DATA SHEET

C3 AI Reliability

Improve Uptime with AI-Powered Predictive Maintenance

20-50%
reduction in unplanned downtime via early risk detection of anomalous conditions

15-25%
reduction in maintenance costs via reduction of overall downtime and maintenance

Up to 99%
reduction in false alert volume via precise AI-based risk monitoring

40,000+
pieces of equipment and 3 million sensors monitored across customer deployments

C3 AI® Reliability is AI-powered predictive maintenance that identifies equipment failure risks in advance to help asset operators improve uptime, costs, and productivity. By unifying and applying AI to sensor data, maintenance records, parts inventory, and more, the application predicts when and how an asset is likely to fail, prescribes actions, and bi-directionally integrates with work management systems for users to seamlessly launch work orders from within the application workflow.

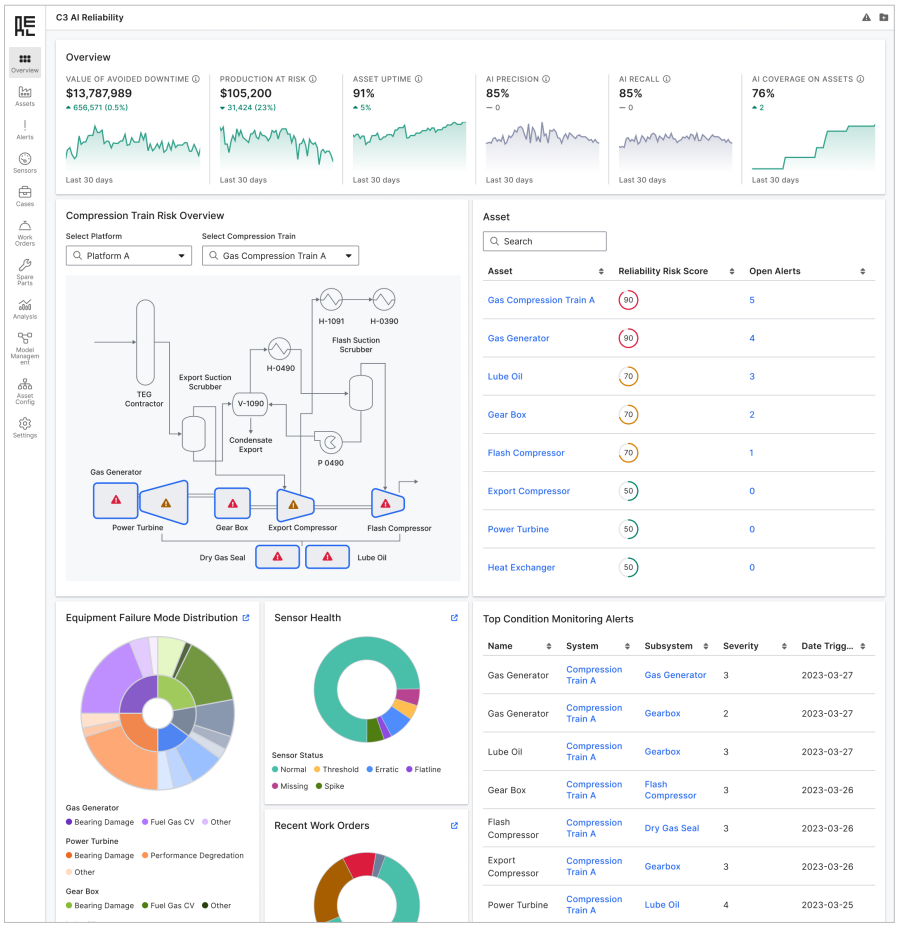

Figure 1. *C3 AI Reliability offers a rich and configurable dashboard to visualize operational KPIs and AI insights of system reliability and sensor health.*

Feature Summary

- **AI-driven predictive maintenance** – Leverage AI to identify equipment issues that impact asset reliability and operational performance in advance.
- **Generative AI** – Powered by C3 Generative AI, ask conversational questions to quickly access operational know-how and AI insights.
- **Codified subject matter knowledge** – Unify and leverage domain knowledge for AI insights using NLP and deep learning capabilities.
- **Prioritized alerting** – Improve worker efficiency by reducing the number of unnecessary alerts through AI-enabled risk-based modeling and prioritization.
- **Failure mode identification and recommended actions** – Utilize autogenerated failure modes and corrective actions based on out-of-the-box failure mode libraries.
- **Evidence packages** – Drill down on individual risk factors contributing to AI alerts to understand how various factors impact system reliability.
- **Sensor health** – Leverage ML to monitor sensor networks, identify malfunction sensors, and diagnose sensor failures.
- **Spare parts inventory** – Monitor availability of parts required for repairs and maintenance through supply forecasts.

