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Source: The Economist.

Iran's Weakened Position and the Status of Its Nuclear Option

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Tehran's national security strategy aims at: ensuring continuity of clerical rule, maintain stability against internal and external threats, secure Iran's position as a dominant regional power, and achieve economic prosperity.

Ensure continuity of clerical rule. The supreme leader's position is based on the popular acceptance of the current governance and ideology, which means a pervasive control of the socio-political sphere.

Secure the nation from exo/endogenous threats. This implies countering political and ethnic opposition movements and preventing instability spillovers from nearby countries. The military is of course dedicated in opposing external threats.

Regional dominance. Tehran wants a stable regional, with reduced US and Western influence and reduced Sunni extremism

Economic prosperity. The priorities consist in reducing subsidies, evading sanctions, curbing corruption, reforming the financial sector, and attracting foreign investment to achieve a reasonable degree of self-sufficiency (US DoD, Iranian Military Power, 2019).

After the bloody aggression by Iraq in 1979, Islamic Revolution, Iran's military doctrine has sought to avoid direct or prolonged conflict with superior conventional powers, gradually developing by trial and error the "forward defence" doctrine. Championed by Major-General Qasem Soleimani, who began to develop it during the long war in Afghanistan, it has allowed Tehran first to break the strategic isolation and then, in time, to project power regionally while minimizing the risks of direct confrontation. Today it relies on an atypical combination of relatively loyal irregular forces (such as Hezbollah and Hamas), and an extensive arsenal of ballistic missiles, drones and integrated cyber warfare

However, Tehran's forward defence has recently come under severe strain following a year of escalating confrontation with Israel. Israeli strikes since mid-2024 have systematically targeted senior IRGC (Islamic Revolutionary Guards Corps) and proxy leaders, including the April assassination of Quds Force generals in Damascus, the killing of Hamas leader Ismail Haniyeh in Tehran in July, and Hezbollah's Hassan Nasrallah in September. These operations, coupled with heavy disruptions to command-and-control structures, have exposed the vulnerabilities of Iran's "Axis of Resistance".

The December 2024 collapse of the Assad regime further upended Tehran's regional strategy, cutting off its primary logistical route to the Levant and forcing Iran to contend with the challenge of resupplying its proxy network. Combined with sustained Israeli strikes, these setbacks have rendered the Axis (at least for now) an unreliable deterrent against Israeli aggression, marking a major blow to Iran's ambitions in the region.

Simultaneously, Iran faces growing vulnerabilities also within its own territory. Israel's airstrikes (26th of October) against Iranian military infrastructure, repeating earlier attacks in April, targeted key missile production facilities, air defences and nuclear-related sites. Satellite imagery confirmed significant damage at missile motor plants in Shahroud and Khojir, as well as a facility associated with nuclear warhead-component testing. Further strikes targeted air-defence assets, including Iran's advanced S-300 and early-warning systems. These attacks disrupted Iran's solid-fuel missile production, weakened its ability to replenish stockpiles and neutralized its most advanced air defence systems.

Table 1: **Tit-for-tat attacks between Iran and Israel, 2024**	
1 April:	Israel strikes Iranian diplomatic mission in Damascus, killing seven senior leaders of the Islamic Revolutionary Guard Corps (IRGC) Quds Force
14 April:	Iran strikes Israel with 300 missiles and UAVs
19 April:	Israel attacks three Iranian air-defence sites
31 July:	Israel kills Hamas political leader Ismail Haniyeh while he was in Tehran to attend the inauguration ceremony of Iran's President Masoud Pezeshkian
27 September:	Israel kills Hizbullah leader Hassan Nasrallah, other Hizbullah commanders and an IRGC general
Late September:	Israel begins ground invasion of Lebanon
1 October:	Iran strikes Israel with at least 180 missiles
26 October:	Israel strikes 20 Iranian military facilities

Source: IISS.

The cumulative effect of these defeats is a crisis for Iran's deterrence framework. Just four years after his death, Soleimani's strategy of confronting Israel below the threshold of war now has lost credibility. With its proxies degraded and missile production compromised, Tehran faces mounting pressure to recalibrate its approach. Increasingly, Iran's status as a nuclear-threshold state is being framed as a potential alternative to offset its conventional vulnerabilities and deter further aggression. Such a reassessment raises the spectre of potential nuclear weaponization—a drastic step that Tehran might perceive as the only viable means of countering Israel's growing military dominance and maintaining its regional standing.

