

TAMMS: Tactical Ammunition Management Microservices System

Summary:

- TAMMS is an Agentic AI and human-collaborative tactical ammunition operations capability, enabling situational awareness and speed of decision.
- TAMMS is a knowledge-level COP, a logistics system, and a distributed edge decision support tool all wrapped up in one cohesive and intuitive tool suite, leveraging AI to plan and manage details and reduce cognitive load.
- Representing a new approach to Sustainment Mission Command, TAMMS addresses the spectrum of tactical ammunition management from projection to planning to real-time execution management in a highly automated, human-collaborative, distributed solution.

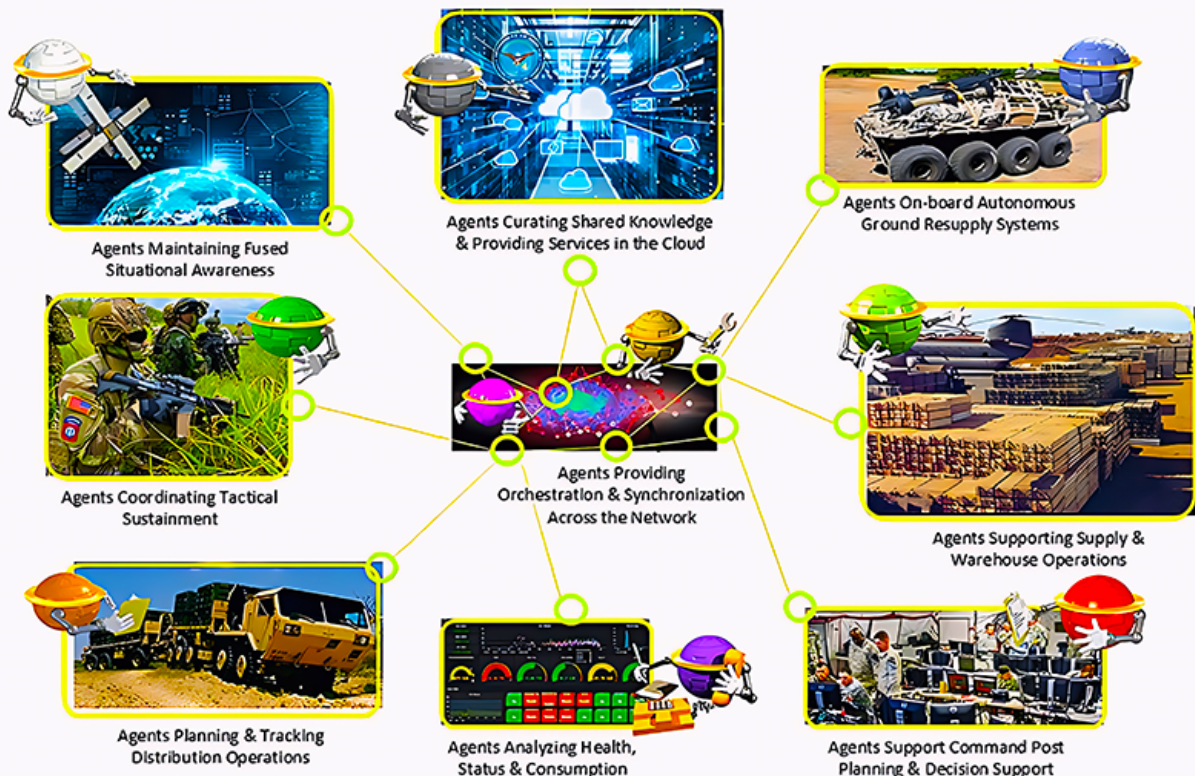


Objective:

