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OUTLOOK

A new face of war

Russian military strategy post-Ukraine

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The armed conflicts of this century show that a new face of the war is emerging, which is largely contrary to previous ideas, but nevertheless fully consistent with the leading trends in the development of military art, weapons and military equipment.

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The war in Ukraine is Russia's largest-scale war since World War II. It constitutes the broadest exposure of its concepts and capabilities on the modern

Summary

Among Russian strategists, there is a strong renewed appreciation for positional warfare and a strategy of attrition. This is a pivot from Russia's pre-war strategy of "active defence," which sought to move away from positional defence towards manoeuvre.

The strength of a positional and defensive strategy comes from technological innovation, with an exponential growth in unmanned systems and space-based sensors, which are believed to make the battlefield transparent. The transparent battlefield concept challenges key principles of manoeuvre warfare, such as concentrating forces and surprise.

A key priority for Russian strategists is to break the positional deadlock and re-establish the conditions for manoeuvre. This can be done through technological development in AI and drones and a more networked military that can mass fires across the entire depth of the adversary.

In a potential war with Russia, NATO will face a military that is experienced on a drone- and sensor-rich battlefield and that is increasing its ability to look beyond the frontline and strike further into the operational depth. The Russian military is putting effort into re-establishing the conditions for manoeuvre while denying their adversary the ability to do the same.

1 Sergei Pechurov, "Gazeta 'Krasnaya Zvezda' o novoy knige CAST 'Algoritmy ognya i stali: oruzhie sovremennykh voyn'" (The 'Red Star' newspaper about the new book by CAST 'Algorithms of Fire and Steel: Weapons of Modern Wars'), *Bmpd Livejournal*, 7 February 2024, https://bmpd.livejournal.com/4800273.html.

battlefield, and often against its primary adversary's – NATO's – capabilities. Therefore, the lessons Russia draws from the war will be critical to the capabilities it will build for the future and the threat they will pose to NATO.

To manage the threat, NATO militaries do not only need to monitor Russian capability development but also to understand the intellectual foundation and how Russian strategists view modern war. Only then can NATO planners see the broader arc of Russian military development and plan accordingly. Therefore, this paper investigates how the war in Ukraine has reshaped Russian thinking on future war in regard to military strategy and technology.

The Russian leadership entered the war with a different focus. In previous years, the main themes in the Russian debate were the importance of non-military means and non-contact warfare.[2] The invasion of Ukraine was premised on a strategy of non-military means and a *coup d'état*.[3] This, however, failed, and the war shifted to a military-centric strategy. The war is also the largest application of stand-off precision weaponry as envisioned in the concept of non-contact warfare. Four years later, there is still no clear success in sight. Therefore, a close re-evaluation of Russian strategy seems warranted.

The war in Ukraine is a paradox for the Russian leadership. On the one hand, it is the largest war in recent times, and it is transforming the military, the economy and the social contract in Russia. On the other hand, it is still considered a "special military operation," not just in rhetoric, but also as regards legal and political obligations. There is no general mobilization or explicit use of conscripts in the war. Rather, the war is seen as limited and fought by contract soldiers who are often perceived as mercenaries. It is not a model for how Russia envisages a war with NATO. As indicated by Colonel General Vladimir Zarudnitsky – head of the General Staff Academy, and previously head of the Main Operations Directorate (GOU) – the confrontation with the West was "a real threat not just to our interests, but to the very existence of our state."[4] Despite this caveat, the war in Ukraine is the most significant source of lessons on future war for the Russian leadership.

This paper investigates the positions taken by the key actors in the Russian military-theoretical debate. While there is broad participation, the focus here will be on those who carry institutional weight within the Russian military system. This includes the General Staff and its knowledge-generation network in the military academies as well as current and former senior military leadership.[5] It is critical to remember that the debate is taking place in a politically constrained environment with limited appetite for genuine scrutiny.[6] However, the lessons learned will still impact the choices for Russian reconstitution.[7]

This paper starts by investigating the different Russian debates on military strategy in modern war, framing three major debates: offence vs. defence; manoeuvre vs. position; annihilation vs. attrition. The second section analyses the impact of technology in driving these changes to strategy. Lastly, the paper ends with a discussion on implications for NATO.