Between Narratives and Capabilities

As a threshold nuclear state, Iran possesses most of the essential components for nuclear weapons (a significant fissile material stockpile, advanced centrifuges, technical expertise, production facilities, and delivery systems), without yet taking the final step toward full-scale weaponization. Though Tehran insists its nuclear program is for civilian purposes, its strategic calculus increasingly views nuclear capabilities as a means to deter Israeli aggression and compensate for conventional vulnerabilities.

The setbacks to Iran's regional strategy - especially following Israeli strike on Iran's consulate in Damascus in April 2024 and the tit-for-tat exchanges in October - have fuelled internal calls to reassess

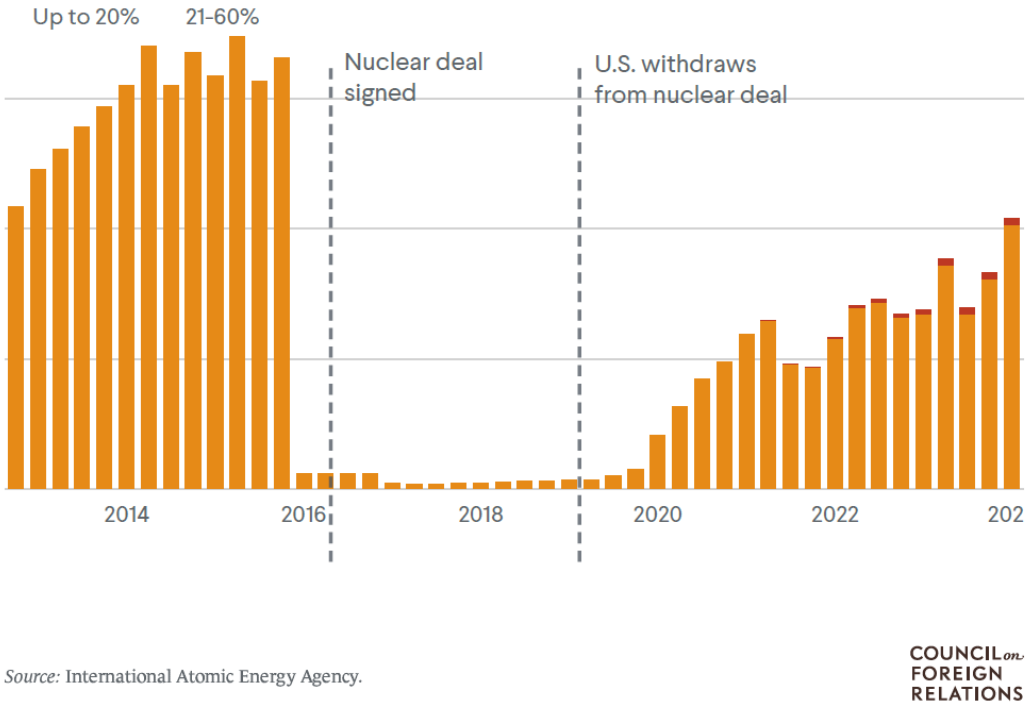
its deterrence posture. On the 18th of October, 39 lawmakers sent a formal letter to the Supreme National Security Council (Iran's top security policymaking body) urging a revision of Iran's defence posture to allow for nuclear weapons development.

Iranian officials, including former foreign minister Kamal Kharrazi, warned that escalating threats could force Tehran to reconsider its nuclear doctrine. Kharrazi emphasized that, while no decision has been made to produce nuclear weapons, Iran's technical capabilities are in place; only the 2009 *fatwa*, issued by Supreme Leader Ali Khamenei, prevents currently weaponization. However, shifting rhetoric increasingly frames the *fatwa* as conditional, signalling that existential threats could prompt its revision. Unsurprisingly, this process has just worsened after the fall of the Syrian regime in Damascus.

