



Updated December 27, 2022

The U.S. Army's Strategic Mid-Range Fires (SMRF) System (Formerly Mid-Range Capabilities [MRC] System)

What Is the Army's Strategic Mid-Range Fires (SMRF) 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 employing 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.

Originally known as the Mid-Range Capabilities (MRC) System, SMRF 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 SMRF 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 SMRF 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.

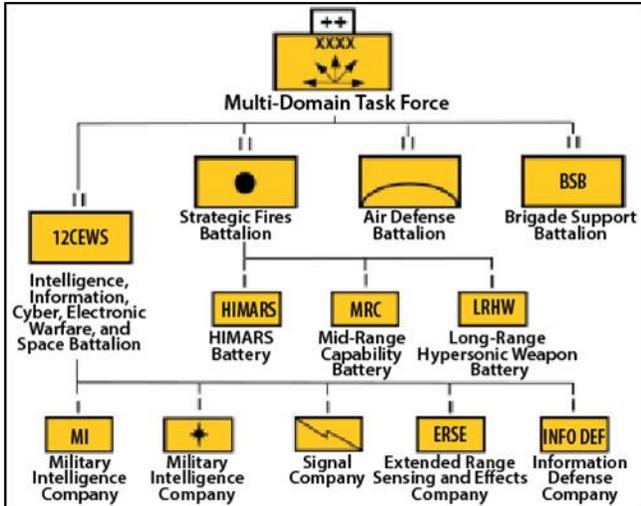
SMRF Weapon System Components

According to the Army, the prototype SMRF 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. SMRF batteries are to be equipped with a number of prime movers, trailers, generators, and support vehicles. Numbers of soldiers assigned to each battery is presently unknown. The Army plans for the first prototype SMRF 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 SMRF batteries and if any of the batteries will be Army National Guard units.

MRC Unit Organization

The Army plans to field a SMRF 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.

Note: MRC Battery depicted above is now known as the SMRF Battery.

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.

FY2023 SMRF Budgetary Information

Table 1. FY2023 SMRF 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.

Table 2. FY2023 SMRF Authorizations and Appropriations

| Funding Category | Authorized (\$M) | Appropriated (\$M) | Total Request (Qty.) |
|------------------|------------------|--------------------|----------------------|
| RDT&E | \$404.291 | \$404.291 | — |

Sources: **Authorized:** Rules Committee Print 117-70 Text of the House Amendment to the Senate Amendment to H.R. 7776 (Showing the text of the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023), December 6, 2022, p. 1809.
Appropriated: Fiscal Year 2023 Omnibus Appropriations Bill, H.R. 2617, Division C - Department of Defense Appropriations Act, 2023, December 19, 2022, p. 89K.

Potential Issues for Congress

Additional SMRF Units

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

Overseas Stationing of SMRF 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 SMRF batteries will also be subject to political decisions. Given range limitations of Army LRP 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

- CRS In Focus IF11991, *The U.S. Army’s Long-Range Hypersonic Weapon (LRHW)*, by Andrew Feickert.
- CRS In Focus IF11797, *The Army’s Multi-Domain Task Force (MDTF)*, by Andrew Feickert.

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