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Updated February 5, 2026

The Army's Self-Propelled Howitzer Modernization (SPH-M) Program

Background

The Army's current self-propelled artillery system, the M-109 Paladin, first entered service in the 1960s and has been upgraded numerous times. The Army has two types of artillery: self-propelled, a howitzer mounted on a tracked or wheeled vehicle, or towed, a howitzer towed by a vehicle and then dismounted to fire. In 1994, the Army began to develop the Crusader, an advanced self-propelled 155-millimeter (mm) howitzer. The Crusader was canceled in May 2002 when then-Secretary of Defense Donald Rumsfeld stated that future enemy threats did not require the Crusader and the Department of Defense wanted instead to invest in other emergent technologies. The Army's second attempt to develop a new self-propelled artillery system, the Non-Line-of-Sight Cannon (NLOS-C), was to be developed as part of the Army's Future Combat System (FCS) program, which started in 1999 and was canceled in 2009 when then-Secretary of Defense Robert Gates restructured the program and canceled its associated vehicles. The third attempt for a new system was the Extended Range Cannon Artillery (ERCA) program (see **Figure 1**).

Figure 1. ERCA Prototype

Source: U.S. Army, "ERCA Autoloader is being tested for first time at YUMA Proving Ground," August 15, 2019.

The ERCA program started in 2018 and reportedly was intended to extend the range of artillery fire from 30 kilometers to 70 kilometers (43.5 miles). The ECRA prototyping experience highlighted sustainment considerations such as excessive gun-tube wear after firing a relatively low number of rounds as a key performance risk alongside maximum range. The Army discontinued the ERCA program in April 2024.

The Army's Self-Propelled Howitzer Modernization (SPH-M) Effort

The SPH-M effort was previously known as the Next Generation Howitzer (NGH) Program. The SPH-M Effort replaced the ERCA program and is the fourth attempt to develop a new self-propelled howitzer to support the Army's Armored Brigade Combat Teams (ABCTs), which comprise M-1 Abrams tanks and M-2 Bradley infantry fighting vehicles (IFVs). In the aftermath of the ERCA cancellation, the Army initiated a new conventional fires study in 2023 to determine the way ahead for artillery modernization. The study was completed in March 2024 and reportedly determined "the service should focus on more autonomous artillery systems with greater range and improved mobility."

SPH-M Requirements

According to Army FY2025 budget documents

> The Next-Generation Howitzer (NGH) will provide highly mobile, survivable, versatile, transportable, longer range fire support under a broad set of challenging operational conditions against current and emerging, small to large scale threats through 2040 and beyond. NGH reduces emplacement and displacement times, provides increased crew survivability and better cross-country mobility, adds overall effectiveness, and affords improved fire support capability for field artillery formations well beyond what towed howitzer systems can provide.

SPH-M Program Activities

The Army reportedly conducted a number of successful tests with the ERCA before cancelling the program; those past testing activities are to inform the SPH-M program. For example, in 2022, ERCA hit a target at 70 kilometers (43 miles) with an M-982 Excalibur extended-range guided artillery shell.

On August 28, 2024, the Army issued a request for information (RFI) to industry to

> identify and preliminarily review the maturity of potentially offered self-propelled howitzer systems. The U.S. Government (USG) is interested in systems that have high maturity and minimize or eliminate development time. Additionally, the USG is interested in understanding the possible future modernization options for those systems. Any information received in response to this survey will be used by the USG to assess the viability of potential future acquisition strategies. When

> responding, the USG encourages industry to present both mature systems that are in service as well as systems that could be in service by 2026, absent any USG investment.

Army Awards SPH-M Demonstration Contracts

On October 14, 2024, the Army announced

> the awarding of five contracts for the Army's upcoming Self-Propelled Howitzer Performance Demonstration. The contracts were awarded to: American Rheinmetall Vehicles, BAE BOFORS, Hanwha Defense USA, General Dynamics Land Systems, and Elbit Systems USA. The contracts were awarded under Other Transaction Agreements (OTA) and the total award value for all contracts is approximately $4 million … The Army intends to complete all vendor performance demonstrations by the end of 2024 with the goal of determining if operationally suitable solutions exist to progress into a follow-on competitive evaluation that may lead to a future production contract.