While much of this discourse remains rhetorical, driven by persons lacking direct control over nuclear policy, it reflects hardliner efforts to leverage Iran's threshold status as a deterrent. Still, the trend does not imply an imminent Iranian move toward weaponization. Tehran is adopting a dual messaging strategy: signalling a willingness to reconsider its nuclear posture to instil caution in adversaries while leaving room for de-escalation through diplomacy. Publicly framing weaponization as a contingent response (triggered by attacks on nuclear infrastructure or regime survival) enables Iran to project strength without committing to irrevocable actions.

Despite these signals, Tehran remains acutely aware of the risks. Reformist voices warn that crossing the nuclear threshold could intensify sanctions, trigger a regional arms race, and erode diplomatic support from key allies like Russia. Nevertheless, Iran's increasing reliance on nuclear ambiguity reflects a calculated effort to adapt its deterrence posture amid mounting vulnerabilities. The nuclear option is increasingly viewed as a last resort measure to counterbalance Israel's military dominance and ensure the regime's survival in a rapidly shifting regional order.

However, recent developments suggest that crossing the nuclear threshold would require relatively small effort. Since President Trump's withdrawal from the Joint Comprehensive Plan of Action (JCPOA) in 2018, Iran has steadily expanded its uranium enrichment program. In recent months, these efforts have accelerated significantly, with Tehran ramping up its highly enriched uranium (HEU) stockpile, installing advanced gas centrifuges at key enrichment facilities, and possibly engaging in weapons-related activities.

