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## Cities under Siege: Understanding Urban Warfare in the Russian–Ukrainian War

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### Abstract

This article examines the evolving dynamics of urban warfare in the ongoing Russian–Ukrainian war. By providing an overview of previous Western urban warfare doctrine, it aims to assess what has changed and/or stayed the same in the battles observed in Ukraine over the last three years. While there has been significant fighting in more rural areas as well, it stands out that military operations have consistently converged on urban areas. However, while it is clear that cities are a primary objective and target of Russia’s military, urban warfare in Ukraine does not necessarily align with the type of urban conflict Western military organizations have anticipated, or trained for. The urban battles of the Russian–Ukrainian war are marked by prolonged, highly destructive warfare—a trend likely to intensify as the conflict continues.

### Introduction

On 24 February 2022, Russia launched its full-scale invasion of Ukraine. More than 190,000 Russian troops attacked Ukraine from the north, east and south. Against all odds, the Ukrainian Armed Forces were able to hold off the initial attack, and Kiev remained in power. The Russian military controls areas in the country’s southeast, including the cities of Donetsk and Luhansk. However, they have faced significant losses, with recent estimates by the U.S. Department of Defense (2024) suggesting that up to 600,000 Russian soldiers have been killed or wounded since February 2022.

The devastating conflict provides valuable lessons for military sciences, highlighting the critical roles of air power, maritime forces, cyber and electronic capabilities, artillery, armour, and training in modern military operations. One of the most evident elements of the Russian–Ukrainian war has been its urbanized character. While there has been significant fighting in rural areas as well, for example, in the hills around Bakhmut and the Kreminna area, it stands out that military operations have consistently converged on urban areas, and that is where the most significant and intense combat has occurred (King, 2024). However, while it is clear that cities are a primary objective and target of Russia’s military, urban warfare in Ukraine does not necessarily align with the type of urban conflict Western military organizations and strategic thinkers have anticipated, or trained for.

While Russia’s approach largely reflects a continuation of tactics seen in Grozny and Aleppo, with the indiscriminate use of air bombings and artillery fire, the character of urban warfare unfolding in Ukraine in many respects resembles medieval rather than modern warfare (Ljungkvist, 2022). Indeed, the geometry of war in this conflict has been surprising. Ukrainian forces

have defended urban strongholds, while Russian forces have attempted to displace them, leading to a series of gruelling urban battles. In order to understand the development and characteristics of the current urbanized war in Ukraine, it must be examined within the historical and theoretical context of military history and operations. The next section explores the main factors identified in war studies literature to explain the nature of urban warfare. This is followed by an overview and characterization of the urban warfare observed to this point in Ukraine. Finally, concluding remarks will address the implications of the Russian–Ukrainian war for the future of urban warfare.

### Explaining the Nature of Urban Warfare

S. L. A. Marshall (1973, p. 3) noted that, historically, military strategists such as Frederick the Great, de Saxe, Clausewitz, Jomini, and others provided little to no analysis or guidance on conducting military operations in or against cities, aside from general warnings about the challenges of urban warfare.

In recent decades, however, with Mogadishu in 1993 and Grozny the year after being the first wake-up calls (King, 2021, p. 5), Western military strategists have increasingly begun to perceive urban terrain as unavoidable in modern warfare (Warren, 2002; Glenn, National Defense Research Institute (U.S.), and Rand Corporation, 2006; Beevor, 2017).

According to Bodnar and Collins (2019, p. 94), NATO similarly assumes future involvement in urban operations to be inevitable: “It is not a matter of ‘if’ but rather ‘when’ NATO will be involved in urban operations across the spectrum of conflict from humanitarian to stabilization missions and combat operations.” In academia, numerous war studies scholars now contend that cities have become among the most prevalent

settings for contemporary armed conflict (Desch and Army War College (U.S.), 2001; Evans, 2016; Konaev, 2019). In his widely cited and acclaimed article on the rules of urban warfare, Spencer (2021) argues that attack on a city involves either an enemy-focused mission to kill or capture all hostile forces in that city, or a terrain-focused mission to seize, secure, recapture, or liberate a city or portion thereof when the enemy is using it as a defensive stronghold.

Anthony King (2021) arguably offers the most comprehensive explanation for the rise of urban warfare in the 21<sup>st</sup> century. King agrees that urbanization, demographics, and asymmetry are key factors driving the rise of urban warfare. However, he also emphasizes that the dismantling of mass armies and the limited availability of troops have made it impossible for modern forces to form fronts or completely encircle cities. Unlike the mass armies of the 20<sup>th</sup> century that could both surround and overwhelm urban areas, today's smaller armies are essentially "consumed" by the urban environments in which they fight, leading to battles characterized by a series of micro-sieges in which combatants fight for control over individual buildings, streets, and districts (King, 2021).

The Russian full-scale invasion of Ukraine serves as an illustrative example of these tendencies. When the Red Army re-took Ukraine from the Nazis in the Battle of the Dnieper in 1943 in one of the largest operations of the Second World War, almost 4,000,000 troops were involved, advancing over a 1,200-kilometerlong front (Harrison, 2018). In comparison, the Russian and Ukrainian armed forces involved in the ongoing war are considerably smaller. This reduction in military size has driven a noticeable shift toward operations concentrated in urban areas: defenders aim to secure and hold key terrain within these areas, while the attackers focus on capturing them. As a direct result of their limited manpower, during the first and second phases of the war, Ukrainian forces concentrated on and in urban areas, where critical strategic, operational and tactical objectives were located. Inevitably, Russian and Ukrainian forces both converged on urban areas, turning the war into a series of gruelling sieges.

Urbanization, as King (2021) argues, is another factor contributing to the urban nature of warfare in Ukraine. Over the past 50 years, the global urban population has surged, with 3.5 billion people now living in cities or other urban areas (Fox, 2022). As a result, conflict and war are increasingly likely to occur in those urban areas. Simultaneously, urban terrain offers defenders significant asymmetric advantages against superior forces, such as complicating identification and targeting in a dense and complex environment. Before the war, Ukraine had an urbanization rate of about 70%, and the majority of the Ukrainian population of 44 million lived in

cities with more than 100,000 inhabitants (Ljungkvist, 2022). Therefore, if one wants control over Ukraine as a nation, one must control its cities.

### Urban Warfare in Ukraine

In Russia's war against Ukraine, the fighting has indeed concentrated on towns and cities, but significant combat has also taken place in the fields surrounding those urban areas. This stands somewhat in contrast to the purely urban battles anticipated by Western military organizations. Furthermore, in the war in Ukraine, it is not irregular adversaries exploiting the concealment opportunities of complex urban terrain to counter a vastly superior military force, but rather the Ukrainian army itself. The impressive resistance displayed by Ukraine's numerically inferior defensive forces in this urbanized war is, however, unsurprising, given that defense is generally considered a stronger tactical position, giving Ukrainian forces one significant advantage over their enemies (Spencer, 2021).

At the same time, this dynamic has been further reinforced by the actions and military doctrine of the Russian Armed Forces. In many respects, Russia's conduct in Ukraine mirrors its approach during the Chechen wars of the 1990s, particularly its operations in Grozny. According to Alice Hill's (2004) depiction of the war in Chechnya, Russian forces addressed the challenging three-dimensional nature of the urban environment by reducing it to two, resorting to the indiscriminate use of massive firepower in an attempt to compensate for poor-quality infantry. In Grozny, the Russians anticipated a swift victory, operating under the assumption that the Chechens would not resist and would instead welcome the invading forces. The Russian Minister of Defence at the time even predicted that Grozny could be captured in less than two hours (Global Voices, 2022).

However, it quickly became evident that the Russians had severely miscalculated, as the deployment of approximately 50,000 troops proved wholly insufficient to isolate and besiege Grozny, a city with a population of 490,000 (Hills, 2004, p. 153). Russia repeated its mistakes from Grozny in Ukraine by attempting to capture Kyiv with around 50,000 troops. However, they were halted in the densely populated outskirts, having underestimated resistance—despite the city being significantly larger, with nearly 3 million inhabitants. (King, 2021).

After a failed advance marked by miscalculations and a humiliating logistical collapse, Russia fell back to its primary advantage: firepower. Combat in urban environments is uniquely risky due to the complex terrain, requiring advanced and sustained special training (Spencer, 2021). Experts, however, disagree on how well-prepared the Russians are to face this challenge. So far, the war has shown that the Russian Armed Forces

have not yet been able to establish basic capabilities for efficient urban combat, such as effective infantry, adequate communications gear, reliable precision weapons, or well-trained officers, nor have they been able to synthesize an urban warfare doctrine (Clark, 2021). Instead, the Russian approach has been a brutal mix of medieval siege tactics, including starvation, and heavy, indiscriminate bombardment, both aimed at forcing Ukraine into submission.

In summary, likely due to a lack of competence in urban warfare, Russia's model is to pulverize and weaken the city before sending in forces to clear out remaining Ukrainian troops. This pattern was also evident in early March 2022 when Russia launched its attack on the port city of Mariupol. By March 2, Russian troops had encircled the city and subjected it to relentless bombardment. By late March, Russian forces had advanced to the center of Mariupol, which had already been reduced to ruins. Yet, the mayor of the city, Vadym Boichenko, reported that the fighting in the city was still very active (BBC, 2022). Particularly, the Azovstal Iron and Steel Works, a massive plant in the south-east of the city, became a center of the Ukrainian resistance. The site's vast network of tunnels and workshops provided effective cover, largely withstanding Russian artillery fire. Only after a prolonged and intense siege did the last Ukrainian defenders surrender.

In this regard, Russia's strategy of avoiding urban close-quarters combat through heavy bombardments proved ineffective. As Spencer (2021) notes, "the paradox of urban warfare is that the more you bomb a city, the harder it is to take," as rubble becomes valuable for defenders to block streets, set ambushes, and hide explosives—tactics the Ukrainians have effectively exploited. It appears that Russia has since learned some lessons in warfare, now attempting to avoid urban engagements by encircling Ukrainian forces defending cities. As a result, urban warfare in Ukraine has become a slow, attritional process, marked by city sieges and positional warfare extending into surrounding areas to reduce the risk of counterattacks.

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#### **Concluding Remarks**

The future battles of the Russian–Ukrainian war are likely to follow the pattern described above, becoming increasingly characterized by prolonged and highly destructive warfare in urban environments. Ukrainian forces have demonstrated an exceptional ability to leverage the defensive advantages of urban environments, utilizing complex terrain and decentralized command structures to outmanoeuvre more numerous adversaries. As the war progresses, these tactics will probably evolve further, with even greater use of improvised fortifications, innovative ambush strategies, and technology such as drones and AI-assisted targeting. Russia's traditional reliance on heavy bombardment and siege tactics has proven costly, and even inefficient at times. Nevertheless, Moscow has demonstrated a willingness to endure the immense sacrifice of both its own and its adversary's human resources that this strategy entails. For the coming fourth year of the war, attritional fighting will likely continue to center around key urban areas—strategic cities that serve as logistical hubs for troop supply or are essential for maintaining critical infrastructure like electricity.

