Israel-Iran Conflict: Strategic Analysis of Modern Hybrid Warfare

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INTRODUCTION

The brief but intense 12-day conflict between Israel and Iran in June 2025 marked a watershed moment in modern hybrid warfare, underscoring the primacy of advanced technologies, Artificial Intelligence (AI), cyber capabilities, and integrated air defence systems. Unlike previous shadow engagements, this conflict demonstrated a strategic shift from deniable operations to overt military-technological confrontations. It wasn't just a conventional military clash—it was a trial of precision, resilience, and real-time networked combat in multiple domains i.e., air, cyber, electromagnetic spectrum, and information warfare. Israel and Iran have long been adversaries locked in a protracted geopolitical contest shaped by ideology, regional rivalries, and divergent

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security doctrines. Since the 1980s, Iran has built a network of proxies—Hezbollah, Hamas and Shi'a militias in Iraq and Syria—as part of its strategic doctrine of "forward defence." Israel, in contrast, has adopted a preventive military posture focussed on containing Iranian influence through targeted assassinations, sabotage missions against Iranian nuclear facilities and regular air strikes against Iranian weapons convoys in Syria. Tensions escalated dramatically after the American withdrawal from the Joint Comprehensive Plan of Action (JCPOA) aka Iran nuclear deal in 2018, followed by the 2020 assassination of Islamic Revolutionary Guard Corps (IRGC) Quds Force Commander Qassem Soleimani and Iranian nuclear scientist Mohsen Fakhrizadeh, reportedly by the Israeli Mossad, using remote weapons. By early 2025, a series of retaliatory actions—including cyber attacks on Israeli infrastructure and sabotage operations in Iran—set the stage for a more open, technology-centric confrontation.

THE STRATEGIC PRELUDE: INTELLIGENCE, AI, AND STEALTH INTRUSIONS

According to *Euronews*, Mossad played a central role in laying the groundwork for Israel's opening strike.[1] Leveraging a fusion of Human Intelligence (HUMINT), Signals Intelligence (SIGINT), and AI-driven geospatial surveillance, Israeli operatives reportedly smuggled compact reconnaissance drones into Iranian territory weeks before the hostilities erupted. These drones were used to map vulnerabilities in air defence sites, locate underground missile depots, and create a "kill list" of time-sensitive targets.

AI-enabled platforms aggregated disparate intelligence streams in real-time—satellite data, thermal imaging, and

1. "Israel's Spy Agency used AI and Smuggled in Drones to Prepare Attack on Iran, Sources say", *Euronews*, June 2025, https://www.euronews.com/next/2025/06/18/israels-spy-agency-used-ai-and-smuggled-in-drones-to-prepare-attack-on-iran-sources-say. Accessed on July 8, 2025.

intercepted communications—to optimise strike packages. This phase reflected a new operational model: micro-level infiltration supporting macro-level strategic advantage. The cyber dimension was equally potent, with Israeli hackers targeting Iranian missile logistics systems and command-and-control networks, degrading Tehran's readiness before the first missile was even launched.

THE FIRST STRIKE: AIR RAIDS, DRONE SWARMS, AND CYBER WARFARE

The kinetic phase began with a surprise multi-pronged Israeli air operation targeting Iranian ballistic missile storage sites near Esfahan and the IRGC drone factory in Kermanshah. This initial barrage included Precision-Guided Munitions (PGMs) launched by F-35I Adir stealth fighters and long-range cruise missiles fired from submarines in the Persian Gulf.[2] Simultaneously, decoy drones saturated radar systems to obscure the real axis of attack. In retaliation, Iran launched a series of drone and missile strikes targeting Israeli military installations and civilian infrastructure. According to NDTV World, the Israeli Air Force successfully intercepted over 20 drones in one hour using the Iron Dome and Directed Energy Weapons (DEWs).[3] Iran's offensive also included variants of its Shahed-136 suicide drones, modified to operate at low radar cross-sections, but many were thwarted by electronic jamming and hard-kill interceptors.

