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The U.S. Army's Mid-Range Capability (MRC) Weapon System

What Is the Army's Mid-Range Capability (MRC) Weapon System?

Reported improvements to Russian and Chinese artillery systems present a challenge to the U.S. Army. These improved, longer-ranged artillery systems, new employment techniques leveraging unmanned aerial vehicles (UAV) for target acquisition, and the proliferation of special munitions (such as precision, thermobaric, loitering, and top-attack munitions) have renewed concerns about the potential impact of Russian and Chinese artillery on U.S. combat operations and ground combat systems. In response, the U.S. Army is seeking to improve its ability to deliver what it refers to as long-range precision fires (LRPF) by upgrading current artillery and missile systems, developing new longer-ranged cannons and hypersonic weapons, and modifying existing air- and sea-launched missiles for ground launch. Army leadership has stated LRPF is its number one modernization priority.

The MRC Weapon System is part of the Army's LRPF modernization portfolio. It is intended to hit targets at ranges between the Army's Precision Strike Missile (PrSM) (about 300 miles maximum range) and the developmental Long-Range Hypersonic Weapon (LRHW) system (about 1,725 miles maximum range). The MRC Weapon System is to leverage existing Raytheon-produced SM-6 missiles (**Figure 1**) and Raytheon-produced Tomahawk cruise missiles (**Figure 2**), and modify them for ground launch by Army units. The MRC system is also known as the "Typhon" missile system.

Figure 1. SM-6 Missile

Source: https://www.raytheonmissilesanddefense.com/news/2016/03/07/sm-6-anti-surface-warfare, accessed June 14, 2022.

Figure 2. Tomahawk Cruise Missile

Source: https://www.raytheonmissilesanddefense.com/what-we-do/naval-warfare/advanced-strike-weapons/tomahawk-cruise-missile, accessed June 14, 2022.

Note: Tomahawk cruise missiles come in both sea-launched and air-launched variants.

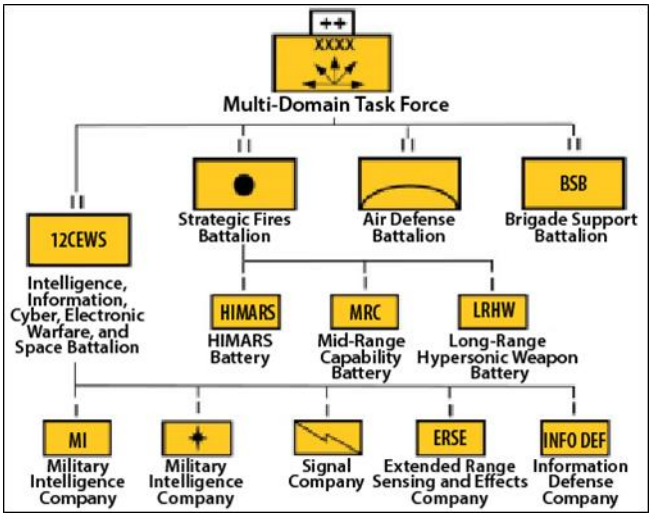
MRC Weapon System Components

According to the Army, the prototype MRC battery is planned to consist of four launchers and a battery operations center (BOC). Reportedly, a decision has not been made on how many missiles each battery will have. MRC batteries are to be equipped with a number of prime movers, trailers, generators, cabling, and support vehicles. Numbers of soldiers assigned to each battery is presently unknown. The Army plans for the first prototype MRC battery to be fielded no later than the fourth quarter of FY2023 and three additional batteries are to be fielded on an annual basis thereafter. It is not clear at this time if the Army will field more than four MRC batteries and if any of the batteries will be Army National Guard units.

MRC Unit Organization

The Army plans to field a MRC battery in the Strategic Fires Battalion of the Army's regionally aligned Multi-Domain Task Force (MDTF) (**Figure 3**).

Figure 3. Army Multi-Domain Task Force (MDTF) Organization



Source: Chief of Staff Paper #1 Army Multi-Domain Transformation Ready to Win in Competition and Conflict, March 16, 2021, p. 12.

The Army describes MDTFs as "theater-level maneuver elements designed to synchronize precision effects and precision fires in all domains against adversary anti-access/area denial (A2/AD) networks in all domains, enabling joint forces to execute their operational plan (OPLAN)-directed roles."

What Is Anti-Access/Area Denial (A2/AD)?

Anti-Access (A2) is an action, activity, or capability, usually long-range, designed to prevent an advancing enemy force from entering an operational area.

Area Denial (AD) is an action, activity, or capability, usually short-range, designed to limit an enemy force's freedom of action within an operational area.

Source: Department of Defense Dictionary of Military and Associated Terms, November 2021.

Program Status

Reportedly, Lockheed Martin delivered the first of four prototype Typhoon systems to the Army on December 2, 2022.

MRC Budgetary Information

Table 1. FY2023 MRC Budget Request

Funding Category	Total Request ($ Million)	Total Request (Qty.)
RDT&E	$404.291	—
TOTAL	$404.291	—

Source: Department of Defense Fiscal Year 2023 Budget Estimates, Army Justification Book 2a of 2, Research, Development, Test & Evaluation, Army, RDT&E–Volume II, Budget Activity 4, April 2022, p. 677.

Notes: RDT&E = Research, Development, Test & Evaluation; **Qty.** = FY2023 procurement quantities.

Potential Issues for Congress

Additional MRC Units

As previously noted, the Army's current plans call for fielding four MRC batteries starting at the end of FY2023. The Army, however, plans for five MDTFs, with each MDTF having one organic MRC battery, suggesting that one MDTF might not have an organic MRC battery. Given this potential inconsistency and questions about additional MRC batteries, including the possible fielding of MRC batteries to the Army National Guard, Congress might seek to clarify the Army's long-term requirements for MRC batteries beyond the four currently planned.

Industrial Base Capacity

Currently, Raytheon produces SM-6 missiles and Tomahawk cruise missiles for the U.S. Navy and U.S. Air Force and foreign militaries. While it is not clear how many SM-6 and Tomahawk cruise missiles will be required for the Army's MRC batteries and theater war stocks, there could be production considerations for the U.S. defense industrial base. Given this possibility, Congress might examine potential MRC-related industrial base capacity concerns.

Overseas Stationing of MRC Units

On March 30, 2021, the Chief of Staff of the Army discussing the LRHW, reportedly noted, "The politics of where they're based, how they're based, will be up to the policymakers and the diplomats." In a similar manner, overseas basing of MRC batteries will also be subject to political decisions. Given range limitations of Army long-range precision fires systems, the inability to secure overseas basing rights for these units could limit or negate their effectiveness. On December 1, 2021, the Secretary of the Army reportedly stated, "the Army is ready, when called upon, to be able to put those kinds of capabilities in the region. But it's really [the State and Defense Departments] that will take the lead in those discussions." Reportedly, in May 2022, the Secretary of the Army stated the Army did not yet have basing agreements for long-range systems but "discussions were ongoing" with a number of countries in the Indo-Pacific region. Given the importance of basing, Congress might examine ongoing efforts to secure Army long-range precision fires unit basing in both Europe and the Indo-Pacific region.

References

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- CRS In Focus IF11991, *The U.S. Army's Long-Range Hypersonic Weapon (LRHW)*, by Andrew Feickert.
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