



## Striking Back

# Iran and the Rise of Asymmetric Drone Warfare in the Middle East

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(Left) Arash-2 drones, often launched in swarms, pictured during an Iranian military exercise; (right) U.S.-made Patriot missile launch.

Iran is an ancient Middle East power, but its halcyon days of empire are centuries in the past. Today, it is a revisionist actor with hegemonic ambitions, ruled by a corrupt and self-aggrandizing theocracy. Since the 1979 Islamic Revolution, Iran has sought to export its version of Shia Islam to often unwilling neighbors. At the policy level, the fundamental goals of Iran's statecraft have been to eject the United States from the Middle East, destroy the state of Israel, and preserve the regime.

For a variety of reasons, Iran's hand has been relatively weak, so it has sought innovative, asymmetric approaches to level the playing field. It has succeeded in maximizing the modest capabilities of its industrial base despite crippling

sanctions and occasional internal turmoil. In a brilliant 1994 article in *Orbis*, Peter Zimmerman argued that nations like Iran do not need “gold medal” technology to be effective—often, “bronze medal” technology is more than adequate.<sup>1</sup> This message still applies three decades later.

Asymmetric approaches are typically a weaker power’s best response to a stronger opponent, particularly when there is a perceived disparity of strategic interest. It is evident, and in fact a stated principle of U.S. strategy, that the problem of Iran is of lesser importance than China, Russia, or North Korea. This overt trumpeting of priorities has had a profound impact on Iran’s behavior—and the conduct of U.S. allies and partners in and out of the region as well. For the weaker power—Iran—this conflict is ultimately about regime survival, while it is not an existential consideration for the stronger power—the United States.<sup>2</sup> This asymmetry of interest has created opportunities for Iran.

Nowhere has the combination of asymmetric approaches and bronze medal technology been more consistent—or more successful—than in the domain of unmanned aerial vehicles (UAVs). Here, discussion will center on a triad of Iranian unmanned, long-range strike systems. First is Iran’s large and growing theater ballistic missile (TBM) force, which consists of both solid- and liquid-fueled airframes capable of ranging anywhere

in the Middle East. Second is Iran’s newly emerging land attack cruise missile (LACM) force, composed of air-breathing, winged airframes that are typically low-flying and radar evasive. Some LACM variants have adequate range to hit any target in the region from Iran. Finally, and the focus of this analysis, are unmanned aerial vehicles. UAVs can be used for surveillance or attack, and they come in many shapes and sizes, from hand-launched, short-range variants to platforms as big as a modern fighter aircraft that may have a very long range. Both can be difficult to defend against.

## The Increasing Threat

Iran’s military capabilities are much more than just the sum of its systems. Taken together, this new triad delivers the equivalent of combined arms warfare, a sophisticated approach to combat wherein the actions a defender takes to optimize against one of these threats opens a pathway for an attack by other means. Combining these capabilities places the defender on the horns of a dilemma: for instance, Iran’s UAVs could be used to swarm either U.S. or partner Patriot radars in the region in the early stages of a comprehensive attack. If these radars are knocked out, then the Patriot missiles themselves—the core capability to defend against both LACMs and TBMs—would be rendered irrelevant.<sup>3</sup> Moreover, UAVs are relatively inexpensive and can be funneled to proxies operating near potential targets across the region.

One of the West’s key tensions with Iran is over the status of its nuclear program. It is declared U.S. policy to not allow Iran to possess a nuclear weapon. To varying degrees, most Western nations agree with this principle. While it is clear that Iran’s words and actions underscore the danger of its attaining this capability, it is also possible that a U.S. fixation on this singular policy objective has allowed the explosive growth of other military capabilities.

To deal with this issue, policymakers need to think

### Abbreviations

CENTCOM	U.S. Central Command
IRGC	Islamic Revolutionary Guard Corps
JCPOA	Joint Comprehensive Plan of Action
LACM	land attack cruise missile
TBM	theater ballistic missile
THAAD	Terminal High-Altitude Area Defense
UAV	unmanned aerial vehicle

about a difficult question: what do Iran’s leaders think, and what do they see as their critical national security capabilities? The opacity that characterizes the Islamic Republic’s strategic decisionmaking makes it very hard to reach any firm conclusions, but while Iran may well seek the ability to “sprint” to nuclear weapons development, it has not, as of this writing, decided to do so. Instead, the Islamic Republic prefers to be right on the edge of breakout, where it can pressure the United States and its partners for concessions while talking about a future “return to the JCPOA,” an abbreviation for the 2015 Joint Comprehensive Plan of Action, or Iran nuclear deal.

