CSIS BRIEFS

Russia's Cap on Partner Aid

Institutional Rigidity and the Limits of External Support

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THE ISSUE

Chinese, Iranian, and North Korean support has proven essential to Russia's war machine, yet Russia absorbs this foreign support unevenly, limiting both its impact and Russia's military effectiveness. Russia metabolizes material aid such as familiar equipment with relatively low friction, simply replacing previous tools. However, Moscow's war machine struggles to incorporate support that requires institutional, organizational, or conceptual change. Chinese-provided ISR-cued (intelligence, surveillance, and reconnaissance) targeting and North Korean troop deployment are the primary examples of this phenomenon. When inputs require simple reequipment, such as Chinese-supplied military components or Iranian Shahed drone production, Russia encounters relatively little difficulty. In contrast, when inputs require force reorganization, as is the case for Chinese-provided ISR-cued targeting data, Russia stalls, unable to adapt to the challenges posed by language, training, and narrower interoperability. Russian institutional rigidity restricts its ability to properly use partner support, and its recent innovations have merely worked around this constraint without solving it.

INTRODUCTION

Russia faces mounting battlefield setbacks as Ukraine strikes deeper into its territory; even Russian President Vladimir Putin reportedly conceded that Russian forces are not advancing "as quickly as . . . [Moscow] would like."[1] As of mid-2026, Russia has suffered 1.4 million battlefield casualties from the war in Ukraine, including as many as 450,000 deaths.[2] Moreover, Ukraine has gained the initiative, launching over 400 strikes 100 km or more into Russian territory since the beginning of 2026.[3] These Russian setbacks have occurred despite continued support from Russia's partners—principally China, Iran, and North Korea—which have offered both rhetorical support and continued material aid.

Western discussions of support for Russia usually center on questions of munition quantities, the identification of components, and the types of satellite access these countries provide, among other forms of assistance. Yet the crucial issues surrounding how—or even if—Russia has been able to utilize partner aid remain unexplored. In situations where Russia has fallen short of success despite significant partner aid, the question becomes: Are these failures the result of isolated mistakes—independent of partner support—or is the Russian war machine struggling to operationalize certain types of partner aid? Aid receipt differs by *potential* capacity (the arrival of an input) and *realized* capacity (the ability to exploit that input). If Russia is unable to make use of partner-provided battlefield aid—that is, unable to convert potential capacity into realized capacity—the possession of that aid loses significance.

Russia receives substantial and increasing partner aid—an estimated 90 percent of Russia's microelectronics came

from China in 2023, and North Korea has sent an estimated 15 million rounds of 152 mm artillery shells as of March 2026, for example—providing the country with significant potential capacity. However, Russia often stalls at realized capacity, unable to exploit the aid its partners provide.[4] This is partially due to the quality of components—for example, North Korean artillery shells have frequently been of poor quality.[5] The primary impediment to realizing the aid capacity Russia's partners provide, though, is institutional rigidity. Although Russia has adapted since the onset of the Ukraine war, important institutional constraints remain, including limitations in Russian satellite imagery processing capacity and the scope and nature of its bilateral partnerships. These factors constrain Russia's ability to fully exploit some of the aid it receives, such as space-based ISR and additional foreign forces.

This brief examines the aid provided by Russia's partners both in terms of its potential capacity and its realized capacity, in the context of the Ukraine war and Western aid to Ukraine, in order to determine the strategic impact of current aid supplies within the conflict. Examining Ukraine's incorporation of foreign aid reveals that the key enabler to increasing realized aid capacity is innovation, particularly operational and institutional. The analysis below demonstrates that, absent significant institutional change—which seems unlikely given the lack of pressure for reform from Russia or its partners—Russia will need substantially larger amounts of aid to achieve its goals than Ukraine will to reach its.

RUSSIA'S SUCCESSES AND FAILURES

Russia's institutional rigidity is structural and self-reinforcing, encompassing both civil and military institutions. Constant bureaucratic infighting has made reform difficult, and a culture steeped in conservatism and nostalgia discourages innovation or adaptation. Decisionmaking is concentrated to the point that rarely is someone outside the presidential administration empowered to propose even the basic trade-offs reform requires. Moreover, a pervasive fear of exposing the war's realities, and thus undermining Putin, discourages honest analysis.[6] The defense industrial base is also plagued by poor management, corruption, and dependence on foreign technology—especially Western—meaning that it cannot provide substitutes for high-end imported components at scale. This administrative culture makes it hard for the military to break with the past, despite the battlefield clearly demanding adaptation.[7]

Russian military institutions reward loyalty over competence and treat decentralization, delegation, and initiative as threats.

Russia's military culture reinforces this broader institutional rigidity. The military's educational and training institutions remain outdated, single-service focused, and oriented toward memorization over independent thought, producing officers averse to innovation, disinclined to delegate, and even prone to persisting with failing courses of action.[8] Together, these patterns reinforce Russia's Soviet-style centralized command culture, which is rooted in a lack of trust between echelons. Overall, Russian military institutions reward loyalty over competence and treat decentralization, delegation, and initiative as threats.