Strategy

Which strategy is most favourable under modern circumstances? This discussion ties into three long-standing and interrelated debates in Russia. The first considers the balance between an offensive and a defensive strategy. The second debate is a revived Soviet debate on the merits of a strategy of destruction, or annihilation, versus a strategy of attrition. The third debate focuses on the merits of manoeuvre warfare and positional warfare.

Russia's declared military strategy before the war in Ukraine was one of "active defence."[8] The concept of "active defence" was tailored to what Russia believed it needed to stop an attack from NATO. Importantly, active defence was an attempt to move away from static defence towards manoeuvre and non-contact warfare.[9] In essence, "active defence" sought to change the culture of the Russian Armed Forces, as a 2021 study published by the Center for Naval Analyses explained: "While positional defense, based on echeloned lines, prepared reserves and fixed defensive emplacements, remains integral to Russian military planning, it is increasingly displaced in emphasis by maneuver defense."[10]

While the Russian defence against the Ukrainian counteroffensive in the summer of 2023 was seen as a great success,[11] it was not fully the "active defence" envisioned before the war. Rather, the outcomes seemed determined by two factors: positional defence together with sensors and transparency. CAST Director Ruslan Pukhov observed

2 Oscar Jonsson, *The Russian Understanding of War* (Washington D.C.: Georgetown University Press, 2019).
3 Jack Watling, Oleksandr Danylyuk and Nick Reynolds, "Preliminary Lessons from Russia's Unconventional Operations During the Russo-Ukrainian War, February 2022–February 2023," *Royal United Services Institute*, Special Report, 29 March 2023. https://rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-russias-unconventional-operations-during-russo-ukrainian-war-february-2022, p.4.
4 Vladimir B. Zarudnitsky, "Tendentsii izmeneniya sistemy obespecheniya voyennoy bezopasnosti gosudarstva v usloviyakh novoy geopoliticheskoy karty mira" (Trends in changes to the state's military security system in the context of the new geopolitical map of the world), *Voyennaya Mysl*, no.2 (2024), p.7.
5 Oscar Jonsson, *The Russian General Staff* (Washington D.C.: Georgetown Unversity Press, 2026 forthcoming).
6 Krisztian Jójárt, "The war against Ukraine through the prism of Russian military thought," *Journal of Strategic Studies*, no.47 (2024, 6-7), p.4.
7 Dara Massicot, "Russian Military Reconstitution: 2030 Pathways and Prospects," *Carnegie Endowment for International Peace*, September 2024, https://carnegie-production-assets.s3.amazonaws.com/static/files/Massicot-Reconstitution-final_10-1.pdf, p.4.
8 Valery Gerasimov, "Vektory razvitiya voyennoy strategii" (Development Vectors of Military Strategy). *Krasnaya Zvezda*. 4 March 2019. http://redstar.ru/vektory-razvitiya-voennoj-strategii/
9 Michael Kofman et al., 2021. "Russian Military Strategy: Core Tenets and Operational Concepts." *Center for Naval Analysis*. https://www.cna.org/reports/2021/10/Russian-Military%20-Strategy-Core-Tenets-and-Operational-Concepts.pdf, p.13-14.
10 Kofman et al. "Russian Military Strategy," p.15.
11 Poletayev, S. "Ob iskusstve spetsialnoy voyennoy operatsii" (On the art of the special military operation), Rossiya v globalnoy politike, 8 November 2023, https://globalaffairs.ru/articles/ob-iskusstve-svo/

that "positional warfare fully manifested itself" in Russia's defensive operations.[12] These operations included a combination of mines, anti-tank guided munitions, artillery and drones. In an article aptly entitled "From 'special' to 'military'," Pukhov made the case that even in Russia's "success" in Avdiivka and other offensive operations, significant losses "confirm the lack of capabilities to decisively overcome positional warfare."[13] Pukhov dated this change to early May 2022, when the Russian side was unable to mass forces in the battle of Siverskyi Donets. Then it became "clear that 'traditional methods' of massing forces did not work in this war."[14] In an article on the transformation of armed confrontation, two associate professors at the General Staff Academy agreed. Oleg Tanenya and Aleksandr Vdovin argued that in the special military operation (SVO), the strategy and capabilities of the Ukrainian Armed Forces showed a "'positional deadlock' reminiscent of the First World War."[15]