Iran’s real crown jewels are the triad of unmanned long-range strike systems just discussed, undergirded by its rapidly improving air defense network. These weapons are available today, not in some distant tomorrow. The relative importance of Iran’s conventional arsenal vis-à-vis a potential nuclear capability was captured in 2020 when U.S. president-elect Joe Biden explained, in a discussion with columnist Thomas Friedman, that “in consultation with our allies and partners, we’re going to engage in negotiations and follow-on agreements to tighten and lengthen Iran’s nuclear constraints, as well as address the missile program.”<sup>4</sup> Iran’s response was immediate, and surprisingly consistent. Then president Hassan Rouhani said, “The Americans were trying for months to add the missile issue [to the nuclear talks] and this was rejected.”<sup>5</sup> Others, including Iran’s current president Ebrahim Raisi and former foreign minister Mohammad Javad Zarif, have also been loud in their rejection of any linkage. During the years of sanctions against Iran, including the period of “maximum pressure” under the Trump administration, the Islamic Republic’s leadership sacrificed its economy to keep working on these weapons, which enjoyed at least as high a priority as nuclear weapons development.

All these capabilities are destabilizing and dangerous. UAVs pose the most immediate threat to Middle East security because of their low cost, widespread availability, and potential deniability—since their point of origin can be disguised by employing a

convoluted flight path. Since fall of 2022, this threat has expanded into Eastern Europe, as Iran has begun furnishing UAVs and training for Russia to support its aggressive war in Ukraine.<sup>6</sup> The Iranian UAV threat has evolved rapidly, while regional responses have often been lethargic. As a result, the gap is widening, and the threat grows every day. This is a new reality that not everyone fully understands. What would a war in the region using these potent asymmetric capabilities look like?

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## A Fires War

Such a conflict between Iran and its adversaries would be a “fires war,” not a war of maneuver or invasion. Some of this is driven by necessity. Iran does not possess an army with expeditionary capabilities, although its proxy forces across the region do provide some form of power projection. Iran’s air force is small and indifferently maintained and trained. Iran does have some naval capabilities, but beyond sea denial operations, these would be very limited. In Western military thought, there is an aphorism: “Fire without maneuver is indecisive. Maneuver without fire is disastrous.”

Some history is in order here. The Iraq-Iran War in the 1980s saw significant long-range aircraft and rocket/missile strikes against the population centers of both countries. Despite these city-busting tactics, neither population turned against the war. Even with this background, Iran has embraced a policy of using long-range fires as its primary overt method of war, probably based on an assessment that such an approach would be effective against its Gulf neighbors, which have vast and vulnerable infrastructures open to attack. This approach could also be applied against Israel, if Iran can saturate Israeli missile defenses.<sup>7</sup>

How would such a war be fought? The triad of Iranian unmanned systems would be employed to attack air bases, ground and naval bases, and population centers. The large numbers of Iranian systems

available would mean that many strikes would overwhelm air and missile defenses and reach their targets. As previously noted, the initial phase of any attack by Iran would target the indication and warning sensors and battle management and fire control radars of the United States and its partners. Of course, regional forces would fight back and attempt to strike the launchers and assembly areas for these systems, but Iran's vastly improved air defense network would make it very difficult for manned aircraft from either Saudi Arabia, the United Arab Emirates, or any other regional state to have good effect. Striking targets in Iran would require the cooperation and protection of the U.S. Air Force and U.S. Navy: only they have the organic capabilities needed to fly persistently into Iran's air defense network and strike these targets with any chance of success—and enable partner air forces to accompany them.

Should the United States participate in a regional war against Iran, success will be based on the relative exchange rate between the ability of Iran's military—including the Islamic Revolutionary Guard Corps (IRGC)—to generate long-range striking power against targets, and the ability of the United States and its partners to reduce that offensive capability, while defending vital areas. Iran's theory of victory would rest on inflicting so much pain on neighboring states that the war would eventually end on conditions favorable to the regime. The Islamic Republic would have every incentive to employ a counter-value approach to targeting, striking the population centers of its adversaries in an attempt to force a political solution. Iran would seek to maximize early strikes, then offer to de-escalate before the United States could gather, deploy, and apply its overwhelming strength. As a result, a war of this type could cause many thousands of casualties, both military and civilian—especially if initial efforts to de-escalate proved unsuccessful.

By contrast, the theory of victory for the U.S. and Gulf side would rest on two achievements: reducing the number of mobile launchers from which Iran could strike, while imposing a level of pain on the Iranian regime that would drive it to negotiate.