The changing role of Starlink—SpaceX's low-earth orbit constellation that Ukraine was granted access to for military communication—in frontline coordination and drone relay within the Ukraine war reveals the impact of Russia's institutional rigidity. Russian reliance on the U.S.-based Starlink for frontline communications and drone operations was documented by Ukrainian intelligence, Western analysts, and U.S. lawmakers as a structural vulnerability for years before Moscow took notice. When SpaceX deactivated illicit Russian access to Starlink in February 2026, the long-standing domestic fallback—the commercial Yamal satellite network owned by Gazprom—proved unable to cover the front line or even to handle drone video, leading Russian units to refer to it as unstable. In one intercepted radio transmission, a Russian serviceman stated, "We've hit a wall again because our country doesn't want to spend money on anything or do anything useful for the front . . . Starlink was invented by one person—why couldn't we have made something similar in all this time?"[9]

Although Russia's dependence on Starlink was a known vulnerability, it was unprepared for the loss of the network and did not adapt quickly when it occurred. As of mid-2026, Gazprom's Yamal network comprises a mere four functioning geostationary satellites—in contrast to Starlink's 10,803 operational satellites—and has proven unable to replace the capabilities previously enabled by

Starlink.[10] The gap between this clearly unmet need and a working substitute had simply been ignored for years, with ambition to address it only recently surfacing. Russia's own "Starlink-like" constellation, Rassvet, has proven inadequate for replacing Starlink for military communication.[11] After an initial scheduled launch in 2025, Russia launched a batch (16) of its Rassvet satellites in March 2026; within three months, however, one had already failed. Far behind its goal of 156 satellites by the end of 2026, Russia has been slow to build the network it has needed since 2022 and does not appear to be making substantive progress as of 2026.[12] Its other satellite systems previously used for military communication—Blagovest, Meridian, and Strela—lack the capacity and satellite density to meet Russia's wartime communication needs.

In the face of mounting setbacks and largely in response to Ukrainian innovation, Russia has adopted specific, gradual changes. For example, Ukraine's Drone Line initiative, which links drone operators from multiple units to share tactical lessons, inspired the creation of Russia's Rubicon Unit, which was established by an August 2024 directive from Defense Minister Andrey Belousov. In fact, the Rubicon Unit's creation was only possible because of Chinese material support, specifically the provision of fiber-optic cables.[13] Russia's only domestic fiber-optic plant, located in the city of Saransk, was damaged in a series of Ukrainian strikes in April 2025 and remains offline. This created a need: Russia had no way of supplying fiber-optic cables to its forces at a time when they were needed to enable innovation (for example, to establish the Rubicon Unit). China stepped in, albeit at a 150 percent price hike, and Chinese fiber-optic imports have since become a key input in Russia's war machine.[14]

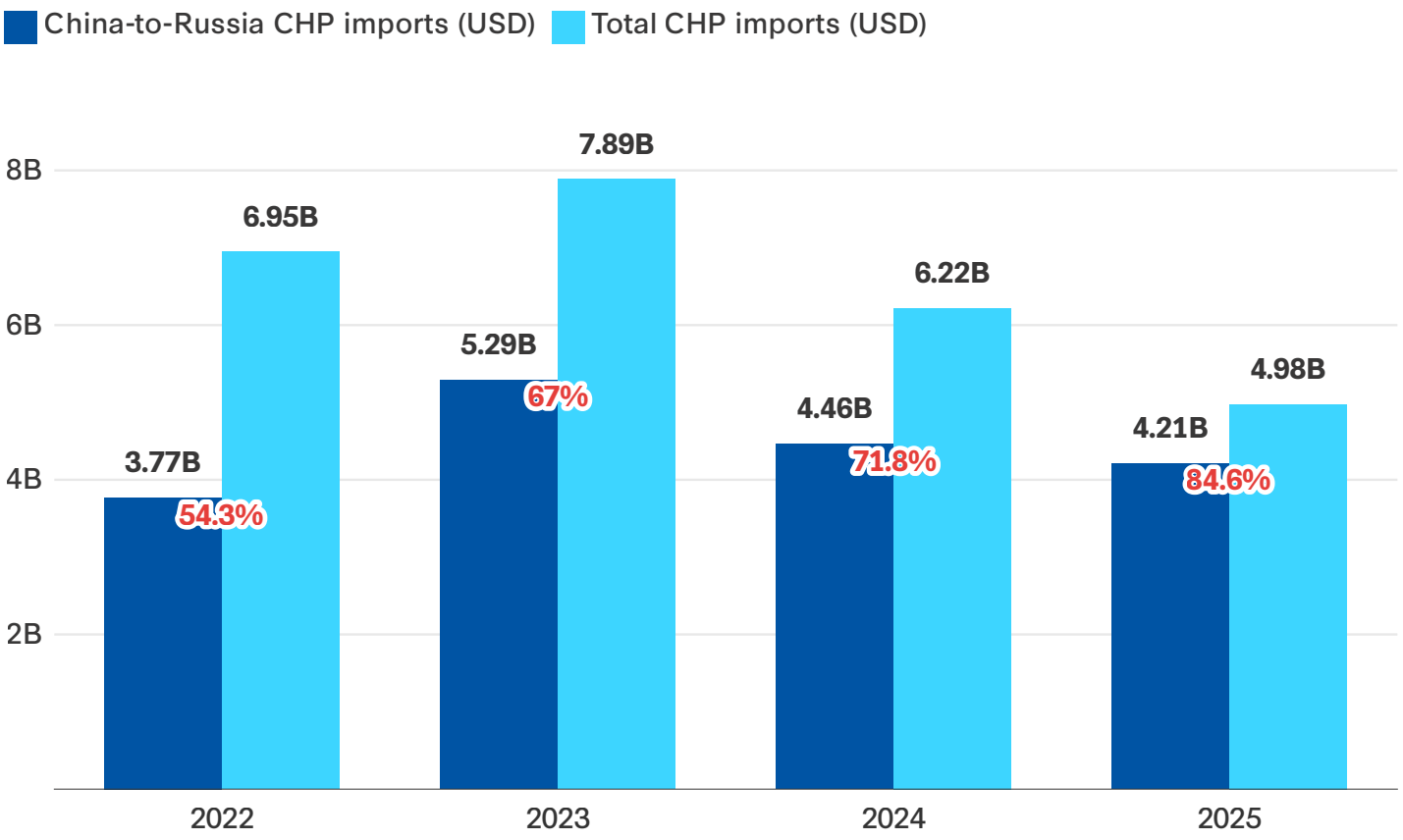
Rubicon has become the prime example of successful Russian innovation and was instrumental in pushing back Ukrainian troops from Kursk. It is an elite strike unit developed by pulling experts from line units to concentrate unmanned aerial systems (UAS) and technology-enabled expertise. In response to Ukrainian tactics successfully disabling Russian drones, Rubicon's members employed fiber-optic drones to strike Ukrainian supply lines along narrow roads, making resupply and rotation prohibitively costly.[15] Rubicon's performance in Kursk thus illustrates how Russia is able to effectively realize the potential offered by Chinese aid, at least when that aid is directed toward an existing material-use case. Without fiber-optic drones, Russia would likely not have been able to take back Kursk on the timeline it did. The loss of domestic capacity for fiber-optics made Chinese aid decisive.