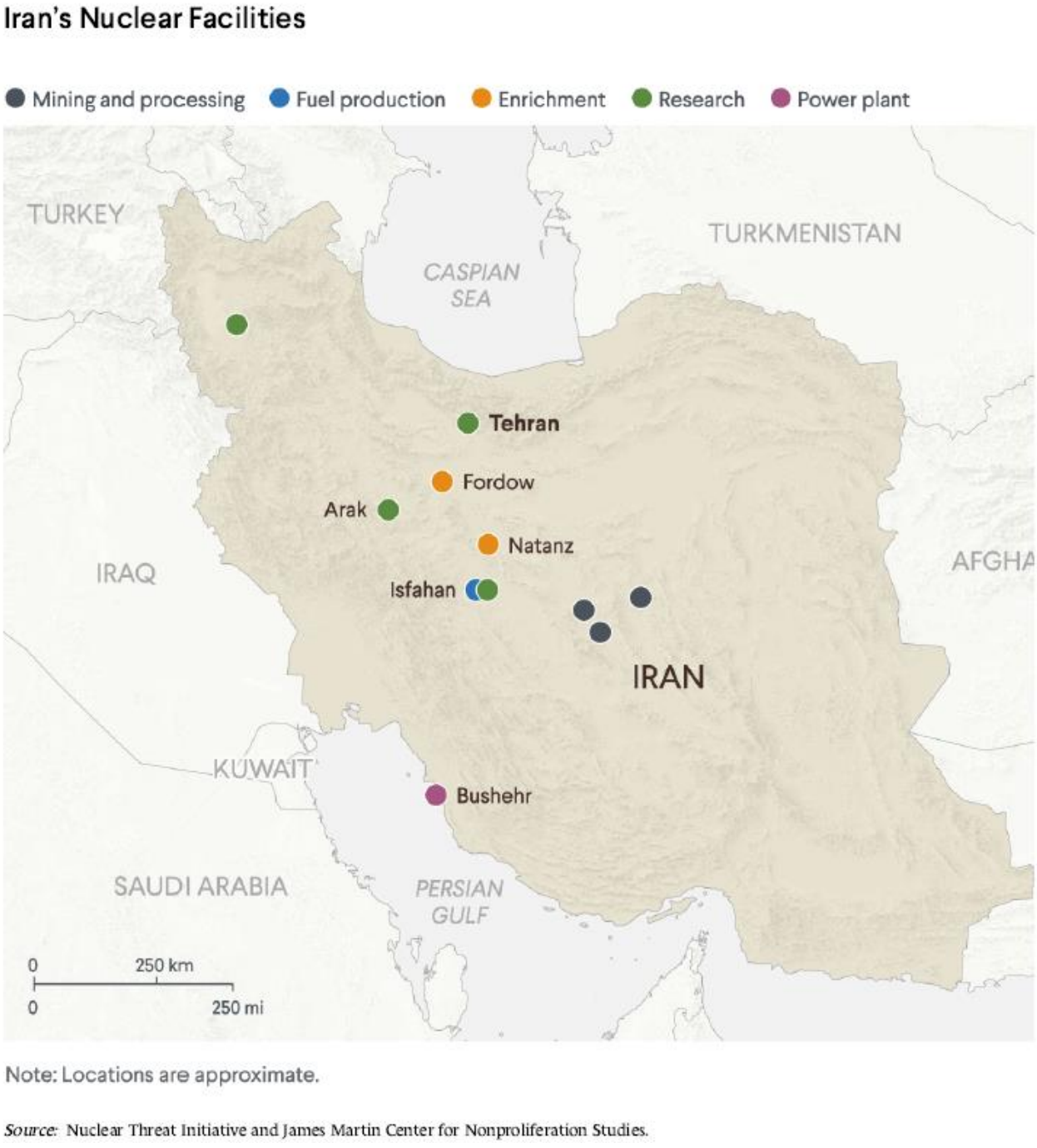


Source: CFR on IAEA.

The urgency of the situation is underscored by the International Atomic Energy Agency (IAEA) report in November 2024, revealing that Iran is operating outside the parameters of the JCPOA. The nuclear watchdog's findings indicate that Iran's stockpile of 60% enriched uranium of the fissile isotope U-235 has reached 199 kg, dangerously close to weapons-grade levels. The International Institute for Security Studies (IISS) estimates that this quantity alone could produce nearly six devices' worth of 90% HEU, and Iran's 1,021 kg of 20% enriched uranium could fuel three additional devices if further enriched.

Iran's enrichment activities rely heavily on its advanced centrifuge cascades at two critical facilities: the Fordow Fuel Enrichment Plant and the Pilot Fuel Enrichment Plant at Natanz. The Islamic Republic now operates over 11.000 advanced centrifuges, far exceeding the JCPOA's limit of 64 machines. Experts believe that producing weapons-grade uranium (WGU) for a single device could take as little as one week, with enough material for 12–15 bombs achievable within three to five months.

The IAEA's December 2024 report further underscored Iran's dangerous expansion of enrichment at Fordow. Tehran has implemented a process that enriches uranium progressively to 60% HEU and could be rapidly reconfigured to produce WGU. Fordow's expanded capacity enables the production of 25–35 kg of 60% HEU per month, which could be quickly converted into 10–11 kg of WGU monthly, enabling a surge capacity for multiple devices.



Source: Nuclear Threat Initiative/JM Center for Nonproliferation Studies.

Nonetheless, significant hurdles remain. Weaponization would require relevant bottlenecks to the current process, such as converting HEU gas into metallic uranium, casting it into hemispheres, testing high-explosive detonators, and employing a neutron initiator to trigger a chain reaction. More critically, developing a functional, miniaturized warhead for vector integration and constructing the necessary production infrastructure remains equally complex and time-consuming; a process estimated to take 1–2 years.

While these timelines remain rather speculative, they highlight the potential urgency and capability of a cornered Iran. Confronted with existential threats or risks to its core interests, Tehran may increasingly view a rapid breakout and the actual development of a nuclear weapon as its only viable option.

At present, however, Tehran's most compelling reason for avoiding a breakout lies in its conventional military vulnerability. While Iran may require weeks or months to produce a viable nuclear weapon, this timeline would provide its adversaries ample opportunity to respond. Tehran's leadership faces thus a strategic conundrum. While nuclear weapons could offset its weakened conventional deterrence, initiating a breakout would expose Iran to pre-emptive strikes. As CIA Director William Burns noted in October 2024, US and allied intelligence would likely detect such efforts "relatively early on."

This reality forces Tehran to balance its nuclear signalling with caution, as any miscalculation could provoke catastrophic consequences. However, Iran's reduced cooperation with the IAEA, including inspection restrictions, complicates international monitoring. The IAEA itself has warned that its ability to detect enrichment beyond 60% HEU or diversion of nuclear material is increasingly limited, adding further uncertainty to an already precarious situation.

