



# Defense Engineer Uses Agentic AI for Mission System Readiness



## Role

Systems Engineer at the Department of Defense, working on C5ISR systems (Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance).

**Location:**

Joint Base Operations Center (classified environment)



## The Challenge

The engineer is responsible for ensuring multiple tactical systems are operational before deployment. Each system pulls real-time telemetry from embedded sensors, battlefield simulations, and satellite feeds.

Previously, the engineer:

- Manually sifted through sensor logs from various platforms
- Cross-checked systems diagnostics with maintenance records
- Coordinated with cybersecurity and operations teams to validate software updates
- Faced delays due to data overload, outdated scripts, and limited collaboration



## The Solution

### Deploying Agentic AI

Agentic AI is deployed in a secure enclave as a network of modular, autonomous agents. Each agent is trained to handle specific roles, such as data parsing, anomaly detection, compliance checks, or AI model recommendations.

**Workflow with Agentic AI:**

Step Task Agentic AI Contribution



- **System Log Aggregation** Pulls logs from UAVs, ground sensors, and radar systems. **DataAgent** automatically scrapes, filters, and tags relevant telemetry in real time

- **Anomaly Detection** Identifies degraded system performance in one node. **AIAnalysisAgent** compares against baselines and flags abnormal voltage behavior



- **Cross-Reference Diagnostics** Pulls previous maintenance and firmware data. **Integration Agent** connects to secure DoD maintenance DBs and runs diff comparisons

- **Cyber Readiness** Validates all modules have passed latest STIG checks. **CyberAgent** performs compliance scan using DISA baselines and flags non-compliant elements



- **Mission Simulation** Tests system behavior under simulated battlefield conditions. **SimulationAgent** integrates logs into a digital twin model for readiness scoring

- **Report Generation** Prepares mission readiness documentation. **DocGenAgent** generates a PDF summary with charts and risk assessments, pre-cleared for leadership briefings



## Outcome & Benefits

- Reduced readiness assessment time from 8 hours to 30 minutes
- Increased detection of pre-deployment anomalies by 40%.
- Compliant with DoD Zero Trust and DevSecOps principles
- Enhanced collaboration with operations and cyber teams via real-time agent chat interface



## Security & Compliance

All agents operate within a secure, air-gapped environment, using only approved APIs and encrypted internal communications. Audit logs are automatically maintained and reviewable per DoD policy.

**Interested in learning more?**  
Contact Wildflower International to explore how Agentic AI can optimize your mission-critical workflows.  
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