Recovered-weapon analysis conducted by the Ukrainian Main Directorate of Intelligence (GUR) finds that the bulk of the foreign parts in Russian systems are Western made, primarily entering Russia through China.[16] Consequentially, over 50 percent of components used for AI, such as integrated circuits, come from U.S.-based companies.[17] China acts as the middleman, rerouting Western components to Russia via intermediary firms and the domestic manufacturing of Western parts.[18] Russia's reliance on China for common high-priority (CHP) items on the G7 Common High Priority Items List—for example, computer numerical control (CNC) machines for metal cutting and shaping, semiconductors, integrated circuits, and lithium-ion batteries—has increased substantially each year. Chinese CHP imports made up 54.3 percent of what Russia received in 2022, and rose to 84.6 percent in 2025, representing 4.21 billion of the 4.98 billion U.S. dollars' worth of CHP imports to Russia.

China enables Russia to maintain the status quo rather than innovate.

These Chinese-supplied Western components fit into the Russian system with little friction: Most Russian systems that rely on Western components can simply keep doing so because of Chinese support. In fact, by ensuring that these Western components reach Russia through its sanctions-evasion networks and domestic manufacturing, China enables Russia to maintain the status quo rather than innovate. China supports Russia's rigidity even in the face of short-term losses to its own domestic market. If China provided Russia with exclusively Chinese-made components—such as Huawei semiconductors or Chinese CNC machines—Russia would be required to redesign most of its systems to accommodate the different parts.

Figure 1: Russia's Reliance on China for Common High Priority (CHP) Imports, 2022–2025



Note: The data from 2025 is partial-year data collected from the General Administration of Customs of the People's Republic of China (GACC).

Source: Comtrade; authors' calculations of GACC data.

When aid shifts from material components of technology to wholesale systems, on the other hand, Russia has shown itself to be less able to operationalize aid than Ukraine. For example, Russia employs Chinese-supplied space-based ISR technology less effectively than Ukraine uses the Western ISR it receives. As both sides receive ISR aid from their partners, comparing how Russia and Ukraine integrate externally provided ISR capabilities offers an illustrative case for understanding aid-realization capabilities. Companies from China have provided Russia with satellite imagery since at least 2023. In January 2023, the U.S. Treasury sanctioned the Chinese firm Spacety China and its Luxembourg subsidiary for providing satellite imagery of Ukraine to Terra Tech, a Russian company supporting operations conducted by the Wagner Group, a Russian proxy force.[19]

Separately, Beijing Yunze sold two Chang Guang satellites to Nika-Frut, a front company tied to Yevgeny Prigozhin, for over $30 million. The GUR has also accused Chinese firms such as Xiamen Victory Technologies of supplying imagery to Russia since 2022.[20] Enabled by space-based ISR, high-elevation drone-based ISR, human and agent networks inside Ukraine, signals intelligence, and other sources, Russia conducts strikes deep into Ukrainian territory. The primary driver of this capability is space-based ISR. Russia's own space-based imaging fleet—comprising approximately three optical and three synthetic-aperture-radar satellites—is too sparse to service a multi-axis battlefield, making Chinese commercial imagery particularly valuable.[21] However, while Russia has purchased a wealth of important targeting input, and used much of it, its capacity to exploit the data is structurally constrained.