Finally, what has been observed about urban warfare in Ukraine will have an impact on military doctrine worldwide. Ukraine's innovative defense strategies and Russia's challenges in urban combat will influence how future conflicts in cities are approached. Emerging doctrines are likely to emphasise adaptive, technology-driven methods, decentralised command structures, and sophisticated urban-specific training for armed forces. The ongoing conflict in Ukraine is thus expected to not only reshape the current battlefield, but also lay the groundwork for the future of urban warfare. Both the immediate outcomes and the long-term implications of this war will be closely studied by militaries and policymakers worldwide, and will further impact the conducting of modern warfare.

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## Learning the Right Lessons: How Ukraine Has Changed Drone Warfare

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### Abstract

Russia's war in Ukraine has undoubtedly become the single most important conflict for understanding how drone warfare may take shape in the future. This article zooms in on the fast-paced drone developments on the Ukrainian battlefield across platforms, functions, and operational domains. Most notably, repurposed hobbyist drones have demonstrated their tactical utility in high-intensity warfare by both providing a live-feed of the battlefield and becoming ammunition themselves. These developments have contributed to an improved cost-per-effect ratio of drone capabilities and an increasing relevance of the vertical dimension in land operations. Drones, however, are not a silver-bullet solution for achieving strategic victories. This article also highlights that the path to operational effectiveness is not as straightforward as the techno-optimists like to portray, examining the challenges related to the development, integration, and deployment of new uncrewed systems. Looking forward, research and development in artificial intelligence (AI) is promising major breakthroughs in autonomous drone operations, as well as command and control support. Finally, the Ukrainian battlefield shows that future warfare will most certainly involve multi-domain drone operations.

### Contemporary Drone Warfare in Ukraine

Since Turkish Bayraktar drones were first used against Russian convoys advancing on Kyiv in February 2022, thousands of small flying scouts scanning the battlefield have become a daily reality in Ukraine. Drone functions and operations on the battlefields of Ukraine are undeniably evolving. Today, barrages of loitering munitions continue to target the Ukrainian energy infrastructure, and videos of bombs dropping into tank turrets from the sky inundate social media. Thus, drones have come to shape the contemporary character of warfare.

Previous drone operations during international fight against terrorism featured large, long-endurance drones equipped with powerful sensors and loaded with missiles. In contrast, in post-2/22 Ukraine, drone diversity dominates the battlefield. While previous drone deployments emphasized the remote character of drone warfare, in Ukraine drones empower individual soldiers with better situational awareness and new strike options (Kunertova 2023). The popularity and versatility of drone capabilities led Ukraine's government to launch the "Army of Drones" project to facilitate drone innovation, as well as to create a new Unmanned Systems Forces branch dedicated entirely to drone warfare (Reuters 2024). However, this article also shows that despite their growing importance, drones do not offer a straightforward path to victory, nor a lasting strategic advantage.

This article first examines the variety of drone systems deployed in Russia's war on Ukraine. The second section outlines five main vulnerabilities of the current generation of drones. In managing the expectations around drone capabilities, this article emphasizes that the developments characterizing contemporary drone

warfare may be technology-enabled, but are ultimately people-driven thanks to human ingenuity and perseverance. Indeed, contemporary drone warfare is distinct in its rapid innovation-adaptation cycles (DeVore 2023). In its concluding third section, the article looks ahead at the trends that are likely to impact drone technology and warfare in the future. Although some analysts claim that autonomous weapons are just one software update away from revolutionizing warfare, the reality might be more complex (Sharre 2024): while AI-enabled military capabilities keep facing challenges in terms of reliability and effectiveness, fast-proliferating and increasingly weaponized uncrewed ground and maritime vehicles have already started to shape the increasingly multidomain character of drone warfare.

### Advantages of Drones

Several drone developments have taken advantage of relatively simple and low-cost commercial designs, lighter and smaller sensors, and commercially available connectivity solutions in terms of borderless internet. These have led to important military advancements even under the conditions of contested airspace by both warring sides. The advantages of drone use in terms of platform diversity and costs apply across the Ukrainian military command hierarchy.

### Tactical Effects

At the squad, platoon, and company levels, Ukrainian troops have been using small commercial quadcopter drones. These drones are assembled from diverse commercially available parts, redesigned industrial drone platforms, or bought directly as hobbyist toys on the internet for a few hundred USD. Such small-

drone tactics of gathering intelligence and carrying out armed attacks date back to separatist fighting in Eastern Ukraine after the Russian invasion in 2014. Since 2022, however, the scale of drone deployment has increased exponentially. Weaponized with hand grenades, mortar shells, or anti-tank missiles, repurposed civilian drones have become antipersonnel and anti-tank/anti-armored vehicle weapons. As a result of their user-friendliness, low cost, and connectivity via space-based internet, Ukrainian soldiers have been able to deploy small drones for reconnaissance and strikes by the thousands (Kunertova 2023).

During the first year of the war, the Chinese-made DJI Mavic quadcopter has proven the most widely used type of drone. With its optical sensors and the ability to stay in the air for almost 50 minutes at altitudes of up to 6km, these drones help troops monitor the battleground from above and track their adversary's movements. These drones are available on Alibaba, AliExpress, and Amazon, with prices ranging from a few hundred up to a few thousand USD, depending on the type of camera and interface. However, Kyiv and its supporters are hardly the only ones in this conflict interested in Chinese drone technology: Russia received such drone equipment from China worth over 14.5 million USD during the first half of 2023 (Goselin-Malo 2023).

Similarly, as the war entered its second year, Ukrainian troops started deploying first-person-view (FPV) drones that can cost as little as 400 USD. In contrast, military-grade loitering munitions are more expensive. For example, the cost of the US-made Switchblade 300 loitering munition and Russia's ZALA Lancet loitering munition (including its cheaper version, Scalpel) may run from 35,000 to 50,000 USD apiece. FPV drones can therefore be considered a commercial version of military loitering munition. These one-way attack drones behave like disposable ammunition that can loiter prior to crashing into their target.

This type of cheap, human-guided munition has several notable features. These include real-time video transmission to its operator, first-person control that enables precision and responsive maneuvering, and a compact size suitable for diverse environments (Schwennensen 2024). Over summer and autumn 2023, the production of FPV drones increased dramatically in both Ukraine and Russia. Though Russia has prioritized manufacturing military-grade drones in the past, it has almost caught up with Ukraine in terms of conducting strikes with commercially available racing drones (Vysochansky 2024). Crucially, these one-way attack drones turn conventional air campaign logic on its head. The drone platform itself—non-recoverable and easily replaceable—matters far less than its effects.

### Operational Effects

At the brigade and battalion levels, troops tend to use catapult-launched, fixed-wing drones for long-range reconnaissance or one-way attack strikes. These drones often significantly enhance target acquisition due to their range. Their cost, however, often reaches 80,000 to 100,000 USD apiece. But with this sort of drone intelligence on hand, the time between the detection of an enemy and an attack can be reduced to a mere three minutes in some cases.

Regional commands, elite special operations forces, and intelligence services operate a limited number of large drones at higher altitudes. These small-aircraft-sized drones can conduct surveillance and intelligence gathering with high-resolution cameras for up to 24 hours. They are most useful for strategic planning and precision strikes on high-value targets, since they can destroy tanks, artillery, naval vessels, logistics trains, and rocket launchers. However, their high cost makes their use less appealing due to their low survivability in contested airspace, as it is easy for the enemy to spot and destroy them. As the conflict turned into a war of attrition, large drones have almost disappeared from the battlefield.

Russia uses long-range Shahed-136 loitering munitions in addition to operating Orlan-10 and SuperCam S350s reconnaissance drones. While Ukrainian air defenses intercept Shaheds at a rate of more than 80%, the cost to Ukraine of defending against these drone threats is incomparably higher than the cost of the weapons is to Russia. Ukraine therefore still faces the double risk of depleting stocks and revealing the position of its air defenses.

While the first Shahed drones were manufactured in and imported from Iran, Russia has begun to produce the Shahed locally for cost-related reasons. In 2023, its two billion USD weapons deal with Iran involved technology transfer and the beginning of Shahed production some 500 miles east of Moscow in the Tatarstan region. Building thousands of Iranian Shaheds allows Russia to address its shortages of drones and to manufacture precision munitions on the cheap (Bennett and Ilyushina 2023). Previously, the Russian leadership was slow to recognize the added value of drone capabilities, so its military industrial complex did not have the capacity to produce these platforms in the required numbers (Edmonds and Bendett 2023).

Ukraine, too, has begun to manufacture its own long-range drones, such as the Ukrjet UJ-22 Airborne, UJ-25 Skyline and UJ-26 Bober (Beaver), to strike high-value military targets inside Russian or Russian-occupied territory (Sutton 2024). The first such attack occurred in June 2022, when Ukraine hit Rostov's oil refinery. Other notable attacks include distant targets

such as Tu-22 bombers at Soltsy-2 Airbase in Russia's in Novgorod Oblast in August 2023, as well as numerous assaults closer to home on Crimea's Kerch Bridge. Attacks on fuel and ammunition depots in Luhansk have forced Russia to reposition its resources at considerable expense.

### Strategic Effects

Drones may impact the conduct of war, but they do not shape its outcomes. However, their strategic implications may include—in addition to lowering the cost of fighting—cognitive warfare. Drones play an important psychological role in spreading propaganda and amplifying disinformation campaigns, such as posting recorded livestream videos of ambushes on social media. This negatively affects the troops' morale.

Drones can intimidate the enemy as they search and hover over the battlefield to detect any soldiers in exposed posts or who exit their cover (Stevenson 2023). Reports showing soldiers surrendering to a drone describe the “paralytic” dread of hearing a buzzing sound in the air (Vandiver 2023). In addition to the efforts to spot and either hide from or intercept deadly drones, an airborne drone can also be a sign that an enemy artillery unit is close, and thus increase soldiers' anxiety level. Furthermore, Russian-operated Shahed loitering munition attacking Ukrainian cities and damaging critical infrastructure, such as electricity grids during the winter season, can pose an existential threat to the civilian population.

### Drone Vulnerabilities

Despite remarkable advantages, drone technology inevitably brings to the battlefield new vulnerabilities the adversary can exploit. First, thousands of small drones—with operators dispersed across different units—saturating the battlefield create a problem of deconfliction. Distinguishing one's own drones from the enemy's drones and conducting discriminate jamming can prove challenging.

Second, drones are vulnerable to adverse weather conditions, such as high winds or heavy rain. Consumer electronics also react poorly to cold temperatures, which quickly drain their batteries and thus allow less airborne time. Similarly, during nighttime missions, drones require infrared and thermal night-vision cameras to operate. This alone can easily double the price of a drone and thereby reduce its cost-effectiveness.

Third, drones have no self-defense capabilities, partly due to cheap manufacturing material and the use of cheap, less-resilient consumer electronics. This can be exploited by the adversary in cyberspace. Two ways of doing this include hijacking drone software to access the data feed and locate enemy bases for strikes, and disabling a drone to make it easier for interceptors to

destroy it. Some FPV drone exemplars have been fitted with counter-jamming devices as a result. But this addition, like in the case of high-performance cameras, substantially increases the cost per drone.