The preservation of the theocratic regime is a core Iranian strategic objective. Attacks that threaten to destabilize it, either through economic hardship or hindering its ability to govern, would be treated very seriously by Iran's leadership. Retaining a significant reserve of mobile missiles post-hostilities is key to Iran's theory of success, so degrading this force through attrition would contribute directly to regime insecurity.

Although Iran is increasing its number of fixed, buried launch sites in the ballistic missile launch areas spread across the country, this may not prove wise in the long run; fixed sites, even when hardened, can be struck with good effect. The difficulty is finding the target, not “weaponeering” against it. Thus, the mobile missile launchers will pose an even tougher challenge, as the history of coalition efforts against mobile launchers is not encouraging. In the 1991 Gulf War, the coalition struggled to find and attack them in the deserts of Iraq. But the United States is better at this than in the past, and there is good reason to believe Tehran will be unable to tolerate a significant reduction of this capability. The prospect of ending the war with a greatly reduced reserve of missiles may provide the impetus to bring Iran to the negotiating table.

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## Offense and Defense

When it comes to UAVs, the relationship between offense and defense currently favors the attacker. This is due to the very low cost of UAVs, their ease of manufacture, and their ability to be launched from very rugged and logistically austere environments.

UAVs can be employed as surveillance and reconnaissance assets, as two-way strike assets, or as one-way suicide strikers, with Iran employing them in all three modes. Iranian UAVs routinely maintain a presence over areas like the Strait of Hormuz and its approaches. On occasion, they maneuver provocatively around coalition warships in these waters; Iran has also struck ships with UAVs.

In Iraq and Syria, UAVs operated by Iranian proxy groups—and the IRGC at times—routinely overfly coalition bases, and have been used repeatedly to strike these positions, with varying degrees of success. In Yemen, the art of using cheap, disposable UAV systems to impose costs on a high-tech adversary is an object lesson in the value of bronze medal technology. Houthi drone strikes on Saudi Arabia from Yemen have imposed heavy costs on the kingdom.

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## Puncturing the Myth of Infallible U.S. Air Superiority

The above activities amount to an inflection point in the history of aerial warfare. Today, the United States can no longer count on enjoying air superiority over American forces and bases and cannot, as a practical matter, completely prevent overflight by unknown and even hostile UAVs. This inflection point is as important in many ways as the introduction of manned flight early in the twentieth century. The fact that these capabilities are available today at a fraction of the cost of earlier generations of UAVs as well as manned aircraft contributes to their appeal, and puts them within the reach of all states, and many non-state groups, democratizing a previously elite form of warfare. The very character of aerial warfare is changing as a result.

In fact, military flight will have a significant unmanned component for the foreseeable future and may even become a dominant element of aerial warfare. In the Middle East, this protean dynamic has given a weaker power like Iran the opportunity to engage asymmetrically and with good effect against nations and coalitions that can—in theory—produce vastly more combat power. In Iran’s case, by striking hard with UAVs (as well as missiles) in the early stages of a conflict, it may hinder U.S. deployment of combat power to the region, while at the same time undercutting regional support for a protracted

conflict. In this way, Iran’s employment of large numbers of UAVs, together with ballistic and cruise missiles, could be a game-changing development in a future conflict.

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## Responses to the Growing Threat

For more than fifteen years now, nations in the region and successive U.S. Central Command commanders have watched the growth of Iran’s UAV threat. The logical response has fallen into two domains: technical and organizational. The technical domain has seen principally the introduction of air defense systems into the theater, by both rotational deployments of U.S. Patriot and THAAD (Terminal High-Altitude Area Defense) batteries, as well as purchases of air and missile defense systems by the Gulf states and Israel, including a variety of short-range gun and missile systems from Western and Russian as well as Chinese sources. This has led to a hodgepodge of capabilities, which have sometimes undermined a basic principle of air defense: the rapid and open sharing of information.

Thus, the region is home to significant air defense assets. For many years now, the United States has had both Patriot and THAAD batteries positioned in the region. Each battery typically has up to eight launchers, each loaded with four missiles. The batteries can be rapidly reloaded. There are several variants of missile type, some of which are optimized for aircraft, others for ballistic missiles. The total number of U.S. Patriot missiles within the region is a closely guarded secret. Gulf nations also possess robust and highly capable fleets of fighter aircraft, many of which can be employed against UAVs and LACMs.

A key reality, then, must be stated here: *The problem has not been the equipment. The problem has been the inability to organize effectively as a group of nations against the threat.* Every nation in the region recognizes the threat posed by Iran’s capabilities.