Space-based ISR is only as useful as its ability to enable target identification and facilitate strike launches, and Russia has proven unable to employ these capabilities effectively. As early as November 2022, a senior NATO air commander assessed that Russia lacked "anything like the ISR led strike capabilities of NATO Air Forces, nor the targeting processes to exploit them." There is no evidence

that Russia has meaningfully bridged that gap.[22] Furthermore, on a sensor-rich battlefield, the bottleneck is data processing, not data collection.[23] Russia may be fielding an AI-based system for processing drone video feeds, but nothing in Russian military discourse suggests it is doing the same with satellite imagery—that is, space-based ISR. Russian forces may be collecting the data, but they lack processing capabilities.[24] Russia maintains a limited ability to process and exploit Chinese-provided satellite imagery as timely, validated targeting. Satellite imagery is difficult to process for a range of reasons. For example, object detection from space presents significant challenges, including the low pixel resolution of objects, as the greatest value of processing satellite imagery for targeting lies in identifying relatively small targets. Crucially, Russia does not own satellites that could provide sufficient data for training imagery-based models, nor does it appear to be acquiring or developing such technology. This processing need demands technical adaptation, which is constrained due to Russia's institutional rigidity.

Meanwhile, Ukraine has already integrated satellite imagery processing into its situational awareness and battlefield management system, Delta. Delta is an integrated system that combines real-time ISR data—principally from satellite imagery, drone video feeds, radar, and frontline units—onto an interactive digital map, allowing users to quickly identify enemy positions or track friendly forces. The full system famously compressed the average time between detecting a target to relaying data for a strike—the sensor-to-shooter delay—from 72 hours to mere minutes.[25] One component of Delta, known as Avengers, handles the difficult computational task that underlies processing satellite imagery. Avengers develops specialized AI models for detecting small objects in low-resolution, poor-quality imagery.

"There is effectively no company-level command; command is exercised at the battalion level."

In contrast to its stalled space-based ISR data usage, Russia has recently displayed increased aptitude in utilizing drone-based sensor feeds. The challenge posed by drone-enabled strikes is different, centering on decisionmaking latency issues rather than data processing. Although the Russian military has detailed plans to field an advanced AI-enabled command-and-control (C2) system to reduce strike-approval latency, Russian regimental command staff recently identified strike-approval latency as the primary delay between detection and engagement, suggesting the improvement has not been made force wide.[26] Regarding the command structure, staff stated, "there is effectively no company-level command; command is exercised at the battalion level," meaning decisions must be filtered through multiple layers of command before they can be implemented, slowing down kill chains.[27]

Indeed, within the Russian military, the battalion is the main tactical subunit and the lowest echelon with a staff, which is why strike authorization sits there.[28] With multiple subunits existing below the battalion level—but lacking ultimate decisionmaking capabilities—fire authorization sits at a relatively high level, causing noticeable sensor-to-shooter latency, particularly in drone-enabled strikes. In the initial full-scale invasion in 2022, for example, Russia's Strelets sensor-to-shooter network was fielded but rarely used due to a combination of a lack of trained personnel, misconfiguration, and patchy availability.[29] Recent innovations in Glaz/Groza—Russia's military targeting software which automatically extracts coordinates from drone video streams and performs ballistic calculations and fire adjustments—have reportedly compressed the drone kill chain from hours to minutes, but the gain is incremental in that it works around existing authorization structures rather than relocating decisionmaking authority, concentrating the improvement in select units rather than reforming the Russian force more broadly.[30]

Like China, North Korea has provided important material aid that slots neatly into Russia's defense industrial base—specifically, 15 million artillery shells as of March 2026 and 120 multiple launch rocket systems as of February 2025. Although there were initial quality issues, Russia has been able to use these munitions and weapons systems effectively, freeing up Russian factory workers that would otherwise be building munition stores.[31] This input requires little if any institutional change for Russia.

Deployed North Korean soldiers, in contrast, have proven difficult to integrate. In fall 2024, North Korea began sending troops to Russia, with late-2025 estimated troop numbers ranging from 11,000 to 15,000. North Korean troops have rotated in and out of the front lines, and a

number were initially sent to Kursk to help regain territory during the 2024 Kursk offensive and remain there.[32] North Korean troops have experienced high casualties, though they are broadly comparable to those of Russian forces. Estimates range from 2,300 to 6,000 North Korean casualties as of October 2025, exceeding 50 percent of the estimated stationed North Korean force. Russia has experienced a similar casualty rate (64 percent), according to the high end of international estimates.[33] Adding to integration difficulties, poor communication between North Korean soldiers and Russian forces has resulted in battlefield mishaps. On December 14, 2024, for example, North Korean forces fired at a Chechen "Akhmat" Spetsnaz battalion vehicle, killing eight Chechen personnel in a friendly fire incident.[34] There is no evidence Russia has resolved the communication barriers, or that there is a clear doctrinal place for these foreign troops within the Russian army; they allegedly operate as independent brigades.[35]