2. "Israel Hits Iran's Nuclear Facilities with F-35I Adir Jets Costing $44K Per Hour to Fly in Daring Mission", *The Economic Times*, June 14, 2025, https://economictimes.indiatimes.com/news/international/us/israel-hits-irans-nuclear-facilities-with-f-35i-adir-jets-costing-44k-per-hour-to-fly-in-daring-mission/articleshow/121837267.cms?UTM_Source=Google_Newsstand&UTM_Campaign=RSS_Feed&UTM_Medium=Referral&from=mdr. Accessed on July 8, 2025.
3. Sanstuti Nath, "How Israeli Forces Intercepted 20 Iranian Drones In An Hour", *NDTV World*, June 15, 2025, https://www.ndtv.com/world-news/iran-israel-conflict-video-shows-how-israeli-forces-intercepted-20-iranian-drones-in-an-hour-8675467. Accessed on July 8, 2025.

What made this exchange unique was the simultaneous battle in cyberspace. Iran launched malware attacks on Israel's power grids and financial systems, but most were neutralised by AI-driven cyber security protocols operated by Unit 8200.[4] Meanwhile, Israeli cyber units briefly disrupted Iran's satellite communications and missile guidance data, creating temporary disarray in command cohesion.

DEFENSIVE EXCELLENCE: MULTI-LAYERED AIR AND MISSILE DEFENCE

The Israeli multi-tiered air defence system came under its most significant test to date during the 12-day war. According to *Breaking Defence*, Israel employed an integrated architecture comprising the Iron Dome (short-range), David's Sling (medium-range), Arrow-3 (exo-atmospheric), and the newly operational Iron Beam laser defence system.[5] This fusion provided both redundancy and specialisation, enabling rapid interception of drones, cruise missiles, and even ballistic trajectories. Electronic Warfare (EW) played a crucial supporting role. Israel deployed airborne EW pods and land-based jammers to confuse the Global Positioning System (GPS)-guided munitions, reduce the efficacy of radar-homing missiles, and disrupt Iranian communications. According to reports, several Iranian drones fell harmlessly into Israeli territory after losing connectivity or being misdirected by spoofed navigational data.[6] The successful performance of the Iron

4. Anna Desmarais, "Hacking, Crypto, and Destroying Data: How the Israel-Iran Conflict is Developing in Cyberspace", *Euro News*, June 19, 2025, https://www.euronews.com/next/2025/06/19/hacking-crypto-and-destroying-data-how-the-israel-iran-conflict-is-developing-in-cyberspac. Accessed on July 9, 2025.
5. Seth J. Frantzman, "New Missile Defenses, EW Tactics Aided Israel During 12-day Iran Conflict", *Breaking Defense*, July 1, 2025, https://breakingdefense.com/2025/07/new-missile-defenses-ew-tactics-aided-israel-during-12-day-iran-conflict/. Accessed on July 10, 2025.
6. Ibid.

Beam laser system marked a major technological breakthrough. Capable of neutralising threats at a fraction of the cost of missile interceptors, this directed energy weapon shifted the economics of air defence in Israel's favour. Reports suggest that the Iron Beam was responsible for intercepting nearly a dozen low-flying drones during the second wave of Iranian strikes.[7]

ELECTRONIC WARFARE AND ALGORITHMIC SUPERIORITY

The conflict also saw unprecedented levels of algorithmic combat. As reported by the *Times of Israel*, AI was used not only for target selection and deconfliction but also for dynamic threat evaluation and adaptive defence deployment. Israeli EW assets used real-time spectral analysis to predict the frequency of incoming attacks and automatically adjusted counter-measures.[8]

Iran attempted to use AI-enabled drone swarms in southern Israel, seeking to saturate the defences. However, Israel's rapid-deployment AI Counter-Unmanned Aerial Vehicle (CUAV) systems—many based on Elbit Systems' Skylock Dome and Rafael's Drone Dome—responded with agile jamming and hard-kill solutions. These systems processed hundreds of telemetry signatures and threat patterns per minute, demonstrating the advantage of AI-speed decision-making in a multi-domain battlespace. Israel also leveraged machine learning models for Battle Damage Assessment (BDA), using satellite feeds and drone footage to confirm strike effectiveness within minutes. This

