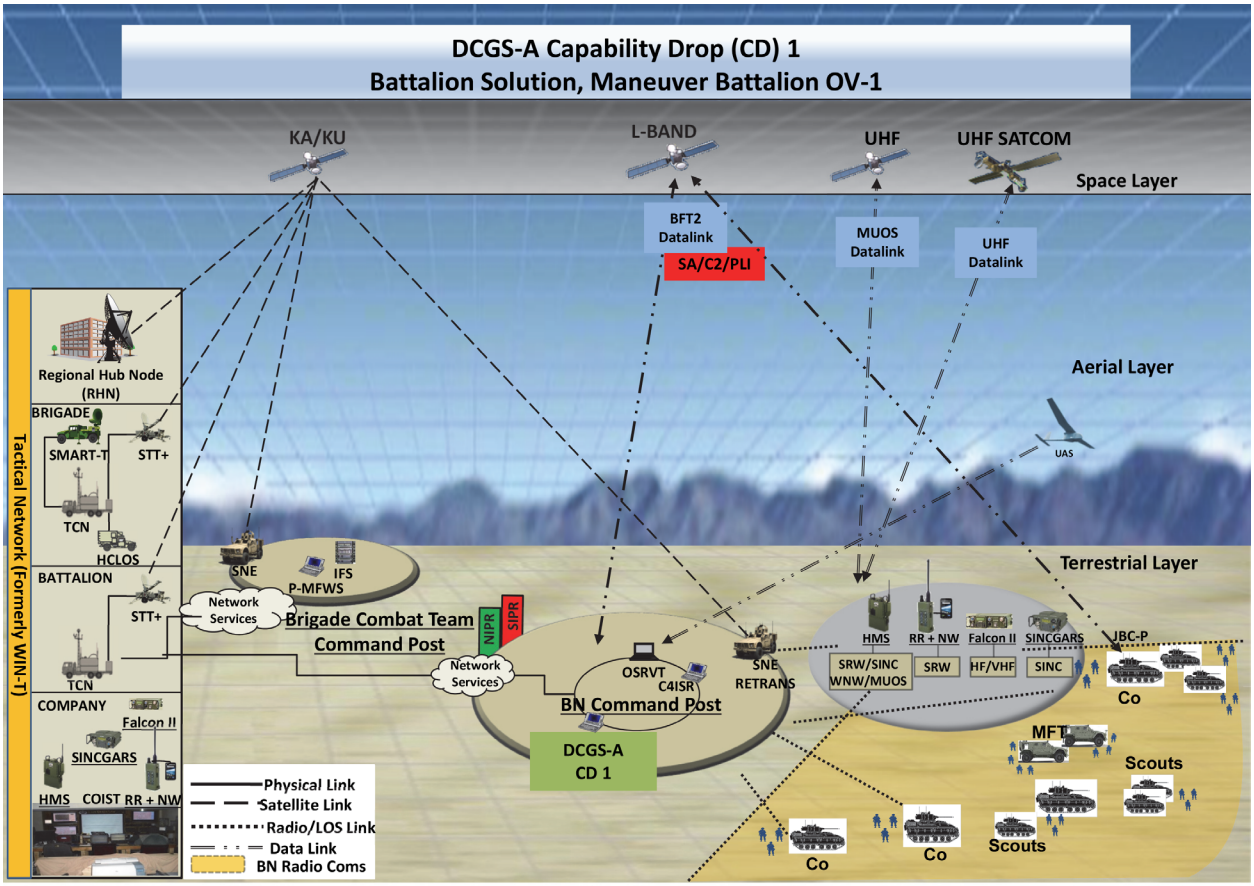
Distributed Common Ground System – Army (DCGS-A)



AFATDS - Advanced Field Artillery Tactical Data System
BFT - Battle Field Tracking
BN - Battalion
C2 - Command and Control
C4ISR - Command, Control, Communications, Computers, and Intelligence, Surveillance, Reconnaissance
CoIST - Company Intelligence Support Team
CPCE - Command Post Computing Environment
CPOF - Command Post of Future
DCGS-A - Distributed Common Ground System - Army
HCLOS - High Capacity Line of Sight
HF - High Frequency
HMS - Handheld, Manpack and Small Form Fit Radio
IFS - Intel Fusion Server
JBC-P - Joint Battle Command – Platform
MFT - Multi Functional Team
MUOS - Mobile User Objective System
NW - Nett Warrior
OSRVT - One System Remote Video Terminal
P-MFWS - Portable Multi-Function Work Station
PLI - Position Location Information
RR - Rifleman Radio
SA - Situational Awareness
SATCOM - Satellite Communications
SINC - Single Channel
SINCGARS - Single Channel Ground and Airborne Radio System
SMART-T - Secure Mobile Anti-Jam Reliable Tactical Terminal
SNE - Soldier Network Extension
SRW - Soldier Radio Waveform
STT - Satellite Transportable Terminal
TCN - Tactical Communication Node
UAS - Unmanned Aircraft System
UHF - Ultra High Frequency
VHF - Very High Frequency
WNW - Wideband Networking Waveform