Iranian-supplied Shahed drones offer the clearest case of an input Russia absorbed with minimal institutional friction. On June 8, 2022, Russian officials reportedly visited Kashan Airfield in Iran to inspect the Shahed-129 and Shahed-191 unmanned aerial vehicles.[36] By July 11 of that year, the White House revealed that Iran was preparing to provide Russia with drones for use in Ukraine.[37] The first transfer began on August 5, 2022.[38] Payment moved through the same opaque channels that characterize these partnerships. In August of 2022, Russia flew a plane to Iran with cash and Western missiles Russia had acquired in Ukraine—a U.S. Javelin, a Stinger, and a British NLAW—reportedly intended for Iranian reverse-engineering.[39] In February 2023, Tehran and Moscow began planning to build a drone factory in Russia, and the Russian Geran drone series, adapted from the Shaheds and incorporating more resilient navigation and other enhancements, soon replaced the Iran-supplied drones in Ukraine. Russia ultimately localized nearly 90 percent of its Geran production, completing a 6,000-unit contract ahead of schedule and driving down per-unit cost with limited Iranian input.[40]

THE UKRAINE CASE

Russia's failures to process space-based ISR and translate it into opportunities for strikes, as well as its inability to integrate foreign troops into its military, contrast sharply with Ukraine's successes. On June 4, 2026, Ukraine's Unmanned Systems Force dismantled Russian Shahed-launch infrastructure at the occupied Donetsk Airport using commercial, real-time satellite imagery fed straight to operators' devices.[41] Coordinates arrived within roughly 15 minutes of satellite capture and bypassed central review, compressing the sensor-to-shooter kill cycle by as much as 90 percent. This was the first documented case of Ukraine closing a kill chain using commercial satellite imagery delivered directly to frontline operators—the first visible instance of an institutional arrangement that had been being built for years. Specifically, a decade of volunteer-built processing and battle management software has given Ukraine the processing capacity to take advantage of the wealth of data space-based ISR provides. In contrast, while Russia has received the same class of input, it has not been able to convert it to measurable success.

Russian military scholars conceded that the Russian military's efforts were 1.5-2 years behind projections.

Ukraine's success has been facilitated by the fact that it has shed its Soviet shell to a larger extent than Russia. Ukraine's command structure benefits from its innovators and its ability to broadly reform its force. Beginning in 2014, volunteers have been building tools that pushed decision-making to frontline operators. For example, Ukrainian army SOS—a public volunteer initiative supporting the Ukrainian army—developed Kropyva, which turned cheap tablets into automated fire-control terminals, cutting the time from order to strike by up to tenfold; 90–95 percent of artillery units have adopted it as their primary system.[42] Aerorozvidka's Delta, begun in 2016 and adopted force wide by August 2024, scaled that logic—bottom-up rather than centrally managed, accessible to frontline troops and senior commanders alike through tiered access, and designed to give end users what they need rather than letting a commander micromanage the force.[43] The result is an observe-decide-strike loop increasingly closed at the lowest tactical levels, with release authority for the dominant small-UAS and artillery kill chain sitting at the company, platoon, and even squad levels.[44]

Russia has tried to build a similar advantage but has yet to relocate authority, stalling implementation. In fact, by early 2025 even Russian military scholars conceded that the Russian military's efforts were 1.5–2 years behind

projections.[45] Moreover, the Russian answer to Ukrainian Aerorozvidka's Delta—Svod, a Delta-class situational awareness system—remains underdeveloped and insufficiently diffused across the Russian military.[46] Based on its demonstrated ability to create drone units, Russia should be able to convert Svod into a useful, largely diffused system, though on a timeline that lags behind the war's demands and reflects the institutional rigidity that places the country firmly behind Ukraine in software procurement overall.

Ukraine's institutions are not frictionless. The country carries its own absorption costs—corruption, procurement opacity, and dependence on donor timelines, to name a few—and even its strongest systems show this strain.[47] For example, Ukraine currently fields a fragmented landscape of 550-plus unmanned system types, many not integrated into Delta, and embodies a volunteer-led supply model that has proven agile but ultimately unsustainable.[48] Despite these challenges, Ukraine has been able to successfully convert forms of foreign aid similar to those Russia receives from China and North Korea, while Russia has been unable to match Ukraine's level of aid realization.

Ukraine's command structure emerges as an explanatory variable for the varying results—this structure was built deliberately over time, not through quick battlefield innovation. Between 2014 and 2022, Ukrainian volunteers introduced 11 situational awareness and battle management systems with direct lines to frontline operators, thereby keeping development tied to real military needs. Once that process was established and in response to the role of drones and other UAS in the conflict, Ukraine stood up a dedicated Unmanned Systems Force as a separate military branch in 2024 and pushed authority toward networked, volunteer-rooted units. In addition, Ukraine's donors have spent years building absorptive capacity into the Ukrainian military through NATO training and interoperability testing.[49] Delta passed NATO interoperability testing at the 2024 Coalition Warrior Interoperability Exploration, Experimentation, Examination Exercise (CWIX24) and was integrated into the Polish TOPAZ artillery system by July 2024.[50] Together, a volunteer-built ecosystem and years of donor institution-building solidified Ukrainian absorptive capacity, a combination Russia has been unable to quickly replicate.