Not all these nations have been willing, until recently, to set aside their suspicions of each other and orient their air defenses toward Iran—and to share air defense information. Nascent steps are now being taken toward this objective. This involves using the Combined Air Operations Center, located at al-Udeid Air Base in Qatar, as the central node—the hub with a series of spokes emanating to regional countries.

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## Toward a Regional Air and Missile Defense Architecture

A confluence of events, rooted in the increasing sophistication and scale of the threat from Iran, has led to today's challenge. Iran's missile and unmanned system capabilities are now an existential threat to the Gulf states and a direct threat to Israel. That has not always been the case. Provocative Iranian behavior, beginning in spring 2019—which saw attacks on Gulf tankers, stepped-up attacks on Saudi pipelines by UAVs from Iran-aligned Houthi forces in Yemen, and finally the attack on Saudi Aramco facilities from bases inside Iran in September 2019—exposed an aggressive approach to wielding these new weapons. The Aramco attack jolted Saudi decisionmakers, and when the U.S. response did not meet their expectations, the Riyadh leadership began looking for alternatives. This was exacerbated by confusing U.S. messaging that raised questions about its long-term commitment to the region. Opportunities were lost, across presidential administrations, to avoid the narrative of abandonment that has gained purchase among U.S. allies and partners in the region.

The September 2020 signing of the Abraham Accords held out the promise of greatly enhanced diplomatic and economic ties between Israel, the UAE, and Bahrain (and subsequently Sudan—and in a separate but parallel deal, Morocco). It was in the military domain, though, that vast new

opportunities for cooperation became apparent. These were given even greater impetus by the Trump administration's decision to move Israel from the U.S. European Command's area of responsibility to that of CENTCOM. This operationalized the security dimensions of the Abraham Accords. There were now formal processes at hand, under CENTCOM auspices, to allow a previously unattainable level of contact and planning between regional states. This gave political cover for even those Arab nations lacking formal ties to Israel to explore military-level contacts with their Israeli counterparts.

The focusing mechanism was the Iran UAV and missile threat. The response was renewed and energized interest in integrated air and missile defense, with the United States as a partner—but not the only partner. Moreover, defense against an air and missile threat, when approached cooperatively, does not require ceding sovereignty. This is perhaps the most important detail to bear in mind when considering regional responses. Air and missile defense is about sharing information—building a “common operational picture” and practicing tactics, techniques, and procedures that optimize the odds of successful engagement. No one must station troops or forces on another's soil. The emphasis is on information and, from a practical political perspective, it is innately defensive. All these attributes make this concept attractive.

Since 2021, nations in the region have been meeting at the military level to assess the Iranian threat and consider responses. And while not every nation has attended these meetings, most have, and what distinguished the gatherings was not only their very occurrence, but also the series of lower-level staff conferences that preceded and followed them, with working groups discussing how information could be more efficiently shared and how best practices could be employed against the Iranian threat.

By the same token, the progress made so far must not be overstated. Bilateral suspicions remain, and the United States is still the indispensable partner that enables multilateral cooperation. Further, most of these discussions have been happening at the

military level; what must happen next is political buy-in so that conceptual agreement can lead to collective action. Moreover, the October 2022 Saudi decision to cut back oil production against U.S. wishes may affect actions at the political level. For example, the promising Red Sands initiative being introduced by CENTCOM in Saudi Arabia, intended to work on theater UAV defenses on the ground, may be jeopardized by such tensions.<sup>8</sup>

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## Threats and Opportunities: Looking to the Future

Even in the increasingly unlikely event of a new JCPOA-like agreement, Iran will strive to increase its military capabilities. And should a new JCPOA emerge, Tehran could find itself with significantly more money for these programs and capabilities. Particularly concerning is the Iranian decision to provide UAVs to Russia to aid in its war against Ukraine. This will undoubtedly result in not only more money for Iran, but possibly even more advanced technologies. Iran—along with its Russian partners—is also learning how to operate UAVs within a complex battlespace.

While the advantage still lies with the attacker, the gap is narrowing. In Ukraine, defenders are applying the same defensive principles that have been used in the Middle East: early identification of the threat, aggressive employment of manned aircraft when possible, maximum use of medium- and short-range air defense missiles, and extensive use of air defense artillery and small arms near the objectives. Open reporting indicates that Ukrainian forces are also conducting deep strikes with their own drones, but it is not known to what degree they are disrupting Russian drone logistics and launch operations. While the reporting is unclear, it seems that Ukraine is downing more than 50 percent of incoming drones, which is consistent with Saudi results against UAVs from Yemen.