The former Chief of General Staff, Yuri Baluyevsky, was explicitly critical of manoeuvre warfare. In an interview with *Armeysky Standart,* he argued that "instead of highly manoeuvrable military operations, modern highly mechanized armies suddenly switched to a positional trench war" with a progress similar to "turtles even by the standards of the First World War."[16] This is due to several factors, but the most important one is the transparency of the battlefield. Baluyevsky notes that it is "impossible" to concentrate troops, which he believes changes the foundation of military affairs, including the use of forces and the development of weapon systems.[17] Baluyevsky called the tank one of the main victims of the war and asked whether it had lost its significance as a main striking force and as a tool for breakthrough and manoeuvre.[18]

This was driven to a large degree by technology and qualitatively new means of destruction. A professor and two associate professors – all retired colonels – at the National Information Centre observed that "the new conditions of the situation … make it practically impossible to plan and conduct, in a timely and successful manner, … a classical combined arms operation (battle) in accordance with previously developed theoretical principles."[19] This was driven by "qualitatively new means of destruction" and in particular the development of weapons as well as "digital and other advanced technologies."[20] They singled out the unified reconnaissance and strike system, which allowed for the destruction of forces in real time. In effect, this had a "fundamental impact on the conditions, content and character of armed struggle," which necessitated a rethink of operational art.[21]

Colonel Vitaly Borsolyuk, head of the General Staff's education and methods training centre, found similar problems. However, he was not as explicitly critical on the ideas of manoeuvre. He argued that without abandoning older proven methods, such as positional defence, new forms of operational art were "expanding, associated with increased capabilities for fire strikes, mobile operations and information warfare."[22] For Borsolyuk, this would lead to a new defensive-offensive balance and a rearrangement of troops into those performing defensive tasks and those performing offensive ones.[23] Here it is worth noting that the last suggestion came straight from Major General Vladimir Slipchenko, a key theorist in the 1990s and 2000s, who coined the concept of non-contact warfare and suggested a dramatic reorganization of the branches into strategic offence and strategic defence.[24] For Borsolyuk, this was driven by the development of long-range strike capabilities. Because of the emerging possibility to effectively strike the opposite side throughout their operational depth, the only way to counter such a capability was "with a mobile-fire pre-emptive defeat of the enemy with all forces and means."[25]

Another key voice in the discussion regarding positional warfare is Aleksandr Kalistratov, professor at the General Staff Combined Arms Academy. He published a three-part article series in *Armeysky Standart* on the history of the positional deadlock. Kalistratov noted that positional deadlock originated in the First World War, when the firepower of the defender hindered the attacking side from concentrating forces and manoeuvring while disrupting their internal lines.[26] By threatening the stability of the rear, offensive actions were disrupted. When neither side

12 Ruslan Pukhov, "From 'Special' to 'Military': Lessons from Two Years of the Operation in Ukraine," *Russia in Global Affairs*, 2, April/June, 2024, https://eng.globalaffairs.ru/articles/from-special-to-military/.
13 Pukhov, "From 'Special' to 'Military'."
14 Pukhov, "From 'Special' to 'Military'."
15 Oleg Tanenya and Aleksandr Vdovin, "Transformatsiya vooruzhennogo protivoborstva: obuslovlennost novoy tendentsii voyennogo iskusstva" (Transformation of armed confrontation: the conditionality of a new trend in military art). *Voyennaya Mysl*, 3 (2024), p.40.
16 Yury Baluyevsky, "SVO i revolyutsiya voyennogo dela" (SVO and the revolution in military affairs), *Armeysky Standart*, 31 January 2024, https://armystandard.ru/news/2024129114-TnO1s.html.
17 Baluyevsky, "SVO i revolyutsiya."
18 Baluyevsky, "SVO i revolyutsiya."
19 Vladimir Orlyansky, Vitaly Gerasimov and Sergei Rudenko, "Problema manevra voyskami v usloviyakh primeneniya protivnikom sovremennykh razvedyvatelnykh sistem" (The problem with manoeuvring troops when the enemy is using modern intelligence systems), *Voyennaya Mysl*, 7 (2024), p.36.
20 Orlyansky, Gerasimov and Rudenko, "Problema manevra," p.36.
21 Orlyansky, Gerasimov and Rudenko, "Problema manevra," p.36.
22 Vitaly Borsolyuk, "Nekotorye faktory, zakonomernosti i tendentsii obshchevoyskovogo operativnogo iskusstva" (Some factors, patterns and trends in combined arms operational art), *Voyennaya Mysl*, 6 (2024), p.42.
23 Borsolyuk, "Nekotorye faktory," p.42.
24 Vladimir Slipchenko,*Voyny novogo pokoleniya: Distantsionnye i bezkontaktnye* (New-generation warfare: Remote and contactless), (Moscow: Olma-Press, 2004).
25 Borsolyuk, "Nekotorye faktory," p.43.
26 Aleksandr Kalistratov, "K voprosu o 'pozitsionnom tupike'" (On the question of 'positional deadlock'), *Armeysky Standart*, 7 (2024a), https://army.ric.mil.ru/Stati/item/588774.