7. Yehoshua Kalisky, "The World's First Operational Interception by Iron Beam—A Remarkable Technological Achievement", *INSS*, June 4, 2025, https://www.inss.org.il/social_media/the-worlds-first-operational-interception-by-iron-beam-a-remarkable-technological-achievement/. Accessed on July 10, 2025.
8. Stav Levaton, "Israel's 12-Day War with Iran was a Test of Technological Dominance", *Times of Israel*, July 1, 2025, https://www.timesofisrael.com/israels-12-day-war-with-iran-was-a-test-of-technological-dominance/. Accessed on July 10, 2025.

allowed for rapid re-attack on secondary targets, maintaining pressure on the Iranian defences while avoiding unnecessary collateral damage.

AVIATION, UAVS, AND MARITIME DIMENSIONS

A significant but less-publicised dimension of the conflict was aerial and maritime aviation. As noted by *Aviation File*, the Israeli Air Force utilised its F-35I fleet not only for precision strikes but also for airborne command and control roles, supported by Gulfstream-based SIGINT aircraft.[9] Iran, meanwhile, employed older aircraft such as the Su-24 and drone-carried munitions launched from re-purposed civilian cargo aircraft. However, Israeli air superiority, bolstered by Airborne Warning and Control System (AWACS) platforms and superior refuelling logistics, limited Iran's ability to penetrate the Israeli airspace meaningfully. In the maritime domain, the Israeli Navy played a covert but essential role. Dolphin-class submarines reportedly launched cruise missiles from the Arabian Sea, hitting key Iranian logistics hubs. Iranian fast-attack boats attempted to shadow Israeli naval assets in the Red Sea, but drone-launched loitering munitions disabled several IRGC naval platforms. Satellite imagery confirmed Israeli naval dominance throughout the eastern Mediterranean and northern Arabian waters during the conflict.

AIR SUPREMACY

Air supremacy has been one of the commonly practised tactics of Isarel. In modern warfare, control of the air has become an absolute necessity as it is vital for the execution of the overall military strategy. Control of the air permits air and surface forces to operate

9. M. Durgut, "The Iran–Israel Conflict: Aviation, Air Defence, and Drone Warfare", *Aviation File*, June 18, 2025, https://www.aviationfile.com/the-iran-israel-conflict-aviation-air-defence-and-drone-warfare/. Accessed on July 10, 2025.

more effectively in the battlespace and denies the same privileges to the enemy. Control of the air has three degrees, the lowest being termed as the Favourable Air Situation (FAS). FAS comprises control over the enemy airspace for some time, which is limited by time and space. The enemy can offer effective resistance beyond this limited time and space. Next comes air superiority. It exists when there is a high degree of dominance over the battlespace, which permits conduct of land, sea and air operations at a given time and place, with minimal interference from the enemy air force. The final and most elusive degree of control of the air is air supremacy. Air supremacy exists when the enemy air power has been incapacitated to such an extent that it is incapable of any air interference. This situation provides total freedom of all operations in the battlespace. This highest desirable degree of control of the air is not limited by time and space[10]. The world has not witnessed air supremacy being achieved since the 1991 Gulf War, when the American Air Force achieved air supremacy over Iraq. Even the US, with its advanced array of weaponry was not able to replicate it. Therefore, it is highly commendable that Israel achieved air supremacy over Iran in just four days of Operation Rising Lion.

The other most important marvel of technological integration and use of AI was the utilisation of the most advanced Israeli stealth aircraft, the F-35 fighter aircraft, in the highly network-centric air operations. The Israelis have named their F-35 fighter aircraft the Adir which means MIGHTY ONE in Hebrew. The Israeli Air Force's Adir has emerged as a central component of the successful air campaign against Iran, mainly thanks to its ability to create an integrated composite battle picture using its sensor fusion connects systems, in a league above everyone else, and it is, in fact, an airborne intelligence centre. The Lockheed Martin-

10. "The Doctrine of the Indian Air Force", Indian Air Force, https://indianairforce.nic.in/wp-content/uploads/2023/01/Final-Compr-2MB.pdf. Accessed on July 10, 2025.

