The Pendulum Swings Back:

Envisioning the Future Trajectory of an Increasingly Asymmetric Iran-Russia Defense Relationship

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Executive Summary

Key takeaways

(1) Cooperation continues. Over the course of 2024 and spring 2025, defense cooperation between Iran and Russia continued. The countries' adoption of the Treaty on Comprehensive Strategic Partnership capped a string of other activities, including numerous high-level political-military meetings and transfers of select defense technologies. Iran delivered Fath-360 ballistic missiles to Russia and continued to assist Russia's UAV production. Most assistance, however, flowed from Russia to Iran, especially in the aerospace, ground, and space domains.

(2) A year of upheaval. Silhouetted behind these general trends, a confluence of geopolitical, regional, and battlefield developments fueled a growing asymmetry in the defense relationship. The DPRK emerged as an increasingly important supporter of Russia's war against Ukraine; Israel's campaign against the "axis of resistance" and Iran itself ushered in a new era of strategic vulnerability for Iran; in spring 2025, the U.S. administration began to engage Moscow diplomatically, potentially affecting Russia's calculus regarding cooperation with Iran, at least in the most sensitive areas; and finally, in mid-June, Israel (eventually joined by the United States) engaged in a short aerospace conflict with Iran.

(3) A growing asymmetry in needs. Israel's campaign against Iran and the "axis of resistance" damaged the country's military-defense assets and exposed key shortcomings, forcing Iranian strategic planners back to the drawing board. Strategically more vulnerable, Iran's preexisting appetite for Russian assistance in areas such as long-range strike, air and missile defenses, and naval denial has only grown further. For Russia, which expanded the local production of Shahed drones, diversified its sourcing of UAV components, and shifted to focus on other UAV designs, reliance on Iran has passed its peak. Though Russia may well remain interested in production technology for the Shahed-238 drone and its variants as well as Iran's transfer of other drones and even missiles to enable more diverse strike packages, its dependence on Iran to meet battlefield needs in Ukraine is presently trending downward.

(4) The pendulum swings back. While both partners likely retain an interest in sharing lessons from their respective military campaigns, and while a degree of institutional inertia may propel defense cooperation, we observe a shift toward an increasingly asymmetric partnership, with Iran far more dependent on Russia than vice versa. Full battle damage assessments from the Israel-Iran aerospace conflict, the trajectory of battlefield conditions in Ukraine, and the extent of Chinese assistance to both Russia and Iran, are among the factors that will determine how far the pendulum will swing back toward a more asymmetric Iran-Russia defense partnership.

(5) Imagining different futures. Based on developments since 2024 that have affected Iran's and Russia's defense needs from each other, as well as the drivers and constraints shaping the defense relationship, we consider a continued strategic partnership to be the most likely future. Other futures—a limited military alliance, a full military alliance, or a breakup—are less likely, though not altogether inconceivable, assuming certain contingencies.

Introduction

With Russia's full-scale invasion of Ukraine in February 2022, Iran emerged as an important provider of defense technology to Russia. With Russia suddenly dependent on Iran for uncrewed aerial vehicles (UAVs) and UAV production technology, the defense relationship moved past the previous patron-client dynamic. Starting in summer 2022, bilateral cooperation expanded both in degree and in kind, and Iran and Russia took steps to further institutionalize their defense relationship. In a report published in summer 2024,[1] we surveyed these trend lines and argued that the defense relationship was neither purely transactional nor on a trajectory toward a full-fledged military alliance. Assessing the drivers of and constraints to future cooperation, and identifying "inventories of need"—military-technical areas in which one country might need the other's assistance—we concluded that Iranian needs from Russia would likely continue to outweigh Russian needs for advanced technology from Iran but that the relationship was unlikely to lapse back into the patron-client dynamic that characterized it prior to 2022.

Over the course of 2024, significant developments in the Middle East, in the Ukraine war, and in geopolitics shaped the Iran-Russia defense relationship. The Democratic People's Republic of Korea (DPRK) emerged as an important supporter of Russia's war against Ukraine; Israel's campaign against the "axis of resistance"—Hamas, Lebanese Hezbollah, and the Yemeni Houthis—and Iran itself ushered in a new era of strategic vulnerability for Iran; in spring 2025, the U.S. administration began to engage Moscow diplomatically, potentially affecting Russia's calculus regarding cooperation with Iran, at least in the most sensitive areas; and finally, in mid-June, Israel (eventually joined by the United States) engaged in a short aerospace conflict with Iran that targeted Iran's nuclear facilities, missile forces and production sites, air defenses, and other critical defense infrastructure. In this report, we survey these developments and analyze how they have impacted Iran's and Russia's "inventories of need," as well as the drivers and constraints shaping defense cooperation. On the basis of that analysis, we outline five conceivable futures of the Iran-Russia defense relationship and certain high-impact areas, in which cooperation—should it materialize—would have particular consequences for the United States and its allies.

The research for this report was predominantly grounded in Russian- and Persian-language primary and secondary sources (for example, official statements, press reporting, expert analysis, and relevant social media). These were augmented by Western media reports and analyses that capture important details—from government and military sources or investigative journalists—that Iran and Russia have not publicly disclosed.[2] In February 2025, the authors convened an RSI-sponsored virtual workshop with 18 subject-matter experts on Russia's and Iran's defense sectors and militaries to engage in a scenario exercise on future Iran-Russia defense cooperation. Findings from the discussion are also reflected in this report. While the information cut-off point for much of the research presented in this report was June 1, 2025, we also reflect on the recent "Twelve-Day-War" between Israel (and the United States) and Iran. Battlefield damage assessments from that war remain ongoing at the time of writing, which

complicates confident estimates regarding its medium- to long-term impact on Iran-Russia defense cooperation.

We assess that, as of July 2025, the Iran-Russia defense relationship is characterized best as a strategic partnership—and not a military alliance—that is, however, showing clear limitations. Even though mechanisms are in place to deepen and expand existing defense cooperation, we expect the relationship to increasingly revert to a more asymmetric partnership with limited, niche areas of joint defense cooperation, having passed the peak of "two-way" cooperation in 2022-2023. On a spectrum between a pure patron-client relationship and an equal two-way partnership, the Iran-Russia defense partnership is best characterized as somewhere in between—but with the pendulum swinging toward greater asymmetry. Russia's decreased dependence on Iran for its battlefield needs in Ukraine and Iran's heightened need for Russian assistance are the key drivers of that growing asymmetry, which we anticipate will only increase further as a result of the recent Israel-Iran aerospace conflict, which has seriously impaired Iran's missile and drone production capacity.

Key Developments in Iran-Russia Defense Cooperation Since Summer 2024

Since summer 2024—the date of our previous report—the geopolitical and regional landscape has seen considerable flux, with significant developments shaping the drivers and constraints of Iran-Russia defense cooperation.

Important Geopolitical Developments Driving Defense Cooperation

At the geopolitical level, developments in the Ukraine war since summer 2024 have impacted the trajectory of Iran-Russia defense cooperation. Most notably, the DPRK's support for Russia's military campaign has widened and deepened. From fall 2023, the DPRK emerged as a highly consequential supporter of Russia's war, if measured by the sheer volume of weapons. It sent huge quantities of artillery shells, short-range missiles (the "Hwasong-11"), anti-tank missiles, and long-range artillery. By fall 2024, the Ukrainian General Staff estimated that over half of the shells used by Russia came from North Korea.[3] Around that time, Pyongyang further upped the ante, sending North Korean troops to fight alongside Russian soldiers in the Kursk region.

In spring 2025, Russia began to openly acknowledge the DPRK's battlefield participation and losses. Attending the Victory Day parade in Moscow on May 9, President Vladimir Putin publicly hugged and thanked North Korean generals. Ukraine began to report marked improvements in the accuracy of DPRK missiles employed on the battlefield.[4] Meanwhile, researchers at CNS monitored new construction at several DPRK munitions plants, as well as a flurry of official visits between Russian and DPRK defense actors.[5] These activities suggest preparation for continued high levels of weapons transfers and defense cooperation. Developments in the Russia-DPRK defense relationship suggest that, when it comes to Russian battlefield needs in Ukraine,

reliance on Iran may have peaked in late 2022 and 2023, and Iran's importance for Russia has since been eclipsed by the DPRK's.