Weapons and Delivery Systems

Iran's crash nuclear program of the late 1990s and early 2000s, known as the *Amad* Plan, identified ballistic missiles (specifically the *Shahab-3* and its derivatives) as the primary delivery system for its first nuclear weapon. If Tehran crosses the nuclear threshold, ballistic missiles would remain its preferred delivery platform due to their survivability, responsiveness and ability to penetrate modern missile defences. Unlike most nuclear-armed states, Iran already possesses a robust and mature missile infrastructure, demonstrated during its direct strikes against Israel in April and October 2024.

Iran's diverse and extensive arsenal of ballistic and cruise missiles is the largest in the Middle East, with over 3.000 systems, according to U.S. Central Command (CENTCOM). This inventory includes liquid- and solid-fuel systems, many of which are technically nuclear-capable. Iran's self-imposed range limit of 2.000 km places its most advanced systems in the medium-range ballistic missile (MRBM) category—sufficient to target all of the Middle East, parts of Europe (including NATO states like Turkey and the Eastern Balkans), and regional adversaries such as Israel. While the *Sejjil* remains Iran's sole publicly declared long-range option, systems like the Khorramshahr could exceed this range if equipped with lighter warheads.

Source: CSIS.

The April and October 2024 strikes on Israel marked Iran's first direct attempts to hit a NATO partner from its territory. The former involved around 120 MRBMs as part of a broader assault employing also UAVs and cruise missiles. Instead, the latter exclusively relied on MRBMs, of which 181 entered or neared Israeli airspace. Both strikes primarily utilized legacy systems, such as the *Emad* and *Ghadr* missiles, upgraded versions of the *Shahab-3*, the backbone of Iran's MRBMs arsenal since the late 1990s and early 2000s. These liquid-fuel missiles, with ranges of 1.600 km, have been modernized with improved guidance systems and re-entry vehicles to enhance accuracy and maintain operational relevance.

However, many of these are approaching the end of their service life. Iran also deployed two of its most advanced domestically produced MRBMs: the *Kheibar-Shekan* and the *Fattah*. The *Kheibar-Shekan*, a longer-range variant of the solid-fuel *Fateh-110* family, has a range of approximately 1.450 km and was first tested in January 2024. The Fattah, Iran's first so-called "hypersonic" missile (a contested claim) can strike targets up to 1.400 km away and was notably used in the October attack for the first time.

A future Iranian nuclear missile force would likely rely on an initial mix of liquid-fuel updated *Shahab* models and solid-fuel Fateh-110 variants, like the *Kheibar-Shekan*. Iran would prioritize ensuring these missiles can penetrate enemy defences. Systems fitted with triconic re-entry vehicles (RVs)—such as the *Qiam*-1, *Ghadr*-1, *Emad*-1, and *Khoramshahr*-2/3—offer improved aerodynamic profiles for higher terminal velocities, making interception more difficult. Additionally, missiles like the *Emad*-1, *Khoramshahr*-2/4, and *Fattah*-2 feature manoeuvrable re-entry vehicles (MARVs) to evade interceptors and achieve greater accuracy.

Name	Type[5]	Max Range	Payload	Propulsion	CEP[6]	Status
Shahab-3	MRBM	1,300 km	750-1,000 kg	liquid fuel, single stage	~3 km	deployed
Ghadr	MRBM	1,600 km	~750 kg	liquid fuel, single stage	300 m	deployed
Emad	MRBM	1,800 km	~750 kg	liquid fuel, single stage	<500 m	deployed
Khorramshahr-1, -2, and -4 (BM-25/Musudan)	MRBM[15]	2,000-3,000 km	750-1,500 kg	liquid fuel, single stage	30 m	deployed
Fattah-1[16]	MRBM	1,400 km	unknown	solid fuel, single stage[17]	unknown	tested
Haj Qassem	MRBM	1,400 km	500 kg	solid fuel, single stage	unknown	deployed
Kheibar Shekan	MRBM	1,450 km	450-600 kg	solid fuel, single stage	unknown	deployed
Sejjil	MRBM	2,000 km	~750 kg	solid fuel, two stage	unknown	deployed

Source: Iran Watch.

Strategic limitations

The widespread deployment of air and missile defence systems across the Middle East poses a significant challenge to Iran's ability to deliver reliably nuclear weapons against its adversaries. This challenge was highlighted by Iran's missile salvos against Israel in April and October 2024, which revealed both the strengths and limitations of Iran's capabilities.

