

# Insights from recent large-scale long-range drone and missile attacks

**Peter Layton**

Australian Defence Force & Griffith University

In 2024 and 2025, Iran conducted coordinated drone and ballistic missile attacks against Israel. At the time, these were larger single wave drone and missile attacks than conducted in any earlier wars, including by Russia against Ukraine. As Iran and Israel do not share a land border, these were also amongst the longest range such attacks ever carried out. These attacks suggest how drone and missile warfare might be conducted - and be defended against - in any future war in the large Indo-Pacific operational theatre.

Before the war, Iranian military tactics envisaged launching a first wave of about 100-150 drones that would saturate and wear down a target's active defence systems, allowing a second wave comprised of medium-range ballistic missiles (MRBMs) to more easily penetrate ([Plakoudas, 2025](#)). This concept evolved as experience was gained and circumstances intruded.

## Shahed Drones

In Iran's *True Promise I* operation, about 220 Shahed drones were launched to reach Israel around 2:00 am on Sunday, 14 April 2024. The drones flew a low-to-high path, cruising at about 1,000 feet before descending to around 100 feet above the ground near the target ([Stein, 2025](#)). To avoid known defences, they used pre-programmed routes, navigating using global positioning system (GPS) or jam-resistant inertial navigation systems. With their low cruising speed, the drones took several hours from launch to reach their targets. Given their small warhead, modest accuracy and low impact speed, such drones are best suited for attacking light structures, nuisance raids and decoy missions.

As part of the air defence response, the United States Air Force (USAF) positioned two flights of four F-15Es or F-16s beyond Israel in each of the expected drone approach routes. These aircrafts' active electronically scanned array (AESA) radars located the drones, confirmed using their infrared targeting sensors; a necessity due to possible confusion with fast moving cars ([Stein, 2025](#)). The preferred air-to-air missile was the Aim-9X, with the six to eight missiles each aircraft carried typically all fired within 20 minutes. The USAF claimed some 80 drones destroyed ([Hadley, 2025](#)).

In contrast, Israeli Air Force F-15s and F-16s with mechanically scanned radars had problems locating the drones. Accordingly, Israel's F-35s fitted with AESAs passed drone targeting data to them; the USAF F-15Es did similarly to Royal Air Force (RAF) Typhoons using Link 16 ([Stein, 2025](#)).

In the mid-2025 12-day war attacks, a 99% success rate against Shahed drones was claimed. Iran launched some 1,100 drones, about 90 a day, with most shot down before they reached Israel's borders (Fabian, 2025a).

## Ballistic Missiles

*True Promise I* involved launching about 120 MRBMs but proved somewhat ineffective as only nine hit (Lair, 2025a). The *True Promise II* operation in October 2024 learnt from this. It saw 200 MRBMs fired and achieved about 45 impacts. In this operation, the Iranians saturated the missile defence systems with geographically focused and closely timed attacks, did not combine these with slow flying drones that gave early warning of an attack beginning, and used modern, more reliable, more accurate solid-propellant missiles (Lair, 2025b). While five areas were attacked, most MRBMs targeted Nevatim airbase where 32 missiles hit (Brumfiel, 2025).

In the 12-day war in June 2025, Iran launched some 570 MRBMs, averaging about 50 a day, with 36 (some say 57) hitting populated areas and 13 Israeli defence bases and infrastructure (Cicurel, 2025). The war's second day saw the most missiles launched, about 120. This lower rate reflects Israel's efforts to destroy MRBMs before launch from Iran. On the other hand, Iran shifted from its October 2024 attacks on well-defended southern airbases to now striking cities in central and northern Israel. The attacks killed 28, hospitalized 3,238 people and forced more than 9,000 people from their damaged homes (Fabian, 2025b).

The Israeli and US missile defence systems attempted to intercept some 320 MRBMs, achieving a success rate of 85%. For this, the United States (US) deployed two Terminal High Altitude Area Defense (THAAD) batteries that fired some 150 interceptors, United States Navy warships fired about 80 SM-3s, and Israel fired an estimated 21 Arrow-2s and 80 Arrow-3s (Lair, 2025a). The high usage rate of interceptors did create concerns about exhausting stockpiles (Holiday, 2025).

## Insights

These recent combat experiences provide some insights.

Drones can be shot down but timely warning is essential, especially if trying to intercept using fighter aircraft. Airborne Early Warning and Control aircraft appear vital. RAAF's F-35 and F-18F aircraft all have AESA radars, targeting pods and Link-16; they could help regional nations flying fighters with older mechanical-scan radars engage hostile drones.

Using air-to-air missiles is a costly way to destroy cheap drones. The US is now deploying low-cost APKWS laser-guided rocket pods; a single fighter can carry 42 rockets and 8 Aim-9Xs (Stein, 2025). In time, such pods could be integrated onto the F-18F fleet.

For ballistic missile defence, the Royal Australian Navy's destroyers have SM-3s and there are long-term ADF force structure plans to acquire ground based defence systems. Moreover in a conflict, allies could deploy missile defence systems to operating locations of the Royal Australian Air Force. It's noteworthy that in the April 2024 attack, USAF F-15Es were taking off as Patriot missile defence systems on each side of the runway were engaging incoming Iranian MRBMs; debris was raining down onto active flight lines (Altman, 2025).

Importantly, the Iranian drones and MRBMs are imprecise weapons. Their mediocre accuracy means both weapons are most effective when used in large numbers to attack an area. This favours city attacks.

On the other hand, passive defence measures now become useful. Such drones and missiles are much more likely to achieve a near-miss than a direct hit. The MRBMs partly compensate in having a 500kg warhead versus the Shahed's 50kg. Even so, Nevatim airbase with numerous passive defence measures received 32 MRBM strikes, including a hit on a hardened aircraft shelter but no aircraft were lost and only a handful of hangars were damaged (Lair, 2025a). In the cities, none of those killed or seriously wounded were in bomb shelters (Fabian, 2025a).

Iran's recent drone and missile attacks demonstrate modern warfare techniques relevant

to Indo-Pacific nations. Contemporary air defence capabilities are impressive but few nations have them and technological developments continue apace. Keeping up is a challenge.

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