could provide enough fire, armed struggle entered a "positional dead end" and turned into a contest of endurance and resources or, in other words, attrition.[27] Kalistratov argued that it was only at the end of the First World War that the deadlock was broken by concentrating artillery offensives and using infantry tactics (including human waves) supported by tanks and assault aircraft.[28]

Fast forwarding to the SVO, Kalistratov concluded that "oddly enough … the importance of positional forms of warfare has sharply increased."[29] The key driver was the Russian leadership's choice to use the strategy of attrition with "extremely limited forces and … not … the most effective means of armed struggle at its disposal."[30] In this strategy, Kalistratov continued, the "one with more resources and patience wins, and positional actions are inevitable."[31] This is an interesting description as, more than technological development, Kalistratov viewed the political choices as driving the positional nature of the war.

Nonetheless, he attached some importance to technological factors, such as the urbanized nature of operations and, critically, the combination of unmanned aerial vehicles (UAVs) for frontline reconnaissance as well as satellite and long-range sensors for the rear. The transparency of the battlefield entails that any concentration of troops is seen in the distant rear and can be targeted by long-range strikes, which means that "achieving surprise has become a huge problem."[32] In sum, this strengthens defence over offence or, as explained by Kalistratov, "in the eternal struggle of the sword and shield …the shield has been granted serious advantages."[33]

Most interestingly, Kalistratov offered a number of ways to overcome the positional deadlock and move to a strategy of destruction. The first two were to accept high rates of losses and use tactical nuclear weapons. Otherwise, if they were not applied, it would require "significant efforts to seriously adapt the Armed Forces."[34] This included an increase in the number of ground forces in general and artillery in particular. If artillery were coupled with an automated fire control system with sensors from drones, then it could in practice become high-precision weaponry. Kalistratov also suggested organizational changes, such as empowering commanders at all levels with more freedom to adapt to the changing conditions of armed struggle. Moreover, he noted the complex structure of assault units and suggested they might be complemented by a fourth platoon with sappers, supplies, casualty evacuation and drone operators.[35]

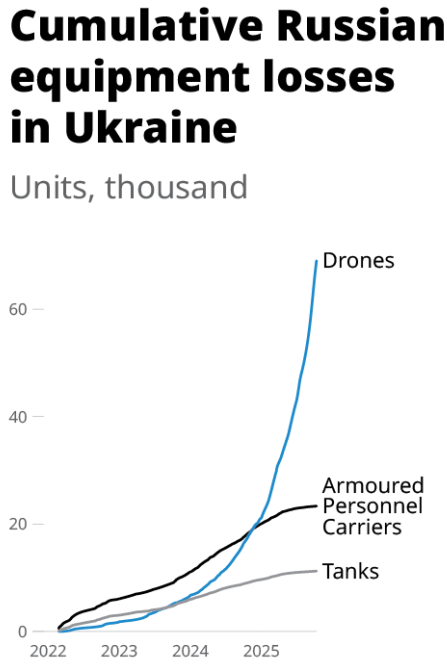
The positional deadlock, Kalistratov explained, necessitated a new stage in the preparation of offensive ground operations. This would start with the "realization of fire superiority over the enemy … with the aim of its remote defeat in the attacking directions."[36] He highlighted the need to improve the counter-battery struggle so Russia could gain fire superiority by leveraging "centralized, automated control" systems.[37]

While most analysts supported the Russian strategy of attrition, there are those who seemed to favour a strategy of destruction or annihilation. Two of those are Aleksandr Serzhantov, deputy head of the General Staff Academy and previously head of the Centre for Military-Strategic Studies (TsVSI), and Dmitry Pavlov, department head at the TsVSI. They argued that modern trends in war confirmed the relevance of positional defence.[38] Nonetheless, they believed a strategy of destruction was a possibility. It required a set of powerful strikes "to inflict a so-called decapitating blow on the enemy and achieve a level of damage that is unacceptable to them, thereby preventing the possibility of retaliatory actions."[39] In other words, the first strike should be so overwhelming that an adversary would not respond. As this was not the case in Russia's initial operations against Ukraine, this comment could be read as an indirect criticism of the political leadership.