At the geopolitical level, the Trump administration's professed desire to engage Russia (with a view to ending the Ukraine war and pursuing economic and geopolitical opportunities with Russia) also has potential implications for Iranian-Russian cooperation. Even though Iranian and Russian officials publicly stressed that bilateral cooperation is immune to "external factors,"[6] the prospects of a U.S.-Russian rapprochement and Russian offers to help broker U.S.-Iranian contacts, including amid the current Israel-Iran aerospace conflict, revived old suspicions among some Iranian constituencies that Moscow may sacrifice its ties with Tehran for the sake of bigger geopolitical gains.[7]

Important Regional Developments Driving Defense Cooperation

At the regional level, developments since mid-2024 have impacted Iran's strategic position and probably shaped its needs for ongoing and potentially new assistance from Russia. Iran's missile and UAV strikes against Israel in April and October 2024 demonstrated a surprising lack of effectiveness of its systems against Western air and missile defenses and jamming.[8] Iran's strikes also showed the inaccuracy of its medium-range ballistic missiles (MRBMs) (with estimated accuracies of hundreds of meters),[9] especially compared to previous Iranian claims and the missiles' performance during tests and military exercises of accuracies of tens of meters. Also, Israel's retaliatory strikes in April and October highlighted weaknesses in Iran's air defenses and their resulting vulnerability to Israeli long-range precision strikes that damaged Iranian air defenses and missile production capabilities.[10] Compounding these problems, Israeli and U.S. military operations against Iran's partners in the "axis of resistance" damaged the groups' leadership and military capabilities.[11] The fall of the Assad regime in Syria in December 2024 capped a string of developments that considerably weakened Iran's network of partners. In early 2025, Israeli and U.S. officials threatened to attack Iranian nuclear facilities, and the U.S. Air Force deployed B-2 and B-52 bombers to Diego Garcia.[12]

These developments dealt a blow to Tehran's strategic confidence and ushered in a new era of strategic vulnerability. The recent "Twelve-Day-War" only worsened Iran's strategic situation and magnified the effects of 2024. Iranian missile and drone attacks against Israel proved largely ineffective, as evidenced by the inaccuracy of its MRBMs and the inability of its missiles and drones to defeat Israeli air and missiles defenses. These woes were compounded by the severe vulnerability of Iran's own air defenses to Israeli airstrikes. Israel caused significant damage to Iran's deployed missile and drone forces, air defenses, and production capabilities for missiles and drones. That damage will severely impact Iran's ability to replenish its missile and drone inventories, both immediately as well as in the coming months and years. Finally, the United States and Israel set back Iran's nuclear program, thought the extent of damage to Iran's facilities and stockpile of enriched uranium remains contested.

The cumulative impact of these developments might well drive Iran to seek additional assistance from Russia in existing and new areas of cooperation. At the same time, Russia's relative passivity amid the string of blows against Iran and its axis partners raises questions about Russia's future ability and willingness to provide such assistance. Prior to the June conflict, for instance, Russia had not reconstituted Iran's impaired air defenses, and there are no reliable reports that Moscow delivered Su-35 advanced fighter jets, previously agreed to by Russia, either. Amid the Twelve-Day-War, Russia sided with Iran publicly and in multilateral fora, but its public criticism of Israel was more subdued than might have been expected. Russia's direct military engagement on behalf of Iran during an active war with Israel always seemed out of the question,[13] and Russia stressed on several occasions that the Strategic Partnership Treaty does not oblige it to provide such assistance.[14] This omission was likely a function of strategic calculations on both sides. Iran's ambassador to Russia stated in January 2025 that Iran will guarantee its own security, that its independence and self-reliance are paramount, and that Tehran has no interest in joining any "bloc."[15]

There is no evidence that Russia assisted Iran during the Twelve-Day-War with capabilities to defend itself or to retaliate, though Russia could have theoretically provided assistance that does not involve the transfer of weapons or munitions, including satellite imagery or other intelligence, operational advice for defeating air and missile defenses as well as jamming Israeli air attacks, and helping Iran more effectively use GLONASS satellite navigation in its missiles and drones. Russia's relative passivity raises serious questions over how far Russia is willing to go in assisting Iran, though it may still provide support to Iran's reconstitution of its military and defense-industrial capabilities—assuming Iran will want such support.

Iran-Russia Defense Cooperation Since Mid-2024

Prior to the Twelve-Day-War, the Iran-Russia defense relationship had continued to evolve and deepen in select areas between mid-2024 and June 2025, building upon agreements and cooperation of the last decade. According to the U.S. director of national intelligence, as of late 2024, Tehran was "moving its relationship with Moscow toward a deeper partnership based on shared hostility toward the United States and the West."[16]

Moscow and Tehran held high-level political-military meetings to advance defense cooperation[17] and in January 2025, after years of negotiations, they signed the Treaty on Comprehensive Strategic Partnership, replacing their 2001 Treaty on Foundations of Relations and Principles of Cooperation.[18] The new 20-year treaty includes provisions for both military and military-technical cooperation, many of which build upon prior bilateral mechanisms.[19] These include military cooperation agreements in 2015 and 2019, agreements on weapons transfers, high-level political-military visits, meetings of the Iran-Russia Joint Military Commission, and cooperation agreements on information security (2020), cybersecurity (2021), space (2022), and security and intelligence (2023).[20] The treaty will serve as a strategic framework and road map to negotiate and implement follow-on agreements to strengthen the defense relationship. In April 2025, Iran's foreign minister stated that Iran-Russia relations are at

the “strategic” level and have never been so close and so strong,[21] and in May, the national security council secretaries of both countries highlighted that the treaty provided a solid foundation to further develop their military-technical cooperation.[22] In the aftermath of the Twelve-Day-War, the defense ministers of both countries met to discuss ways to strengthen defense cooperation.[23]

In addition to these high-level agreements and interactions, concrete bilateral defense cooperation continued, with assistance flowing mostly from Russia to Iran, though Iran also transferred select defense items to Russia.

In the **aerospace domain**, Russian assistance to Iran since mid-2024 reportedly included the pending delivery of aircraft and reported transfers of electronic warfare (EW) and air defense systems. In February 2025, Iran used the Yak-130 training aircraft—received from Russia in 2023—in a military exercise.[24] Despite reported deals,[25] Russia still has not delivered Su-35 fighter aircraft or Mil-28 attack helicopters, although some unconfirmed reports claimed that Iran had received the first delivery of Su-35 aircraft in late 2024.[26] There were also unconfirmed reports that Iran had received a license from Russia to produce the Su-30 and Su-35 aircraft in Iran.[27] In December 2024, Russia’s United Aircraft Corporation reportedly planned to discuss the expansion of aviation cooperation with Iran.[28] As of mid-2024, Russia was helping Iran upgrade its EW capabilities including GPS jamming, and had shared lessons with Iran from its use of EW and GPS jamming in Ukraine.[29] Russia reportedly transferred Murmansk-BN EW systems and installed them in strategic locations throughout Iran.[30] In mid-2024, Iran also reportedly requested advanced air defense systems from Russia, including the S-400,[31] and the 2025 treaty was reported to include new air defense systems for Iran.[32] Seemingly contradicting such reporting, Putin claimed in mid-June 2025 that Russia in the past had offered to provide a comprehensive air defense system to Iran—not just transfers of individual systems—but that Iran had declined. Also, there were unconfirmed reports that Russia transferred unspecified Iskander missiles—it was unclear whether they were ballistic or cruise missiles—in mid-2024.[33] To confuse things further, unconfirmed reports in July claimed that Iran acquired the S-400 from Russia and conducted a test in the Esfahan region.[34]