The scale of this challenge was particularly evident during Operation "True Promise", the code name for the 13 April attack. Iran launched more than: 320 munitions, including 120 ballistic missiles, 30 cruise missiles, and 170 suicide drones; what amounted to a long-range, coordinated bombardment. The strike demonstrated Iran's growing organizational and operational capabilities, including its ability to coordinate multiple systems flying at different speeds and altitudes and at varying launch times. Despite this, the attack resulted almost in failure. Every drone and cruise missile was intercepted by U.S., Israeli, British, French, or Jordanian aircraft, with possible assistance from other Arab partners. Likewise, nearly all the ballistic missiles that neither failed after launch or mid-flight were intercepted by Israeli and U.S. missile defences. Just between seven and nine ballistic missiles penetrated Israeli defences, but none caused significant damage. This outcome was largely attributable to advanced Iranian warning, extensive preparation, coordinated efforts by a U.S.-led coalition, and a phased attack pattern that gave defenders time to respond—circumstances that might not repeat in future conflicts.

By contrast, Iran's October 1 attack showed clear signs of tactical refinement and escalation. Open-source analysis suggests that at least 39 out of 181 missiles reached Israeli territory. Although Israel may have allowed some missiles to penetrate its defences to conserve interceptors—prioritizing projectiles threatening civilian areas—the fact that at least 23% of the total missiles penetrated defences is significant. It is also significant that at least two Israeli air bases were damaged and there are reports that also some combat aircraft and air tankers were damaged.

Several factors contributed to this increased success rate. First, Iran launched a significantly higher proportion of ballistic missiles compared to April's attack. Second, unlike in April, Iran excluded slower-moving cruise missiles and drones, instead relying entirely on medium-range ballistic missiles capable of reaching Israel in 9 to 12 minutes, reducing the time available for defensive systems to respond. Third, the exclusive use of MRBMs limited the number of international assets capable of interception. Within Israel's multi-layered defence network, only the *Arrow-2* and *-3* systems can intercept ballistic missiles, whereas lower-tier systems like *David's Sling* and *Iron Dome* are designed for short-range rockets and drones. This also reduced international involvement; only two U.S. destroyers reportedly fired a dozen Standard Missile-3 interceptors at incoming missiles. Despite the lower overall number of munitions, the

attack represented a significant escalation in firepower, showcasing Iran's deployment of longer-range, more destructive systems.

The October attack also revealed Iran's evolving tactics to optimize missile barrages against Israeli and Western defences. Concentrating its firepower on densely populated central Israel—as opposed to remote areas targeted in April—Tehran likely sought to saturate Israeli defences by overwhelming a small, heavily contested airspace. Moreover, Iran reportedly deployed older missile systems as decoys to force interceptors to engage less advanced threats, conserving resources for its more modern, precision-guided missiles. This approach reflects Tehran's strategic use of its diverse missile stockpile to challenge even sophisticated air defence networks.

Looking ahead, Iran may adopt additional missile defence countermeasures, such as decoys, chaff, and jamming technology, while exploring the development of hypersonic glide vehicles (HGVs). With manoeuvrability and high terminal velocities, these systems could significantly enhance Iran's ability to overcome enemy defences. While multiple independently targetable re-entry vehicles (MIRVs) remain unlikely for the time being, given their complexity, Iran is more likely to rely on saturation tactics. Its recent strikes on Israel demonstrate how overwhelming defences with large barrages of older systems could increase the chances of its more advanced missiles breaking through heavily contested airspace. This could push Tehran to deploy a vast number of nuclear weapons to ensure that in a crisis or war, at least some would get through enemy defences.

The effects of Israeli precision strikes

Apparently, the Israeli strikes on 25-26 October 2024 dealt a significant blow to Iran's ballistic missile production capacity and its broader defence infrastructure. It has been claimed, but not proven, that the Shahroud missile complex, a spaceport controlled by the Islamic Revolutionary Guard Corps Aerospace Force (IRGCASF), known for launching military satellites, was also employed to produce solid-propellant motors. Other two-three unnamed sites were struck, and these could be really relevant for the propellant and engines production. Israeli intelligence claims that missile production has dropped two ballistic missiles per day to just one missile per week and that also solid-fuel mixers were destroyed. There is no additional corroboration to these reports, so it is difficult to assess the real impact on the Iranian capabilities.

