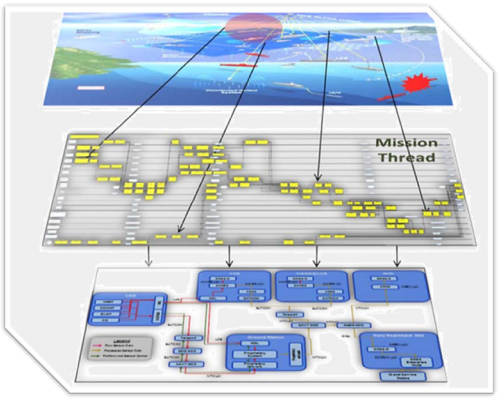


PROVING MISSION EFFECTIVENESS EARLY: MISSION ENGINEERING, OPERATIONAL ANALYSIS AND EXPERIMENTATION

MISSION ENGINEERING



Mission Engineering, Operational Analysis and Experimentation produces data-driven and evidence-based recommendations before major investment decisions are made. Advantages to the DoW:

- Low cost with reusable, highly complex current and future constructive and virtual experimentation
- Digitally engineered a synthetic operating environment with force on force scenarios
- Rapid, iterative, scalable, and repeatable testing and experimentation
- Reduces technical and operational risk before live experimentation or testing
- Exhaustive data collection, enabling complete analysis and repeatability for validation

From evolving threats to rapid modernization demands, Army Aviation faces new and costlier operational challenges every day. Which is why understanding critical outcomes before investing in expensive live experimentation is at the heart of Aether's Mission Engineering, Operational Analysis and Experimentation capability.

Our capability's advantage to our Army customers is found in productive decisions, purposeful modernization, and accelerated operational integration at a fraction of the cost. The results is leaders making confident choices across contested, complex operating areas–and to the ultimate benefit of the Warfighter.

AETHER aerospace

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Proving Mission Effectiveness Early

Aether drives customer outcomes toward confident decisions on the critical modernization of technically complex capabilities by the synergistic application of:

Mission Engineering

Mission Engineering real-world mission problems into traceable options and use cases. In this phase, our team translates operational problems into structured, testable mission options.

Resulting output: Mission-informed problem definition, scenarios, architectures, and measurable evaluation criteria.

Experimentation

Focused rapid experimentation in live environment produces soldier-validated evidence, thereby reducing risk and refining requirements to enable accelerated deployment. During experimentation, we test concepts quickly and refine requirements before development production decisions are finalized.

Resulting output: Validated findings that sharpen requirements and guide next-steps toward Acquisition.

Operational Analysis

Operations Analysis includes modeling and simulation to stress-check new concepts in high-fidelity synthetic environments before investment decisions. Through analysis, we quantify effectiveness, risk, and trade offs using modeling, simulation, and analytics.

Resulting output: Decision-ready evidence on performance, risk, cost, and operational value.

We apply an optimal mission engineering workflow that combine suites of modeling tools, such as MACE and AFSIM, with an analytical environment and disciplined experimentation for productive decisions, purposeful modernization, and accelerated operational integration.

We are recognized as a proven partner with DoW innovators and major primes.

References available on request.

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