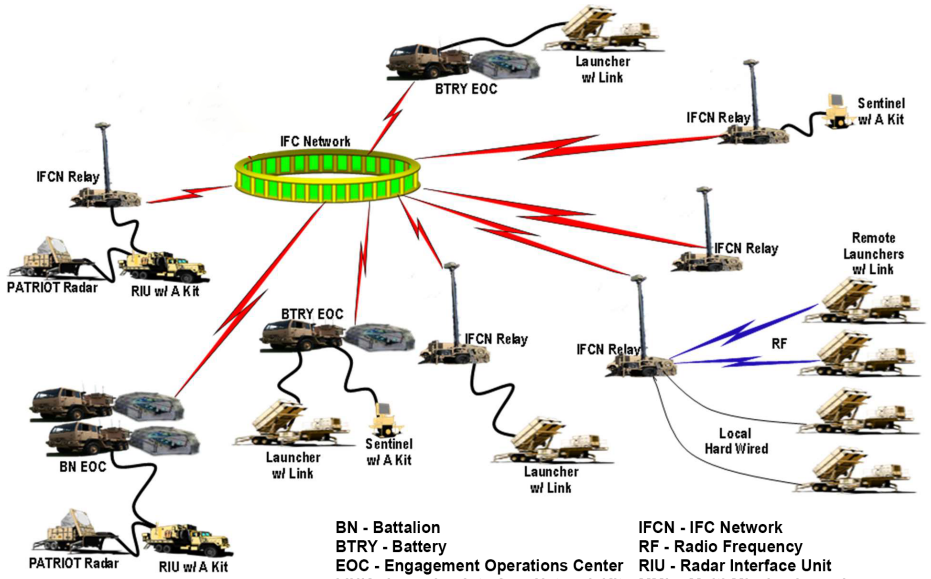
Army Integrated Air & Missile Defense (AIAMD)

Executive Summary
- The Army conducted a limited user test (LUT) from July to September 2020.
- DOT&E published a classified report to inform a Milestone C decision in November 2020.
- Preliminary indications show improved reliability and stability from the previous LUT conducted in 2016.

System
- The Army Integrated Air & Missile Defense (AIAMD) is a command and control system that integrates sensors, weapons, and a common mission command interface across an integrated fire control network (IFCN).
- The IAMD Battle Command System provides the common mission control capability, integrating Sentinel air surveillance radars, Patriot radars, and Patriot launchers for improved weapon employment.
- AIAMD includes the Engagement Operations Center (EOC), hardware interface kits, and IFCN Relays.
  - EOCs provide the operating environment for all levels of employment. They are equipped with workstations providing a Common Warfighter-Machine Interface for soldiers to monitor and direct sensor employment and engagement of air threats.
  - The IFCN is the primary communications infrastructure to provide fire control connectivity and distributed operations. Hardware interface kits connect adapted Patriot and Sentinel components to the IFCN.
  - The IFCN Relay provides a mobile communications node to extend IFCN connectivity to launchers, sensors, and other EOCs.



Mission
- Army commanders will use AIAMD to provide timely detection, identification, monitoring, and (if required) engagement of air threats in an assigned area of responsibility.
- AIAMD will deploy to provide active protection for the following:
  - Air defense of the homeland
  - Air defense of priority critical assets and locations
  - Air defense of forces

Major Contractors
- Northrop Grumman – Huntsville, Alabama
- Raytheon – Huntsville, Alabama, and Andover, Massachusetts
- Lockheed Martin – Dallas, Texas

Activity
- In July through September 2020, the Army executed LUT II at White Sands Missile Range, New Mexico, in accordance with a DOT&E-approved test plan. The LUT consisted of five phases:
  - Software and hardware-in-the-loop sustained operations against simulated threats
  - Sustained operations against live air targets
  - Two missile flight tests
  - March order and emplacement
  - Adversarial assessment
- Coronavirus (COVID-19) pandemic travel restrictions delayed the LUT by 2 months and prevented DOT&E from observing the test.
- The Army conducted a Milestone C decision in November 2020.
- DOT&E published a classified report in November 2020 to inform the Milestone C decision.

Assessment

- Preliminary analysis indicates the AIAMD system demonstrated better software stability and hardware reliability compared to the 2016 LUT.
- Deficiencies in the Flight Mission Simulator/Digital and Launcher on the Net tools, used to simulate Patriot radars and launchers, are causing problems which degrade the ability to adequately assess system effectiveness. The Army is working with the vendors to correct them prior to IOT&E.
- The Single Integrated Air Picture was inconsistent across the EOCs in some of the LUT events. Analysis is ongoing.

Recommendation

1. The Army should conduct an adequate verification, validation, and accreditation of all modeling and simulation planned for use in the IOT&E.