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The Army's XM-30 Mechanized Infantry Combat Vehicle (Formerly Known as the Optionally Manned Fighting Vehicle [OMFV])

Background

The Army's Optionally Manned Fighting Vehicle (OMFV) is being designed to replace the M-2 Bradley Infantry Fighting Vehicle (IFV) (see **Figure 1** for a notional example). *Optionally manned* means the OMFV is to have the capability to conduct remotely controlled operations while a crew is not in the vehicle. The M-2 Bradley, which has been in service since 1981, transports infantry on the battlefield, provides fire support to dismounted troops, and can destroy enemy fighting vehicles. Updated numerous times since its introduction, the M-2 Bradley is widely considered to have reached the technological limits of its capacity to accommodate new electronics, armor, and defensive systems. Two past efforts to replace the M-2 Bradley—the Future Combat System (FCS) Program and the Ground Combat Vehicle (GCV) Program—were cancelled for programmatic and cost-associated reasons.

Figure 1. Notional Example—OMFV



Source: U.S. Naval Institute (USNI), <https://news.usni.org/2021/12/30/report-to-congress-on-armys-optionally-manned-fighting-vehicle>, accessed April 18, 2022.

Note: This is a notional example; the Army's OMFV selected for production may differ from this example.

OMFV Redesignated XM-30 Mechanized Infantry Combat Vehicle

On June 26, 2023, upon the completion of the initial digital design phase, the Army redesignated the OMFV as the XM-30 Mechanized Infantry Combat Vehicle.

Role of the XM-30

According to the 2024 *Department of Defense (DOD) FY 2025 Program Acquisition Costs by Weapons Systems*,

The XM-30 Combat Vehicle (previously OMFV), as part of an Armored Brigade Combat Team (ABCT), will replace the Bradley Infantry Fighting Vehicle to provide the capabilities required to defeat a future near-peer competitor's force. The XM-30 is an optionally manned platform that maneuvers soldiers to a point of positional advantage to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver. It is designed to operate with and may operate without a crew and soldiers under armor based on the commander's decision. It delivers decisive lethality during the execution of combined arms maneuver while also controlling maneuver robotics and semi-autonomous systems

XM-30 Acquisition Approach

The XM-30 is currently a Middle Tier Acquisition Rapid Prototyping (MTA-RP) program. The XM-30 is to be Army's first ground combat vehicle designed using state-of-the-art digital engineering tools and techniques. It is to be designed from the onset as a Modular Open Systems Architected (MOSA) platform based on an Army-defined and -owned open standard. As technology and software evolve, MOSA could potentially facilitate rapid XM-30 modernization at a reduced cost. The open architecture of the XM-30 could also offer more opportunities for industry competition and innovations as the XM-30 is upgraded.

The Army is conducting a five-phase acquisition approach to design, prototype, test, and produce the XM-30:

- Phase 1 consists of **Market Research and Requirement Development**.
- Phase 2, the **Concept Design Phase**, includes modeling, simulation, and analysis (MS&A) to inform requirements and support initial design activities.
- Phase 3, the **Detailed Design Phase**, includes detailed design activities to mature XM-30 designs and concludes with a Critical Design Review (CDR). A CDR is a technical review to ensure the initial product baseline is established. Successful completion of CDR provides the technical basis for proceeding into fabrication, integration, development, test, and evaluation of a system.
- Phase 4, the **Prototype Build and Test Phase**, verifies prototype performance against performance specifications. Late in this phase, a Limited User Test (LUT) is to be conducted.

- Phase 5, the **Production and Fielding Phase**, is to result in a single Low-Rate Initial Production (LRIP) contract for production, testing, and initial fielding.

Program Activities

Phase 2 Contracts Awarded

The Army announced the award of five firm-fixed price contracts for XM-30 Phase 2 Concept Design Phase using full and open competitive procedures on July 23, 2021. The contracts were awarded to Point Blank Enterprises, Inc. (Miami Lakes, FL); Oshkosh Defense, LLC (Oshkosh, WI); BAE Systems Land and Armaments L.P. (Sterling Heights, MI); General Dynamics Land Systems, Inc. (Sterling Heights, MI); and American Rheinmetall Vehicles, LLC (Sterling Heights, MI). The total award value for all five contracts was approximately \$299.4 million. During this phase, competing firms were asked to develop digital designs. On November 1, 2022, it was reported that all five firms had submitted their XM-30 digital designs prior to the November 1 deadline. All five proposals reportedly were hybrid electric vehicles.

Phase 3 and 4 Contracts Awarded

On June 26, 2023, the Army announced

[t]he award of two firm-fixed price contracts for the Optionally Manned Fighting Vehicle [XM-30] Phase 3 and 4 Detailed Design and Prototype Build and Testing phases, using full and open competitive procedures. The contracts were awarded to General Dynamics Land Systems Inc. (Sterling Heights, MI) and American Rheinmetall Vehicles LLC (Sterling Heights, MI). The total award value for both contracts is approximately \$1.6 billion.

FY2025 Program Update

According to the *Department of Defense (DOD) FY 2025 Program Acquisition Costs by Weapons Systems*,

The Army anticipates transitioning from an MTA-RP to a Major Capability Acquisition Pathway at Milestone B in the 2nd quarter of Fiscal Year (FY) 2025 and plans to enter Low-Rate Initial Production (LRIP) in the 1st quarter FY 2028 with a Full Rate Production (FRP) decision slated for FY 2030.

XM-30 Preliminary Design Review

Reportedly, General Dynamics Land Systems and American Rheinmetall Vehicles completed their preliminary design review in August 2024 and, after a critical design review, development of physical prototypes is planned to begin. According to Defense News,

Prototypes will take 18 to 20 months to construct after the critical design reviews wrap up. Once

prototypes are delivered, the Army will move into a test and evaluation phase with both competitors before deciding on a winner in FY2027. The first vehicles are expected to be fielded in FY2029.

Potential Issues for Congress

The Army's Plans for XM-30 Fielding

The Army currently has 11 Active ABCTs and 5 Army National Guard ABCTs. There are around 150 M-2 Bradley IFVs in each ABCT, for an approximate total of 2,400 M-2s dedicated to ABCTs. Potential issues include the following:

- On February 27, 2024, the Army announced “changes to its force structure that will modernize and continue to transform the service to better face future threats.” Under the Army’s plan, will there be reductions in ABCT force structure and, if so, how will these changes affect current planned XM-30 acquisition quantities?
- Will XM-30s replace ABCT M-2s on a one-for-one basis? If not, how many XM-30s are planned for each ABCT?
- How many additional XM-30s will be required over and above those fielded to ABCTs? How many XM-30s will be required for Army Prepositioned Stocks?
- Is the XM-30 a potential candidate for Foreign Military Sales (FMS), and have other countries expressed an interest in the program?
- In the past, the Army has fielded new systems as a brigade set. How many ABCTs per year are planned to be equipped with XM-30s, and when does the Army anticipate that all ABCTs will be equipped with XM-30s?

Lessons Learned from the Ukraine Conflict

There are a number of military observations emerging from the ongoing Ukraine conflict. Reports suggest the Russians have lost significant numbers of armored vehicles to anti-tank guided missiles (ATGM) and unmanned aerial systems (UAS). What are some of the lessons learned about armored fighting vehicle vulnerability to these systems? Does the Army have plans to incorporate Ukraine lessons learned into XM-30 design? Reportedly, Army officials have said that the XM-30 is to have a “mounted active protection systems to ward off uncrewed aerial systems and antitank weapons.” If this is the case, does this proposed active protection system address the full range of threats that have emerged during the Ukraine conflict?

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