Russia Benefitting in Ukraine War From AI Collaboration With U.S. Adversaries

KEY TAKEAWAYS

- Russia has deployed a wide array of AI-enabled systems in its war against Ukraine, including loitering munitions; intelligence, surveillance, and reconnaissance (ISR) platforms; automated targeting tools; and electronic warfare (EW) capabilities.

- Russia has benefitted from other U.S. adversaries in its use of AI-enabled weapons, particularly Chinese dual-use technologies and components for AI-enabled weapon systems, as well as Iranian AI-enhanced drones.

- China, Iran, and North Korea are learning from Russia's and Ukraine's use of AI-enabled weapons by carefully observing and incorporating lessons from battlefield experimentation with AI, particularly with regard to drone swarms and ISR integration.

- In general, U.S. adversaries are strengthening bilateral ties on AI-enabled weapons, such as partnerships between Chinese manufacturers and Iranian drone units employing AI.

CRINK Alliance Project

This periodic report assesses the contours of the emerging alliance of the United States' four primary adversaries: China, Russia, Iran, and North Korea (CRINK). Based on open-source research, this 'CRINK Alliance Project' offers analysis of how this axis is disrupting or reshaping the Operational Environment. Its purpose is to help military leaders and policymakers discern whether, how, and when these countries' interests align and diverge; anticipate potential friction points; and seize opportunities to counter their joint efforts to threaten the United States and its interests.

INTRODUCTION

The war in Ukraine is the largest and most visible military testing ground for AI technology in modern conflict. Russia's and Ukraine's use of AI-assisted loitering munitions, ISR platforms powered by machine vision, adaptive EW tools, and sophisticated information operations have provided China, Iran, and North Korea with a real-world battlefield laboratory.[1, 2, 3, 4] Each of these U.S. adversaries is witnessing how AI can accelerate kill chains, increase lethality, and shift the balance of power in information and cyber domains. This paper examines the extent to which CRINK states are collaborating in the use of AI-enabled weapons, how they are absorbing lessons from Russia's war in Ukraine, and what these dynamics mean for the U.S. Army.

RUSSIA: VARIED, BUT INSUFFICIENT, DEPLOYMENT OF AI-ENABLED WEAPONS

Russia has employed AI across multiple domains in the Ukraine war. On the battlefield, Russia has primarily used AI as a data analysis processor but is pushing AI integration in other domains, with mixed results. Its military has adapted loitering munitions and unmanned aerial vehicles (UAVs) to use machine learning for swarming techniques as well as target recognition, and it is testing ground-based robotics platforms within its command-and-control (C2) and ISR networks. Beyond the battlefield in Ukraine, Russian networks deploy large language models, generative AI, and deepfakes to amplify disinformation campaigns abroad, while AI tools are also being explored for nuclear C2.[5, 6, 7]

Figure 1: Exhibition of Destroyed Russian Military Equipment, Much of It Enabled by AI Technology, for Independence Day of Ukraine, 21 August 2022 on Khreschatyk Street in Kyiv.
(Source: https://commons.wikimedia.org/wiki/File:Exhibition_of_ destroyed_Russian_military_equipment_for_Independence_Day_of_ Ukraine_2022-08-21_by_EleNte_09.jpg)

Russia's AI sector is lagging, despite calls by Russian leaders for more ambitious use of AI in their military, especially to enhance its use of autonomous drones and ISR capabilities. In April 2025, Russian President Vladimir Putin publicly called "to activate the production and use of protected domestic software and developments in the sphere of artificial intelligence in order to use them in comprehensive automated military management systems…whoever masters these technologies first, in this case, in combat, will have greater advantages on the battlefield."[8] However, Russia has fallen short of this goal because sanctions, capital flight, and a large exodus of IT professionals constrain progress. Moscow's military culture further limits innovation as it is resistant to bottom-up innovation.[9]

Russia has leaned heavily on China for AI-enabled weaponry, as it has been unable to meet its technological needs alone. In 2024, Putin directed expanded cooperation between Russian state-owned bank Sberbank's AI lab and Chinese researchers. Sberbank is rumored to be developing military applications for AI technology and this directive reflects a growing dependence on Beijing. This crucial partnership underscores Russia's vulnerabilities and reliance on foreign inputs.

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CHINA: LIKELY AIDING RUSSIA IN AI AND LEARNING LESSONS

China has emerged as a key supplier of dual-use technologies and components for Russia's AI-enabled weapon systems. While Beijing denies direct military support to Russia, trade data reveals a significant uptick in exports of electronics and other dual-use items since the outbreak of the war.[10] According to Ukraine's Foreign Intelligence Service in June 2025, Chinese factories and firms provide Russia with the hardware and AI software enabling Russia's adaptations to unmanned aircraft systems.[11] According to the Institute for the Study of War, this year, Russia used Chinese parts and intellectual property to produce up to 2 million small tactical UAVs, integrate AI/machine learning capabilities into UAVs, deploy fiber optic UAVs with a 50-km range, and manufacture long-range Shahed UAVs.