Completion of SPH-M Demonstration

Reportedly, the Army planned to conclude its performance demonstrations "to assess five vendors' mobile tactical cannon solutions by mid-December 2024," with follow on efforts continuing in 2025. Army officials have reportedly noted that there is a "sense of urgency" involved with the overall SPH-M effort, suggesting that "potential adversaries now can outgun the Army when it comes to range. The goal is to extend current cannon ranges from around 30 kilometers to 50 to 70 kilometers by 2030."

Army Launches SPH-M Competition

Reportedly, the Army decided to launch a full and open competition with a planned "release of a Phase I request for proposal in mid-February [2025]." This decision suggested that the Army would not pursue an original design and choose from existing systems. Army program officials outlining program plans further elaborated that

- Phase I is intended to be "the 'get to test' phase which includes further testing of mature platforms, and it will not be a vendor downselect."
- The Army then plans to select an unspecified number of companies to proceed and award Phase I contracts around the July to September (2025) timeframe. Those vendors are to participate in additional competitive evaluation testing running through FY2026.
- Army leaders plan to "evaluate competing systems on range, precision, and volume, as well as the platform characteristics like mobility and supportability."
- Test data from Phase I is to be used to inform evaluation in Phase II. "If all goes as planned, that second round of downselects will occur in early fiscal year 2027 ahead of initial fielding in the 2030 timeframe—but possibly with multiple self-propelled howitzer lines of effort, as the Army reexamines its force structure."

Change to SPH-M Competition

Reportedly, the Army now plans to conduct another Yuma-based demonstration for January 2026. The Army plans to award each industry team roughly $5 million to bring in artillery systems for a nine-month evaluation process before nailing down requirements and developing a strategy.

The article also notes,

> The demonstration will also serve as a way to look again at the Army's overall plan for fires capability. According to several industry sources, a fires strategy was presented to the Army vice chief of staff in January, but he rejected it because it was limited to one solution and didn't consider things like rockets. The vice sent the strategists back to the drawing board.

Current Army Plans for SPH-M Contract Award

Reportedly, the Army currently plans to award the SPH-M contract by July 2026. The Army also plans to release a draft request for prototype proposals later in February 2026 and another final one in March 2026. Provisions from the original 2024 RFI requiring that the system be produced domestically, have a high level of armor, and be capable of firing US ammunition are expected to remain part of program requirements going forward. Reportedly, although the original requirement document stated that "the howitzers must be produced domestically, this doesn't mean foreign companies are ruled out," and some foreign firms are reportedly expected to compete for the contract.

Potential Issue for Congress

2025 Army Transformation Initiative (ATI) and SPH-M Program Way Ahead

The Army's May 2025 Army Transformation Initiative (ATI) called for, among other things, optimizing force structure. While no specific mention was made regarding ABCTs and the SPH-M system, other combat formations have seen significant changes under ATI. Congress may seek further clarification from the Army on possible ATI-related changes to ABCT numbers, force structure, and requirements for SPH-M systems prior to the Army's planned award of a SPH-M production contract. Furthermore, at contract award, Congress might also seek a detailed program plan from the Army to include planned unit fielding dates for Active Component and Army National Guard (ARNG) ABCTs. Congress might also consider how SPH-M procurement and sustainment costs compare with continued Paladin upgrades and how domestic production expectations might affect program schedule and cost. A potential oversight issue could include how SPH-M funding aligns with other Army longer-range modernization priorities and related combat vehicle industrial base capacity.

Additional Reading

CRS Report R48606, *2025 Army Transformation Initiative (ATI) Force Structure and Organizational Proposals: background and Issues for Congress*, by Andrew Feickert

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