

L3HARRIS AUSTRALIA BATTLELAB

INTEGRATING, DEMONSTRATING, ASSURING AND CONTINUOUSLY EVOLVING RESILIENT TACTICAL COMMUNICATIONS CAPABILITY BEFORE IT REACHES THE WARFIGHTER.

The BattleLab provides Defence and Australian industry with a sovereign environment for rapid experimentation, integration, assurance and capability evolution. It reduces capability risk, accelerates technology insertion and builds confidence that communications systems will perform as intended in operational and contested environments.

The BattleLab enables Defence and industry partners to assess performance, interoperability and operational effectiveness across realistic scenarios before systems are deployed. By replicating operational architectures and mission threads, the BattleLab helps build confidence that capabilities will perform when required most.

SOVEREIGN BY DESIGN

The BattleLab is a sovereign Australian capability that supports Defence, industry and coalition interoperability activities while strengthening Australian, New Zealand and regional military allies systems integration, network engineering, test and evaluation, assurance and sustainment expertise.

Key Characteristics:

- > Sovereign Australian environment
- > Multi-vendor by design
- > Tactical Communications Network (TCN) integration capability
- > High-Assurance Communications Equipment (HACE) and non-HACE bearer support
- > Battle Management System (BMS) and network application agnostic
- > Continuous software, waveform and application modernisation
- > Interfaces to external network-environments
- > Support for third-party and coalition technologies
- > Rapidly reconfigurable architectures for evolving use cases and operational requirements

TRUSTED IN CONTESTED ENVIRONMENTS

Modern military operations require communications systems that continue to perform when networks are degraded, denied, disrupted or under cyber and electronic attack.

Available today, the BattleLab provides a representative environment in which Defence and industry can assess interoperability, resilience, mission performance and operational effectiveness before deployment. Through experimentation, simulation and assurance activities, capabilities can be validated with confidence before reaching the warfighter.



WHY BATTLELAB

Operational success depends on communication systems that are trusted, interoperable and resilient under real-world conditions.

The L3HCA BattleLab provides Defence and industry with a sovereign Australian environment to:

- > Reduce integration and deployment risk before a capability is fielded
- > Validate performance under contested and degraded operational conditions
- > Accelerate the introduction of new technologies, applications and waveforms
- > Demonstrate mission outcomes using representative tactical communications architectures
- > Enable collaboration across Defence, industry and innovation partners
- > Increase confidence that capabilities will perform as expected when employed by the warfighter
- > Provide real-time battlefield triage of L3Harris waveforms and software



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BATTLELAB CAPABILITIES

Network Simulation and Operational Validation

The BattleLab delivers a high-fidelity network simulation environment capable of supporting representative tactical communications architectures and mission-thread assessments. Key capabilities include:

- > Network simulation support for up to 140 tactical radios
- > RF matrix infrastructure providing realistic RF operating conditions
- > Virtualised application hosting environments
- > Rapid scenario configuration and deployment
- > Scenario recording and replay capability
- > Integration of external RF systems and equipment
- > Operational experimentation and mission-thread demonstration activities

C4i Integration and Development

The BattleLab enables rapid development and validation of C4I architectures prior to fielding including:

- > C4I node design and development
- > Integration of radios, applications, computing and display devices
- > Networking and intercom system integration
- > Pre-platform validation and assurance
- > Reduction of installation and rework risk
- > End-to-end systems integration activities

Radio and Waveform Assurance

The BattleLab provides a controlled environment for detailed technical investigation and assurance activities, including:

- > Radio troubleshooting
- > Firmware validation
- > Waveform testing
- > Multi-vendor interoperability assessment
- > Configuration assurance
- > Release verification prior to operational deployment

FOR DEFENCE AND INDUSTRY

Available today, the BattleLab brings together Defence, industry and innovation partners in a representative tactical communications environment for experimentation, integration, assurance and capability evolution.

By reducing risk, validating performance and accelerating technology insertion, the BattleLab helps ensure capabilities reach the warfighter faster, with greater confidence and operational trust.



HOW THE BATTLELAB IS USED

Test and Evaluation: Validate performance, resilience, interoperability and network changes before fielding.

Customer Demonstration: Demonstrate customer-specific capabilities and configurations in a representative environment.

Mission-Thread Demonstration: Demonstrate end-to-end mission outcomes across the tactical communications network.

Experimentation: Assess emerging technologies, applications, waveforms and operational concepts.

Interoperability: Integrate and validate Defence, coalition and industry capabilities in a multi-vendor environment.

Fault Replication and Assurance: Replicate faults, identify root causes and verify fixes before operational release.

Technology Insertion: Provide a pathway for industry and SMEs to integrate and demonstrate new capabilities.

Training: Deliver operator, engineering and technical training in realistic network scenarios.



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L3HCA BattleLab Fact Sheet

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