Executive Summary

- The Army Test and Evaluation Command (ATEC) conducted a Limited User Test (LUT) on the Distributed Common Ground System – Army (DCGS-A) Capability Drop 1 (CD1) in 2018, involving two CD1 vendors.
- The Army down-selected to one CD1 vendor based on the results of the LUT, addressed problems discovered during the LUT, and began fielding CD1.
- The Program Office integrated the test and evaluation community early and effectively to integrate contractor, developmental, and operational testing to support rapid acquisition and fielding of CD1.
- DOT&E and the Army are planning for CD2 testing to support the acquisition strategy leading to Initial Operational Capability within 18 months after contract award.

System

- DCGS-A is the Army component of the DOD DCGS family of systems, providing multi-Service integration of intelligence,

surveillance, reconnaissance (ISR), and targeting capabilities. The Army is improving on the DCGS-A Increment 1 with a series of CDs to comply with the National Defense Authorization Act of 2017, sections 113 and 220.
- DCGS-A CD1 replaces the DCGS-A Increment 1 at Army battalions.
- DCGS-A CD1 interoperates with the legacy DCGS-A systems at Army brigades to Echelons above Corps.

Mission
- Army commanders and intelligence staffs use DCGS-A to fuse intelligence information and produce enemy situational awareness products.
- Battalion intelligence analysts use CD1 to perform receipt and processing of select ISR sensor data, intelligence synchronization, ISR planning, reconnaissance and surveillance integration, fusion of sensor information, and direction and distribution of relevant threat, non-aligned, friendly, and environmental (weather and geospatial) information.

Major Contractors
- Palantir Technologies, Inc. – Palo Alto, California
- Raytheon Intelligence and Information Systems – Garland, Texas

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Activity
- ATEC conducted the LUT phase 1 to collect quantitative data to characterize performance from two competing vendors in August 2018.
- The Program Office conducted a risk reduction event after the LUT phase 1 to collect performance data in October 2018.
- ATEC conducted the LUT phase 2 in conjunction with the Army Network Integration Evaluation at Fort Bliss, Texas, October through November 2018, to observe operational utility of the two candidate systems with operational units.
- DOT&E provided an Emerging Results Brief to the Army on March 8, 2019, presenting the DOT&E evaluation of two candidate solutions and identifying performance challenges for each.
- The Army and DOT&E agreed that the LUT results were adequate for a contract award decision, a fielding decision for CD1, and that the Army will demonstrate the fixes to CD1 shortfalls discovered during the LUT with an operational unit.
- The Army invited DOT&E to witness an operational unit using the CD1 solution at Fort Bragg, North Carolina, on June 18, 2019, during a field exercise. Due to network instability during the planned event, the Army deferred the demonstration to a later date with another unit. The Army continues to look for a suitable unit to demonstrate the CD1 improvements.
- DOT&E and the Army are working together to plan for the CD2 test and evaluation.

Assessment
- Army battalions can use CD1 to produce intelligence products.
- The users rated the CD1 to be user friendly and useful. However, the unit lacked mature tactics, techniques, and procedures (TTPs) to effectively integrate CD1 capabilities to their mission.
- Collective training was not long enough for the test units to develop standard operating procedures. Adequate collective training may have mitigated the immaturity of the TTPs.
- The Army mitigated all of the winning vendor's CD1 cybersecurity vulnerabilities identified during the LUT.
- The ATEC data collection, reduction, and analysis during the LUT phase 1 were not adequate to characterize the performance for the two competing candidate systems. However, the other test events provided satisfactory mitigation for an adequate evaluation to inform contract award and deployment decisions.

Recommendation
1. The Army should complete the demonstration of fixes, including mature TTP and collective training, for CD1.