As of late 2024, Iran continued to incorporate lessons learned from Russia’s operational use of Iranian UAVs against Western air defense and jamming systems in Ukraine.[35] By May 2025, Russia had improved its UAV tactics to defeat air defenses, including altering UAV routes and altitudes, employing swarm attacks against single targets, and increasing the use of decoys—tactics that Iran will likely apply to its own drone operations.[36] Also, in November 2024, the Russian and Iranian air forces held scientific and military discussions, and planned to expand cooperation in the areas of research and training.[37]

For its part, in September 2024, Iran delivered more than 200 Fath-360 ballistic missiles, having provided training to Russian military personnel to operate the missile, based on a December 2023 contract.[38] In May 2025, Iran was reportedly preparing to deliver the launchers for the Fath-360 missiles.[39] As of June, there is no evidence of Iranian transfers of Ababil, Fateh-110, or Zolfaghar ballistic missiles. In the UAV domain, Iran’s transfers of production technology enabled

Russia to open and operate a second facility to produce Shahed-type UAVs in Izhevsk, in addition to its first facility in Alabuga.[40] As of February 2025, Russia reportedly began production of the Geran-3, a jet-powered drone based on Iran's Shahed-238, probably at Alabuga.[41] As of September 2024, a private Iranian company, Farzanegan Propulsion Systems Design Bureau—headed by a former defense industry official—reportedly supplied Russia with samples of its engines in support of Russian cruise missile development. (Farzanegan manufactures numerous types of engines, including turbojet, turbofan, and ramjet engines.)[42]

In the **ground domain**, Iran acquired sniper rifles[43] and Spartak armored vehicles[44] from Russia, which the Islamic Revolutionary Guard Corps (IRGC) Ground Force used during exercises. The acquisition followed discussions in mid-2023 by the two countries' ground forces to increase cooperation and execute projects to enhance combat readiness.[45]

In the **naval domain**, Russia and Iran conducted joint naval exercises and planned to expand cooperation. In July 2024, Russia and Iran held the Joint Caspian Sea Search and Rescue Exercise[46]; in October they participated in the Indian Ocean Naval Symposium Maritime Exercise[47]; in March 2025, they conducted joint exercises (along with China) as part of "Security Belt 2025," which included strikes against naval and air targets, in addition to noncombat activities;[48] and in July 2025, they conducted CASAREX 2025, a naval search and rescue exercise in the Caspian Sea.[49] In September 2024, Russia's deputy defense minister Alexander Fomin met with Artesh deputy for coordination (and chief of staff) Habibollah Sayyari and discussed development of cooperation in the naval domain, including joint maritime patrols, specialized exercises, and educational exchanges.[50] Also, in March 2025, the commander of Iran's Regular Navy (IRIN) stated plans to implement joint projects with Russia in naval industry production.[51]

In the area of **defense industries**, in 2024 Russian experts in artillery, rockets, air defense, and missile testing traveled to Iran on multiple occasions to visit Iranian defense industrial sites,[52] and the two sides participated in Iran's Kish Airshow[53] and Russia's "Army 2024" defense exhibition.[54] Also of potential relevance to defense industries, in March 2025, the two sides signed a memorandum of understanding (MOU) to jointly produce microelectronics components,[55] which could enhance their domestic abilities to support their respective defense industries with much-needed electronic components.

In the **nuclear sphere**, Russia reportedly shared nuclear technology with Iran,[56] including unspecified nuclear "secrets"[57]; according to one report, Ali Larijani, a senior adviser to Supreme Leader Ali Khamenei, conducted secret talks with Moscow to secure unspecified nuclear assistance.[58] However, it is unclear if these instances included sensitive nuclear fuel cycle or weapons-related technologies. Also, the two sides planned to continue cooperation in the construction and expansion of the Bushehr nuclear power plant,[59] and their 2025 treaty commits the two countries to developing and expanding peaceful nuclear cooperation by implementing joint projects, including the construction of nuclear energy facilities.[60]

In the area of **space**, Russia and Iran continued engagement based on a 2022 space cooperation agreement that covered satellite development and assistance in constructing a launch base and

laboratory infrastructure.[61] The two sides also probably continued a long-term project begun in 2022 to produce several Khayyam-series high-resolution remote sensing satellites.[62] As of late 2024, Russia was sharing "space information" with Iran that could advance its ballistic missile development.[63] In addition, Iranian missiles and UAVs reportedly relied on GLONASS satellite navigation updates in the April 2024 attack against Israel[64] (and possibly also in October), and Iran is said to have requested Russian satellite imagery to prepare for its October 2024 ballistic missile strikes against Israel.[65] In November 2024, Russia launched two small satellites manufactured by a private Iranian company into orbit,[66] and in July 2025, it launched an Iranian communications satellite.[67]

Russia and Iran continued to collaborate in identifying ways to **counter U.S. and Western sanctions**, probably based on their December 2023 agreed road map to do so.[68] In December 2024, they discussed the creation of an anti-sanctions union to counter U.S. sanctions,[69] and their 2025 treaty includes an agreement to jointly take steps to reduce, eliminate, or minimize the impact of "unilateral coercive measures"—a term they use to refer to U.S. sanctions—if a third party imposed such measures on one of them.[70] Iran and Russia stepped up efforts to link their banking systems, and in mid-May, the Eurasian Economic Union's free trade deal with Iran went into effect. Beefing up the infrastructure underpinning Iranian-Russian trade, these various measures may also provide a boost to defense- and technology-related cooperation going forward.

Russia also continued to support Iran's partners in the "axis of resistance." Russian military intelligence officers assisted the Houthis in targeting commercial vessels in the Red Sea and Gulf of Aden, including by providing satellite data—passed via the IRGC.[71] According to reports, Moscow considered transferring advanced Yakhont (P-800 Oniks) anti-ship cruise missiles to the group, in an arrangement brokered by Iran, but aborted the plans in response to Saudi pressure.[72] Russia pursued several weapons deals with the Houthis, including for unspecified missiles and small arms.[73] In November 2024, Israel discovered large amounts of Russian-origin weapons—including anti-tank guided missiles—in the arsenal of Lebanese Hezbollah. In an off-the-record conversation in January 2025 with one of the authors of this report, a researcher at the Alma Research Center in the Upper Galilee, said Hezbollah obtained most Russian weapons via Syria, "some likely without Russian knowledge, some, like the Yakhont, on a need-to-know basis."

Updates to Iranian and Russian "Inventories of Needs" Since 2024

Building on the methodology employed in our 2024 report,[74] we assess the likely future contours of Iran-Russia defense cooperation in part by examining the two sides' reported, assessed, and anticipated military needs, including those driven by their current and future weapons acquisition, force posture, and military strategy and doctrine. This section refines and

updates the assessed "inventories" of important Iranian and Russian needs, based on the key developments since mid-2024 examined above, to help analysts and policy makers think about what types of assistance the two sides may seek from each other or what areas they may pursue jointly. Updates to these "inventories of needs" are also grounded in discussions held during an RSI-sponsored expert workshop we convened in February 2025.

Updated Iranian Inventory of Needs

In our previous report, we identified three main categories of potential high-priority interest for assistance that Iran may seek from Russia—long-range strike, air and missile defenses, and naval denial—either to complement or contribute to Iran's own significant domestic technical and operational efforts. The first two areas will likely be the highest priority for Tehran, due to the events of 2024 and especially the June 2025 Israel-Iran conflict. These developments include the poor performance of Iranian MRBMs, land-attack cruise missiles (LACMs), and UAVs against Israel in 2024 and June 2025; the ease of penetration by Israeli air and missile attacks against Iran in 2024 and June 2025; the significant damage Israel caused to Iran's deployed missile and UAV forces, air defenses, and missile production facilities; and the threats and military movements by the U.S. military highlighted above.

