avathon.

Digital Maintenance Advisor

AI-POWERED MAINTENANCE SOLUTION
TO DRIVE MISSION READINESS

ADDRESSING THE PROBLEM OF FALLING MISSION-CAPABLE RATES

Sustaining an inventory of operational warfighting systems is crucial for deterrence and succeeding in a dynamic, multi-front conflict against a peer adversary. However, declining mission-capable rates pose significant challenges for key systems, personnel, and resources across the military.

Skilled labor shortages and high operational tempo are exacerbating maintenance delays, while parts shortages, obsolescence, and difficult supply planning are driving up lifecycle costs and decreasing availability rates. These issues have led to an increase in non-mission capable rates that demands more resources, including more time from task-saturated personnel.

The warfighter needs a new sustainment paradigm to improve force posture, augment a less-experienced workforce, and accelerate decision-making in alignment with decentralized Command & Control (C2) and the Agile Combat Employment (ACE) concept. AI-enabled systems deliver speed into current processes, improve outcomes with less-experienced personnel, and arm strategic leaders with critical insights into force readiness.

INTRODUCING DIGITAL MAINTENANCE ADVISOR

Avathon Digital Maintenance Advisor (DMA), an application of Avathon's Industrial AI platform, is a commercially proven, modular, and scalable AI-first software solution to mitigate critical maintenance challenges that compromise asset availability.

Developed by AI experts in close consultation with retired and active USAF personnel, DMA addresses the needs of the maintenance community, ensuring our warfighting assets and the people who support them are ready when called upon. DMA expands and accelerates skilled workforce capacity and enhances operational visibility for maintenance operations with a modular, explainable AI approach that readily extends to a broad range of DoD and strategic allies' use cases.

- **Expedited troubleshooting:** Fault identification, corrective action recommendation, workflow automation, and parts visibility in seconds—not hours or days.
- **Maintenance planning:** Supply and workforce planning on the flightline, in the backshops, and at the depots.
- **Mission Planning:** Mission-capable asset insights, asset selection for mission execution, fleet issue explainability.

DMA is a robust prescriptive maintenance tool—deployed as an easy-to-use dashboard experience on handheld devices, laptops, or desktops—that leverages machine learning, AI anomaly detection, and natural language processing (NLP) to augment the ability of maintainers to correct early-stage discrepancies detected on aircraft, ships, or ground vehicles.

DMA integrates seamlessly into the maintainer workflow to accelerate and streamline day-to-day maintenance tasks through the automation of time-consuming steps such as fault code and corrective action identification and provides quick connections to inventory supply to support the end-to-end maintenance process. DMA's ability to ingest and evaluate unstructured data using NLP technology unlocks and integrates previously siloed knowledge in maintenance logs, comments, and records to provide fuller context to the maintainer to help them assess and resolve issues more efficiently. Powerful and configurable monitoring and analytics tools automate visibility into fleet health KPIs and enable transparency within the system of emerging concerns and timelines that affect decisions and outcomes.

HOW DMA ENABLES MISSION READINESS

Predicts Causal Factors

DMA overcomes the problem of inconsistent and gapped data sets, mitigates anomalies, and recommends trouble-shooting steps with advanced AI models that improve results with each user interaction.

Streamlines Workflows

DMA reduces duplicative work and stops the slow and tedious 'hunting and gathering' of tech orders. As one system syncing multiple data sources, Industrial AI's simple UI minimizes clicks for 30% faster resolution.

Accelerates MTTR

DMA helps less-experienced personnel accelerate mean-time-to-resolution (MTTR) by identifying the proper maintenance action faster through knowledge capture and root cause ID features.

Monitors Fleet Health

DMA gives maintenance leaders clear sightlines into key fleet health metrics with a single view of tactical KPIs for real-time insight into adverse trends.

Improves Decisions

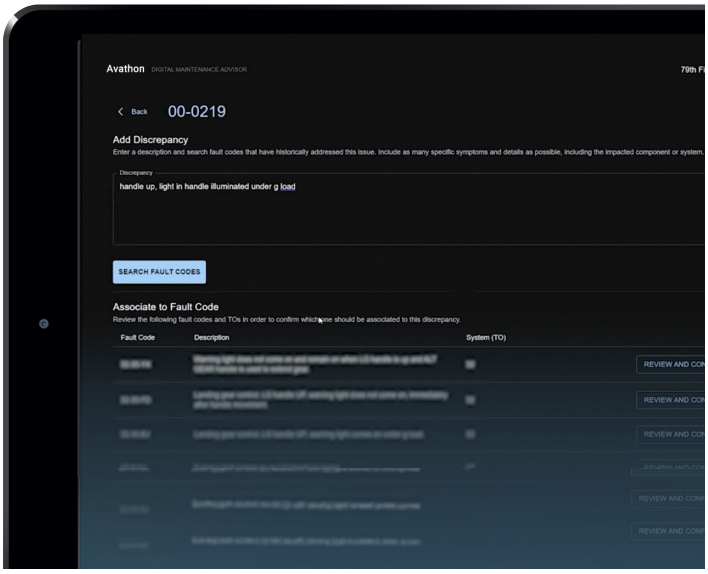
DMA provides senior leaders with near real-time insights from aggregated readiness data to make decisions informed by real-world conditions.