produced F-35 is designed as a network-centric warfare platform. The aircraft's advanced sensors and data-fusion capabilities allow it to gather vast amounts of intelligence on enemy ground and air activities, including radar and command and control sites, and then securely share that real-time data with other assets in the strike package such as the F-15 and F-16 jets. This ability to map the threat environment in real time and guide other platforms made it a critical tool for dismantling Iranian targets[11]. While these concepts have been practised by many air forces the world over, Israel has implemented them very effectively in the real battle scenario. These mighty F-35 fighter aircraft, enhanced with intelligence-gathering modifications, flew deep into Iranian territory and struck Iran's air defence radar installations and surface-to-air missile batteries, thus, achieving air supremacy over the Iranian airspace very effectively in the initial days of the war. Israel used all of its assets, including its submarines, which were deployed in the Persian Gulf. These submarines launched missiles and destroyed Iran's air defences through hard kill. This was the classic Suppression of Enemy Air Defences (SEAD) and Destruction of Enemy Air Defences (DEAD) operation. After suppressing most of Iran's air defences, Israel sent older fighter jets, including the F-15s and F-16s, to join the operation and began dropping Joint Direct Attack Munitions (JDAMs) and Smart, Precise Impact, Cost-Effective (SPICE) bombs—relatively inexpensive compared to missiles—on an expanding list of military sites, some of them in the heart of Tehran[12]. As a result, these relatively older aircraft were able to carry out air strikes deep within Iran, the longest being the strike on Mashhad airport,

11. Yaakov Lappin, "The F-35's Key Role in the War Against Iran", *Jewish News Syndicate* (jns.org), July 10, 2025, https://www.jns.org/the-f-35s-key-role-in-the-war-against-iran/ Accessed on July 10, 2025.
12. Nik Popli, "Air Supremacy Over Tehran Gives Israel a Decisive Edge—And Raises New Risks", *Times.com* June17, 2025, https://time.com/7294919/israel-air-supremacy-tehran-iran/. Accessed on July 10, 2025.

1,400 km away from Israel. It is worth noting that there are 20 countries in the world, including the US, that operate a little over 1,200 F-35 fighter aircraft but none of them has been able to utilise the F-35s so effectively in a real combat scenario as Israel has with just about 45 or so F-35Is.

What Makes the F-35 so Potent?

The Lockheed Martin F-35, dubbed as the costliest fighter jet ever made, is a technological marvel. The list of its advanced features is long and exhaustive; however, only a few most significant aspects are brought out below.

Network-Enabled Operations: The F-35 serves as an information and communications gateway, sharing its operational picture with the ground, sea and air assets.

Sensor Suite: The F-35 has the most advanced sensor suite of any fighter in history, including the Active Electronically Scanned Array (AESA) radar, Distributed Aperture System (DAS), Electro-Optical Targeting System (EOTS) and advanced Electronic Warfare (EW) capabilities to locate/track enemy forces, jam radars and disrupt attacks.

Sensor Fusion: The F-35's advanced sensor fusion enables pilots to draw on information from all of their on-board sensors to create a single integrated picture of the battlefield that greatly enhances awareness and survivability. The F-35 helmet is one of the most advanced pieces of technology. The information a pilot needs to complete any mission-air speed, heading, altitude, targeting information and warnings, is projected on the helmet's visor, rather than on a traditional heads-up display. This approach greatly reduces the pilot's workload and increases responsiveness.

Weapon Capabilities: All weapon bays are concealed inside the fuselage, however, in Beast Mode, it can carry weapons externally too. All variants of the F-35 have the potential to carry

Joint Air-to-Surface Standoff Missiles (JASSMs) or Long Range air Anti-Ship Cruise Missiles (LRASMs), providing increased reach, lethality and survivability against heavily-protected, strategic targets, and increasing the ability to deter near-peer adversaries.

Low Observable Stealth: The F-35's aligned edges, reduced engine signature, internal carriage of weapons and fuel, and embedded sensors all contribute to its unique stealth performance. With stealth designed in from day one, the F-35 has an unmatched ability to evade enemy detection and enter contested airspace.

