Redstone Test Center

Hardware-in-the-Loop Testing

RTC has a suite of Hardware-in-the Loop facilities that include three operational facilities that provide performance assessment and production acceptance testing of millimeter wave, IR and SAL missile seekers and all-up rounds. These facilities are supported by subject matter expertise in combining T&E with M&S to support simulation based acquisition. The HWILs include: The Longbow Simulation Test and Acceptance Facility that is used to provide non destructive test of all-up-round Longbow missiles for production and stockpile reliability; the Electro-Optical System Flight Evaluation Lab which is used to test seekers, control sections, command launch units and other components (adaptable to test semi-active laser seekers); and the Advanced Multispectral Simulation, Test and Acceptance Resource which provides a performance test bay for tri-mode seekers that utilize any combination of mid-wave IR, SAL and KA band millimeter wave seeker technologies. HWIL capabilities also include ad-hoc and component test capabilities such as FLIR HWIL and dynamic fin loading.

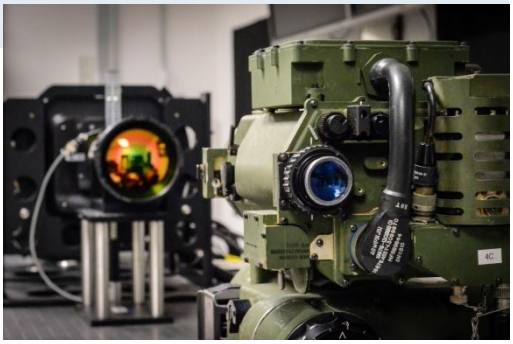
Core Competencies

EOSFEL
- Component- and system-level testing
- Can include climatic effects.
- Repetitive testing across entire system performance envelope.
- Cost-effective characterization of tactical hardware and software at all stages of the acquisition cycle.

STAF
- Can immerse the Longbow missile in a virtual world.
- Real-time millimeter wave (MMW) scene generation and projection system.
- Acutronics 3-axis flight table to simulate roll, pitch, and yaw of the round.
- A specialized test interface is used to inject capabilities that are not simulated such as accelerations and fin responses.

Capability Highlight

EOSFEL quickly developed an entire closed-loop simulation for the TOW AN/TAS night sight allowing a private industry customer a validation tool prior to LFT&E.



	EOSFEL	STAF
Year Opened	1997	1997
Current Missiles per Year	22	350
Total Missiles Tested	230	2800
Simulated Flight Tests	46,000+	11,200+