1. Long-Range Strike. Iran might seek assistance from Russia to help address key technical and operational shortcomings demonstrated in 2024 and 2025 in its long-range strikes with ballistic missiles, cruise missiles, and UAVs, and also to build upon its existing efforts. This might include seeking Russian assistance in making improvements in the following areas:

- The accuracy of Iranian MRBMs, including high-resolution satellite imagery for targeting, advanced guidance components for the missiles' inertial navigation systems (INS), improved use of satellite navigation updates during flight (e.g., GLONASS), and improved maneuverability within and outside the atmosphere.
- The ability of Iranian MRBMs to defeat missile defenses, including improved denial of enemy jamming and spoofing, the ability to operate without satellite navigation (e.g., use of terminal seekers), and improved maneuverability and stealth (e.g., decreased radar cross section) of MRBM warheads, and even penetration aids to deceive or jam missile defense radars. (The unveiling in May 2025 of Iran's new Ghasem Basir MRBM reflects its focus in this area, including the missile's use of terminal guidance, its lack of reliance on satellite navigation, the use of carbon fiber rather than steel in its airframe, and its maneuverable warhead.[75])
- The ability of Iran's cruise missiles and UAVs to evade or overcome air and missile defenses. This might include help to improve the systems' stealth capabilities, denial of jamming and spoofing, penetration aids, and enabling attacks without using satellite navigation—for instance, through the use of terrain counter matching (TERCOM), digital scene matching area correlator (DSMAC), or other methods.
- The destructive power and radius of effects of Iranian missile and drone warheads.

- Iran's capability to strike air and missile defense assets (e.g., radars and SAM systems)—for instance, in the first wave of an attack—through improved technical capabilities of Iranian strike weapons and enhanced operational concepts.
- Iran's operational concepts for the "hybrid" (*tarkibi*) use of ballistic missiles, cruise missiles, and UAVs in improved "strike packages" against both land-based and naval targets, and even integrating decoy missiles and drones to defeat air and missile defenses. For instance, Iran would benefit from lessons learned from Russia's employment in Ukraine of waves of missiles/UAVs (along with decoys) from multiple platforms and locations; its use of standoff air launches of cruise missiles, air-launched ballistic missiles (ALBMs), and glide bombs; and its use of combined types, routes, and trajectories of different strike systems.
- The use of artificial intelligence (AI) to improve the areas above, including improved targeting before flight; employing hybrid mixes, formations, and "swarms" of systems; altering missile and UAV trajectories during flight; avoiding radars and air defense sites; improving target detection and recognition; and sharing of data among strike systems.
- The technical and operational capabilities of Iran's air-launched cruise missiles, and the development or purchase of air-launched ballistic missiles (ALBMs)—in part as a response to Israel's development and use of ALBMs.

Also, with Israel's reported damaging or destruction of Iranian missile production facilities across the country, Tehran will need to exert significant efforts to rebuild its capacity to develop and produce these systems. Iran would benefit from the purchase of Russian production equipment, such as industrial mixers and casting equipment—which are controlled by the MTCR[76]—to help rebuild or expand its facilities to produce solid rocket motors for its solid-propellant short-range ballistic missiles (SRBMs) and MRBMs (as well as space launch vehicles). However, Russia's probable need for mixers and other equipment as part of the reported expansion and refurbishment of its production facilities for solid-propellant motors may limit its capacity to sell equipment to Iran.[77]

In addition, Tehran might use U.S. threats in early 2025 to attack Iran and the U.S. deployment of B-2 and B-52 bombers to Diego Garcia[78]—located about 3,800 kilometers (km) from Iran's southeastern coast—as an excuse to lift the self-imposed 2,000-kilometer range limit on its development of ballistic missiles and seek to acquire the capability to target Diego Garcia. Such a move would be consistent with Iran's stated strategy since 2011 of "threat against threat"[79] and its doctrine of targeting the "origin" or "source" of attacks against Iran.[80] According to British press reports, in March 2025, Iranian military commanders called for a preemptive strike on Diego Garcia or a demonstration test near the base,[81] and Tehran warned that it would attack the base if the United States attacked Iran.[82] In theory, Iran has at least four options to target Diego Garcia,[83] each with its own significant technical and operational challenges, for which it might benefit from Russian assistance:

- Developing ballistic missiles with a range of at least 4,000 km, either based on existing Iranian MRBMs—such as the Khorramshahr—or derived from its Zoljanah or Ghaem solid-propellant SLVs.

- Developing LACMs or suicide UAVs with sufficient range by modifying an existing long-range LACM, such the Hoveyzeh or Paveh; modifying an existing UAV, such as the Shahed-136 or Arash; or developing a new LACM or UAV.
- Using drone carriers or commercial ships—like those Iran is already developing[84]—to launch ballistic missiles, cruise missiles, and/or armed or suicide UAVs from modified shipping containers.[85]
- Developing air-launched options—for instance, using its F-4 or Su-24 aircraft to fire air-launched LACMs or ALBMs from the Gulf of Oman or Arabian Sea against Diego Garcia.

2. Air and Missile Defenses. Iran might seek Russian assistance in addressing key technical and operational shortcomings demonstrated in 2024 and 2025 in its air defenses against Israel and in rebuilding capabilities damaged and destroyed by Israel. Developments in 2024 and June 2025 exposed a clear Iranian need to rebuild and improve its capabilities to address shortcomings in its deterrence of and defense against attacks on its nuclear facilities, as well as on military, defense-industry, and other sensitive sites, from an Israeli or U.S. air attack. Despite Tehran's likely frustration with the poor performance of its air defense systems that were provided by Russia or that are based on Russian designs, Iran might still seek Russian assistance—such as technologies or complete systems—to carry out the following tasks:

- Restore air defense assets—such as radars and short-range, medium-range, and long-range SAM systems—that were damaged or destroyed by Israeli attacks in 2024 and June 2025.[86]
- Improve Iran's air and missile defenses, including improving Iranian long-range SAMs, purchasing Russian advanced SAMs, developing or purchasing anti-ballistic missile systems, and acquiring improved radars to detect, track, and target stealth aircraft, missiles, and drones.
- Enhance Iran's electronic warfare capabilities, especially jamming and spoofing against attacking aircraft, missiles, and drones.
- Improve Iran's early warning and tracking capabilities using ground-based radars and airborne early warning aircraft.
- Acquire long-range, beyond-visual-range air-to-air missiles to target enemy aircraft hundreds of kilometers beyond Iran's airspace.
- Procure advanced fighter aircraft—including the Su-35, whose delivery is pending—to enhance Iranian deterrence and defense against attacks by aircraft, cruise missiles, and drones.

3. Naval Denial. Iran's capabilities and efforts in this area were not impacted by events in 2024 and in June 2025. But, as noted in our previous report, Iran might seek Russian assistance to improve key elements of the surface and subsurface attack and defense capabilities that underpin its asymmetric naval strategy, including enhancing the technical and operational capabilities of its anti-ship cruise missiles and short- and medium-range ASBMs, especially against U.S. naval ships.[87]

Updated Russian Inventory of Needs

In our previous report, we differentiated between capabilities Russia will need as it pursues a protracted military campaign against Ukraine and capabilities it will need based on Russian defense planners' assessments of the future of warfare. The first category of capabilities includes ammunition, ground warfare equipment (main battle tanks, armored personnel carriers, infantry fighting vehicles), Western-sourced industrial equipment and components (microchips; computers, electronic and optical devices; fabricated metal products, etc.), UAVs, and missiles. The second category comprises support for Russia's nuclear modernization; precision strike, UAV swarming tactics, AI, hypersonic technology, and efforts to dominate space. Overall, we assessed that Russian needs from Iran will arise mostly in the first category, i.e., from pressures to replenish inventories amid the ongoing campaign in Ukraine and will extend to only a few niche areas of advanced Iranian technology.

In our assessment, developments since mid-2024 have combined to decrease Russia's short-term dependence on Iran for battlefield needs in Ukraine.

