



U.S. ARMY

THE IMPORTANCE OF SENSING AND COUNTER- SENSING:

In the future operating environment, the ability to sense and deny sensing will determine who prevails.

The Army must enable decision advantage for our Soldiers, Joint and coalition partners.



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OPERATIONAL CONTEXT

The Future Operating Environment will be shaped by:

- DDIL Conditions: Denied, degraded, intermittent, and limited communications.
- Threat Counter-Sensing: Adversaries will target friendly sensors and networks.
- Deception Across Domains: Use of masking, false narratives, and deception tactics.
- Massive Data Volume: Uncertain and variable data validity.
- Advances in AI and Autonomy: Faster decisions and autonomous sensors.
- Compressed Decision Timelines: Machine-speed decision-making required.
- Distributed Operations: Forces operating over vast distances.
- Increased Battlefield Depth: Intelligence must penetrate deeper into adversary areas.

Problem set: How do sensing capabilities enable Army, Joint, and multinational forces to:

- Deter adversaries in competition?
- Defeat adversaries in conflict?

SENSING ACROSS WARFIGHTING SYSTEMS

Collect and Ingest Data:

- Deploy AI-enabled, resilient, adaptive, autonomous, sensor networks.
- Utilize sensors hosted on non-intelligence platforms.
- Use AI tools to ingest relevant data from partners and open sources.

Manage, Analyze, and Share Information:

- Operate distributed, adaptive, and flexible analysis nodes for on-the-move analysis.
- Leverage AI tools for operational environment visualization and predictive analysis.

Enable Targeting and Decision-Making:

- Model threat warfighting systems to identify vulnerabilities.
- Provide support for Command and Control (C2), counter-C2 and counter-sensing.
- Multi-domain targeting, sustainment, and protection.
- Inform friendly and disrupt adversary machine-enabled decision-making.

Enable Force Protection:

- Ensure our forces to remain unseen through a cooperative mix of protection capabilities.
- Expand maneuver through diverse sensors and signals.



OPPORTUNITIES FOR INDUSTRY PARTNERSHIP

- AI-Enabled Sensors: Autonomous sensors processing data at the edge.
- Quantum Sensing: Precision detection in denied environments.
- Resilient Networks: Self-healing networks for DDIL conditions.
- Electromagnetic Warfare Tools: Systems to locate and disrupt adversary sensors.
- Attributable Platforms: Low-cost, reusable platforms for high-risk missions.
- Advanced Analysis Tools: AI tools for operational visualization and predictive analysis.