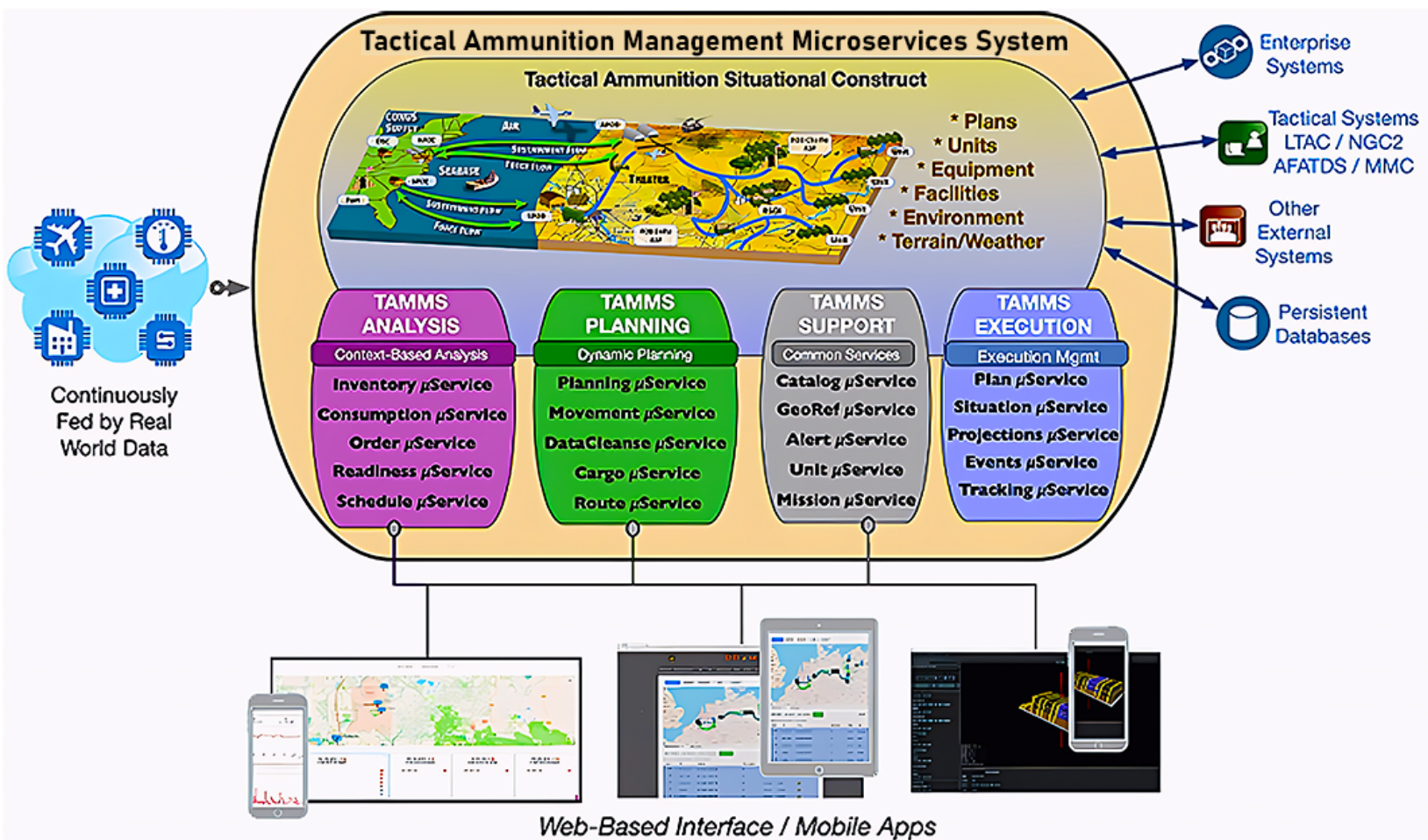
TAMMS-STACKS allows Human-AI teams to conduct planning, analysis, assessment and execution management of ammunition sustainment operations in a distributed and collaborative manner. Using Agentic AI, these automated high-fidelity operations include inventory management, order management, supply point operations, load planning, distribution operations, and orchestration of handoffs at the seams of those functions.

Benefits:

- Improved visibility of the tactical ammunition supply chain.
- Visualization of general ammunition readiness and mission specific readiness.
- More accurate capture and transmission of consumption and inventory off the platform.
- Dynamic context aware ammunition consumption projection and estimates.
- Automated ammunition order recommendation / order tracking.
- Optimized ammunition inventory management, to include intelligent pull and put-away.
- Distribution planning and tracking with delay notification and spatial packing optimization



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Technologies:

TAMMS incorporates Agentic AI, hybrid knowledge graphs, Large Language Models (LLMs), and a variety of GOFAI (Good Old Fashioned AI), (e.g. algorithms, graph theory, game theory/utility theory, Ops Research (OR)). The Agentic approach allows TAMMS to break complex problems apart, task the right agent using the right technique to solve each part and incorporate the partial solutions to achieve a timely and complete solution. The hybrid knowledge graph combines data, objects, temporal/spatial reasoning, state estimation, digital twin models, and semantics to attain a knowledge-level representation of the tactical logistics situation. The result is that both the human and the AI can understand the situation and can work collaboratively to assess, plan, and manage execution of high-fidelity ammunition logistics management operations in complex, dynamic environments.

Status:

Development for the TAMMS-STACKS application is in Year 3 under a US Army Other Transaction Agreement (OTA) through the National Advanced Mobility Consortium (NAMC).

POCs:

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