Russia has come to rely heavily on the DPRK for artillery shells, short-range missiles (the Hwasong-11), anti-tank missiles, and long-range artillery. Our colleagues at the James Martin Center have monitored recent construction at the February 11th Plant outside Hamhung North Korea (in the DPRK's northeast). This facility is believed to be one of the primary manufacturing sites for the Hwasong-11. Since 2022 the facility has undergone extensive remodeling, including potential remodeling of underground facilities, as well as the expansion of above-ground facilities and worker housing. Kim Jong Un visited the site in 2023, indicating state interest and support. The activities indicate preparation for increased production capacities, both to meet domestic production priorities and to continue deliveries to Russia for use in Ukraine. Construction activities at Kanggye General Tractor Factory (also known as Factory No. 26), believed to produce 152mm shells and various types of rocket artillery, are similarly indicative of preparations to continue providing support to Russia's campaign in Ukraine.

UAV production remains a Russian priority. Deputy Prime Minister Andrey Belousov stated in April 2023 that Russia is planning to produce 18,000 drones annually by late 2026 and 32,000 drones annually by 2030.[88] In September 2024, Putin announced that Russia plans to create 48 drone production centers, of which he claimed 15 were already operational.[89] Domestically manufactured variants of the Iranian-origin Shahed-136 (Geran-2) remain the cornerstone of Russia's deep-strike one-way attack UAV campaign in Ukraine.[90] Yet, as production facilities in Alabuga's Special Economic Zone have expanded the local production of Shahed-136 drones, Russia's dependence on Iran appears to have decreased.

In the initial stages of the contract, Iran fully or partially transferred to Russia all the necessary equipment, including machinery, production lines, and assembly lines for production of the Shahed-136.[91] As Russia localized the production, it spun off more and more variations from the initial Iranian designs.[92] Moscow has also introduced numerous improvements to these drones,

including enhanced resistance to jamming, decreased reliance on satellite navigation, the use of AI and machine learning, different warheads, and turbojet engines.[93]

Russian reliance on Iran for UAV components has subsided over time. Beginning in fall 2023, Ukraine found an increasing number of Russian-made components in the remains of Shahed-136 drones,[94] including Russian-made batteries.[95] Meanwhile, China emerged as a key source of components. The newer Shahed-136 drones have Chinese-made MicroPilot UAV flight control systems and MD550 engines, instead of the Iranian-made Mado MD550 engines.[96] In the antennae of recent versions of the Shahed-136, Russia replaced a U.S.-made XILINX Kintex-7 programmable logic integrated circuit, which is a critical component of the controlled reception pattern antenna, with an integrated circuit manufactured by the Beijing Microelectronics Technology Institute.[97] Considering the lower cost of Chinese components compared to Western alternatives and ongoing investments into a joint Russia-China logistics complex in Alabuga,[98] Russia will likely continue to heavily rely on China for UAV components.

A growing focus on other UAV designs also portends a shift away from a reliance on Iran. The Garpia-A1, produced by IEMZ Kupol, a subsidiary company of Almaz-Antey, is similar in design to the Shahed-136.[99] While assembled in Russia, the Garpia-A1 uses a large number of Chinese-made components, including a Chinese version of the Iranian-made MD550 engine (i.e., a Chinese copy of the Limbach 550 engine) and numerous electrical, mechanical, and automated data processing components. [100] According to news reports last fall, IEMZ Kupol developed and flight-tested a new variant, the Garpia-3, in China with the help of Chinese drone specialists. It was able to produce the drones at scale at a factory in China.[101]

The Shahed-238 (Geran-3) and its variants—the Shahed 236 Seeker and Shahed 236 Jet[102]—may be the only exceptions to this broader trend of Russia reducing its dependence on Iran in that they represent capabilities for which Moscow may still require some Iranian assistance. Leaked documents and intelligence reports from Ukrainian sources, along with social media posts, suggest that Russia and Iran have been collaborating to establish domestic production in Russia of the Shahed-238 and that Russia has moved to domestically produce these systems. [103] There have been numerous reports of Russian use of the Geran-3 in Ukraine.

Given Russia's interest in the Shahed-238 and its variants, it will likely welcome some Iranian assistance in the short to medium term. As in the case of Russia's initial production of Shahed-136 drones, this assistance will likely involve designs, training, and initial drone components. Nevertheless, it can be expected that Russia will seek to develop its own localized versions of these Iranian-designed drones, and that its dependence on Iran will gradually decrease as it shifts to Russian and non-Iranian foreign suppliers.[104] After the inception of the Twelve-Day-War, some Russian military analysts made dismissive comments about Iranian combat drones. In one such instance, CAST director Ruslan Pukhov noted that Iran was in many ways a "paper tiger" in terms of military capability, and that Russia had needed to make extensive changes to the Shahed-136 drone in order to turn it into an effective weapon.[105] Still, Iran may remain a partner for drone design, technology, and expertise sharing. While there seems to be no new Russian-Iranian contract on UAVs in the works for the period after 2025,[106] the broad terms of

their strategic partnership treaty suggest that joint drone development or production may, at a minimum, remain a possibility for cooperation in the future.

Aside from Iran's provision of UAV production technology, Russia may still be interested in Iran's transfer of complete drones for Russia's use against Ukraine. This might include suicide UAVs and armed UAVs—either more of the same types Iran has already provided or new types—to enable more diverse strike packages, as well as UAVs for use as decoys or for reconnaissance.

In the area of ballistic missiles for use on the battlefield in Ukraine, it cannot be excluded that Russia might seek transfers of Iranian missiles in the future, in addition to the approximately 200 Fath-360 close-range ballistic missiles (CRBMs) reportedly supplied by Iran. Russia might seek further deliveries of CRBMs—including the Fath-360 and Ababil—and may also try to acquire the longer-range Fateh-110 or Zolfaghar SRBMs that it had initially requested in 2022.[107]

At this time, however, Russia does not seem to have an acute need for Iranian missiles. Ukraine's Main Military Intelligence Directorate estimates that, as of mid-May 2025, Russia had stockpiled 13,000 ballistic, cruise, and other missiles of various ranges and can produce up to 200 missiles per month.[108] Russia is expanding and refurbishing its own production facilities for solid-propellant motors.[109] Still, the early June "black swan" Ukrainian UAV attacks that damaged or destroyed numerous Russian strategic bombers[110] might reignite Russian interest in Iran's longer-range SRBMs—such as the 700-km-range Zolfaghar or other systems—for deep strikes into Ukraine. However, as a result of the June 2025 conflict with Israel, Iran is unlikely going to be willing (or able) to deliver SRBMs to Russia for an indefinite period, due to its perceived need to deter (and prepare to fight) the United States and also due to the significant damage to its SRBM production capabilities.

Outlook

This section examines how Iran-Russia defense cooperation might evolve in the next three to five years. The forward-looking analysis is grounded in insights gained during an RSI-sponsored workshop held in February 2025. It also incorporates our updated thinking on the key drivers and constraints shaping the cooperation—factors that either motivate/enable or inhibit/disincentivize Iran-Russia cooperation—based on key developments since 2024, including the Twelve-Day-War in June 2025. We outline five alternative futures for the Iran-Russian defense relationship and highlight areas of potential cooperation that could create serious threats or challenges to the United States, given their high impact. Since this analysis was concluded at a time when battlefield damage assessments from the recent Israel-Iran aerospace conflict remain ongoing, any estimates regarding the medium- to long-term outlook for Iran-Russia defense cooperation are highly contingent.

Summary of February 2025 Workshop of Experts

In February 2025, CNS hosted a virtual workshop on "Russia-Iran Defense Cooperation: Future Scenarios and Wildcards." Eighteen experts on Russia's and/or Iran's military and defense sectors discussed a number of plausible future scenarios related to developments in the European and Middle East theaters and assessed their implications for Iran-Russia defense ties. The scenarios accounted for a continuation of existing trend lines, the loss of Russian access to military bases in Syria, a ceasefire in Ukraine and nascent U.S.-Russian dialogue, a limited military conflict between Iran and the United States in the aerospace and naval domains, and an Iranian decision to produce nuclear weapons.