REGIONAL AND GLOBAL STRATEGIC IMPLICATIONS

The 12-day war has catalysed a strategic recalibration across the Middle East. The Gulf states—particularly the United Arab Emirates (UAE) and Bahrain—reportedly enhanced intelligence sharing with Israel under the aegis of the Abraham Accords. Although Saudi Arabia maintained official neutrality, its radar stations in Tabuk and Jeddah reportedly tracked Iranian missile flights and relayed early warnings to American and allied forces in the region.

Iran's inability to break through Israel's defence grid despite deploying nearly its entire drone arsenal sparked debates within Tehran's political-military establishment. Some IRGC commanders reportedly criticised the over-reliance on proxy warfare and drone saturation tactics, arguing for more investment in next-generation hypersonic and electronic counter-counter-measures. On the international stage, the conflict served as a 'combat laboratory' for military planners in Washington, Beijing, and Moscow. North Atlantic Treaty Organisation (NATO) observers noted Israel's effective command fusion and autonomous defence layering, prompting discussions about emulating similar architectures for NATO's eastern flank.

CONCLUSION

The June 2025 conflict between Israel and Iran marked a defining moment in the evolution of contemporary warfare, with significant implications for regional stability, military doctrine, and global strategic thinking. Unlike the shadowy skirmishes of the past, this 12-day confrontation was overt, technologically intensive, and multi-dimensional, highlighting the ascendance of hybrid warfare in which precision, automation, and integration supersede massed firepower and attrition-based strategies. At its core, this was not simply a conflict between two adversaries but a demonstration of the maturation of warfare into a new era: one that is intelligent, networked, and algorithmically guided.

Israel's conduct of the war was characterised by an extraordinary level of strategic coordination and technological sophistication. Its successful fusion of cyber capabilities, electronic warfare, advanced intelligence, and multi-layered missile defence architecture illustrates the advantage of full-spectrum integration. The use of stealth drones, real-time geospatial mapping, AI-enabled targeting, and automated counter-drone systems reveals a shift from reactive defence to predictive combat operations. Israel was not just intercepting Iranian threats—it was anticipating, preempting, and neutralising them at machine speed.

The resilience of Israel's air and missile defence systems, particularly the seamless cooperation among the Iron Dome, David's Sling, Arrow-3, and the newly operational Iron Beam laser system, was pivotal. These systems, working in tandem, blunted Iran's drone and missile salvos and preserved the Israeli strategic depth. The operational success of the Iron Beam in particular marked a critical turning point. It demonstrated that directed energy weapons can now play a decisive role in national defence, offering a cost-effective solution to emerging saturation threats and altering the economics of air defence paradigms.

Iran's strategy, by contrast, exposed several structural vulnerabilities. Despite deploying a wide arsenal of drones and cruise missiles, as well as engaging in coordinated cyber offensives, Tehran was unable to inflict significant strategic damage. The performance of its Shahed-series drones, while improved in stealth and lethality, proved insufficient against Israel's adaptive EW and kinetic interception systems. Iran's heavy reliance on proxy actors and saturation attacks was rendered largely ineffective by Israel's AI-backed command fusion and defensive agility. Internally, the conflict triggered a moment of reckoning within Iran's military establishment, raising critical questions about its reliance on legacy doctrines and the need for more advanced, resilient platforms.

The war's implications extend far beyond the battlefield. It catalysed a subtle but significant shift in the strategic postures of regional actors. Gulf states, particularly those aligned through the Abraham Accords, enhanced security coordination with Israel, and even traditionally cautious actors such as Saudi Arabia played a quiet but contributory role in intelligence and early warning. Globally, the conflict provided a live demonstration of the future battlespace for major powers. Defence planners in NATO, Russia, and China observed in real-time how modern conflict is shaped by digital manoeuvre, autonomous systems, and electromagnetic superiority.

Ultimately, the 2025 Israel-Iran War was less about territorial conquest or regime change and more about technological dominance and strategic messaging. It illuminated a future in which wars may unfold across invisible domains, where superiority is measured not in numbers but in networks, algorithms, and real-time adaptability. Israel's edge was not just military—it was systemic, rooted in its ability to synchronise diverse capabilities into a coherent and responsive warfighting system. As such, this brief but transformative conflict serves as a blueprint for future military engagements in the digital age.