ANALATOM
Structural Health Monitoring Solutions

Analatom's THREAD platform reimagines maintenance inspection by replacing fragmented, paper-based documentation with a centralized, intelligent system for digital lifecycle traceability. Built on proven components from Analatom's AIDL platform, THREAD (Figure 1) ingests inspection records in any format, including handwritten notes, scanned PDFs, and spreadsheets, and transforms them into structured, searchable data linked to individual parts and assemblies. The platform creates a dynamic graph-based digital twin of each serialized component, allowing maintainers to track inspections, repairs, and part histories across the entire lifecycle. This digital infrastructure enables real-time querying, technician accountability, and predictive analytics, giving sustainment teams unprecedented visibility into fleet health and readiness.

THREAD combines multimodal document ingestion with embedded AI agents to detect trends, flag anomalies, and automate reporting without requiring manual data aggregation. Inspection data is no longer static but becomes a living resource for decision support. Coordinators and program leads can visualize KPIs, monitor technician workload, and identify the source of recurring defects, all through a secure, cloud-native dashboard that supports tablet-based entry and multi-user access. Due to THREAD's design, it is able to digitalize even legacy documentation and turn years of data into actionable insights. Its modular architecture ensures scalability, cybersecurity compliance, and ease of deployment across both military and commercial environments.

THREAD is equally relevant for non-defense sectors where repeatable inspections and lifecycle oversight are critical, including aerospace, energy, and petrochemical. Unlike traditional CMMS tools, THREAD is not just a database; it is an intelligent platform that integrates inspection data, lifecycle modeling, and automatic operational insight into a unified ecosystem. With active collaborations through the ARM Institute, AWS, and commercial partners like Foxconn, THREAD is well-positioned to scale as a next-generation solution for digital inspection management, compliance assurance, and predictive maintenance across high-reliability industries.

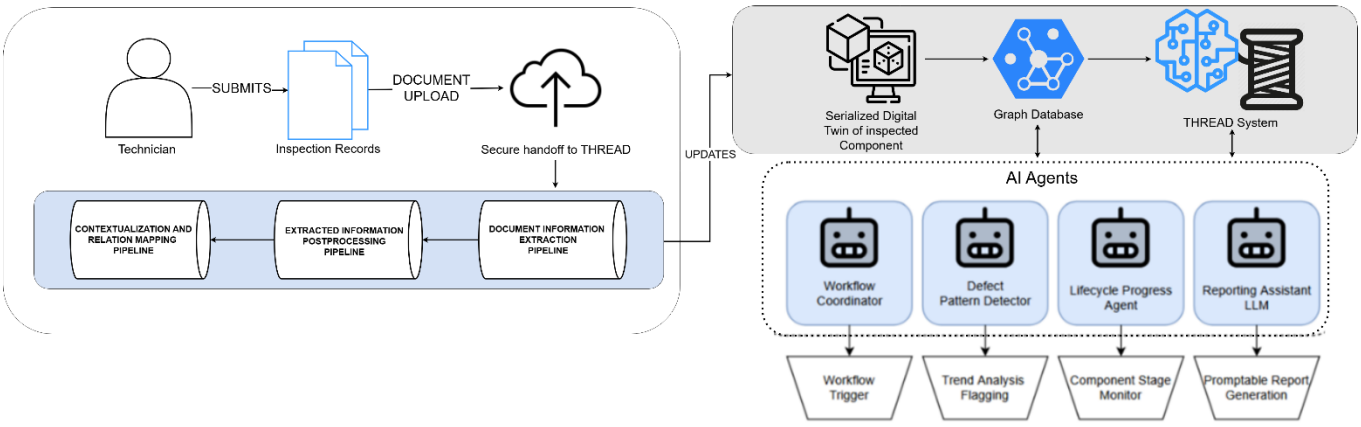

Figure 1: Full THREAD workflow includes specialized pipelines for format-agnostic inspection ingestion before extracting necessary information and continuously updating the associated asset digital thread.

Contact Analatom Incorporated: info@analatom.com, www.analatom.com