Several key themes emerged during the discussion. First, developments in and surrounding Ukraine will remain Russia's top priority, taking precedence over the relationship with Iran. Russia is likely to use its ties with Iran to gain a more favorable position in negotiations with the United States. Additionally, participants largely concurred that defense cooperation between Russia and Iran will remain subject to certain limitations unless the situation deteriorates drastically (e.g., an Iranian conflict with the United States that results in Iran's need for extensive humanitarian assistance and Russian military involvement to protect such assistance). Legacies of historical mistrust and past practices, Russia's and Iran's defense needs for their own conflicts (Russia with Ukraine/NATO and Iran with Israel/the United States), and the leverage of third parties (for instance, Saudi Arabia and even Israel weighing in with Russia), will continue to impede cooperation in highly sensitive areas.

One topic of discussion was the potential—albeit unlikely—scenario of Russia's limited deployment of military forces, such as air/missile defense and naval units, to Iran to either help deter an impending U.S. or Israeli military attack or to protect Russian humanitarian assistance efforts in Iran during a prolonged conflict. Although participants noted that the basing of foreign military forces in Iran is prohibited by its constitution, they acknowledged that Iran has allowed short-term basing by Russia's air force (in 2016)[111] and that Iranian officials have discussed the possibility of allowing limited, case-by-case access to Iranian bases by Russian[112] (and Chinese)[113] air and naval forces. One participant raised the possibility that Russia might also send a limited number of military or security forces to help Iran counter severe internal instability and protect the regime. There was a general sense that limited, short-term, "emergency" deployment of Russian forces in Iran could conceivably occur in a scenario in which Tehran is faced with severe external or internal shocks that threaten regime stability. The recent Israel-Iran aerospace conflict represented a "test case" for such Russian assistance. There were no indications of a Russian willingness to deploy forces.

Updated Analysis of Key Drivers and Constraints

Based on the geopolitical and regional developments since summer 2024 and the evolution of Iran-Russia defense ties since then, we have updated our analysis of the key drivers and constraints shaping the defense relationship moving forward.[114]

Table 1. Key Factors Shaping Current and Future Iran-Russia Defense Cooperation

Factor	Assessed Importance	Comments
Drivers		
Iranian need for Russian technology, especially after the Twelve-Day-War	High	--Iran's needs are driven by its asymmetric strategy and have assumed increased urgency given the country's strategic vulnerability due to events since October 2023. --This driver may be tempered by Iran's disappointment with the performance of Russian air defense systems in 2024 and June 2025 and also by Iran's emphasis on self-sufficiency and desire to minimize dependence on Russia. --This driver may also be tempered by the potential for Iran to acquire technology from China and/or North Korea. --Still, Iran may seek Russian assistance to rebuild and improve its military and defense industrial capabilities. --Iran's needs will likely be limited to systems or technologies Iran cannot develop or produce itself, and Iran will likely seek technology transfers as part of foreign purchases.
Mutual interest in sharing technical and operational lessons	High	--Both sides are presumably interested in sharing technical and operational lessons learned from the use of missiles and drones in the Ukraine War, Iran's strikes against Israel and Israel's retaliatory strikes, and attacks by the axis of resistance against Israel and international shipping.
Inertia, momentum of Iran-Russia defense cooperation[115]	Medium	--The Iran-Russia relationship enjoys a certain inertia, momentum, and path dependency created by the institutionalization of mechanisms and cooperation, and by probable strategic and organizational vested interests, especially those emanating from the qualitative jump in cooperation since 2022 (UAV technology, Alabuga, etc.). --The broader Russian and Iranian foreign policies serve as an engine or boost to drive defense cooperation; this includes their shared hostility toward the U.S./Western-based international order and Iran's policy of "Look to the East." In our assessment, even a cautious U.S.-Russian rapprochement will not fundamentally reverse this driver.
Interest in opening new frontiers of cooperation	Medium	--Both sides are interested in increasing their military presence in the Sahel and the Red Sea, and in

to enhance power projection		cooperating with—and perhaps recalibrating—the axis of resistance. --For instance, both Russia and Iran are expanding their defense cooperation with the Alliance of Sahel States. While there is no evidence yet of any coordination or cooperation between them, this is an area to watch. --These efforts are part of both sides' interests in enhancing power projection and Tehran's interest in increasing its strategic depth (*omgh-e rahbordi*). --For Iran, this factor will depend in part on the repercussions of the Israel-Iran conflict. Although Iran will need to focus primarily on rebuilding and improving its own deterrence and defense capabilities, it may still try to find ways to increase its foreign presence to shore up its coercive power.
Constraints		
Historical mistrust, current frictions	Medium	--Historical mistrust between the two countries could resurface to disrupt defense cooperation.
Decreasing Russian need for Iranian technology	Medium	--Russia's need for Iranian assistance will likely decrease, even if the Ukraine war continues, and especially if it ends (e.g., for Iranian support to produce UAVs, now that Russia established production lines and supply chains). --A decreased Russian need for Iranian technology would be a key reason for a return to an increased asymmetry of Iran-Russia cooperation, closer to the mostly "patron-client" relationship before 2022.
Contingent Factors		
Ukraine war	Medium	--As long as the war continues, Russia may still be interested in Iranian UAVs, missiles, and possibly other systems; however, this might be tempered by Russia's decreased reliance on Iran for UAVs and by the assistance Moscow receives from North Korea (missiles, shells) and China (UAV components). --An end to the war might significantly decrease Russia's need for Iranian help, and increase the asymmetry of the ties, reverting them closer to the mostly "patron-client" relationship before 2022.
U.S.-Russia relations	Medium	--Improvements in U.S.-Russia ties will likely constrain Iranian-Russian defense cooperation on the margins, resulting in limits or halts to cooperation in the most sensitive areas.

Chinese assistance (or lack thereof) to either Russia or Iran	High	--The more Russia or Iran can acquire certain systems or technologies from China, the less Russia and Iran might rely upon each other. --For Russia, this includes its acquisition of UAV components from China. --For Iran, this might include its potential turning to China for missile technologies, air defense technology, and combat aircraft.
Russian presence in Syria	Low	--As of July 2025, it appears that Russia will retain its military presence in Syria. --Should that change, it would be unlikely to have a significant impact on Iranian-Russian defense cooperation, which has significantly evolved from 2015 and become largely independent of the Syrian theater.
Trajectory of Iranian nuclear program (and related diplomatic efforts)	Depends	--If Iran is able to maintain elements of its nuclear "threshold" status or agrees to limit its program, this will unlikely have a significant impact on the bilateral defense relationship. Iran will likely continue to seek Russian defense cooperation. --If Tehran decides to weaponize, this might constrain defense cooperation, since Moscow probably does not want to see a nuclear-armed Iran (in our expert workshop, there was no full consensus on this question, however).

Futures of the Iran-Russia Defense Relationship

Based on this outlook, we can imagine at least five distinct futures for the Iran-Russia defense relationship over the next three to five years, depending on how the drivers and constraints identified above evolve and interact. Each future entails a set of implications—both overlapping and distinct—for U.S. and allied security interests.

