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The Army's M-1E3 Abrams Tank Modernization Program

Background

The M-1 Abrams Tank is designed to maneuver under fire and destroy enemy armored forces on the battlefield. The M-1 is named for General Creighton Abrams, a World War II armored battalion commander who later served as Army Chief of Staff from 1972 to 1974. M-1 Abrams tanks are a primary weapon system in Armored Brigade Combat Teams (ABCTs). At present, the Active Component (AC) has 11 ABCTs, and the Army National Guard (ARNG) has 5 ABCTs. Each ABCT has 87 M-1 Abrams tanks.

The M-1 program began in 1971. In 1973, the Army awarded two contracts for prototype development to the Defense Division of Chrysler Corporation (which became General Dynamics Land Systems [GDLS] in 1982) and the Detroit Diesel Allison Division of General Motors (GM). In 1988, GDLS was awarded a contract for the M-1A2 version, and the first M-1A2s entered service in late 1992. The M-1A2 is the baseline export version of this tank. The United States has sold M-1A1 and M-1A2 variants to Australia, Egypt, Iraq, Morocco, Kuwait, and Saudi Arabia via Foreign Military Sales (FMS) and, in 2023, provided Ukraine with 31 M-1 Abrams tanks.

Ongoing M-1 Abrams Modernization Efforts

M-1 Abrams modernization efforts had been focused on fielding an M-1A2 System Enhancement Package (SEP) Version 3 (v3) and developing a new M-1A2 SEpv4 variant. According to the Army, both M-1A2 SEpv3 production and M-1A2 SEpv4 development began in FY2018. In FY2020, the first unit was equipped with M-1A2 SEpv3. In 2020, GDLS received a \$4.6 billion contract for SEpv3 upgrades, which are expected to be completed by June 2028.

M-1E3 Abrams Modernization Program

On September 6, 2023, the Army announced it would “close out the M-1A2 SEpv4 effort and develop the M-1E3 Abrams” (Figure 1). The Army’s announcement quoted Major General Glenn Dean, program executive officer for Ground Combat Systems, describing the rationale for the Army’s decision:

The Abrams Tank can no longer grow its capabilities without adding weight, and we need to reduce its logistical footprint. The war in Ukraine has highlighted a critical need for integrated protections for soldiers, built from within instead of adding on.

The Army announcement elaborated that the new platform

[w]ill include the best features of the M-1A2 SEpv4 and will comply with the latest modular open

systems architecture standards, allowing quicker technology upgrades and requiring fewer resources. This will enable the Army and its commercial partners to design a more survivable, lighter tank that will be more effective on the battlefield at initial fielding, and easier to upgrade in the future.

Regarding M-1A2 SEpv3 production, the Army noted that

the Army will continue to produce the M-1A2 SEpv3 at a reduced rate until production transitions to the M-1E3 Abrams.

The Army originally projected achievement of M-1E3 Initial Operational Capability (IOC) in 2030.

Figure 1. Early M1-E3 Prototype



Source: Ashley John, “US Army Unveils Early Abrams Prototype at North American International Auto Show,” U.S. Army, January 16, 2026.

M-1E3 Features and Capabilities

While the Army has not made public the M-1E3’s design requirements, reportedly, a 2019 Army Science Board study on a future tank influenced senior Army leadership to establish the M-1E3 program. The Army Science Board study reportedly recommended a \$2.9 billion, seven-year program to develop a “fifth generation combat vehicle” with proposed capabilities including the following:

- a hybrid electric drive;
- an autoloader and new main gun;
- advanced munitions, such as maneuvering hypersonic and gun-launched anti-tank guided missiles;
- integrated armor protection;
- improved command, control, and networking capabilities;

- artificial intelligence (AI) applications;
- ability to pair with robotic vehicles; and
- masking capabilities to reduce the vehicle's thermal and electromagnetic signatures.

According to the Army

At the heart of the M-1E3 Abrams is a suite of AI-powered digital engineering tools, including GenAI, which enable rapid technology integration and open systems architecture.

