

Integrated Tactical Network (ITN)

The Army needs to overcome several challenges to demonstrate the operational effectiveness, suitability, and survivability of the Integrated Tactical Network (ITN). The Army should continue to develop and rapidly prototype the ITN to address problems identified in testing and conduct a Brigade-level exercise, in a contested environment, with a unit fully trained and equipped with the full complement of Capability Set (CS) 21 ITN equipment.



System Description

The ITN is an effort to rapidly prototype and field equipment to modernize Army tactical communications. The ITN is an integration effort that combines program of record (traditional acquisition) and commercial off-the-shelf systems to create network connections that add layers of data and voice capabilities to a Brigade. The ITN will field in four, two-year capability sets, starting with CS21. The Army plans for the ITN to change and evolve as new capabilities become available for future capability sets.

Program

The ITN is a Middle Tier of Acquisition program in the rapid prototyping and fielding phases. Starting in FY22, Product Line Capability Set Development will be the office of primary responsibility to integrate the systems identified by the Army's Network-Cross Functional Team into the ITN. The Army drafted a T&E strategy for CS21 in 2019, but did not submit it to DOT&E for approval. The ITN CS23 had a preliminary design review in April 2021 and plans to have a critical design review in 3QFY22. The T&E strategy for CS23 is in draft.

Major Contractors

- 4K Solutions: MBK – Midland, Georgia.
- GATR: T2C2 – Huntsville, Alabama.
- General Dynamics Mission Systems: TACDS – Fairfax, Virginia.
- Hoverfly Technologies Company: VHA – Orlando, Florida.
- Lockheed Martin: VHA – Bethesda, Maryland.
- FLIR Systems: VHA – Wilsonville, Oregon.
- KLAS Telecom: TRIK – Herndon, Virginia.

- Pacstar: Baseband Terminals – Portland, Oregon.
- PAR Government: WINTAK and ATAK software – Raleigh, North Carolina (U.S. Government-owned software).
- Samsung: EUD (Galaxy S7) – San Jose, California.
- Sierra Nevada Corporation Integrated Mission Systems: TRAX – Hagerstown, Maryland.
- Silvus: Streamcaster 4400, Streamcaster 4200 – Los Angeles, California.
- Tampa Microwave: Scout Terminals – Tampa, Florida.
- Trellisware: TW-950, TW-875 – San Diego, California.
- Verizon: Cellular plan for MBK – New York, New York.
- L3Harris Technologies: SFF 9820S – Melbourne, Florida.
- Thales Group: AN/PRC-170 – Clarksburg, Maryland.
- ViaSat: AN/PRC-161 – Carlsbad, California.

The Army is developing a T&E strategy to address these limitations.

Performance

Effectiveness

The Army needs to overcome several challenges to demonstrate ITN operational effectiveness and suitability. Brigade leaders indicated that having multiple communication paths provided redundancy they had not had previously but the battalions could not extend the Tactical Scalable Mobile ad-hoc network to the companies and brigade. This highlights the complexity of the ITN, as the Tactical Scalable Mobile network is not intended to extend from battalion to brigade. The ITN-equipped unit was not able to maintain the ITN equipment due to their lack of training and experience. The training of the ITN equipment was interrupted by real-world deployments and COVID-19 restrictions.

Suitability

In accordance with the ITN Security Classification Guide, additional details are provided in the Controlled Unclassified Information edition of this report.

Survivability

The survivability of the ITN in a cyber- and electromagnetic spectrum-contested environment cannot be assessed until the development and execution of an adequate T&E strategy.

Recommendations

The Army should:

1. Conduct a fully-trained Brigade level exercise in a contested environment, equipped with the full complement of CS21 ITN equipment.
2. Study the manpower needed to operate and maintain the ITN equipment.
3. Continue to develop and rapidly prototype the ITN to address identified problems.
4. Develop a T&E strategy for CS23 ITN designed to enable an assessment of operational effectiveness, operational suitability, and survivability.

Test Adequacy

The Army intended to use a combination of test events to serve as the operational demonstration supporting rapid fielding. The CS21 T&E strategy planned for Soldier Touchpoint in January 2020 but real world events for the 1st Brigade/82nd Airborne Division (1/82) prevented the Army from conducting that event. The Army conducted a technical test in November 2020 and the Handheld, Manpack, and Small Form Fit IOT&E in January 2021. In March 2021, 1/82 conducted the Brigade Capstone event during a Joint Readiness Training Center rotation to demonstrate the CS21 ITN in an operationally realistic environment. The Capstone event did not have a DOT&E-approved test plan and did not provide adequate data to evaluate the use of the ITN at the Battalion or Brigade echelons. Several key pieces of equipment were not used in the Brigade exercise, precluding an assessment of their utility. The Army did not collect objective data during the Capstone to make up for the cancelled Soldier Touchpoint. Capstone data consisted of unit observations and surveys. The Army has not conducted an Adversarial Assessment or an assessment of the ITN in a contested electromagnetic spectrum environment.