Table 2. Five Alternative Futures of the Iran-Russia Defense Relationship

Future	Likelihood	Examples of Mechanisms and Cooperation	Key Drivers That Could Produce the Future
1. Strategic Partnership	Likely	Mechanisms: Strategic partnership treaty, joint military cooperation commission, and working groups Cooperation: Military, military-technical, and	--Continuation of current mix of drivers (and constraints). --In particular, this future is driven by the inertia of the existing Iran-Russia defense relationship as well as Iran's anticipated needs for Russian technology.

		other areas, based on existing agreements	
2. Limited Military Alliance	Highly Unlikely	Mechanisms: Robust operationalization of the 2025 strategic partnership treaty and addition of new mutual commitments such as mutual defense support (but not mutual defense) Cooperation: Enhanced military and military-technical cooperation, including more robust and combat-relevant joint exercises and new types of weapon systems and technologies	--Serious deterioration of U.S.-Russia relations, in combination with: --Increased U.S. threats to Iran, including a significant increase of U.S. forces deployed to the region and a sustained U.S.-Iran aerospace or naval conflict; creation of a U.S.-led defense alliance with regional states (i.e., further operationalization of the Abraham Accords in the defense area).
3. Full Military Alliance	Highly Unlikely	Mechanisms: New mutual commitments, such as mutual defense and Russia extending its nuclear umbrella to Iran Cooperation: Significant military and military-technical cooperation, including more robust and combat-relevant joint exercises, new types of weapon systems and technologies, Russian access to Iranian air and naval bases, and possible long-term basing of Russian air defense units in Iran	--Serious deterioration in U.S./NATO-Russia relations, leading to limited conflict. --Full-scale U.S. military conflict with Iran.
4. Weak Partnership	Possible	Mechanisms: A lack of operationalization of the 2025 strategic partnership treaty renders it largely symbolic, at least in the military sphere Cooperation: Limited military and military-technical cooperation, with some halts to ongoing cooperation; lack of	--Extensive/deep U.S.-Russia rapprochement results in Russian agreement to limit cooperation with Iran. --Iran can fulfill its military needs from China. --Chinese and DPRK transfers of UAV components and missile technologies to Russia fully remove its need for Iranian assistance.

		materialization of new cooperation envisioned under strategic partnership treaty	
5. Breakup	Highly unlikely	Mechanisms: Termination of strategic partnership treaty Cooperation: Halts or severe limitations to existing military and military-technical cooperation	--Serious Iran-Russia political frictions, including Russian support for dismantling Iran's nuclear fuel cycle program. --Extensive/deep U.S.-Russia rapprochement, resulting in Russian agreement to limit/halt cooperation with Iran. --Iran can fulfill its military needs from China and the DPRK.

Selected High-Impact Areas of Potential Future Cooperation

Based on analysis of developments since mid-2024 and longer-term trends, Iranian and Russian "inventories of needs," and our workshop in February 2025, we anticipate Iran-Russia defense cooperation to possibly include the high-impact areas below, in addition to the probable continuation of cooperation in the areas identified in our 2024 report and above. The chart below highlights selected high-impact areas of potential cooperation that would pose significant challenges to U.S. and allied security interests, should they materialize. We also highlight several low-probability/high-impact areas, in which cooperation would be of great consequence but we consider it unlikely to materialize. Some areas—especially those of low probability—are possible only in certain futures of the Iran-Russia defense relationship, while others are possible across multiple futures. Most of the areas highlighted below entail Russian assistance to Iran, which reflects our overall assessment that the relationship is increasingly transitioning back toward greater asymmetry from its peak as a "two-way street" in 2022-2023. The areas below will be inevitably shaped by the effects of the June 2025 Israel/U.S.-Iran conflict.

Selected plausible high-impact areas:

- Russian assistance in rebuilding and improving Iran's air defense capabilities
- Russian assistance in rebuilding Iran's missile and UAV capabilities, including technologies to support Iranian development and production programs and facilities, and possibly limited deliveries of complete missile and UAV systems
- Russian assistance to enhance Iranian MRBMs, including their accuracy and ability to defeat U.S./Western missile defenses
- Russian technical and operational aid to Iran's air-launched cruise missiles, and developing or purchasing air-launched ballistic missiles (ALBMs)

- Russian transfer of supersonic cruise missiles, or associated technologies (e.g., propulsion) to support Iran's domestic development[116]
- Russian technical and operational assistance to Iran's short-range and medium-range ASBMs, especially against U.S. naval ships
- Iranian transfer of new types of missiles or drones—such as solid-propellant SRBMs and suicide or armed drones—including their production technology
- Russian support to Iranian efforts to target Diego Garcia from Iranian territory using missiles or drones, from sea-based platforms, or using air-launched missiles
- Russian support to Iran's use of AI to improve its missile and drone long-range strike capabilities
- Russian technology transfers to assist Iran's development of high-resolution imagery satellites—in addition to the ongoing cooperation on the Khayyam family of satellites—for military reconnaissance and targeting
- Russian support to Iran's development of larger SLVs
- Russian assistance to Iran's development of a latent or actual anti-satellite capability
- Robust Iran-Russia military exercises that concretely enhance their joint lethality against U.S./Western military forces
- Joint efforts to illicitly procure Western electronic components and other required items for both countries' weapons programs
- Increased Russian assistance to Iran's axis of resistance partners, including provision of high-end technologies such as advanced cruise missiles, ballistic missiles, surface-to-air missiles (SAMs), and EW/jamming systems
- Cooperation to increase Russian and Iranian military access to the Horn of Africa or Red Sea

Low-probability/high-impact areas—which might only occur in Future 2 or Future 3:

- Regular access of Russian forces to Iranian air and naval bases
- Basing of Russian air and missile defense units in Iran
- Russian transfer of bombers to enhance Iran's long-range strikes using cruise missiles and possibly ALBMs
- Russian help to Iranian latent or actual nuclear weaponization efforts
- Russian support to Iran's conversion of SLVs into IRBMs or ICBMs
- Russian assistance to Iranian latent or actual chemical and biological weapons (CBW) capabilities
- Russian support to Iran's development and use of CBW or radiological materials for assassinations
- Iranian transfer of MRBMs to Russia
- Deployment of Iranian troops to Russia to fight against Ukraine

Conclusion

Commenting on the Iran-Russia partnership in summer 2023, then-CIA Director William Burns called it a "useful two-way street," in recognition of the important support Iran had lent Russia in providing combat drones and drone production technology, in particular.[117] Based on our assessment, the period 2022-2023 marked a peak in the mutually beneficial nature of the defense partnership, which since 2024 has become more asymmetric again.

Over the past year, bilateral defense cooperation continued to evolve and deepen in select areas. The two sides held high-level political-military meetings to advance defense cooperation and signed the Treaty on Comprehensive Strategic Partnership in early 2025. Iran delivered Fath-360 ballistic missiles to Russia, and its transfers of production technology enabled Russia to open and operate a second facility to produce Shahed-type UAVs in Izhevsk, as well as to produce the jet-powered Geran-3 at Alabuga. Most assistance, however, flowed from Russia to Iran, especially in the aerospace, ground, and space domains.

A confluence of geopolitical and regional developments fueled a growing asymmetry in the defense relationship over the course of 2024 and the first half of 2025. The DPRK emerged as an increasingly important supporter of Russia's war against Ukraine; in spring 2025, the Trump administration began to engage Moscow in diplomacy, potentially affecting the calculus regarding cooperation, at least in the most sensitive areas; and most importantly, Israel's campaign against Iran and the "axis of resistance"—which reached its apex with the Twelve-Day-War in June—ushered in a new era of strategic vulnerability for Iran.

Iran's experiences through 2024 and 2025 are shaping its thinking on defense needs. Israel's campaigns against Iran and its partners in the "axis of resistance" have only further heightened Iran's desire for military-technical assistance from Russia, at least in high-priority areas such as long-range strike, air and missile defenses, and naval denial. For Russia, meanwhile, reliance on Iran may have peaked in late 2022 and 2023. Since then, it has expanded the local production of Shahed drones, diversified its sourcing of UAV components, and shifted to focus on other UAV designs. These developments appear to have decreased Russia's short-term dependence on Iran for battlefield needs in Ukraine, though we assess that Russia might still remain interested in production technology for the Shahed-238 and its variants, Iran's transfer of complete drones to enable more diverse Russian strike packages, and the delivery of CRBMs and SRBMs. As a result of the recent Israel-Iran aerospace conflict, Iran will probably not be willing or able to provide such assistance for an indefinite period.