Fourth, drones only give combatants a decisive advantage until the adversary finds an effective way to counter them. Drone warfare in Ukraine is exceptional in terms of its fast adaptation cycles. The early, headline-grabbing drones were large, sophisticated Turkish Bayraktar TB2 drones on the Ukrainian side as well as Forpost and Orion military drones deployed by Russia. However, Russian troops soon learned how to down Ukraine's TB2s with electronic warfare (EW) measures. Furthermore, the ubiquitous DJI Mavic drones turned into “a hazardous encumbrance” for Ukraine due to Russia's use of the AeroScope drone detection system (Radio Free Europe 2022). Additionally, using new technology on the battlefield may eventually benefit the adversary's own drone program through reverse engineering, given the high rates of drone attrition (Allison, Herzog, Rittenhouse Green, and Long 2020).

Fifth and finally, drone operations do not occur in a vacuum. The success of a drone mission is highly dependent on the skills of its human operator and the technology supporting the drone, such as navigation and communication satellites (Calcara et al. 2022). Small FPV racing drones are able to glide into trenches or through windows to kill individual soldiers only if they are in the hands of a skilled operator. After Russia's initial attack on Ukraine destroyed most communication networks, the American company SpaceX provided Ukrainian troops access to high-speed, space-based internet that also made drone operations possible. However, soon after the company's CEO expressly disallowed the Ukrainians to use its Starlink satellites to facilitate military actions over Crimea (Roulette 2023).

### Drone Capabilities for Future Battlefields

This section examines the most promising recent developments in drone technology and tactics. Drones have been slowly permeating air, land, and maritime operational domains. Importantly, and in contrast to earlier models, both maritime and land platforms are now being deployed to lethal effect either as systems armed with explosives and missiles, or as loitering torpedoes. And while advanced sensors, jammers, and anti-jammers are shaping drone warfare dynamics in the short term, AI will be the main catalyst for technological breakthroughs in the long term—though the scope of its impact on the conduct of war is yet to be defined.

### Drone Warfare Enters Other Operational Domains

Recent developments in land and maritime drone uses have already started to impact the conduct of war.



Indeed, the arsenal of uncrewed systems operating in the maritime domain has proven highly effective, and the technology is diversifying rapidly. In contrast, ground robots have been less successful than their aerial and naval counterparts so far.

### Uncrewed Ground Systems

Both Russia and Ukraine have been using uncrewed ground vehicles (UGVs) on the battlefield. Russian UGVs, such as the Uran series, have been seen carrying supplies to frontline troops. Ukraine has tested more than 50 different UGV designs, mostly focused on drones that can transport injured soldiers from the battlefield. These tracked and wheeled ground robot prototypes can also make a difference performing dull, dirty, and dangerous tasks, such as minelaying and mine detection, reconnaissance, evacuations, and cargo delivery.

UGV deployments are growing more common due to the rapid proliferation of intelligence, surveillance, and reconnaissance (ISR) and lethal aerial drones. These limit the movement of troops and increase the dangers of attacks on supply convoys and armored vehicles. UGVs therefore present an opportunity to gain an asymmetric advantage that does not increase human losses. They can gather intelligence; support rescue missions, including by playing a key role in facilitating medical care; and can also serve as remote weapons stations, being capable of carrying larger payloads than aerial drones, and even protecting garrisons.

In addition to serving as robotic transport platforms, new UGV models are also charting their way into lethal missions. For instance, some Russian ground drones have been equipped with grenade launchers. Other notable example includes a Russian-developed loitering “Buggy” UGV (Militaryni 2024). Ukrainian troops have begun operating UGVs equipped with a loitering ammunition launcher from the Estonia-based company MILREM Robotics. Known as THeMIS, the Estonian system has already become a staple among UGVs on the Ukrainian side (Adamowski 2023).

UGVs are more challenging to build than aerial drones. This is simply because UGVs moving across the battlefield encounter a multitude of terrain obstacles, such as uneven surfaces, barbed wire, trenches, and ditches, which aerial drones do not regularly face. This requires an advanced capacity for live information processing and repeated decision making. However, coupled with incomplete sensor input, compromised communication, and integration issues with other military units, the development and fielding of UGVs has been slow and their production and operation costs remain high (Chapple 2024). The ongoing debate about how to best move uncrewed ground capabilities forward therefore needs to address the desirability and the technical feasibility of autonomy to ensure their effective performance.

### Uncrewed Maritime Systems

Maritime drones have traditionally been understood as aerial drones deployed from the deck of a navy vessel. However, in the context of Russia’s war in Ukraine, Ukraine is operating above-surface, surface, and below-surface drones at sea. Ukraine’s maritime drones have already proven highly effective at countering the Russian invasion in the Black Sea region. Ukrainian drone boats have successfully disrupted Russian freedom of operation in the Black Sea: while summer 2022 saw some prototype experiments, in autumn 2022, Ukraine attacked the Russian Navy’s major naval base at Sevastopol. Improving the performance and range of maritime drone capabilities, such as small surface powerboats and underwater loitering torpedoes, even enabled Ukraine to reach Crimea and Novorossiysk oil port in the eastern Black Sea. Ukraine’s surface drones are also able to assist aerial attack drones in sinking Russian vessels, or even execute a sea-to-air missile strike directly, as in the case of a Ukrainian Magura V5 maritime drone shooting down a Russian Mi-8 helicopter in December 2024 (Reuters 2024).

The successes of maritime drones in Ukraine have inspired other countries to invest as well. Most of these efforts have focused on expanding combat-capable uncrewed systems, designing drones for operations deployable from amphibious assault ships and aircraft carriers, and producing loitering munitions for ship-launched precision strikes (US Naval Forces Central Command 2023). In addition to their ongoing weaponization, the maritime environment allows for the deployment of drones of unusual sizes, such as extra-large underwater drone submarines (O’Rourke 2023). These and similar developments contribute to a more distributed fleet architecture that would help avoid concentrating resources on a relatively small number of high-value ships (Lariosa 2023).

Overall, maritime drones perform four main tasks. First, high-resolution seabed mapping can improve maritime security, through for example surveying natural gas pipelines and harbors (Eckstein 2023). Uncrewed surface sonar systems can provide valuable intelligence for land-based military mobility over lakes and rivers. In contrast, on the offensive side, maritime drones can also become weapons attacking intercontinental sub-sea cables. Second, underwater drones can potentially excel at countering mines, conducting acoustic ISR, and supporting offensive naval mining operations in anti-submarine warfare (Savitz 2023). Third, uncrewed surface vehicles can protect ships from terrorist attacks using electro-optical cameras, loudspeakers, and remote-controlled machine guns (Mizokami 2020). Finally, uncrewed vessels can improve deception capabilities in anti-submarine warfare, for instance by reproducing signals from other submarines (Sutton 2022).

Yet, underwater communication and networking remains a challenging and underdeveloped area for maritime drones. This is particularly due to the long distances common in the maritime environment. Thus, space-based satellite guidance and resilient communication have proven to be a must for executing naval drone strikes, though resurfacing still makes drones vulnerable. Other persistent problems concern cost, the acoustic signals emitted by drone propellers, and overall maneuverability. Developing autonomy at sea is one of the ways to leverage new technologies for advanced maritime capability.

### AI-Enabled Drone Warfare

Rapid technological breakthroughs in AI are leading to new levels of algorithmic warfare, defined as integrating algorithms into military operations to leverage the computational power of AI for strategic and tactical advantages (Crosby 2020). While experiments with AI onboard robotic systems continue, AI-generated insights based on automated data analytics are already able to accelerate the targeting process. This third section thus examines the different roles of military AI and the varying success rates of current AI-powered systems. It points out that the future of autonomous weapon systems will depend not only on advances in AI algorithms, but also on progress in the areas of sensors and robotics.

### AI in Decision Making

AI is expected to provide a decision-making advantage by enhancing the speed and quality of data analysis. In Ukraine, AI is already assisting decision makers with warfighting systems on the battlefield. In fighting Russia's aggression, Ukraine has relied on various foreign AI tech companies for data analytics. In fact, AI's most widespread use in the war has been in geospatial intelligence for object recognition. AI is used to analyze satellite images, but also to geolocate and sort through open-source data such as social media photos taken in sensitive locations: for instance, facial recognition technology like Clearview has detected the identity of invading Russian troops, as well as Ukrainian collaborators. Natural language processing software like Primer has aided in real-time analysis of Russian unencrypted radio transmissions (Bergengruen 2024).

Quite remarkably, the Ukrainian Armed Forces use digital battle management system that facilitates and accelerates the integration of various data collection points and formats, such as photos, videos, and imagery. This leads to the production of intelligence reports based on pattern identification. These digital platforms, such as Delta on the operational level and GIS Arta on the tactical level, create real-time battlefield maps that are

crucial for tracking the war's developments, for instance the movement of Russian troops. These programs are also useful for sharing target coordinates.

### AI in Targeting

Drones with AI capabilities better connect and integrate into battle management systems and can operationalize AI-generated insights more effectively than those without. Publicly available evidence points to the use of autonomous, sensor-based targeting that includes autonomous object recognition. This usually applies in cases of radio interference and jamming that prevent the operator's direct control. Following the rise of drone countermeasures based on EW systems, which disrupt drones' communication, navigation, and data links, drone tech developers have been experimenting with a greater level of autonomy and integration of AI systems for navigation and terminal guidance.

Object recognition already features in the American-made Switchblade 300, and terminal guidance in the Russian FVP drone Ovod (The Economist 2024). Even though loitering munitions have accuracy deficiencies, the internal inertial navigation in micro-electromechanical systems could make loitering munitions immune to jamming over short ranges (Bode and Watts 2023). Similarly, Ukraine's Saker Scout drones can automatically lock onto and then fly into its target, even under conditions of intense radio jamming. Quite remarkably, these FPV drones are able to independently identify 64 different types of Russian targets while also carrying explosives (Hambling 2023). While Ukrainian drone manufacturers claim to keep the human operator in the loop, the accuracy may still be compromised by an underspecified target or a system malfunction. Some analysts suggest, however, that drones do not use greater autonomy than standard "fire and forget" missiles, with no role for AI to play in the actual decisions or mission execution.

Although Moscow is taking military AI seriously, due to the Western sanctions, major Russian advancements in AI-enabled weapons are improbable. Undeterred by recent failures, however, Russia shortened the testing and evaluation of its AI-powered one-way attack drones to a matter of weeks (Freedberg 2024). Indeed, experimentation with military AI on active battlefields only exacerbates the ongoing technological race.

So far, instead of relying on fully autonomous targeting processes, ISR and FPV drones are working in tandem: the reconnaissance drone identifies targets and passes the information to a human-operated FPV attack drone, which then strikes the target. In the future, however, AI could significantly expand the scope of drone usage by managing large numbers of robotic systems simultaneously. The Ukrainian company Swarmer has

already tested a primitive swarm formation in which AI-powered command software allows a single technician to operate multiple ISR and suicide drones (Mozur and Satariano 2024). Experimenting with multi-domain swarms can take the form of, for instance, an intelligence-collecting drone coordinating with a UGV to perform reconnaissance. However, without appropriate defenses, the adversary can target the navigating drone to blind the UGV, or target the vehicle directly merely by spotting its navigating drone in the sky.