The pipeline of dual-use technologies flowing from China to Russia will be used in more advanced weaponry. Sberbank put out its own AI model in 2023, and its CEO is a close ally of Putin's. The Kremlin tasked Sberbank to work with China on joint AI research projects, though not specifically related to Russia's needs on the Ukraine battlefield.[12] According to the Defense Intelligence of Ukraine Agency, certain platforms, like a smaller version of the Shahed are primarily built using Chinese AI technology.[13, 14]

Russia and China have divergent time horizons for their short-term interests and long-term objectives in the military use of AI. Beijing's approach to AI is strategic and global in scope, designed to close the gap with the United States, while Russia is using AI to achieve discrete tactical battlefield advantages in Ukraine in the short term, and to support an enduring disinformation campaign in the middle to long term. China is experimenting with how AI can be used to improve combined arms, surveillance, and global information operations.[15] In 2024, China's Ministry of Foreign Affairs issued a Global AI Governance Action Plan that framed AI as a tool for international influence and strategic stability.[16]

IRAN: AN ENABLER OF AI-POWERED WARFARE

Evidence from the battlefield in Ukraine and beyond has demonstrated Iranian signatures on AI technology, with Tehran's most visible contributions to Russia being AI-enhanced Shahed UAVs. Ukrainian forces have captured Iranian-made UAVs with sophisticated onboard computing for autonomous navigation under jamming conditions. Iran has also engaged in bilateral AI cooperation with China and Russia, though much of this remains opaque.[17] In June, for example, Ukrainian drone hunters discovered a new jet-powered Shahed with a sophisticated computing platform powered by AI and capable of autonomous navigation despite communications jamming.[18,19]

Iran has prioritized AI as a means of enhancing its military capabilities, despite U.S. sanctions and limited resources. Its sovereign wealth fund has directed more than $100 million into AI-related projects, and its military—particularly the Islamic Revolutionary Guard Corps—has integrated AI into drones, missile systems, and EW platforms.[20, 21] Statements by Iranian leaders underscore their belief that mastery of AI, rather than mere adoption, will be decisive for future warfare.[22] "With regard to artificial intelligence, being a user is not an advantage. This technology has deep layers and they must be mastered," the Supreme Leader has said.[23]

NORTH KOREA: A NASCENT AI POWER LEARNING LESSONS

North Korea, still in its AI infancy, has shown no evidence of offering Russia AI-enabled weapons; however, Pyongyang has observed battlefield lessons in drone warfare, ISR, and EW in Russia's war in Ukraine. North Korea has deployed thousands of soldiers over the past year and has burgeoning defense ties with Russia. This could accelerate North Korea's efforts to integrate AI into its modernization drive, which already includes new drones, naval platforms, and long-range missile systems.

North Korea has discussed AI use for domestic military purposes. North Korean media has released images of Kim Jong Un inspecting purported AI-enabled suicide drones, though Kim's announcement of AI-enabled military capabilities is probably mostly for propaganda purposes. However, AI-enabled drones, missiles, and other weapon systems clearly fit within the goals of North Korea's recent military advancements.[24] North Korea is also likely to seek to adapt AI to its other premier critical national objectives, such as border security, internal monitoring of the populace, signals intelligence, and propaganda campaigns.[25]

IMPLICATIONS FOR THE U.S. ARMY

CRINK collaboration around AI, though still in its early phase, could pose significant challenges for the U.S. Army, based on lessons learned from its application in the Ukraine war. These developments have major implications for U.S. Army planning around force posture, battlefield adaptation, and acquisition, given the speed of AI-driven innovation in warfare.

- *AI-enabled UAVs are cheap, scalable, and effective at the operational level on future battlefields.* Russia's AI-enabled UAV use, supported by Chinese components and Iranian designs, signals a shift toward mass, attritable, AI-assisted drone employment that challenges traditional U.S. Army air defense and force protection models. Ukrainian startups have also demonstrated the scalability and diffusion of AI.

- *CRINK collaboration is likely to accelerate adaptation.* Combat experimentation by Russia, combined with Chinese industrial support and Iranian drone expertise, is shortening development timelines and enabling rapid diffusion of AI-enabled tactics across theaters, even if there are divergent time horizons and approaches to AI among CRINK states. This could mean the U.S. Army may face more mature and effective AI-enabled weapon systems and combined weapon systems from multiple adversaries. This also creates an opportunity for the United States to exploit these dependencies by interrupting supply chains.

- *Any battlefield advantages around AI will be fleeting.* The Ukraine war shows that AI advantages are often temporary, as adversaries rapidly observe, copy, and iterate on software, sensors, and countermeasures. AI will likely accelerate the pace at which military learning occurs during wartime, challenging the Army to operate at increased battlefield speed and adopt new processes that accelerate research, development, and fielding of new technology and TTPs.

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