North Korean troops appear to operate exclusively within their own brigades and are minimally incorporated into the Russian command structure.

Ukraine employs foreign volunteer aid in token amounts, with foreign troops arriving as individuals or in small groups, not as units by partner nations. There is no official count of how many foreign volunteers serve in Ukraine's armed forces, and estimates vary widely, though most put the figure at half of Russia's roughly 15,000 North Korean troops, or possibly fewer.[51] Before deployment, these forces receive roughly six weeks of training and are deployed only after they have a level of familiarization with Ukrainian communications, command structure, and battlefield conditions. Moreover, foreigners are matched with Ukrainian units before arrival.[52] There is real friction—language barriers remain, and the foreign troops still do not have extensive experience operating within a Ukrainian command structure—but the apparent ad hoc deployment of North Korean troops diverges sharply from the training and force integration process Ukraine has built over several years.[53] Troops that are successful in the International Legion are sent to real Ukrainian units and contribute directly to battlefield operations, whereas North Korean troops appear to operate exclusively within their own brigades and are minimally incorporated into the Russian command structure.

PARTNERSHIP LIMITS: WHY RUSSIA'S PARTNERS CANNOT LIFT THE CEILING

In 2026, Ukraine innovates from the bottom up, enabling more effective absorption of aid, but that was not always the case. High-intensity war exposed Ukraine's Soviet-era institutional rot, and conditional external aid supplied the additional necessary pressure to fix it. In contrast, although China, Iran, and North Korea supply hardware, components, munitions, and imagery, they attach none of the conditions that drove Ukraine's reforms. Russia's

partners neither demand institutional change as a condition of their support nor exert the existential pressure that pushed Ukraine to convert inputs into effect. Russia, unlike Ukraine, does not face an existential threat to its survival.

Western aid to Ukraine comes with stipulations that have strengthened Ukraine's anti-corruption institutions and enforcement and helped spur innovation.[54] The United States has sent Ukraine $127 billion of direct aid since Russia's 2022 invasion, imposing multiple restrictions on the use of that aid.[55] Among these restrictions are stipulations that Ukraine demonstrate clear progress in anti-corruption measures, and corruption reduction further frees up funds. Moreover, conditions vary by aid type and frequently include some oversight and monitoring mechanisms. Military assistance, for example, is accompanied by intensive end-use monitoring: The U.S. Department of Defense stood up the Security Assistance Group-Ukraine within months of the invasion to track shipments to the front—having learned from the seven years it delayed in creating an equivalent body in Afghanistan—and Congress mandated itemized accounting of every defense article transferred.[56]

Of that total, the roughly $45 billion in direct budget support the United States provided was routed through the World Bank and governed by statutory safeguards, including a required U.S.-Ukraine memorandum of understanding on third-party monitoring and a separate auditable account.[57] Revealing the enduring nature of these stipulations, in late summer 2023, the U.S. Department of State issued a formal démarche warning that continued budget support depended on Ukraine's progress on anti-corruption measures and financial transparency, clearly messaging that misappropriation would jeopardize all U.S. aid.[58] Crucially, these conditions tracked the same benchmarks as Ukraine's EU accession bid—independent anti-corruption prosecutors, reformed state-company boards, and judicial overhaul—meaning that pressure came from multiple channels, encouraging the changes Kyiv needed and reinforcing one another. This partnership structure externally incentivized Ukraine—a country still informed by its post-Soviet governance architecture—to direct its newly provided resources honestly. Although corruption remains a challenge within the Ukrainian military—as illustrated by President Zelensky's attempt to weaken two anti-corruption bodies and the recent dismissal of Minister of Defense Mykhailo Fedorov, a staunch critic of corruption—Ukraine has followed a far more positive trajectory than Russia in reducing corruption and strengthening accountability, granting Ukraine an advantage in the war.[59]

Russia's partners, in contrast, have provided aid without governance conditions—with each partner controlled by an authoritarian government, there exists little incentive to stipulate governance reform. Ukraine's partnerships require eventual repayment and compliance with anti-corruption and transparency benchmarks, while Russia's partnerships rely on direct reciprocity and often embrace illicit practices. Russia's partners typically expect some combination of immediate payment for services rendered, reciprocal military cooperation, or technological assistance. More consequentially, the Russian bilateral partnerships move through channels purposefully built to evade scrutiny, thereby denying transparency and likely spreading corrosive practices. These pathways encourage shadow trade and sanctions evasion networks, reinforcing opaque governance models and shared illicit financial practices that further weaken accountability across aligned states.[60] The conditionality present in Western aid to Ukraine structures beneficial reform, but no equivalent pressure has been placed on Russia—its partners have no interest in institutional transparency.