Importantly, effective human–machine teaming will be a crucial component in building the strategic technological advantage of any modern military (Kepe et al. 2028). However, the integration of drones into human force structures needs to address two major challenges. The first one concerns the relationship between the cost of the drone “wingman” and the military’s risk acceptance and tolerance for drone losses in combat. The second challenge extends far beyond drones: finding the correct balance between the degree of machine autonomy, effective mission performance, and meaningful human control (Sharre and Horowitz 2015). Crucially, there are arguments against maintaining a commander’s control over vehicles with a capacity for independent action. These points pertain to efforts to avoid disrupting machine performance at the expense of the mission, given a machine’s faster speed of data processing. Some analysts are less optimistic and argue that only augmented human cognition—that is, using technology to improve human capability or performance—would allow for meaningful human control over AI-powered weapons systems (Nørgaard and Linden-Vørnle 2021).

### Persistent Limitations

AI-enabled data processing systems are thought to sift through the noise of the large amounts of information now instantly available from the battlefield better than humans can. Accelerated targeting and strike cycles with decision-making processes powered by AI, however, are likely to come with inherent biases toward speed and action. This may pose significant problems, since AI is accelerating a battlefield that is still very much human-centric.

The use of AI on the battlefield thus runs into some fairly fundamental problems. Military AI systems, to become reliable and effective, need iterative testing and evaluation—ideally outside laboratory simulations. The specific nature of the war environment can make this problematic due to unavailable and/or classified data and algorithm biases (Bode and Bhila 2024). AI models can be fooled through decoys and concealment, or misled by rogue data that can result in inaccuracies. Furthermore, real-world, high-end systems underperform in comparison to the state-of-the-art models deployed in laboratory conditions. Onboard AI systems are more sensitive

to errors and hardware constraints, resulting in computing power limitations and inferior performance of drones deployed on the battlefield (Miller and Lohn 2023).

Ultimately, military AI systems have object recognition, not situational awareness. While the nature of war means the battlefield cannot be defined by stable patterns of behavior or information, the machine learning present in most AI-enabled military systems relies on probabilistic statistical reasoning and trains on controlled data sets. No amount of data or computing power can correct this mismatch between AI model architecture and the unpredictable mix of elements present in war. AI-powered drones can thicken the fog of war by increasing uncertainty (Kunertova and Herzog 2024). In contrast to assumptions about the rapid onset of “robot wars,” algorithmic warfare will (at least in the short to mid-terms) require human qualities, like intuition and judgment, to make decisions (Goldfarb and Lindsay 2021).

### Conclusions

Russia’s invasion of Ukraine has resulted in a first intensive and large-scale war shaped by its drone warfare component. In addition to home-grown drone production, the imports of foreign military drones, and the proliferation of uncrewed systems into other operational domains are making Ukraine a true in-field testbed for the deployment and use of new uncrewed weapons systems.

Future drone wars will feature uncrewed systems across the air, land, and maritime domains, with space and cyber providing crucial connectivity support. They will be won by those who master complex algorithmic warfare, incorporating digital technologies and AI-powered systems into a resilient data architecture. Keeping the cost of drone countermeasures lower than technologically inferior, but inexpensive attack drones will be equally important. While AI and advanced robotics may likely not replace humans, technology can team with humans. Autonomous drones will become integral to future warfare as long as human–machine teaming satisfies the parameters of meaningful human control without compromising combat effectiveness.

On the contemporary battlefield, however, for most new drone systems, their successful fielding will require overcoming obstacles specific to the air, land, and maritime domains while simultaneously maintaining cost efficiency. In the end, war-winning strategy never depends solely on cutting-edge technology. The compound effects of investing in human skills, building resilient navigation and communication networks, and working around enemy countermeasures should constitute the path toward victory.

*Please see overleaf for Information about the Author, Acknowledgment, and References.*

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Dr. Dominika Kunertova is an independent research scientist with over a decade of transatlantic professional experience in academic, think tank, and international organization settings. She is also a nonresident senior fellow at the Atlantic Council. Her research and public affairs commentary have been published in the *Bulletin of the Atomic Scientists*, *Contemporary Security Policy*, *Defence Studies*, *European Security*, *Military Review*, the *Naval War College Review*, the *Royal United Services Institute Newsbrief*, *The Conversation*, *War on the Rocks*, and more. She has authored numerous policy reports and briefs on drones, missile technology and arms control, hypersonic weapons, artificial intelligence, and European security in the NATO context.

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## ANALYSIS

## Building a Shaky Bridge to NATO: Ukraine and its Interim Security Framework

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### Abstract

This article examines the interim security framework Ukraine and its partners are building to counter Russian aggression and move toward NATO membership. While legally non-binding and lacking specifics, the bilateral agreements create a framework for bilateral and multilateral security cooperation. Capability Coalitions aim to meet Ukraine’s equipment needs as resources allow. Though unlikely to ensure Ukraine’s near-term security alone, continued efforts are essential to building credible deterrence and fully integrating Ukraine into a collective security arrangement.

### Introduction

Domestically ambivalent and shut out by NATO at its 2008 Bucharest summit, Ukraine remained in the gray zone of European security even after the initial 2014 Russian occupation of Crimea and the Donbas. The 2022 full-scale invasion, however, exposed the true magnitude of the Russian threat, and Ukrainian public support for NATO integration surged in response to 89% (KIIS 2023). On September 30, 2022, in reaction to the decision of Russian President Vladimir Putin to annex four additional Ukrainian regions, Ukraine’s President Volodymyr Zelenskiy signed an application for the country’s expedited NATO membership. Yet, at the 2023 Vilnius NATO Summit, Ukraine received only a vague promise that it would be invited to the alliance “when Allies agree, and conditions are met.”

Given the resulting common understanding that Ukraine was not going to become a NATO member before the end of the war, together with its partners, it started building an interim security framework. By the end of 2024, Ukraine had signed 26 non-binding bilateral security agreements with individual countries, a long-term cooperation agreement with Croatia, and

Joint Security Commitments with the European Union. Ukraine’s partners are also building a network of Capability Coalitions to help Ukraine in its continuing fight. But how viable is the framework in the region’s increasingly uncertain security environment? And are the arrangements sufficient to ensure Ukraine’s security in the short and long term?

### Bilateral Security Agreements

The framework is based on the recommendations of the Kyiv Security Compact (2022) presented in Kyiv in September 2022 by the Rasmussen-Yermak International Working Group on Security Guarantees. The Compact recognized that Ukraine had chosen to become a NATO member, but stressed that this was a future prospect. In the interim, Ukraine needed “ironclad” security guarantees. The ability to defend itself was recognized as the strongest security guarantee for Ukraine. The Compact envisaged that guarantor states and Ukraine would co-sign a joint strategic partnership document that would provide positive security guarantees to Ukraine and a series of legally binding bilateral security agreements. The guarantees aim to enable

Ukraine's self-defense, both to deter an armed attack or an act of aggression and, in the event of an attack, to protect its sovereignty, territorial integrity, and security.

The framework was launched on the second day of NATO's 2023 Vilnius summit, when Ukraine's insistent demands for NATO membership failed to find immediate support. Since a NATO invitation was not in the cards, the G7 countries signed a Joint Declaration of Support for Ukraine (G7 2023). In the declaration, they affirmed that Ukraine's security was integral to the security of the Euro-Atlantic region and launched negotiations with Ukraine regarding the bilateral security arrangements formalizing their support. The declaration was open for other countries to join.

The "Agreements on Security Cooperation," known as bilateral security agreements or BSAs, that emerged from the initiative reaffirm Ukraine's territorial integrity and pledge to support Ukraine for "as long as it takes." They stress the need to deter Russia, constituting a break from the post-Cold War vision of "Europe whole and free." To send a signal of enduring support, the agreements were made valid for 10 years, and can be extended. It was important for Ukraine to stress that BSAs are not a substitute for NATO membership, but should serve as a bridge to it, and most agreements state that Ukraine's future is in NATO. Germany and Italy are less committal, pledging their support to Ukraine's reform efforts while stressing that those efforts are essential for Ukraine's NATO aspirations. Presented by the Ukrainian government as security guarantees, the agreements do not in fact commit Ukraine's partners to decisive action.

What makes them even weaker is the absence of legally binding guarantees. Because it was necessary to speed up the signing of the agreements, it was decided not to seek ratification by the relevant parliaments. The US-Ukraine "Bilateral Security Agreement" is different from the rest in that it is the only legally binding agreement that will be registered with the UN. However, it is an executive agreement, which means that President Trump may withdraw from it without needing consent from Congress. In addition, it has been criticized for its weak terms; the US was very cautious not to commit itself to decisive action (Goldsmith 2024).

The BSAs mostly follow an identical pattern, Ukraine's partners pledging to provide a wide range of military and non-military support to Ukraine. The pledges include provision of military assistance and help in developing Ukraine's military forces, protecting critical infrastructure, defending against influence operations, combating organized crime, maintaining economic stability, countering nuclear and chemical threats, pursuing justice against Russian aggressors, etc. In return, Ukraine promises to pursue democratic, eco-

nomic and military reforms, increase interoperability with NATO and, in some cases, reciprocate military assistance should the need arise. It also pledges to share intelligence and expertise with the BSA signatories.

In addition to general provisions, agreements have clauses specific to individual countries. For example, Poland pledges to create a "Polish Legion"—a military unit made up of Ukrainians residing in Poland to be trained and equipped in Poland and to return to Poland after the war ends. Sweden pledges to provide specialized ASC 890 aircraft and the JAS 39 Gripen aircraft, along with relevant personnel training. Overall, the agreements provide a framework for bilateral cooperation and stipulate that additional, more specific agreements can be made on their basis.

The "Joint Security Commitments Between the European Union and Ukraine" signed on 27 June 2024 pledged to provide support not only "for as long as it takes," but also "as intensely as needed." (The Office of the President of Ukraine 2024) Importantly, the document was coordinated with and agreed upon by all EU members, including those that did not sign a BSA with Ukraine. The Commitments complement BSAs signed with individual countries. For example, the agreement stipulates "greater cooperation between defense industries in the spirit of the European Defense Industrial Strategy." (The Office of the President of Ukraine 2024) The EU also commits to direct the resources generated by Russia's frozen assets towards supporting Ukraine.

While the stated goal of the agreements is to send a signal of long-term support for Ukraine, most of the BST signatories do not extend any guarantees of financial support beyond 2024. Sweden is among those few who pledged support over a longer time horizon—it will provide €2.2 billion in aid annually from 2024 to 2026. Denmark and Norway have also pledged longer-term support, with €8.5 billion over the period 2023–2028 and €6.4 billion over the period 2023–2027, respectively. The Baltics pledged to provide 0.25% of their respective GDPs annually for the duration of the agreement. The EU established the EUR 50 billion Ukraine Facility "to provide predictable financial support for Ukraine" in the period 2024–2027. Beyond 2024, the assistance is in most cases subject to domestic decision making. The situation with the US aid in early 2024 and President Trump's ambiguity on the issue of the military aid and the decision to disband USAID, halting essential aid entirely, illustrate the uncertainty imbedded in this approach.