We assess that both partners will retain an interest in sharing technical and operational lessons from their respective military campaigns, and that a degree of institutional inertia may also propel defense cooperation forward, building on the mechanisms and channels that have been instituted in years prior. That said, we see a decreasing Russian need for Iranian technology, compared to the 2022-2023 period. Full battle damage assessments from the recent Israel-Iran aerospace conflict, the trajectory of battlefield conditions in Ukraine, U.S. future engagement with Russia and Iran, and the extent and nature of Chinese (and to a lesser extent, North

Korean) assistance to either Russia or Iran, are important contingent factors that will determine how far the pendulum will swing back toward a more asymmetric Iran-Russia defense partnership.

Accounting for these contingencies, we can imagine at least five distinct futures for the Iran-Russia defense relationship over the next three to five years, depending on how the drivers and constraints evolve and interact. We consider a continued strategic partnership the most likely future. Other futures—a limited military alliance, a full military alliance, or a breakup—are less likely, though not impossible.

Appendix

Table 3. Summary of Iran-Russia Defense Cooperation Since Mid-2024

Area of Cooperation	Examples
Strategic Agreement	Iran-Russia Treaty on Comprehensive Strategic Partnership (2025); provides a framework and roadmap for implementing military, military-technical, intelligence, security, space, and nuclear cooperation
Aerospace, Ground, and Naval Domains	Aerospace --Iranian operation of previously-transferred Yak-130 training aircraft; pending Russian delivery of Su-35 fighter aircraft and Mil-28 attack helicopters; transfers of EW systems and possibly air defense systems and radars; assistance in upgrading Iranian EW and GPS jamming capabilities; shared lessons of Russian use of EW and jamming in Ukraine; Iranian interest in new air defense systems such as the S-400 (unconfirmed reports that Iran received the system); Iran incorporating lessons learned from Russia's use of UAVs in Ukraine; plans to expand aviation and air force cooperation --Reported Iranian transfers of Fath-360 ballistic missiles, launchers, and training; pending delivery of Ababil ballistic missiles; suspected Russian startup of second facility to produce Shahed-type UAVs, new production of jet-powered Shahed-type UAVs; Iranian transfer of samples of engines for Russian cruise missiles Ground --Russian transfer of sniper rifles, armored vehicles Naval --Joint naval exercises; plans to expand naval cooperation and to conduct joint naval industry production
Defense Industries	Russian expert visits to Iranian defense industries; participation in each other's defense exhibitions; plans to jointly produce microelectronics components
Nuclear	Russian sharing of unspecified nuclear technology and assistance in construction of Bushehr nuclear power plant
Space	Continued space cooperation, including satellite technology; Iranian use of GLONASS satellite navigation technology in its missiles and UAVs; Iranian request for Russian satellite imagery to support missile attacks against Israel; Russian launches of Iranian satellites to orbit
Evading/Overcoming Sanctions	Continued cooperation, including discussions to create an anti-sanctions union and plans to expand cooperation on countering U.S./Western sanctions

Assistance to Iran's Axis of Resistance Partners	--Russian assistance to the Houthis, including intelligence and satellite data to support attacks against commercial shipping, discussions of providing the Yakhont ASCM and other weapons --Discovery of Lebanese Hezbollah's possession of Russian-origin weapons including anti-tank missiles (but unclear if they were from Syrian stockpiles or direct Russian deliveries)

Table 4. Sources of Inertia: Mechanisms Underpinning Current and Future Iran-Russia Defense Cooperation

Agreements (or other written commitments)	
Strategic Agreement	Russia-Iran Treaty on Comprehensive Strategic Partnership (2025); includes military, military-technical, intelligence, security, space, and peaceful nuclear cooperation; also includes commitments to cooperate against common military and security threats and not to provide military/other assistance to an aggressor attacking either party; replaces the Russia-Iran 2001 Treaty on Foundations of Mutual Relations and Principles of Cooperation
Defense-Military, Security, Science and Technology Agreements	--Military agreement (2015); provided framework for military and military-technical cooperation --MOU on expanding military cooperation (2019) --MOU on naval cooperation (2019) --Agreement on information security cooperation (2020) --Agreement on cybersecurity cooperation (2021) --Agreement(s) on Iranian transfer of UAVs, training, and UAV production technology (2022) --Agreement(s) on Iranian transfer of ballistic missiles (2022-2023) --Space cooperation agreement (2022) --Long-term military and defense cooperation document (2023) --Security-intelligence cooperation agreement (2023) --MOU on security cooperation (2024) --Military, military-technical, intelligence, security, space, and nuclear cooperation as part of the Treaty on Comprehensive Strategic Partnership (2025)
Mutual Defense or Mutual Defense Assistance Commitments	None
Meetings/Visits	
Political/Security Leaders (Related to Defense/Military Issues)	Meetings involving presidents, national security council secretaries, and other high-level political/security officials
High-Level Military/Defense Officials	Meetings between defense ministers and senior defense ministry officials, general staff officials, other high-level military officials, and military attachés
Participation in Military Fora/Exhibitions	--Russia's "Army" and MAKS exhibitions --Iran's Kish Island aerospace exhibition, IRGC aerospace exhibitions

Participation in Multilateral Security Organizations	--Shanghai Cooperation Organization (e.g., meetings of national security council secretaries) --BRICS (meetings of security officials); Iranian proposal to create BRICS Security Commission
Channels (for enacting defense cooperation)	
Joint Commissions (Official Channels)	--Joint Military Cooperation Commission; no reported meetings since 2022 --Military Cooperation Working Group (2025) (possibly replacing the Joint Military Cooperation Commission) --Joint Economic Cooperation Commission (Joint Economic and Commercial Cooperation Commission) (includes nuclear, transportation, industrial, and possibly sanctions evasion cooperation) --High Commission on S&T Cooperation (includes space and aviation cooperation) --Plans for anti-sanctions union (2024)
Commercial Channels	Unclear to what extent Iranian defense-industrial organizations procure components, materials, and/or equipment from Russian companies, as in past decades
Education Channels	--Joint military university education and research programs --Joint S&T university education and research programs (e.g., via the Russia-Iran High Commission on S&T Cooperation and Iran's National Working Group on International Scientific Cooperation with Russia)
Infrastructure (for enacting defense cooperation)	
Joint Logistics/Transportation Mechanisms (Related to Military Shipments)	Efforts to avoid Western sanctions and logistics system, e.g.: --Development of the North-South Transportation Corridor --Development of the Rasht-Astara Railway --Use of the Caspian Sea for Iranian sea shipments of UAVs and ballistic missiles to Russia ("Trans-Caspian route") --"Western route" (land route via Azerbaijan) and "Eastern route" (land route via Central Asia) --Use of Iranian and Russian military cargo aircraft flights --Cargo flight route between Moscow and Esfahan --Free trade agreement (and joint committee) between Iran and the Eurasian Economic Union (EAEU) --Iranian request for Russian logistical assistance to help rebuild Lebanese Hezbollah's military capabilities
Joint Financial Mechanisms (Related to Military Transactions)	--Efforts to avoid the Western financial system, e.g., de-dollarizing trade by using their national currencies (rials or rubles) in transactions --Integrating their banking systems without using the Society for Worldwide Interbank Financial Telecommunications (SWIFT) system for money transfers (i.e., using their own banking messaging systems, SEPAM and SPFS)

(Source: CNS research and analysis)

Endnotes

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[116] Russia-Iran cooperation on supersonic cruise missiles could take one or more forms: 1. Russian transfer of complete supersonic cruise missile systems to Iran (possibly along with production technology); 2. Joint development of supersonic cruise missile systems—for instance, by creating a joint venture entity, as in the case of Russia's and India's joint development of the BrahMos cruise missile; or 3. Iranian procurement of key cruise missile technologies—such as propulsion or guidance and control—to feed into Iran's domestic development of supersonic cruise missiles.
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