Although Russia's partnerships reinforce opaque and illicit practices rather than curb them, more consequential in the long term is that the partnership limits prevent embedded external access, a crucial driver of reform. The same opacity and mutual suspicion that throttle the flow of aid also foreclose the embedded, multiyear institution-building that would be required to raise Russia's absorptive ceiling. A partner can hand over imagery, components, or even a two-week training rotation without ever touching the recipient's command structure. What a partner cannot do, absent sustained access and trust, is sit inside the force and reform where strike authority sits. In the past, Russia has shown a great deal of restraint in allowing China access to sensitive systems. Although clear mutual suspicion exists—leaked Russian counterintelligence documents show deep-seated distrust, and Russian military journals entertain conspiracies reflecting suspicion of China—recent classified documents reveal that integration between the two countries is growing.[61] Despite the growing ties, however, it is unlikely either side will grant the other the level of embedded access reforming a command structure requires, because each continues to treat the other as an intelligence target.

Neither Russia nor its partners want the transparency and intrusion such institution-building demands.

The Western model raised Ukraine's absorptive capacity because donors were allowed in—conditioning aid, embedding trainers, and running interoperability testing over years. Russia's partners are barred from playing that role due to mutual distrust. Neither Russia nor its partners want the transparency and intrusion such institution-building demands, so the aid arrives without the accompanying push to reform that would enable Russia to convert the portion of that aid that requires systematic reform into combat power; without reform of the kind seen in Ukraine, Russia remains unable to convert the *potential* capacity of the aid it receives into fully actualized capability. The partnership limits thus bind Russia twice—once through the inputs it receives, and again, more consequentially, through whether those inputs can be converted into combat capability.

There is some evidence that Russia's partners have attempted to address institutional challenges affecting Russian military adaptation. Under a July 2025 agreement, for example, Russian Defense Minister Andrey Belousov approved Chinese training for roughly 200 Russian personnel in China on drone operations, electronic warfare, counterdrone tactics, and, in at least one case, drone-directed mortar fire.[62] Ukrainian intelligence has since confirmed that 180 Russian troops received training in China. While a clear indication of growing military collaboration—particularly as Ukrainian intelligence has also reported 550 Chinese troops training in Russia—this expanded bilateral exchange is unlikely to resolve Russia's institutional difficulties. The exchange reportedly centers more on Russia providing Chinese troops with knowledge drawn from battlefield experience and less on China providing Russian troops with training.[63]

Furthermore, a prominent investigation indicates that China's military cooperation with Russia is deepening—developing a joint air- and missile-defense system and even making plans to potentially disrupt the Starlink constellation.[64] Crucially, this investigation found that Russia decided to share its coveted S-500 air defense system with China, alongside early-warning radar technologies. Yet even this integration—the highest level of cooperation evident since before the Sino-Soviet split in the late 1950s—takes the form of joint development programs and traded battlefield data; there is no evidence to suggest that China is pushing for governance reform, nor that it is being granted the embedded access demanded by Ukraine's Western donors.[65]

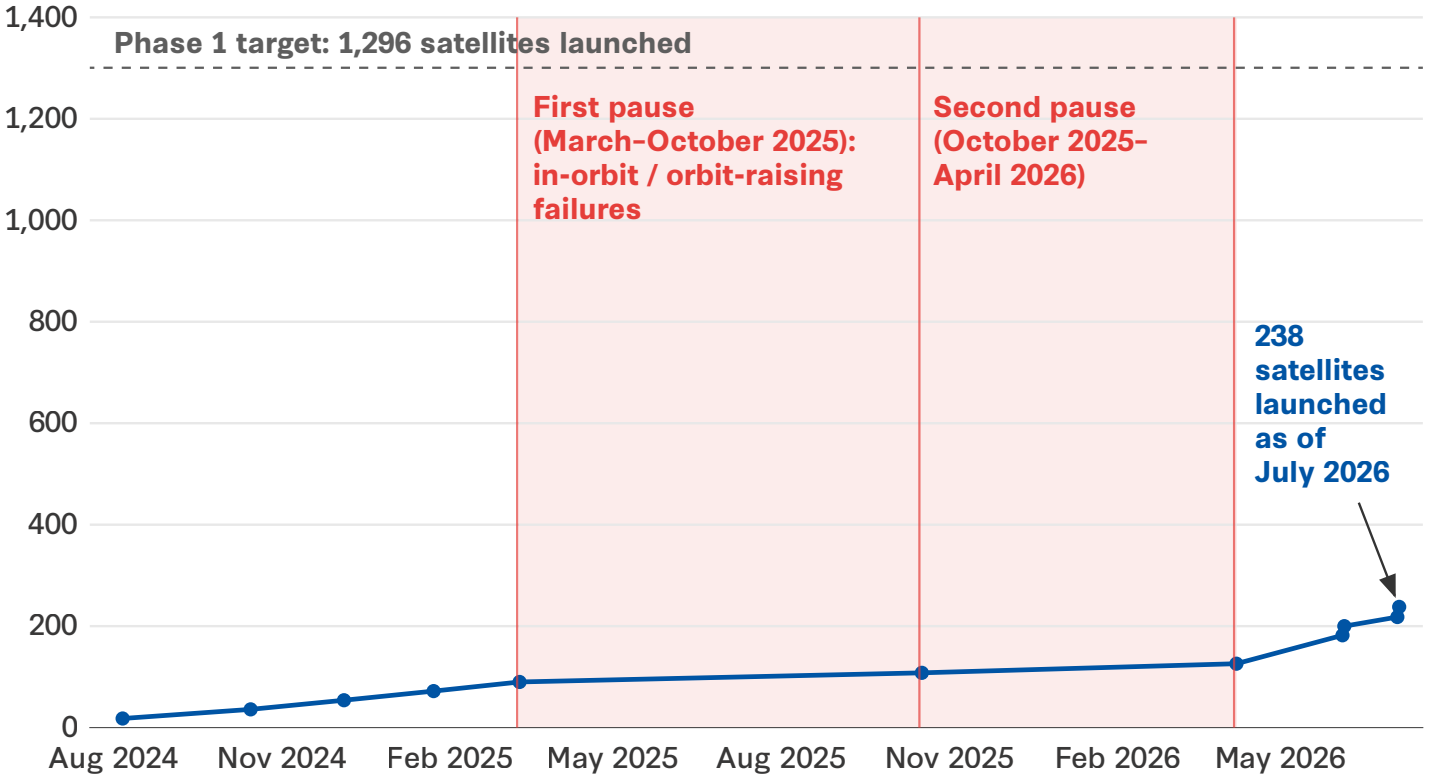
Fundamentally, Ukraine's reform agenda is driven by the existential imperative of survival—if Russia were to succeed in its original goals, Ukraine would lose its sovereignty. In contrast, should Russia fail, Ukraine cannot realistically threaten Russia's sovereignty; at best, Ukraine would take back the territory it has lost since 2014. This existential threat has created necessary conditions for reform within the former Soviet state. If Ukrainian officials wastefully deploy partner-given resources, Ukraine risks losing the war, and thus its sovereignty. Russia can use its resources wastefully with far less consequence, and it has far more resources to waste.