The Kyiv Security Compact, which was made public before Russia proclaimed its partial mobilization on 30 September 2022, assumed that fighting was going to stop after Russia's initial failure leading to a ceasefire and negotiations. To reflect this assumption, all BSAs contain the provision that if the aggression is "renewed,"

their signatories will consult with Ukraine within 24 hours to determine what must be done to repel it and provide assistance. BSAs stipulate a bilateral consultation format, but allow for a multilateral one as well. Given the time it takes to coordinate specifics and to start deliveries, this pledge appears anything but strong.

At the Washington NATO summit in July of 2024, the BSA countries signed the Ukraine Compact, which brought all existing bilateral security agreements under a single umbrella. The signatories stated that they intended to support Ukraine “until it prevails against Russia’s aggression,” (The European Commission 2024) setting a more specific goal than “as long as it takes.” They also made three pledges, namely, to support Ukraine’s immediate defense and security needs in bilateral and multilateral formats (USCG, NATO, EU, etc.), to accelerate efforts to build a future Ukrainian force compatible with NATO, and to “convene swiftly and collectively at the most senior levels” in the event Ukraine again finds itself under Russian attack after completion of the current hostilities.

### Capability Coalitions

A separate but intersecting track is the Capability Coalitions launched in 2023 to enhance the efficiency of support provided to Ukraine by partner countries. They function within the framework of the Ukraine Defense Contact Group (USCG), also known as the Ramstein Group. The USCG was established two months into the Russian full-scale aggression under US leadership, with the aim of taking care of Ukraine’s immediate security needs. By November 2023, it had transitioned to the so-called Ramstein-2 format, meaning that its participants were now going to take a longer-term approach. Initially comprised of 41 countries, the Ramstein Group grew to over 50. Considering a possible change in the United States after the 2024 presidential elections, i.e. to Trump-proof the aid mechanism, a new command, NATO Security Assistance and Training for Ukraine (NSATU), was launched at its 11 July 2024 Washington summit.

All BSA signatories committed to one or more Capability Coalitions, either in a leadership or in a participatory role. There is a total of eight Capability Coalitions built around specific equipment needs, namely Artillery, Integrated Air Defense, Drones, Armored Vehicles, IT and Cyber, Air Force, Maritime Security, and Mine Clearance. As of 23 September 2024, a total of 34 UDCG countries had joined at least one of these Coalitions, including non-NATO and non-EU countries such as Australia, New Zealand and Japan. A department was formed within the Ukrainian Defense Ministry to coordinate the country’s work of these coalitions.

Institutionalization of the coalitions is underway. Several Capability Coalitions, including Demining as

well as Drones and IT, have signed memoranda establishing joint funds for equipment procurement. By the end of December 2024, all coalitions developed a multiyear plan to assist Ukraine. The plan is based on the current and medium-term needs of Ukraine’s Defense Forces. The 25<sup>th</sup> meeting of the Ramstein Group on January 9, 2025 endorsed the plan in the form of eight roadmaps through 2027. While NATO is expected to take on more of a coordinating role in the USCG, in view of the new administration in the United States the Ramstein format is expected to remain active on the request of the Ukrainians, as are the Coalitions.

In a separate development seeking to boost Ukraine’s capabilities, on 20 November 2024 the Ukrainian Defense Ministry launched a new cooperation within the Northern Group–Ukraine framework. The initiative was joined by the Nordic countries and the Baltics, as well as Germany, the Netherlands, Poland, and the United Kingdom. Ukraine’s urgent needs, and how to address them as quickly as possible, became the subject of the first meeting; investment in Ukraine’s defense industry was prioritized.

### Domestic Perception

In Ukrainian expert circles, it is quite common to hear that the BSAs are just another Budapest Memorandum—the document Ukraine and the world’s nuclear states signed in 1994 when Ukraine gave up the nuclear arsenal it had inherited from the Soviet Union. The Memorandum is widely perceived as useless and unfair, as its signatories stripped Ukraine of its nuclear weapons but ultimately failed to come to Ukraine’s aid or stop aggression by a nuclear state against it.

This view is inaccurate. The signatories of the Budapest Memorandum did not promise to help Ukraine in the case of future conflict, and the content of the bilateral agreements is fundamentally different from that of the Memorandum. While the signatory countries of the Memorandum undertook negative obligations—that is, not to attack Ukraine, not to exert economic pressure on it, and so on—the BSA signatories assume positive obligations. They pledge to strengthen Ukraine’s capabilities and provide assistance in the event of further aggression. While likely not sufficient to deter or stop the current aggressor given its military, economic and demographic dominance, the BSAs are definitely a step forward.

Among the Ukrainian population, the view is more positive. According to a KIIS survey conducted in May and June of 2024, 65% of Ukrainians believe that the security agreements are beneficial for Ukraine’s defense capabilities. However, the overall attitude towards them remains mostly restrained: only 18% believe them to be “very useful” for strengthening Ukraine’s defense capabil-

ities, and 47% believe them to be “rather useful.” Twenty-seven percent believe that they are unlikely to have a significant impact or are useless (KIIS 2024). Another poll, conducted in December 2024, found that among Ukrainians development of nuclear weapons (31.3%) and gradual accession to NATO (29.3%) are the most popular ways of ensuring Ukraine’s security (New Europe Center 2024).

### Ukraine’s Efforts in the Wider Context

The election of Donald Trump as the next US President introduced significant uncertainty regarding both the future of NATO and the prospects of Ukraine’s eventual membership in it. Already in the wake of his election, the president-elect repeated his earlier threats that he was going to consider withdrawing from the Alliance unless its European members “pay their bills.” (NBC News 2024) Members of his national security team have aired the idea of postponing Ukraine’s membership in NATO as part of a peace deal with Russia the President is pressing for. In addition, some NATO countries, including but not limited to Germany, Slovakia, and Hungary, could block Ukraine’s membership bid, as their views of the war tend to diverge from those of the rest of the Alliance. Nevertheless, NATO membership remains Ukraine’s ultimate security goal, and it continues to call for an invitation.

Although Russia’s “red lines,” such as striking Russian territory or providing long-range weapons to Ukraine, have been crossed on multiple occasions without significant repercussions, NATO continues to pursue a policy of avoiding direct confrontation with Russia. Its possession of nuclear weapons, as well as Putin’s willingness to resort to nuclear saber rattling for deterrence purposes, lead the Alliance more broadly, and the US particularly, to engage in escalation management. Slow arms deliveries and limitations on their use resulting from these policies tie Ukraine’s hands. The NATO strategy of postponing Ukraine’s membership in the Alliance until the end of the war has already produced the predicted result—Russia is investing in prolonging the war against Ukraine and is preparing for continued aggression. European intelligence services increasingly believe that Russia is preparing to attack a NATO country (Sytas 2024, Skujins 2024, Jochecová 2025).

Western countries, however, are not ready for a large-scale war. Their stockpiles are low because after the end of the Cold War they chose to rely on a “just in time” principle. European armies are small with insufficient reserves, and their defense industrial base is falling behind Russia’s. Already Russian defense spending surpasses Europe’s. (Mackenzie 2025) Out of the thirty-two NATO allies, just twenty-three met the two percent of GDP target by the time of the 2024 Washington summit. This is a sharp increase from just six countries

in 2021, but 2 percent is now considered a floor. Furthermore, as the experience of the war in Ukraine has shown, increased spending doesn’t necessarily lead to speedy results. Although western ammunition production has been ramped up, according to Ukrainian intelligence, in 2025 Russian artillery production will still outmatch all of the EU’s by 30%. (The Kyiv Independent Desk, 2024) Jump starting more sophisticated military industries will require even more time and resources.

While Ukraine continues to fight, its people are increasingly exhausted by the war. Between October and December 2024, the number of Ukrainians willing to make some territorial concessions for peace rose from 32% to 38% (up from 19% in 2023). The trend was observed across all regions, although a small majority in each region remained firmly opposed, according to a survey by the Kyiv International Institute of Sociology (KIIS 2025). This tendency, however, is not likely to result in peace since Russia’s goal of destroying Ukraine’s statehood and identity, hidden behind euphemisms of “demilitarization” and “denazification,” remain the same, and its ability to wage war has not been exhausted. This means that to reach peace, Russian aggression will have to be first stopped, and then deterred.

### Conclusions

Russian aggression against Ukraine constitutes a significant break from the last 30 years of European history, during which a large-scale interstate war on European soil was believed impossible. The new reality and reassessment of the Russian threat has led some Western countries to reconsider their security policies and to help Ukraine. However, both psychological and practical adaptation to the new reality has been slow. As the full-scale Russian invasion of Ukraine prepares to enter its 4<sup>th</sup> year, European countries find themselves in an uncertain situation: their capabilities are insufficient, and the principal NATO ally threatens to leave the Alliance unless they “pay.”

Under these circumstances, the flexible framework that emerged from Ukraine’s efforts to ensure its security appears to be optimal in terms of mechanisms. The framework allows for development of both bilateral and multilateral cooperation among the willing states and does not require consensus. This arrangement helps Ukraine defend against the ongoing Russian aggression and brings Ukraine closer to NATO through reforms and increased interoperability. The Capability Coalitions allow coordinated provision of necessary equipment for the short and medium term. The Northern Group–Ukraine framework further complements them by prioritizing investment in Ukraine’s defense industry. The BSAs joined together under the Ukraine Compact concentrate on current aid, future force development, and a joint response to repeat aggression. They also constitute the first step towards a new security order



in Europe which includes Ukraine and is built to deter Russia, rather than to integrate it.

Although the BSAs are more substantive than the Budapest Memorandum, there appears to be a serious discrepancy between reality and their stated goal. While NATO's full force is apparently needed to deter Russian aggression against European states, Ukraine is expected to deter Russia on its own, with only slow and uncertain aid from its partners. This expectation appears to

be unrealistic. However, the level of support the allies are willing and able to provide is determined by their adaptation to the increasingly threatening security environment and their own capabilities. Ukraine should seize the opportunity to develop security cooperation under the agreements, while at the same time continuing to lobby and prepare for its eventual inclusion into the common security framework.