Beyond missile production, Israel's strikes also targeted key elements of Iran's integrated air defence system. The Russian-made S-300 systems (Iran's most advanced air defence systems) were reportedly neutralized, including an advanced locally produced air defence radar (Ghadir) in Ahvaz.

In the coming months, a clearer picture will emerge on the effective consequences of the Israeli precision strikes, including missiles exports to Russia and supplies to the Houthis. In any case, the Iranian air defences were not up to the task.

Sketching a hypothetic Iranian deterrence

It is reasonable to assume that, for Tehran, a nuclear arsenal would serve primarily as a deterrent rather than an offensive tool. Iran's leadership recognizes that the core value of nuclear weapons lies in their ability to deter external aggression, intimidate adversaries, and enable a more assertive regional policy. By achieving nuclear status, Tehran could adopt a posture of "existential deterrence", signalling that any existential threat—such as strikes targeting its territory, leadership, or critical infrastructure—would carry unacceptable costs. This approach aligns with the strategies of other nuclear-capable states that have prioritized regime survival over offensive nuclear aggression.

Iran's nuclear doctrine, likely shaped by recent setbacks to its regional strategy, would reflect a continuation of its long-established principles. For nearly four decades, Tehran has relied on incremental advances and calibrated escalation to achieve its goals while avoiding outright war. This includes the measured use of reciprocal force—responding proportionally to adversary actions to signal a willingness to de-escalate while maintaining its position. These methods have allowed Iran to pursue its anti-status quo agenda while managing risks, circumventing adversaries' red lines, and preventing large-scale conflict.

However, Iran's current vulnerabilities—particularly the erosion of its traditional deterrence pillars—may push its leadership to recalibrate this approach. Tehran could increasingly leverage its nuclear threshold status as a compensatory tool to offset its conventional military shortcomings and reinforce its deterrent posture. Yet, even after crossing the nuclear threshold, constraints within Iran's existing force structure would likely preclude dramatic shifts. Instead, Iran would emphasize ambiguity and restraint in weapon use to maximize deterrence while avoiding escalation that could trigger pre-emptive strikes. A credible nuclear posture would enable Tehran to project regional power and create red lines that adversaries might hesitate to cross.

The emergence of a nuclear-armed Iran would profoundly alter the region's strategic landscape, particularly for Israel, which has long relied on military superiority to counter existential threats. An Iranian bomb would elevate Israel's sense of urgency, prompting an even more aggressive pre-emption doctrine aimed at halting Iran's nuclear progress.

Israeli and American leaders have consistently affirmed that they would not tolerate Iran acquiring nuclear weapons. The implication is clear: military action—whether unilateral or with U.S. support—to prevent Iran from reaching operational nuclear capability would become far more likely. Israel would prioritize

targeted strikes on Iranian nuclear infrastructure to disrupt its program before Iran crosses the threshold. Such actions, however, would risk driving Iran's program underground, eliminating inspection oversight and likely fuelling Tehran's determination to succeed.

Former U.S. President Donald Trump's 4th of October statement encouraging Israeli strikes on Iran underscores the potential for American backing, despite his broader campaign rhetoric against U.S. military entanglements abroad. While military intervention could delay Iran's nuclear ambitions for several years, the long-term repercussions—including escalation, regional instability, and an intensified Iranian resolve—would be significant.

In parallel, Israel's reliance on its multi-layered missile defence systems would increase, with intensified efforts to counter both conventional and nuclear missile threats. Israel would also prioritize bolstering its second-strike capability, ensuring its ability to retaliate effectively in the event of a nuclear exchange. This strategic shift would demand substantial investment in precision strike systems, survivable infrastructure, and enhanced interception technologies.

A nuclear-armed Iran would inevitably escalate regional competition, compelling Israel to enhance its own deterrence posture and increasing the risk of miscalculation. Such a dynamic would further strain regional stability, not only intensifying the military balance but also forcing other actors—such as Saudi Arabia and Turkey—to reconsider their own nuclear strategies.

In sum, Iran's pursuit of a nuclear arsenal, while rooted in deterrence, carries the potential to fundamentally reshape regional security dynamics, heightening risks of conflict and complicating efforts to maintain stability in an already fragile Middle East.