



LCS Joint Operational Planning Exercise/Workshop

Contested Logistics in Challenging Operations



27-28 August 2025



AFRL
AIR FORCE RESEARCH LABORATORY



The Lab Commanders Sync (LCS) will host a critical event on "Contested Logistics in Challenging Operations," August 27-28, 2025, to be held at the Army's R2C2 Center in Middle River, Maryland. This event will unite key stakeholders from industry, academia, and government to address pressing challenges of maintaining operational effectiveness in increasingly complex environments, while validating the state of research and advances in technology.

LCS Overview

LCS is a quarterly effort to bring together Commanders and Executive Directors from US Army Combat Capabilities and Development Command (DEVCOM), Air Force Research Lab (AFRL), Office of Naval Research (ONR) and US Coast Guard Research and Development Center (USCG RDC). This effort is designed to identify strategic partnering opportunities across all organizations by leveraging collective expertise and resources across DoD, enabling sharing of knowledge and/or lessons learned, identifying overlapping areas of R&D to eliminate redundancies and foster joint initiatives.

The Need for a Unified Approach

In today's dynamic security landscape, contested logistics are paramount to mission success across all branches of the Armed Forces. This LCS Joint Operational Planning Exercise/ Workshop, leveraging elements of the National Security Research Enterprise, will focus on:

- **Optimizing Resource Utilization:** Analyzing and minimizing resource consumption, maximizing reuse and repurposing are crucial for all Armed Services, while exploring research areas to enhance this capability and Warfighting.
- **Enhancing Research in Contested Environments:** Developing strategies to mitigate supply chain disruptions, ensuring operational independence, and leveraging emerging technologies is vital to overcome adversarial attempts to disrupt logistical operations. By sharing joint knowledge, coordinating research efforts, and leveraging the unique strengths of each service, the LCS aims to accelerate research areas, enhance interoperability, and maximize return on investment in critical technologies.
- **Science, Research and Technology Development:** Collaboration in developing supply chains and advanced technologies, such as autonomous systems, will benefit all branches.
- **Strategic Operational Exercise Planning:** Understanding the logistical implications of different operational scenarios is crucial for informed decision-making, while identifying promising research to enhance the effort.
- **Futureproofing:** Anticipating and preparing for future operational challenges is vital for maintaining a competitive edge in a rapidly changing world, ensuring that the services remain effective, and efficient, in the face of emerging challenges and threats. This will leverage strategic foresight considerations.



Conceptual Approach

Team Objectives

The collective LCS senior leadership recognize the critical importance of addressing contested logistics in their respective operations. Ensuring a research agenda, technology road map and similar products are created, is critical to the outcome of this event.

To accomplish these goals, the exercise/workshop will be comprised of three teams looking 5 to 10 years out. Each team will have a leader, facilitator, scribe and participants. One LCS Executive Director will serve as a senior mentor, per team. (Note: The team leader and mentor will be from a different service).

Team 1 | Defining the Role of the Labs in Advancing Response to Contested Logistics Issues

Research Question: *What specific role does/should the Labs play in addressing responses to contested logistics scenarios, and how can it leverage different perspectives to inform and enhance its research agenda? How shall contested logistics research be effectively integrated with requirements development to ensure that the collective services operational requirements are met?*

A comprehensive examination of existing contested logistics initiatives across all services, coupled with the identification of emerging technologies from private sector partners, is necessary to address this question.

Team 2 | Ensuring Focused Research Efforts – both Joint and Service Specific

Research Question: *How might each service individually, and jointly, enhance operational support, through dedicated research efforts, in contested logistics environments?*

Areas to potentially explore via dedicated research efforts and known requirements:

- **U.S. Army:** Distributed Logistics, Predictive Maintenance, Local Sourcing, 3D Printing
- **U.S. Navy:** Sea Basing, Underwater Logistics, Advanced Shipboard Manufacturing
- **Air Force:** Resilient Airlift, Agile Basing, Space-Based Logistics

- **U.S. Coast Guard:** Multi-Mission Platforms, Unmanned Systems Integration, Partnerships with Commercial Entities
- **Joint Force Considerations:** Interoperable Systems, Joint Training & Exercises, Cybersecurity

Team 3 | Identifying Opportunities for Collaborative Research and Partnership

Research Question: *What existing research initiatives, projects, or active programs by external organizations could be leveraged for collaboration? What types of Memoranda of Understanding (MOUs) or partnership agreements could facilitate these collaborations?*

Each member of the LCS has on-going research within in components of contested logistics, as do the nation's War Colleges, the Naval Postgraduate School and Service Academies. Each LCS member also works with think tanks, academia, other government agencies (i.e., DHS), and private sector entities. LCS member will bring these internal and external partners to the table for consideration.

Conclusion

This LCS Joint Operational Planning Exercise/Workshop is important in addressing the increasingly complex challenges of contested logistics in today's rapidly evolving threat environment. We will identify pathways for collaboration, including joint research projects, technology transfer, and utilization of DoD resources like DIU and AFWERX to accelerate the adoption of private sector solutions. By fostering a collaborative environment and prioritizing a unified joint force approach, the LCS leadership seeks to ensure the US Armed Forces maintains its strategic advantage. The insights and actionable recommendations generated during this event will inform future research priorities and guide the development of collaborative solutions in support of mission readiness and safeguarding national security.

This workshop will result in two deliverables for the DoD Lab Commanders:

- **Quick Look Report:** A concise two-page summary highlighting preliminary findings and key takeaways delivered within 30 days of the event.
- **Comprehensive Final Report:** A detailed report, not to exceed ten pages, will be delivered within 90 days of the event's conclusion. This report will provide a more in-depth analysis of the exercise/workshop, including a high-level technology roadmap and recommendations.