. C3 Predictive Maintenance support configurable dashboards that allow users to highlight the KPIs relevant to their business processes.

## Proven Results in Weeks, Not Years

Complete a low-cost, low-risk production trial of C3 Predictive Maintenance in just 8–12 weeks. Validate the economic value and other benefits to your organization before expanding into full production use. For more details, visit [www.C3.ai](http://www.C3.ai).