#### *About the Author*

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## DOCUMENTATION

## Bilateral Security Agreements Concluded by Ukraine, January – October 2024

Country	Date of Signature	Source
Great Britain	12 January 2024	Agreement on Security Co-operation between the United Kingdom of Great Britain & Northern Ireland and Ukraine <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-88277">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-88277</a>
France	16 February 2024	Agreement on security cooperation between Ukraine and France <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89005">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89005</a>
Germany	16 February 2024	Agreement on security cooperation and long-term support between Ukraine and the Federal Republic of Germany <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-88985">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-88985</a>
Denmark	23 February 2024	Agreement on security cooperation and long-term support between Ukraine and Denmark <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-89185">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-89185</a>
Canada	24 February 2024	Agreement on security cooperation between Ukraine and Canada <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89233">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89233</a>
Italy	24 February 2024	Agreement on security cooperation between Ukraine and Italy <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89245">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89245</a>
The Netherlands	1 March 2024	Agreement on security cooperation between Ukraine and the Netherlands <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89461">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-89461</a>
Finland	3 April 2024	Agreement on security cooperation and long-term support between Ukraine and the Republic of Finland <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-90021">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-90021</a>
Latvia	11 April 2024	Agreement between Ukraine and the Republic of Latvia on long-term support and security commitments <a href="https://www.president.gov.ua/en/news/ugoda-mizh-ukrayinoyu-ta-latvijskoyu-respublikoyu-pro-dovgos-90189">https://www.president.gov.ua/en/news/ugoda-mizh-ukrayinoyu-ta-latvijskoyu-respublikoyu-pro-dovgos-90189</a>
Spain	27 May 2024	Agreement on Security Cooperation between Spain and Ukraine <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-91145">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-91145</a>
Portugal	28 May 2024	Ukraine Has Signed a Bilateral Security Agreement with Portugal <a href="https://www.president.gov.ua/en/news/ukrayina-uklala-dvostoronnyu-bezpekovu-ugodu-z-portugaliyeyu-91193">https://www.president.gov.ua/en/news/ukrayina-uklala-dvostoronnyu-bezpekovu-ugodu-z-portugaliyeyu-91193</a>
Belgium	28 May 2024	Agreement on Security Cooperation and Long-Term Support between the Kingdom of Belgium and Ukraine <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-91169">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-91169</a>
Sweden	31 May 2024	Ukraine and Sweden Signed a Security Agreement <a href="https://www.president.gov.ua/en/news/ukrayina-ta-shveciya-pidpisali-bezpekovu-ugodu-91233">https://www.president.gov.ua/en/news/ukrayina-ta-shveciya-pidpisali-bezpekovu-ugodu-91233</a>
Norway	31 May 2024	Ukraine Signed a Security Agreement with Norway <a href="https://www.president.gov.ua/en/news/ukrayina-uklala-bezpekovu-ugodu-z-norvegijeyu-91249">https://www.president.gov.ua/en/news/ukrayina-uklala-bezpekovu-ugodu-z-norvegijeyu-91249</a>
Iceland	31 May 2024	Ukraine and Iceland Signed a Security Agreement <a href="https://www.president.gov.ua/en/news/ukrayina-j-islandiya-uklali-bezpekovu-ugodu-91245">https://www.president.gov.ua/en/news/ukrayina-j-islandiya-uklali-bezpekovu-ugodu-91245</a>
United States	13 June 2024	Ukraine and the U.S. Signed a Bilateral Security Agreement <a href="https://www.president.gov.ua/en/news/ukrayina-ta-ssha-uklali-dvostoronnyu-bezpekovu-ugodu-91513">https://www.president.gov.ua/en/news/ukrayina-ta-ssha-uklali-dvostoronnyu-bezpekovu-ugodu-91513</a>

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Country	Date of Signature	Source
Japan	13 June 2024	Ukraine Signed a Bilateral Security Accord with Japan <a href="https://www.president.gov.ua/en/news/ukrayina-uklala-dvostoronnyu-bezpekovu-ugodu-z-yaponiyeyu-91485">https://www.president.gov.ua/en/news/ukrayina-uklala-dvostoronnyu-bezpekovu-ugodu-z-yaponiyeyu-91485</a>
Estonia	27 June 2024	Ukraine and Estonia Signed the Bilateral Security Agreement <a href="https://www.president.gov.ua/en/news/ukrayina-ta-estoniya-uklali-dvostoronnyu-bezpekovu-ugodu-91817">https://www.president.gov.ua/en/news/ukrayina-ta-estoniya-uklali-dvostoronnyu-bezpekovu-ugodu-91817</a>
Lithuania	27 June 2024	Ukraine and Lithuania Signed a Security Agreement <a href="https://www.president.gov.ua/en/news/ukrayina-uklala-bezpekovu-ugodu-z-litvoyu-91821">https://www.president.gov.ua/en/news/ukrayina-uklala-bezpekovu-ugodu-z-litvoyu-91821</a>
European Union	27 June 2024	Ukraine and the EU Signed the Joint Security Commitments <a href="https://www.president.gov.ua/en/news/ukrayina-ta-yes-pidpisali-spilni-bezpeki-zobov'yazannya-91813">https://www.president.gov.ua/en/news/ukrayina-ta-yes-pidpisali-spilni-bezpeki-zobov'yazannya-91813</a>
Poland	8 July 2024	Agreement on Security Cooperation between Ukraine and the Republic of Poland <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-92009">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-92009</a>
Luxembourg	10 July 2024	Agreement on security cooperation and long-term support between Ukraine and the Grand-Duchy of Luxembourg <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-92057">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-92057</a>
Romania	11 July 2024	Agreement on Security Cooperation Between Ukraine and Romania <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-92117">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-mizh-ukrayinoyu-ta-92117</a>
Czechia	18 July 2024	Agreement on Security Cooperation and Long-Term Support Between Ukraine and the Czech Republic <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-92237">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-92237</a>
Slovenia	18 July 2024	Agreement on Security Cooperation and Long-Term Support Between Ukraine and the Republic of Slovenia <a href="https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-92241">https://www.president.gov.ua/en/news/ugoda-pro-spivrobitnictvo-u-sferi-bezpeki-ta-dovgostrokovu-p-92241</a>
Croatia	9 October 2024	Agreement on Long-Term Cooperation and Support between Ukraine and the Republic of Croatia <a href="https://www.president.gov.ua/en/news/ugoda-pro-dovgostrokove-spivrobitnictvo-ta-pidtrimku-mizh-uk-93733">https://www.president.gov.ua/en/news/ugoda-pro-dovgostrokove-spivrobitnictvo-ta-pidtrimku-mizh-uk-93733</a>

Source: Official web site of the President of Ukraine, <https://www.president.gov.ua/en/news/all>.

## Nuclear Strategy and Narratives: Dissecting the Dangers of Kremlin Discourse on Nuclear Weapons

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### Abstract

In this article, the narratives and actions the Kremlin has taken regarding nuclear weapons over the course of 2024 are highlighted and discussed in some detail. The aim in doing this is to highlight that they are attempting to use this to gain strategic and tactical advantages relative to their international adversaries, but there are also broader implications. To understand these implications, a theoretical framework which highlights how political articulations in international politics can establish hegemonic positions in a discourse, as well as structure all other thinking and discussion of an issue, is utilised. Through this, we can see that the position the Kremlin is pushing has the potential to restructure the foundation of international politics.

### Introduction

Actions taken by the Kremlin internationally since the 1990s, namely the wars and military involvement in Chechnya, Georgia, Syria, Crimea, the Donbas and now the full-scale invasion of Ukraine, demonstrate their will to play a significant role in international politics. Furthermore, this lethal ambition is not confined only to the area that since the days of the Tsars they have believed is their sphere of influence; it extends across the globe. A key area where their global aspirations and hegemonic desires can most plainly be seen is their rhetoric surrounding nuclear weapons usage.

In this article I will briefly sketch out how, through an understanding of the Kremlin's discourse on their use of nuclear weapons over the course of 2024, we can gain a greater understanding of the geopolitical world Russia wants to construct. This can be done through understanding that among the competing discourses taking place in international politics there are contestations, as different positions that are espoused compete with one another to establish themselves as hegemonic—accepted to the point that they structure the thinking and discussion on a given issue and become a commonly held understanding for how things should be done or thought about. By highlighting the nuclear weapons rhetoric of the Kremlin, we can see that they wish to create a new order of international politics which rests on a foundation of nuclear threat and precarity.

To outline this argument and draw out its implications, I will highlight the broad shifts in Kremlin nuclear weapons policy over the course of 2024. The limited timeframe was selected both for the sake of conciseness and due to the shifts that occurred in this period which highlight key aspects relevant to this argument. Following this, I will analyse the broader implications of these shifting discursive manoeuvres.

### Developments in Kremlin Strategy During 2024

Since the end of the Cold War international discourse on nuclear weapons had been dominated by gradual reductions in the salience and number of nuclear weapons. As recently as 2010, the total number of nuclear weapons across the globe was 'less than half of what it was in the last years of the Cold War' (Carrel-Billiard and Wing, 2010, p. 13). This decreasing number of nuclear weapons was reinforced by a legally binding agreement between the US and Russia to limit their stockpiles of nuclear weapons in the form of the START treaty. Whilst this treaty was renegotiated in 2021 to be extended for another five years, following Russia's full-scale invasion of Ukraine in 2022 the US state department stated they had no plans for a new round of dialogue on this treaty (Woolf, 2022, p. 1). Thus, where there was once progress towards reducing the role of nuclear weapons in international politics, that progress is now receding, and this article will show the direction in which the Kremlin seeks to redirect the approach to nuclear weapons.

Ever since Russia launched their full-scale invasion of Ukraine in February 2022, Putin has not hesitated to use nuclear blackmail to ward off interference with his actions and 'shield a conventional campaign' (Wachs, 2022, p. 31). On the 27<sup>th</sup> of February 2022, 'Putin put Russia's deterrence forces on "high combat alert"' (Williams, 2024) in response to Western rhetoric and actions. Additionally, 'In October 2023, Russia conducted readiness drills of its nuclear warning system' and December 2023 saw Belarus' Lukashenko claim 'that Russia had completed the transfer of tactical nuclear weapons to Belarus' (Williams, 2024). The positions the Kremlin would take up regarding their nuclear posture in 2024 were no exception. They were instead a continuation of a common strategy Putin has employed throughout this conflict to ensure no one interferes in his invasion.

Although it is beyond the scope of this article, there is an argument to be made that as his campaign has failed to meet his expectations of rapid conquest, Putin has as a direct result ramped up the nuclear rhetoric and adhered to a long-observed doctrine regarding Russia's threats to use non-strategic nuclear weapons to 'escalate its way out of a failing conflict' (Scaparrotti, 2017, p. 22).

An initial point of departure is highlighting that in March 2024 Putin still maintained an aggressive position regarding Russia's nuclear weapons, one which had remained fundamentally unchanged since 2022. This position was that, regarding the use of nuclear weapons, 'From a military-technical point of view, we are, of course, ready' (Putin, 2024 quoted in Faulconbridge and Kelly, 2024) but 'there has never been such a need' (Putin, 2024 quoted in Pennington and Regan, 2024) for them to actually be used. Such a statement also reflects Russia's nuclear doctrine from 2020, in which nuclear weapons usage was 'restricted to deterrence against other states' nuclear weapons only' and was concerned with 'threats to the Russian homeland' (Cohen, 2023, p. 2).