The Army has said little publicly about the M1-E3's desired capabilities and features. Some reports suggest that prototypes are to feature a hybrid-electric engine and be "lighter, more fuel-efficient, AI-enabled, built for manned-unmanned teaming, and armed with a new generation of weapons." Other reports suggest the M1-E3 is to feature "an autoloader, enabling a 3-person crew (possibly with an unmanned turret)," advanced armor, an active protection system (APS) to counter enemy anti-tank systems, and integrated counter-uncrewed aerial systems (C-UAS) capabilities.

Original Program Timeline

Reportedly, in early May 2024, the Army awarded a contract to GDLS allowing the Army to work closely with GDLS to shape requirements for the M-1E3. The Army planned to bring the M-1E3 into service along a similar timeline as the XM-30 Mechanized Infantry Combat Vehicle, another primary ABCT combat system. Over the next 18 months, the Army and GDLS plan to work through a number of technology maturation efforts, including autoloader capabilities for the main gun to facilitate an unmanned turret, alternate power trains, and an APS designed to protect the M-1E3 from anti-tank guided missiles, rocket-propelled grenades, and threats from a variety of armed aerial drones and loitering munitions.

Army to Accelerate M-1E3 Modernization

Reportedly, the Army plans to accelerate the M-1E3 development timeline, with intentions to cut the timeline down to one-third of the original 2030 projection to field the M-1E3 within 24-30 months. The Army noted that integrating an autoloader for the M-1E3 may take additional time due to developmental challenges and that it wants to integrate an APS into the M-1E3 design instead of installing a separate stand-alone APS kit. As part of the Army Transformation Initiative (ATI) announced in May 2025, the Army plans to further accelerate the development and delivery of the M-1E3.

M-1E3 Prototypes in 2026

Reportedly, in September 2025, the Chief of Staff of the Army (CSA) stated that four M-1E3 prototypes would be operational within Army formations at some point in 2026. The CSA further noted that

the new tanks will be completely software-driven, require a smaller crew, be modular, and will be equipped with an active protection system. Once the

Army receives them, crews will try the tanks out and then decide what they need.

It was further noted that no decision had been made on which units will receive the four tank prototypes in 2026.

First M-1E3 Prototype Delivered

Reportedly, in early December 2025, GDLS delivered its first M-1E3 prototype to the Army. No further information was provided on when the other three prototypes are to be delivered.

Fall 2026 M1-E3 Testing

Reportedly, the 1st Cavalry Division at Fort Hood, TX, is to be the first unit to receive new prototypes of the M1-E3 for evaluation and testing this fall. Reportedly,

The Army's largest division will take on two platoons of the XM-30, designed to replace the Bradley Fighting Vehicle, and one platoon of M-1E3 Abrams tanks by the end of the year. From there, soldiers will be "shooting, moving and communicating" at the National Training Center [NTC] at Fort Irwin, CA, through March [2027].

FY2027 M-1E3 Budget Request

According to an Army budget briefing, the Army is requesting \$474 million in Research, Development, Test and Evaluation (RDT&E) funding for acceleration of the Abrams M-1E3 program.

Potential Oversight Considerations for Congress

Potential oversight considerations for Congress could include the following:

- What is the Army's detailed program plan for reduced M-1A2 SEPv3 production, and how will funds appropriated for M-1A2 SEPv3 production be reallocated?
- What is the economic impact on the defense industrial base participating in M-1A2 SEPv3 production, in particular, the smaller companies involved in the program?
- Will the M-1E3 replace current M-1 Abrams tanks in service on a one-for-one basis, or will the Army maintain a mixed fleet of tanks?
- Will Army National Guard ABCTs receive M-1E3s?
- How many years will it take to field M-1E3s to all of the Army's ABCTs?

Additional Reference

CRS In Focus IF12094, *The Army's XM-30 Mechanized Infantry Combat Vehicle (Formerly the Optionally Manned Fighting Vehicle [OMFV])*, by Andrew Feickert and Ebrima M'Bai.

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