

Lower Tier Air and Missile Defense Sensor (LTAMDS)



In December 2024, the Army Test and Evaluation Command (ATEC) completed an operational assessment (OA) of Lower Tier Air and Missile Defense Sensor (LTAMDS) prototypes. In April 2025, the LTAMDS program achieved Milestone C and officially transitioned to the major capability acquisition pathway. DOT&E approved the TEMP in March 2025. In April 2025, DOT&E published a classified OA report. The Army plans to execute additional operational testing in FY26 during the Integrated Fires Test Campaign 26 (IFTC 26). After the completion of LTAMDS IFTC 26 testing, DOT&E will publish a classified early fielding report to inform the issuance of systems to Guam.

SYSTEM DESCRIPTION

LTAMDS is intended to be a multi-function, multi-mission C-band, three-faced, fixed active

electronically scanned array radar. It will provide simultaneous 360-degree coverage while dynamically adapting to the evolving threat environment. The radar will integrate with the Army's Integrated Air and Missile Defense

(IAMD) Battle Command System (IBCS), to share information and support a common view of the battlespace for the warfighter. The Army plans for LTAMDS to support the full capability of the Patriot Advanced Capability (PAC)-2 and

PAC-3 family of interceptors and address capability gaps.

MISSION

Combatant commanders intend to deploy LTAMDS as part of: (1) a surveillance package with no weapons to support joint IAMD capability and (2) an IBCS-enabled Patriot Engagement Package with at least two Patriot launching stations for point defense of deployed forces and critical assets from missile and aircraft attacks in all weather conditions.

PROGRAM

LTAMDS is an Acquisition Category IC program that exited the Middle Tier of Acquisition (MTA) rapid prototyping pathway in October 2023. During the MTA rapid prototyping phase, the Army built eight prototypes. The LTAMDS program achieved Milestone C and major capability acquisition program designation in April 2025. DOT&E approved the TEMP in March 2025.

The LTAMDS schedule has shifted to the right since DOT&E approved the TEMP in March 2025. The TEMP reflected a full-rate production (FRP) decision in 1QFY28, with IOT&E planned during IFTC 26, approximately one year prior to the FRP decision. The Army has since moved the FRP date almost one year later, to the end of 4QFY28.

The Army has stated that the purpose of LTAMDS IFTC 26 testing is to support an evaluation of two specially configured LTAMDS intended for urgent materiel release (UMR) and

limited initial fielding to Guam in FY27. That testing will not include cybersecurity or cyber/electronic warfare convergence testing, among other omissions. The documentation the Army provided indicates that the assets intended for testing during IFTC 26 are not representative of the LTAMDS low-rate initial production (LRIP) configuration. Therefore, after the completion of LTAMDS IFTC 26 testing, DOT&E intends to publish a classified early fielding report to inform the issuance of the two LTAMDS UMR prototypes to Guam.

» MAJOR CONTRACTOR

- Raytheon, a subsidiary of RTX – Andover, Massachusetts

TEST ADEQUACY

ATEC conducted an eight-phased OA from July to December 2024 with three LTAMDS prototypes. Testing was not conducted in accordance with the DOT&E-approved test plan due to system and range limitations discovered during the OA. ATEC coordinated the necessary changes to the test with DOT&E. DOT&E observed the test and published a classified OA report in April 2025.

During the OA, LTAMDS participated in a missile flight test and other live events to demonstrate its capability against surrogate short-range ballistic missiles and air-breathing threats and its survivability against electronic attack. The OA included LTAMDS emplacement, displacement, and maintenance demonstrations to evaluate LTAMDS suitability. The OA also included a cooperative vulnerability and penetration

assessment and an adversarial assessment to evaluate LTAMDS cyber survivability.

The OA yielded sufficient data to provide insight into LTAMDS effectiveness against air-breathing threats and into its suitability and survivability. Because DOT&E determined the modeling and simulation accreditation was not valid for the test, the OA did not provide insight into LTAMDS effectiveness against tactical ballistic missiles or survivability against anti-radiation missiles.

LTAMDS also participated in four developmental missile flight tests in FY25. These events demonstrated the system's capability in a non-operational setting and thus were not used for DOT&E's operational effectiveness assessment.

PERFORMANCE

» EFFECTIVENESS

DOT&E's April 2025 classified OA report provides an assessment of LTAMDS operational effectiveness against air-breathing threats. Insufficient data are available to assess LTAMDS operational effectiveness against tactical ballistic missiles at this time.

» SUITABILITY

LTAMDS is not currently suitable. During the OA, LTAMDS had low reliability and demonstrated unacceptably long emplacement and displacement times. LTAMDS also failed to meet some natural environmental qualifications and transportability requirements. Additional details are in the April 2025 classified OA report.

» SURVIVABILITY

DOT&E's April 2025 classified OA report provides an assessment of LTAMDS cyber survivability. Insufficient data are available to assess LTAMDS survivability against anti-radiation missiles at this time. Additional details are in the April 2025 classified OA report.

RECOMMENDATIONS

The Army should:

1. Update the LTAMDS program schedule to reflect IFTC 26 testing as an operational assessment supporting issuance of two UMR prototypes to Guam in 1QFY27.
2. Conduct IOT&E on LRIP-configured assets to support the FRP decision in 4QFY28.
3. Ensure the modeling and simulation tools required for LTAMDS performance evaluations are verified, validated, and fully accredited for their intended uses, prior to IOT&E.
4. Address the recommendations in the April 2025 classified OA report.