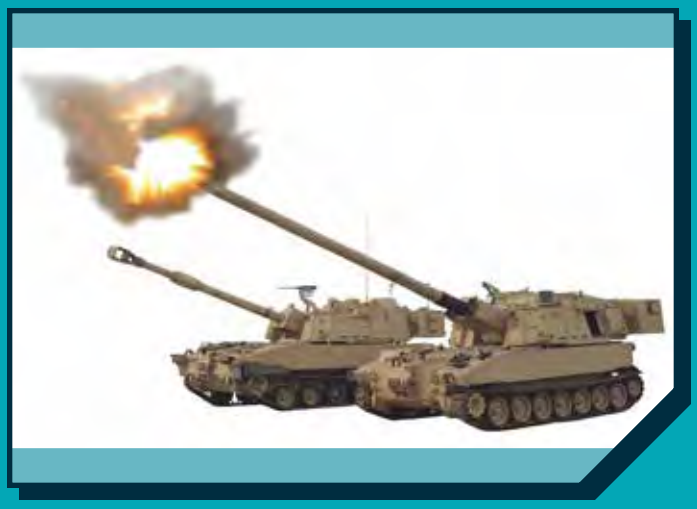
Extended Range Cannon Artillery (ERCA)

The Extended Range Cannon Artillery (ERCA) is a Middle Tier of Acquisition program intended to integrate new cannon and projectile technologies with previously developed M109A7 artillery systems. Soldier Touchpoints with hardware, software, and ammunition sub-systems are planned to inform modifications to the current design. Early operational assessment is planned to inform the transition to a Major Defense Acquisition program at Milestone C.



System Description

The ERCA system is an upgraded self-propelled howitzer that leverages the base platform of the fielded M109A7 and includes a new cannon, breech assembly, and turret enhancements. The ERCA upgrades are intended to increase its lethal range.

Program

ERCA is Middle Tier of Acquisition program intended to integrate new cannon and projectile technologies with previously developed M109A7 artillery systems in an effort to reduce ERCA acquisition costs of building a new platform. The Program Executive Officer, Ground Combat Systems approved the Simplified Acquisition Master Plan in 2018. The test plan includes integrated testing of two Soldier Touchpoint events, an Operational Tempo event, and an Operational Demonstration/Soldier Touchpoint. The Army will use these test data to inform the transition to a Major Defense Acquisition program at Milestone C. The Army plans to execute an operational assessment after the Milestone C decision, which will be followed by IOT&E and LFT&E.

Major Contractor

To be determined. Defense Industrial Base for the prototype developmental efforts.

Test Adequacy

There have been no operational test or live fire activities in FY21. The Army is still developing the Operational Mode Summary/Mission Profile. The planned Soldier Touchpoints will be limited to scale soldier-led events in realistic operational environments executed without the full unit size and command and control architecture seen in full operational testing. Operational Tempo events will be civilian-led events conducted in an operational

manner to assess the system's ability to perform key capabilities. The subsequent Operational Demonstration will integrate soldier crews in an operationally realistic environment.

Performance

Effectiveness

The operational effectiveness of the ERCA system in providing timely and accurate artillery fires cannot yet be evaluated.

Suitability

The operational suitability of ERCA cannot yet be evaluated.

Survivability

The survivability of ERCA in contested environment, to include a cyber-contested environment, cannot yet be evaluated. Software upgrades, as well as space, weight, and power changes support the need to conduct both cyber security assessments and live fire testing. The ERCA LFT&E strategy will focus on new and modified components to the PIM program while leveraging previously captured PIM data when appropriate.

Recommendation

1. The Army should update the approved 2018 acquisition strategy for the upcoming program of record, to include an adequate ERCA T&E strategy that includes an operational assessment with soldiers, an initial operational test with soldiers using the Operational Mode Summary, an LFT&E strategy, and cybersecurity assessments.