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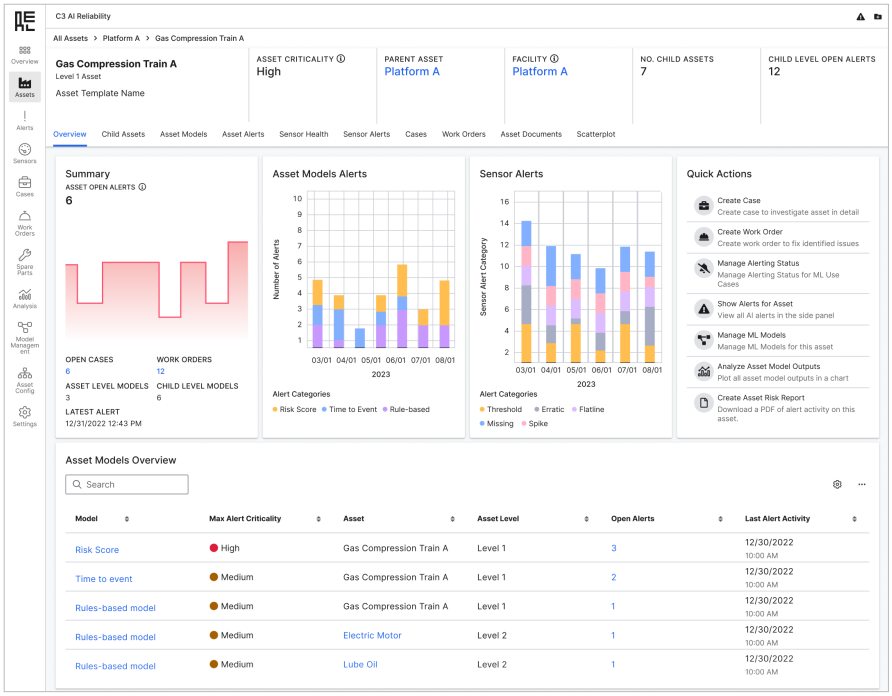
Applying proven, out-of-the-box machine learning algorithms (e.g., anomaly detection) on top of the unified data, C3 AI Reliability identifies high-risk system behaviors and provides prioritized alerts for engineers. The AI models are traceable and explainable, allowing users to drill down to individual risk drivers (e.g., specific sensors). User-friendly ML model operations workflows allow citizen data science teams to easily monitor and adjust AI models over time.

C3 AI Reliability drives efficient decision-making through automated failure mode analyses and integrated investigative workflows. For each risk, the application identifies potential failure modes and provides recommended actions based on pre-integrated failure mode libraries and institutional knowledge. With write-back into existing maintenance and work order systems, users can take rapid action to resolve issues.

Pre-integrated with C3 Generative AI, end users can easily access and interact with AI insights and codified domain expertise through an intuitive search and chat interface. The application leverages natural language processing and deep learning capabilities to encode documents and text-based institutional knowledge (e.g., best practices, operating procedures, and field notes) and provide AI insights in natural language (e.g., alert summaries).

Using pre-built templates for assets, ML models, and user interface, C3 AI Reliability can be deployed across wide variety of asset types and equipment (e.g., valves, compressors, pumps, turbines, generators, towers, chillers, and transformers) in a matter of weeks. With the underlying configurability and flexibility capabilities, the application can easily be scaled to monitor fleets of assets and facilities across the globe.

C3 AI Reliability has been driving tangible business value across a wide range of industries including manufacturing, pharmaceuticals, energy, utilities, CPG, heavy industrials, and more.



Feature Summary (cont.)

- **Integrated, collaborative workflow** – Allow monitoring, plant, and maintenance teams to manage and collaborate on alerts, cases, and work orders through a shared investigative platform.
- **Digital diagrams** – Parse physical diagrams to connect sensor IDs and asset IDs to the digital model of assets and operations and build out a clickable diagram to contextualize monitoring.
- **Asset hierarchy** – Rapidly construct a digital representation of systems and assets, complete with equipment monitoring metrics and KPI, using out-of-the-box asset templates.
- **Scalable AI** – Scale quickly to large fleets and across types of assets using asset templates and end-user configuration of asset hierarchies, failure mode libraries, and ML models.
- **Model operations** – Monitor and manage ML model performance at scale and over time with built-in model monitoring, configuration, re-training, and deployment features.
- **Performance benchmarks** – Compare regions, facilities, and systems based on configurable reliability and performance metrics.
- **Bi-directional integration** – Seamlessly interface with existing software (e.g., CMMS systems) to maintain accurate and near real-time records.

Figure 2. *C3 AI Reliability Asset Details Page allows end users to review asset health alerts, sensor health alerts, and related cases and work orders in a single aggregated view.*

Fast, Proven Results in Initial Production Deployment

Visit C3.ai/get-started

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