

C3 AI Readiness

Boost Mission Readiness with AI-Powered Predictive Maintenance

C3 AI® Readiness is an AI-enabled predictive maintenance application that helps federal maintenance and logistics organizations improve the availability of critical assets.



5+

month lead time from alert to failure via advance warnings



95%

real-world alert precision using advanced sensor-based algorithms



7X

faster in root cause analysis with interpretable evidence packages



3,600+

aircraft monitored across customers

Due to limitations of existing systems and maintenance strategies, organizations managing fleets of assets (e.g., aircraft, vehicles, support equipment) face unexpected and costly downtime that negatively impact mission capability and availability.

C3 AI Readiness is an AI-powered predictive maintenance application that detects signs of system and component-level degradation with early warning to enable organizations to action for maintenance before failure occurs. The application provides a holistic view of fleet assets by unifying disparate data from onboard sensors, utilization reports, maintenance records, supply inventory, and more to create a single, virtual representation of physical assets and operations.

Feature Summary

- **AI-driven predictive maintenance** – Leverage AI to identify and quantify the readiness risks across the entire fleet.
- **Conversational search and chat** – Ask conversational questions to quickly access operational know-how and data-driven insights, powered by C3 Generative AI.
- **Codified subject matter knowledge** – Unify and leverage domain knowledge for AI insights using NLP and deep learning capabilities.
- **Case management** – Improve workforce workflow by grouping alerts and enabling seamless transitions between maintenance engineers and technicians.
- **Failure mode identification** – Develop custom AI models to detect specific failure modes of concern without flooding users with unnecessary alerts.
- **Evidence packages** – Drill down on individual risk factors contributing to AI alerts to understand how various factors impact system reliability.
- **Automated maintenance verification** – Reduce manpower requirements by leveraging automation to validate if the maintenance performed was effective.

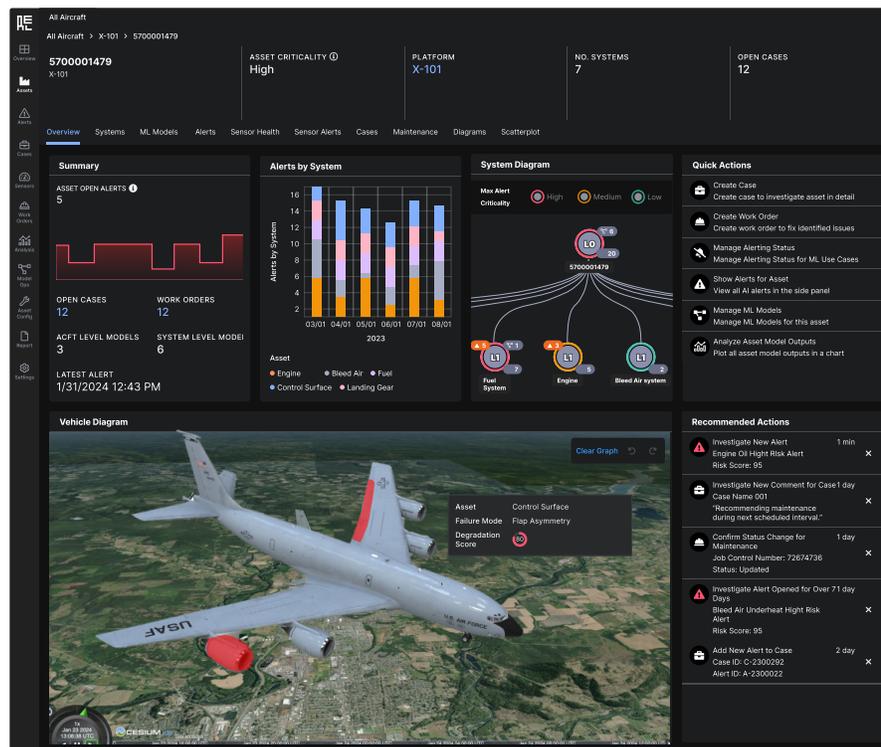


Figure 1. C3 AI Readiness provides highly configurable dashboards, allowing users to monitor the operational metrics most critical.

