

Marines Move Forward with Iron Dome

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In a critical step toward better integrating American and Israel defense platforms and reaping the benefits of U.S. investment in Israeli defense technology, the Marine Corps has approved a mobile air defense platform based on Israel's battle-proven and incredibly successful Iron Dome to move onto the next stage of testing and certification for eventual acquisition. This is an important development after the U.S. Army had previously acquired two Iron Dome batteries and opted not to purchase any more. The other U.S. military services should follow the Marine Corps' lead and integrate proven Israeli air defense and other technologies. The United States should also leverage the technological capabilities of its Israeli partner by pursuing joint development of critical defense technologies, particularly directed energy, and emphasize the ability for those capabilities to easily integrate with the U.S. military.

What Happened?

- After passing three [live-fire tests](#) last year, the Marine Corps [approved](#) a mobile air defense system based on the Israeli Iron Dome platform, known as the Medium-Range Intercept Capability (MRIC) program, to move to the next stage of the certification process before fielding a prototype in 2025.

Why Is It Important?

- The Marine Corps' decision to develop a mobile version of the Iron Dome air defense platform is a testament to the incredible capability of this Israeli-developed and U.S.-funded system that has proven its ability to shot down over 90 percent of the thousands of rockets that have been fired at Israeli population areas in multiple conflicts. This decision also underscores the significant benefits for the United States from continuing to invest in co-development of, and acquiring and deploying, critical defense technologies from Israel.
- The Marine Corps has demonstrated greater interest than the Army in developing means of integrating the Iron Dome technologies with its existing platforms.
 - » Marine Corps Assistant Commandant General Eric Smith [said](#) in July 2022, the Marine Corps “held [off] on funding for [MRIC] for almost two years, until you can prove it,” but “now it was proven. Now we start procuring it.”

- » In contrast, the U.S. Army has acquired two Iron Dome batteries, but “cannot integrate them into our air defense system based upon some interoperability challenges, some cyber [security] challenges, and some other challenges,” [according](#) to General John “Mike” Murray who led the Army Futures Command.
 - The U.S. Army [deployed](#) the Iron Dome batteries to Guam for testing in October 2021 and conducted a [second interception test](#) at the White Sands facility in New Mexico in mid-June 2022.
- The Marine Corps adaptation of Iron Dome into a mobile system would provide greater protection for U.S. forces against the rockets, missiles, and drones that are increasingly common in modern conflicts.
 - » As demonstrated in the Middle East by Iran and in Ukraine by Russian and Iranian projectiles, defending against short- and mid-range threats is important for battlefield protection. Given that Israel’s Iron Dome has repeatedly demonstrated its ability to intercept Iranian-designed rockets and UAVs, its technologies could help the United States develop innovative air defense platforms if it can be integrated well with other U.S. defense systems.
 - » Iron Dome provides protection against very short-range aerial threats at a maximum distance of 45 miles that existing U.S. systems have not been designed to cover optimally.
 - » During the May 2021 conflict between Israel and Gaza, Iron Dome intercepted roughly 90 percent of the rockets that reached Israeli airspace and would have struck population centers.
- Although Iron Dome has been a joint project between the United States and Israel, it does not naturally integrate with American military platforms.
 - » While Israel financed the development of the initial Iron Dome systems, the United States provided funding for the continued improvement and production of additional Iron Dome batteries through a partnership between Israeli Rafael and American Raytheon defense manufacturers.
 - » Israel is already working to develop [innovative air defense systems](#), including directed energy technologies that are much cheaper than kinetic interception and are useful at intercepting small drones. One such option is [Iron Beam](#), a joint project between Rafael and Raytheon that can neutralize even closer range threats than Iron Dome by firing a ground-based laser.
- The Marine Corps plans to field its first MRIC prototype adapted from the Iron Dome in early 2025 and wants to deploy three Marine Air Wings each with an MRIC battery by 2028.
 - » The Marine Corps has adapted the Iron Dome by mounting the battery along with its Tamir interceptors on a truck. The system also uses the Common Aviation Command-and-Control System (CAC2S) and a mini battle management control (BMC) system for the Tamir missile, along with the AN/TPS-80 Ground/Air Task Oriented Radar (G/ATOR).

What Should the United States Do Next?

- The Army should examine how the Marine Corps was able to successfully fire the mobile air defense using Iron Dome technologies and work toward integrating the two Iron Dome batteries it has acquired with its other platforms. The U.S. Navy and Air Force should similarly explore how Iron Dome technologies could bolster their air defense capabilities.
- The U.S. Departments of Defense and State should ensure that defense platforms the United States jointly develops with foreign nations, including Israel, can integrate with the U.S. militaries existing and in-development systems.
- Congress should fund research and development to integrate existing Israeli air defense technologies more easily with U.S. military systems as well as projects for innovative air defense technologies, particularly directed energy systems like Iron Beam, which can expand the capability to neutralize threats and do so at a lower cost.