Two months later in May, Russia, for the first time since the war began, publicly announced they would be carrying out military drills to test the readiness of their non-strategic nuclear weapons. At the time, the Russian defence ministry stated that 'a set of measures will be carried out to practice the issues of preparation and use of non-strategic nuclear weapons', in response to 'provocative statements and threats' (Russian Defence Ministry, 2024 quoted in Chernova and Edwards, 2024). The claimed provocations were twofold: first, Emmanuel Macron had recently said he would not rule out deploying French troops should Kyiv request them, and second, the then British Foreign Secretary Lord Cameron had said Ukraine had the right to use British weapons to hit targets inside Russia (Gozzi, 2024). It is worth noting that these supposed provocations were conventional in terms of the military means they would employ, but the Kremlin chose to rattle their nuclear sabre as a response to them.

In the following month of June 2024, the Kremlin again extended and reaffirmed their determination to utilise nuclear weapons in overt threats. In early June, the St. Petersburg Economic Forum took place; Putin was part of the plenary session, which was moderated by infamous Russian nuclear hawk Sergei Karaganov. Since June 2023 Karaganov had been vocal about his belief that Russia must launch a pre-emptive nuclear strike against Western targets, and he once again made it clear in the panel that he truly believes this (Trudolyubov, 2024). He stated that to achieve victory Russia has to ascend the 'ladder of nuclear escalation' (Karaganov, 2024, quoted in Trudolyubov, 2024). In bleaker and more metaphorical language, he went on to say he knows 'how animals behave' and that when 'you are attacked

by a pack of wild dogs... if you have a chance to kill a couple, the rest will scatter, guaranteed' (Karaganov, 2024, quoted in Trudolyubov, 2024). Putin's response stuck to the previous themes he had expressed, saying he assumes, regarding firing nuclear weapons, 'that it will never come to that' (Putin, 2024, quoted in Trudolyubov, 2024). He did, however, make quite overt threats to Europe, saying that Russia and America both have early warning systems for nuclear weapons launches but 'Europe does not. They are more or less defenseless in this sense' (Putin, 2024, quoted in Trudolyubov, 2024).

To be platformed alongside a man such as Karaganov sends a clear signal: that Putin is willing to seriously entertain and at least tacitly endorse his views. It is impossible that this was not a deliberate and conscious choice, as the 'Kremlin's media team is extremely picky about choosing people who appear alongside Putin in any public setting' (Trudolyubov, 2024).

The final moment in the saga of the Kremlin's rhetoric and actions regarding potential use of nuclear weapons came in the form of a quite dramatic shift in November. This is when Putin had the doctrine for nuclear weapon use by Russia revised from its previous 2020 iteration. The 2020 doctrine stated that it would only use nuclear weapons to respond to conventional weapon usage 'when the very existence of the state is threatened' (Russian Federation, President of the Russian Federation, Decree of the President of the Russian Federation dated 02.06.2020 No. 355, 2020). The revised doctrine, which officially came into force in November 2024, takes a new position which can be summarised as a preparedness to use nuclear weapons as a response to 'conventional attacks that threaten the sovereignty or territorial integrity of Russia or Belarus' (Paul, 2024).

This codification of a nuclear response being considered an appropriate response to conventional attacks which do not threaten the existence of the state, merely its sovereignty over certain parts of its territory, constitutes a clear escalation compared to Russia's position at the beginning of 2024. However, it is easy to see it as an extension of, rather than a radical departure from, their earlier position that must now escalate because Putin's bluff has been called, as his redlines continue to be crossed and the nuclear threat rings hollow. Thus, we must consider: what is the significance of this rhetoric beyond its aggressive, reactionary bluster? The key to this lies in understanding that the Kremlin is asserting and legitimating an approach to nuclear weapons use in international politics which favours their interests.

### **The Kremlin's Attempts at Nuclear Hegemony**

Russia seeks to establish their approach of nuclear blackmail as a foundation for how international political dis-

course surrounding nuclear weapons is structured. In this way, as they seek acceptance for this position and continue to push it into the international discourse, where it has thus far received no serious opposition and is allowed to continue unimpeded, it can begin to structure the discourse, meaning that all understandings of how states and the international community must approach and comprehend nuclear weapons is now guided by this hegemonic articulation. This not only legitimises Russia's position; it steers international politics onto a terrain where they can better achieve their foreign policy objectives.

This articulation becoming hegemonic within the discourse surrounding nuclear weapons would provide the Kremlin with a number of significant strategic advantages. Firstly, they are the largest nuclear power by number of warheads, having 'modernized a diverse arsenal of up to 2000 non-strategic nuclear weapons, launchable from air, sea, and land' (Wachs, 2022, p. 28), compared to America's 'approximately 230 B61 gravity bombs' (Center for Arms Control and Non-Proliferation, 2023). Additionally, 'the United States deploys 1,419 and Russia deploys 1,549 strategic warheads on several hundred bombers and missiles' (Arms Control Association, 2024). Thus, in a world where technological sophistication, specialisation, and research and development are ever more important, Russia can centre the competition between states in an area where it already leads in terms of sheer killing capacity. A great deal of what has defined the Great Powers of the world in the past is their military capability, and at first the Kremlin's articulation of nuclear weapons use may seem to simply continue such a logic, as the destructive potential of nuclear weapons can be applied to exclusively military targets. However, the possibility for any nuclear weapon usage to quickly escalate uncontrollably into all-out nuclear war positions this strategy as establishing an international order which accepts a high risk of mass annihilation.

This is why the clear dishonesty of Putin's threats and his failure to follow through is less significant than it seems: by not incurring any costs and continuing to fulfil his current policy aims, albeit not exactly as he wants, his actions establish a new hegemonic understanding for how we see nuclear weapons in international politics. Thus, he was able to escalate doctrines and rhetoric over the course of 2024, not significantly act on this escalation besides running drills, and yet still achieve a long-term objective.

So, what can NATO and its allies do about this? There are options rooted in strategic and tactical thinking that posit credible 'in-kind nuclear threats' (Cohen, 2023, p. 1) must be made. It is stated this 'would signal shared resolve and collective responsibility' and that

NATO and its allies will have 'to make their own collective threat that runs similar risks of nuclear escalation' so they can 'escalate to de-escalate' (Cohen, 2023, p. 3). However, whilst this makes sense from a strategic approach to deterrence, it does not factor in the legitimacy that would be granted to Russia's tactics so far. It would cement the political articulation put forward by Russia, that nuclear threats are acceptable as a means to achieve policy aims, as the West would not be opposing their action so much as mirroring it.

The main practical option that can be engaged at this moment is a focus on 'NATO's nuclear non-proliferation commitments' (Cohen, 2023, p. 3). This means that the NATO alliance and their allies must emphasise 'A Risk Reduction Strategy', focusing on building 'multi-lateral support for risk reduction measures, such as the direct-ascent ASAT test ban', and that states, regardless of their nuclear capability, must advocate 'to condemn exactly the type of behavior coming out of Moscow' (Williams, 2024). The direct-ascent ASAT test ban seeks 'to ban destructive direct-ascent, kinetic-energy anti-satellite (ASAT) weapons testing', which is 'known to create massive amounts of debris in space.' (Bugos, 2022) This must of course be maintained alongside a policy of not allowing Putin's threats to deter the alliance from acting on its own interests. It is easy to dismiss this notion as too idealistic when confronted with the ominous presence of Moscow's nuclear escalation; however, to do so would be to fail to see the significant geopolitical implications of this moment. To respond in-kind to the Kremlin's threats grants the position they articulate a hegemonic role in structuring thinking and discussion on this significant issue in international politics.

## Conclusion

This article has aimed to briefly demonstrate that contained within the discourse surrounding Russia's threats to use nuclear weapons there are logics beyond the strategic and the tactical. The political articulation present within the Kremlin's approach establishes a new way to structure discussion and use of nuclear weapons in international politics, and certainly has strategic and tactical benefits for the Kremlin. However, its broadest implications will have far-reaching effects on how international politics, which is already experiencing great turbulence, is conducted. Allowing these narratives from the Kremlin to go unchallenged or responding to them in kind will see a destabilising world introduced to a form of great power politics in which nuclear weapons are more willingly used as threats and leverage, and where escalation becomes ever more present.

*Please see overleaf for Information about the Author, Acknowledgment, and References.*



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# The Increasing Vulnerability of American Society to Russian Disinformation Today

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## Abstract

Russian disinformation is no new phenomenon. Its international distribution has been recognized extensively, particularly in light of recent US and European elections, as well as Russia's broader goals in its unprovoked war of aggression on Ukraine. However, recent developments within domestic American politics make the United States particularly vulnerable to Russian disinformation. In light of US President Trump's first known call with Russian President Vladimir Putin in February 2025, it is important to understand how the Russian disinformation network can be used to exploit this vulnerability leading up to possible peace negotiations. This article examines Russia's deployment of disinformation in the United States from the run-up to the 2024 presidential election through President Biden's final Ukraine aid announcement in December 2024. In doing so, it seeks to explain how contemporary Russian disinformation adapts to the changing domestic contexts and effectively utilizes existing discourse to sow divisions in the American populace. It then examines how certain policy decisions of the Trump administration have made the new government more vulnerable to such disinformation. It is important for American and world leaders to understand how America might be particularly susceptible around negotiations; however, the deployment of Russian disinformation is a permanent fixture of Putin's regime. Therefore, American and other world leaders would be wise to understand their own vulnerabilities to Russian influence no matter how and when negotiations end.

## Introduction

On February 12, 2025, US President Donald Trump called Russian President Vladimir Putin to discuss possible ends to Russia's full-scale invasion of Ukraine. News of this call sent shocks through Europe and came as a surprise to Ukrainian officials, including Ukrainian President Volodymyr Zelenskyy, whom Trump called after speaking with Putin. The American President's announcement that he and Putin plan to meet in the near future heightens fears that Ukraine and Europe may be left out of peace negotiations (O'Grady and Francis, 2025). The apprehensive rhetoric coming from European leaders stands in contrast to President Trump's confident assessment of the situation. While Trump's comments project a tone of mutual understanding between him and Putin that both men want peace, the reality is that the Kremlin hasn't become friends with Washington overnight (Bose, Faulconbridge, and Balmforth, 2024). The war is still going on, and Putin looks to put himself in the most favorable position for the end.

Trump may consider himself as a competent "deal-maker"; however, as possible negotiations approach, his administration may not be as resistant to Russia's influence as he thinks. Recent events surrounding the shutdown of the United States Agency for International Development (USAID) and his administration's subsequent assertions that the media outlet Politico was funded by USAID, demonstrate that social media conspiracy theories are making their way into decisions of

his government (Paz, 2025). If conspiracy theory turns to action in his administration, there is a major vulnerability to Russian influence. For, behind the Kremlin is a complex system of fake news sites and social media accounts which push disinformation that official Russian state media produces, while also flooding the internet with content supporting already existing conspiracy theories in foreign countries (Klepper, 2023).

Russia has been utilizing this network for years, having had a hand in COVID-19-related disinformation and is known to have attempted to influence multiple elections throughout Europe and in the United States (Global Engagement Center, 2022, p.17; Brattberg and Maurer, 2018). However, observing Russia's disinformation network in the context of the recent United States elections—and the final actions of the Biden administration—sheds light on how vulnerable contemporary American political discourse is to its influence. As negotiations approach and Russia seeks the best position, it is likely that the disinformation trends within the United States outlined in this article will continue.