Thus, all is not bleak—and future opportunities

abound. For the first time, there is genuine momentum among regional states to create a multilateral response to the threat of Iranian UAVs and missiles. This response is the most significant military development in the region in many years. Technical defensive solutions are becoming increasingly available, ranging from kinetic to electronic, including the use of lasers and high-energy radiation. If Iran attempts to expand the use of GPS- and even satellite-link-based control in the future, opportunities to exploit these new paths will be available. Even as Iran learns from Russian operations in Ukraine, Western states have a tremendous opportunity to also experiment with different technologies and tactics there.

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## Conclusions and Policy Recommendations

This is a decisive moment in the development of counter-UAV defenses in the region. The United States and its partners have an opportunity to create a multilateral and multi-domain response to aggression by Iran that—when coupled with nascent but promising technological advances—may shift the balance in their favor. This will not only improve their ability to defend against attacks by Iran, but it will allow greater flexibility for the United States as it confronts China and Russia. The window is narrow, however, and success will require greater U.S. adroitness and flexibility than in the past few years to seize this generational opportunity.

The goal the United States seeks is deterrence. This can be accomplished either by denying Iran's leaders success in their attacks or by the threat of punishment: i.e., the capability to make their objective—whatever it is—not worth the potential pain and loss that will be inflicted in return. Clearly, deterrence by denial is preferable. Despite promising developments, the United States lacks the regional posture or technical ability to achieve deterrence by denial. The U.S. technical capability may improve in the future, but it is not here now. On the other hand,

Iran's leaders have never doubted the U.S. ability to eventually impose crushing costs on them—to deter by punishment. Even so, they have doubted—and with good reason—the U.S. will to do so. The January 2020 strike against IRGC Qods Force commander Qasem Soleimani changed this calculus to some degree, but there is still a fundamental lack of respect for America's willingness to punish the Islamic Republic's misbehavior. To achieve genuine deterrence, the United States must have credibility in both areas: denial and punishment.

The United States can exploit opportunities against Iran, especially relating to the unmanned aerial challenge, in the following ways:

- Clarify U.S. policy in the region so that America's friends there are not confused about its aims and long-term intentions—while increasing the degree of ambiguity that a potential aggressor has to calculate about U.S. intentions. The continuation of B-52/B-1 long-range missions into the theater clearly exemplifies a cost-effective display of U.S. capabilities.
- Explicitly message Iran about U.S. redlines, and ensure the regime knows that proxy-sponsored attacks will be seen as attacks by Iran. Ultimately, the United States needs to be very clear with its friends in the region, while maintaining uncertainty in the minds of potential opponents.
- Practically, this approach will mean being less strident about emphasizing the region's secondary importance compared to the Indo-Pacific and Europe, and making the effort to undo the genuine damage done by clumsy and conflicting messaging about whether or not the United States is leaving.
- At the same time, get behind military-to-military efforts that are developing—for the first time—genuine multilateral responses to Iran's aggression, particularly in the area of air defense against drones and missiles. These military-to-military channels have been pursued about as deeply as they can be. What is needed now is political action that moves these agreements to a higher, more comprehensive level. This includes supporting the ongoing integration of Israel into the CENTCOM area of responsibility.
- Expand and refine the U.S. coalition's ability to operate against the entire ballistic missile, LACM, and UAV enterprise. This should include efforts directed against the supply chain that brings components to the field, and should also improve the U.S. capability to find, fix, and finish drone and missile storage and assembly areas before weapons are dispersed to their launch sites. Artificial intelligence and machine learning have a big role to play here and may create new targeting opportunities.
- Continue to support the technical advances now bearing fruit in the counter-UAV fight. This is largely a good-news story. The Department of Defense has rightly emphasized the critical nature of this task. ❖

## NOTES

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3. This technique has been used by the Houthis in striking targets in Saudi Arabia.
4. Thomas Friedman, “Biden Made Sure ‘Trump Is Not Going to Be President for Four More Years,’” *New York Times*, December 2, 2020, <https://www.nytimes.com/2020/12/02/opinion/biden-interview-mcconnell-china-iran.html>.
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7. See two pieces by Uzi Rubin, the former head of Israel’s missile defense program, claiming that such precision strike systems are true weapons of mass disruption and destruction, and may be war-winners: “Israel and the Precision-Guided Missile Threat,” Perspectives Paper 1607, Begin-Sadat Center for Strategic Studies, June 16, 2020, <https://besacenter.org/israel-precision-guided-missiles/>; and “The New Day After: Accurate Missiles in the Middle East,” presentation, Nonproliferation Policy Education Center, April 22, 2021, <https://npolicy.org/the-new-day-after-accurate-missiles-in-the-middle-east/>.
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