LOOKING FORWARD

Russia has learned to adapt in the years since its February 2022 invasion of Ukraine. The development of Rubicon suggests that the military has begun to shed its rigid way of war; the Svod command-and-control system has demonstrated a real capacity to absorb failure and adjust under pressure; and a substantial body of scholarship documents bounded but genuine adaptation across assault tactics, drone employment, and electronic warfare.[66] These adaptations are real, and, over time, they do diffuse throughout the force—drone units that looked exceptional in 2023 are now a routine feature. The constraint is the speed of that diffusion.

Russia's institutional rigidity means innovation surfaces at the margins, in elite units and with exceptionally capable operators, and then works its way outward slowly, through a force structure built to resist the lateral spread of lessons rather than accelerate it. Rubicon reveals this constraint in real time: a genuine adaptation that has not yet been replicated across the force and, following the historical pattern, likely will diffuse only gradually. Partner aid arrives faster than Russian forces can reorganize to exploit it, so the inputs that demand the most institutional change sit unused or, at best, underused while the relevant adaptation slowly generalizes. Russia will continue adapting, but the rate at which it does so is set by the rigidity of its institutions, and that rate is too slow to convert high-demand partner aid into battlefield effect on the timeline the war imposes.

Figure 2: Qianfan Constellation Build Out (June 2024–September 2026)



Note: Countrs are cumulative satellites launches, not operational capacity.

Source: *SpaceNews*; China-in-space; Orbital Radar (2024–2026).

As the Ukraine war drags on, Russia undoubtedly will continue to find innovations that work on the margins, slowly metabolizing these edge innovations as shown by its force-wide adoption of drone tactics since 2023. This suggests that some partner aid—especially Chinese—will grow more useful as the war continues. The July 2025 training agreement may be an early indicator that partner aid is becoming increasingly useful, though Russia's resulting innovations characteristically concentrate competence in select units rather than driving reform across the broader force.

The supply side, moreover, suggests continued improvement. The Qianfan Low Earth Orbit satellite system (Figure 2), a system China has been building out to compete with Starlink—granting it the ability to produce (and then sell) more and higher quality ISR data to Russia—was paused in 2025 due to thruster and gyroscope failures, though this pause was resolved in April 2026, with subsequent launches running every two to three weeks.[67] China is targeting 140-plus orbital launches in 2026, and Guowang and Qianfan combined already comprise roughly 350-plus satellites.[68] Though still far behind Qianfan's first-generation target of 1,300, the constraint is easing, with processing capacity remaining as the primary bottleneck.[69] Russia continues to rely heavily on purchasing imagery from Chinese satellite companies and, given its delay in establishing its own competitive satellite constellation, that is unlikely to change any time soon.

Institutional rigidity caps how much partner aid Russia can convert into combat power. A Soviet-era command culture that discourages innovation slows Russia's ability to process satellite imagery, integrate foreign troops, and adopt new drone tactics across the force—and the corruption and opacity baked into authoritarian systems make those constraints difficult to overcome through reform. Russia's adaptation at the edge—in elite units and among its most capable operators—will likely continue, and some inputs—especially Chinese hardware—will likely grow more useful over time. However, absent the institutional reform that Russia's command culture resists and its partnerships do not demand, Russia will need substantially more aid than Ukraine to achieve comparable effect. This gap is unlikely to close while the inputs keep flowing but the structure that converts them does not change. ■

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