SYSTEMS ENGINEERING RESEARCH CENTER | AIRC ACQUISITION INNOVATION RESEARCH CENTER | SERC RESEARCH REVIEW 2026

Spectrum Advanced Training Technology Laboratory (SATTL)

An overview of SATTL testing, verification, and MOSA/SOSA architecture resources available to Principal Investigators across the SERC enterprise

SERC Annual Research Review

National Security Institute @ Old Dominion University

ODU is a SERC UARC affiliated university | www.sattl.org

Cleared for public release

WHAT IS SATTL?

Operating under the National Security Institute at Old Dominion University, SATTL advances DoD Electromagnetic Spectrum Operations (EMSO)

- Spectrum Modernization: dynamic spectrum sharing and electronic warfare evaluation for DoD training ranges and systems.
- Bridge to Operations: transitions academic and SERC research prototypes into validated warfighter systems.
- Multidisciplinary Hub: unites ODU engineers, military SMEs, and industry partners under one roof.
- Proven Maturity: over two years, SATTL grew from a proposed concept into an operating facility supporting AMBIT prototypes at Camp Shelby.



SATTL CORE INFRASTRUCTURE

EMSO Makerspace

Rapid prototyping environment for hardware- and software-in-the-loop integration and EMSO concept validation, with range-representative RF environments (emitter, receiver, ambient) for small and mid-sized developers.

IV&V Facility

Scalable, agile test activities delivering rapid, risk-based evaluation for software and hardware. Accomplished with world class testers using state of the art system Integra ion labs and on-site data collection.

Data/Software Repository

Secure storage, distribution, minor code updates, and lifecycle management for EMSO software, including post-production configuration control and formal software releases.

Live-Virtual DoD Environment

Immersive virtual construct replicating real-world joint training environments, interoperable with DoD LVC training architectures.

Secure IT & CUI Compliance: CUI-compliant network and Microsoft 365 GCC High cloud under ISSM oversight, aligned with CMMC and NIST SP 800-171

RESEARCH TO WARFIGHTER DEPLOYMENT

STAGE 01

SERC Research

Algorithmic and theoretical spectrum models developed by Principal Investigators.

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STAGE 02

SATTL Makerspace

Rapid prototyping and MOSA standard compliance alignment.

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STAGE 03

IV&V Evaluation

Live-virtual evaluation and rapid risk reporting.

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STAGE 04

DoD Transition

Integration into live training ranges and field programs.

TRL 3 → 7

SATTL provides the testing rigor and field validation needed to advance academic research prototypes into operational defense assets.

CONNECT & COLLABORATE

Explore facility access, include SATTL testing in upcoming proposal budgets, or schedule a technical briefing with the engineering team.

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