Contact Avathon today at info@avathongov.com

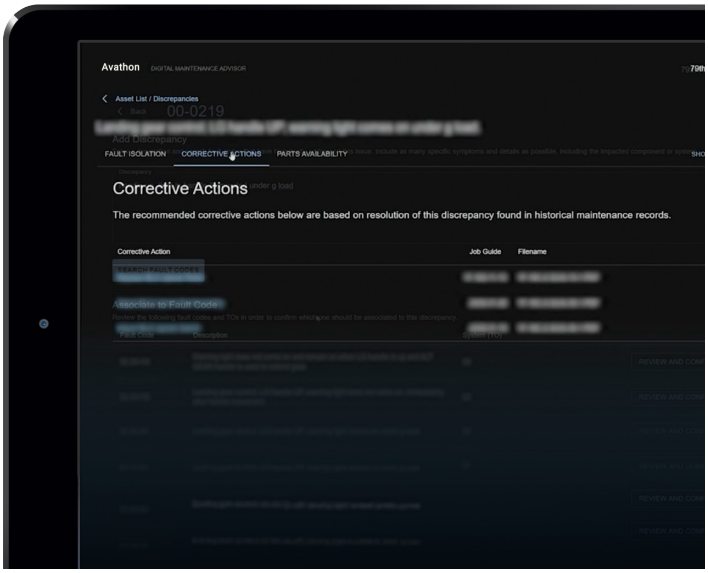
MODERN, MODULAR, EFFECTIVE, AND SCALABLE

By enhancing workflow capacity and capability with explainable AI and intuitive software built by and for maintainers, Avathon Digital Maintenance Advisor improves fleet availability and mission-capable rates while improving maintainer job satisfaction and skill-building, aiding personnel retention efforts.

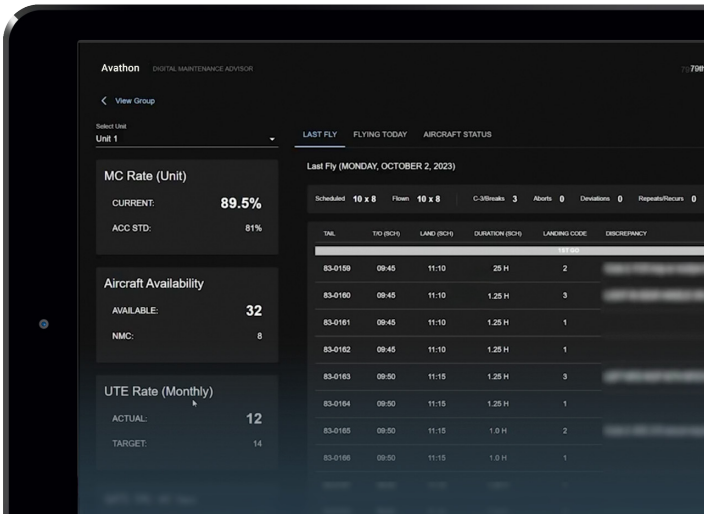
Three core modules within DMA serve multiple levels of the sustainment enterprise: Augmented Debrief, Corrective Action Recommender, and the Monitoring and Analytics dashboard.



Augmented Debrief *captures equipment and operational deficiencies directly from aircrew, applying natural language processing and machine learning to analyze system inputs as well as historical data logs and reports.*



Corrective Action Recommender (CAR) *surfaces all technical orders, reference materials, and support equipment necessary to resolve a discrepancy on a single pane of glass. CAR also addresses the supply needs of our fleet from the tactical to the strategic levels and identifies the components needed to address a given discrepancy.*



The Monitoring and Analytics dashboard (M&A) *provides up-to-the-minute readiness information, scalable to a single unit or an entire command. DMA's M&A dashboard enables real-time trend analysis and automates alerts, enabling rapid adjustment and information dissemination.*

> *"AFRL is excited about expanding our work with Avathon to bring innovative AI technology to our warfighters and impact the readiness of our aviation assets. We eagerly anticipate the powerful impact this collaboration will have on the F-16 fleet and beyond."*
>
> **—ELIZABETH LOIACONO**
> ***Industrial Engineer, Air Force Research Laboratory***

LEADING THE WAY TO BETTER OUTCOMES

Challenges for military aircraft maintainers continue to grow and evolve—and the solutions to remedy them must evolve, too. As an awardable company on the Tradewinds Marketplace fulfilling multi-year contracts for customers like AFRL, Avathon is leading the way with AI-enabled tools that enhance mission readiness.

Avathon DMA presents a cutting-edge and commercially proven prescriptive maintenance tool to solve the pressing issues posed by aging assets and the complexities of managing less-experienced personnel. By streamlining workflows and eliminating inefficiencies in current processes in the DoD's sustainment enterprise, DMA reduces the amount of time maintainers spend hunting down tools, publications, and subject matter experts as it feeds well-structured diagnostic data back to the system to capture knowledge and help AI models provide better insights over time. These are the virtuous cycle outcomes that increase asset availability and workforce retention rates, improve speed and efficacy, and enable force readiness in a critical time for our military.

ABOUT AVATHON

Avathon, a leader in Industrial AI, extends the life of critical infrastructure while advancing the journey toward full autonomy. Avathon's Industrial AI platform empowers commercial and government customers with scalable, secure, and value-driven solutions that enhance efficiency and resilience across heavy industry.

To learn how Avathon enables mission readiness, visit **avathongov.com**.