## Context: Disinformation around the 2024 US Election and Biden's Final Actions

According to Emerson T. Brooking, the Director of Strategy and Resident Senior Fellow at the Atlantic Council's Digital Forensic Research Lab, "By sheer volume, foreign interference in the 2024 US election... surpassed the scale of adversarial operations in both

2016 and 2020” (The Atlantic Council, 2024, para. 2). American officials have claimed that “Russia is the most active threat” in these interferences, which was echoed in an August security report by Meta identifying Russia as the “number one source” of global coordinated inauthentic behavior networks (Office of the Director of National Intelligence, 2024; Balevic, 2024, para. 2).

Prior to the elections, baseless claims, now accredited to a Russian-aligned propaganda network, emerged that Democratic vice-presidential candidate Tim Walz had previously assaulted one of his former students (Newman and Owen, 2024). Another now-debunked video connected to Russia emerged on Election Day showing a Haitian immigrant claiming to have arrived in the United States only six months prior. The individual then says he had obtained citizenship and a driver’s license, which he used to illegally vote for Kamala Harris in two counties in the state of Georgia (Goodwin, 2024).

Beyond news releases like those mentioned above, other interferences originating from Russian domains included bomb threats in several states’ voting stations and fabricated statements intended to mimic the FBI (Newman and Owen, 2024; Bond, 2024a). The fake releases covered a variety of topics such as the bureau urging journalists not to publish information about violence at polling stations or suggesting schools suspend in-person classes due to the increased risk of school shootings after the elections. Another fake video claimed that the FBI had received 9,000 complaints that voting machines were malfunctioning and submitting votes for only one candidate (Bond, 2024a). These actions and releases are only a few examples of the barrage of misinformation Russia created on Election Day to decrease public trust in the voting process and spark outrage surrounding vote stealing conspiracy theories (Wendling, 2024).

However, Russian disinformation didn’t stop after the election. At the end of November, the Biden administration reduced restrictions on the use of American-made long-range missiles on targets inside of Russia and sent antipersonnel mines to Ukraine (Lukiv and Willis, 2024). These came in tandem with one final December announcement from Biden of nearly \$6 billion of military and budgetary aid to Ukraine, challenging Moscow’s goals in its unprovoked war of aggression (Holland and Shalal, 2024). For this reason, even since the American election was decided, an onslaught of videos originating from Russian media sites appeared on social media pushing divisive narratives about the war and President Trump. These deepfake videos included scenes of Ukrainian soldiers burning effigies of Trump, shooting mannequins wearing “Make America Great Again” hats, and echoing ideas such as Trump “must never be president again” (Klepper, 2024). These fake videos continue to circulate among Trump supporters on

platforms such as X, YouTube, and Telegram (Klepper, 2024). Moscow is very aware of the already existing divisions within the United States and capitalizes on them.

### **The Key to Russian Propaganda: Build upon the Existing Political Divisions**

Russian disinformation thrives on the preexisting political disputes within a country. In the United States, the Russian fake news had roots in contentious issues which the Kremlin sought to inflame. The Haitian voter video in Georgia on Election Day played upon a narrative that Trump himself perpetuated in his 2024 presidential debate against Kamala Harris, which alleged that Haitian immigrants in Springfield, Ohio were involved in criminal acts and even eating people’s cats and dogs (*They’re Eating the Dogs: Trump Makes False Claim about Migrants*, 2024). The video’s setting in Georgia has its origins in the 2020 election, after which Trump told Georgia Secretary of State Brad Raffensperger “I just want to find 11,780 votes” upon realizing he would lose the presidential race there (Zurcher, para. 2). The series of events following that conversation led to several indictments against Trump as well as a swarm of conspiracy theories from his followers that the election had been stolen (Drenon, 2024; Fernando and Sanders, 2024). The video from Russian sources skillfully reaffirms immigration and voter fraud fears that were already bubbling in the United States.

Similarly, the fake announcements from the FBI, particularly the release urging journalists to not publish information about violence at polling stations, play into the existing conservative conspiracy theories that a group of unelected officials and high-ranking individuals known as the “Deep State” control public information in the United States and the true actions of the government (Olmsted and Willmetts, 2024).

Russian disinformation often simply recycles, then amplifies the existing disputes within the United States. However, when it is necessary, a novel enhancement like the deepfake video of Ukrainian servicemen is employed to engage and direct discourse to a topic benefiting Russia’s agenda. Around the election, there was enough existing content to amplify; however, Biden’s final actions pushed Russia to consider new tactics and material.

### **A Blurring of Media**

The complex ecosystem of Russian propaganda and disinformation begins with state-funded media sources. Outward-facing sources such as Russia Today and Sputnik have been labeled as propaganda and fake news organizations, which even led to them being banned in the European Union (Bond, 2024b). Yet, they are connected to a system of proxy social media accounts and websites which covertly propagate their messages

around the globe (Global Engagement Center, 2022, p.10). Proxy accounts are run by real individuals, media companies, or what is considered a “bot.” Bots—in this case—refer to false personas or social media platforms created by software packages and enhanced by artificial intelligence to propagate Russian media and messaging (U.S. Department of Justice, 2024). Russian proxy websites can also take the form of legitimate news companies by impersonating the company’s name and look, while occupying a different internet domain. Such an operation, dubbed “Doppelganger,” is intended to use the credibility of other news sources to further propagate Russia’s agenda (Bond, 2024b).

This “nesting doll” approach blurs the origins of messaging entering online discourse and can make it very difficult to trace the information’s trail. Further, when these proxies begin engaging in the United States political scene, they tend to attract conservative engagement, as seen in the examples surrounding the election. Therefore, they not only slip into the mainstream political discourse, but are amplified on conservative media sites.

At the beginning of the full-scale invasion of Ukraine, Russian media perpetuated a lie that a biological lab in Ukraine, which was developed in partnership with the American government, was creating bioweapons. The story stemmed from a one-hour report, aired in 2015 by a Russian state-owned news company, which alleged that the facility had caused tens of thousands of pigs to die in Ukraine and Georgia. This story was picked up again in March of 2022, when the US Undersecretary of State for Political Affairs Victoria Nuland testified to Congress that the United States was “quite concerned Russian troops, Russian forces, may seek to gain control of [the biological research facility]” (Kessler, 2022, para. 19). This statement was made in the context of fear that biological material was not safe in the wrong hands; however, it led Russian state media to once again allege that the lab was being used to develop bioweapons. This narrative was then quickly picked up by then-Fox News host Tucker Carlson and repeated as fact; it was also retweeted by Donald Trump Jr. (Kessler, 2022, para. 22).

Russian disinformation surrounding the lab didn’t stay in fringe political chats on the internet. It found itself in the mainstream American conservative discourse, sowing division and raising questions regarding who was at fault in the war.

### Achieved Goals

Despite the fact that Russian disinformation reaches mainstream media, many in the United States question the efficacy of Russian disinformation. Some argue that focusing too heavily upon the issue of disinformation helps achieve the goals of its creators. To these individu-

als, it is not the disinformation itself, but the distrust that comes with knowing it exists, which poses the gravest threat (Belogolova et al., 2024). Others claim that disinformation does not in actuality have the breadth that many ascribe to it. While bots allow a large volume of misinformation to be posted, they often end up mostly engaging with other bots and arousing suspicion among human users (Open AI, 2024).

The unfortunate reality, however, is that Russian disinformation has gained traction in the United States, and the country is perhaps more susceptible than ever to its effects. A successful Russian disinformation campaign will aid in creating confusion and distrust surrounding facts, as has already occurred. A recent Gallup poll found that Americans’ trust in the media is at an all-time low, with only 31% of respondents saying that they have a “Great Deal/Fair Amount” of trust in the media (Brenan, 2024). Russia has also begun financing actors within the United States who claim to be unaware of Russia’s involvement in their work, leading to confusion. One such case occurred in Tennessee in 2023 when a right-wing media company received \$10 million dollars from Russia Today to influence American politics by posting political commentary videos on sites such as Instagram, X, TikTok, and YouTube. While some senior staff knew about Russia Today’s involvement, many of the company’s commentators had no idea they were being paid with Russian dollars to become proxies and disseminate views that the Kremlin wanted to amplify (Reilly, et al., 2024).

Furthermore, in December of 2024, the intertangling of Russian disinformation and conservative political dialogue had substantial consequences. The State Department’s Global Engagement Center (GEC), which was created in 2016 by Barack Obama’s executive order to fight disinformation by state and non-state actors, was shut down by conservative lawmakers. The Center, which was known for coordinating American efforts to counter Russian and Chinese disinformation, received criticism from its opponents for labeling viewpoints that were mainstream conservative as “disinformation” (Meyer, 2024). The main contention was with its previous funding of the UK-based nonprofit Global Disinformation Index, which labeled American media outlets such as Newsmax, One America News Network and The New York Post as posing a “high risk” of spreading disinformation (Gedeon, 2024).

The shutdown of the GEC was a success for Russian propaganda. In blurring the lines between its own media and messages with those of conservative America, it enabled an attack on disinformation to be interpreted as an attack on conservative talking points. Thus, the very partisan divides Russian disinformation amplified destroyed the tool put in place to combat it.



## A Developing Vulnerability

The beginning of the Trump presidency has been marked with a series of government agency shutdowns in the name of reducing spending and combatting “woke” ideology. One such agency was USAID, which Trump wrote was run by “radical left lunatics” (Schreiber and Tanis, 2025). As his administration was in the midst of dismantling the agency, a separate event occurred—the news organization Politico missed payroll. While Politico resolved the issue in the same day, news of this laps in payment reached online forums, leading online groups to do their own digging. When they looked on the federal government’s open expenditures database, they found it had paid \$8.2 million to Politico’s subscription service, Politico Pro, across multiple agencies in 2024 (Paz, 2024).

While only \$44,000 of these were for subscriptions for USAID employees, this led online forums to conclude that USAID was funding Politico to push “woke” and “anti-Trump” messages under the Biden Administration. These discourses made their way to the head of the new Department of Government Efficiency (DOGE), Elon Musk, and ultimately to the White House (Paz, 2024). The administration then began ordering different agencies to terminate their media contracts (Basu and Caputo, 2024).

### *About the Author*

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While subscription services are common among government agencies, the administration instead made decisions based on supposed evidence on online forums. These are the very forums that Russian disinformation networks seek to amplify, and the risk of Russian influence increases so long as the administration continues to make decisions in such a manner.

## Conclusion

As potential negotiations approach, Russia should be expected to push for the most optimal position. It will continue to reinforce anti-Ukrainian messages and create disinformation in online forums to influence domestic American discourse in its favor. Increasing polarization and the new administration’s acceptance of online conspiracy theories make the American populace and government more susceptible to its influence, and the Kremlin’s strategy won’t stop after negotiations. It will continue to deploy its network across the United States, European Union, and Ukraine. These countries would do well to learn how the Kremlin’s disinformation network has been deployed in the United States and combat their own increasing vulnerabilities.



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