On top of the unified data, the application applies advanced machine learning with pre-built asset template and ML pipelines to rapidly deploy AI monitoring across large fleets of assets (e.g., aircraft, ground vehicles, and surface and subsurface assets). The AI/ML techniques are applicable across a wide variety of asset types, from the intricate workings of aircraft jet engines to the critical control valves on ships.

C3 AI Readiness streamlines decision-making processes with automated alert prioritization and sorting, integrated investigative workflows, and parts inventory optimization. By automating repetitive data tasks, the application significantly reduces the manpower necessary for implementing predictive maintenance strategies. The application facilitates a seamless interface between maintenance engineers across different geographical locations and field units to improve productivity and coordination.

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, maintenance manuals, and technical orders) and provide AI insights in natural language (e.g., alert summaries).

C3 AI Readiness has been driving tangible business value across a wide range of federal customers, leveraging the same predictive maintenance capabilities C3 AI provides to manufacturing, pharmaceuticals, energy, utilities, CPG, heavy industrials, and more.

Feature Summary (cont.)

- **Part inventory optimization** – Monitor availability of parts required for repairs and maintenance through supply forecasts to adapt to changing operational conditions.
- **Integrated, collaborative workflow** – Allow monitoring, maintenance, and supply chain 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 templates** – Rapidly construct a digital representation of systems and assets, complete with monitoring and readiness metrics.
- **Performance benchmarks** – Compare regions, fleets, and types of assets based on configurable reliability and availability metrics.
- **Bi-directional integration** – Seamlessly interface with existing systems to maintain and near real-time records.

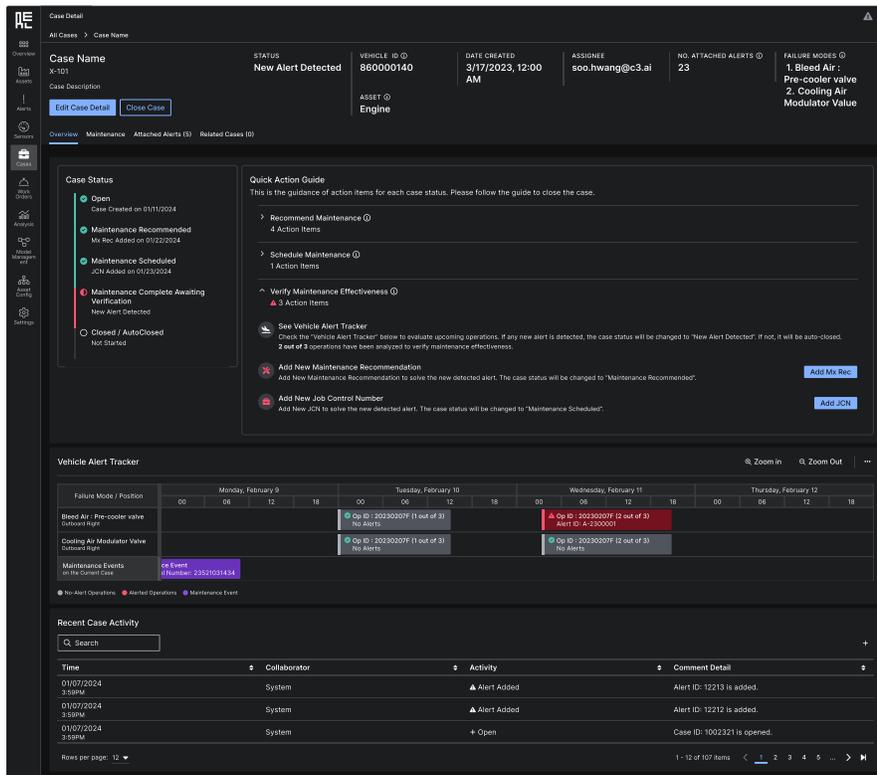


Figure 2. C3 AI Readiness case management enhances maintenance workflow by leveraging automation and reducing human interaction when possible.

Proven Results in 6-Month Pilot

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