In another article, Serzhantov and colleagues from the General Staff Academy elaborated on the relation between a strategy of destruction and attrition. They argued that these two strategies originating from Aleksandr Svechin (attrition) and Mikhail Tukhachevsky (destruction) dominated military strategic thinking.[40] However, in modern wars, their role were being challenged by changing spatial and temporal parameters, which meant that the concept of theatre of war was losing its geographical meaning. While they recognized the increasing importance of indirect (non-military) and hybrid (military+indirect) methods, they viewed the main emphasis as being on contactless warfare, which "presupposes the destruction or incapacitation at long distances long before combat."[41] In essence, a strategy of destruction was possible, but it would need massive long-range strikes.

27 Kalistratov, "K voprosu," 2024a.
28 Kalistratov, "K voprosu," 2024a.
29 Aleksandr Kalistratov, "K voprosu o 'pozitsionnom tupike'" (On the question of 'positional deadlock'), *Armeysky Standart*, 9 (2024b), https://army.ric.mil.ru/Stati/item/596309.
30 Kalistratov, "K voprosu," 2024b.
31 Kalistratov, "K voprosu," 2024b
32 Kalistratov, "K voprosu," 2024b.
33 Kalistratov, "K voprosu," 2024b.
34 Kalistratov, "K voprosu," 2024b.
35 Kalistratov, "K voprosu," 2024b.
36 Kalistratov, "K voprosu," 2024b.
37 Kalistratov, "K voprosu," 2024b.
38 Aleksandr Serzhantov and Dmitry Pavlov, "Novoye soderzhanie i sushchnost voyennykh operatsiy v sovremennykh usloviyakh" (New content and essence of military operations in modern conditions), *Voyennaya Mysl,* 9 (2024), p.46.
39 Aleksandr Serzhantov and Dmitry Pavlov, "Snizhenie voyenno-ekonomicheskogo potentsiala protivostoyashchey storony v kontekste razvitiya teorii operatsiy" (Reducing the military-economic potential of the opposing side in the context of the development of the theory of operations), *Voyennaya Mysl*, 11 (2023), p.24.
40 Aleksandr Serzhantov, Aleksandr Smolovy and Igor Terentyev, "Transformatsiya soderzhaniya voyny: kontury voyennykh konfliktov budushchego" (Tranformation of the content of war: Contours of future military conflicts), *Voyennaya Mysl*, 6 (2022), p.28.
41 Serzhantov, Smolovy and Terentyev, "Transformatsiya soderzhania," p.29.

The different debates can provide indications to the future development of Russian military theory. Both history and current practice are reinterpreted to make points about the future. There are a few notable points: first, there is a renewed agreement on the strength of defence under modern conditions. This is related to the strong appreciation for positional warfare. Second, there is still a desire to advocate for manoeuvre and a belief that, with the right capabilities, it could break the positional deadlock. This can partly be explained by Russian doctrine still holding a place for manoeuvre, even if, in the current debate, there is an overwhelming appreciation for positional and attritional warfare.[42] It even seems that Russian military experts "would have favoured the continuation of strategic defence and force regeneration until a significant numerical and material superiority was established."[43] Whether analysts prefer a more manoeuvrist approach or not, the key for most was a fires advantage at the front, and with longer range. The technological innovations that can enable that will be the focus of the next section.



Data: Oryx-verified equipment losses (eight core categories)

Technology

The most important driver of change is technological development. The discussion is focused on the lessons from the war in Ukraine, but it is also forward-looking. Most of the attention is given to the proliferation of UAVs, or drones, at mass scale. Their impact is twofold. They are both a cost-efficient way of providing sensors at various depths and used for strike purposes (short-, medium- and long-range). The second, and related, technological development that impacts strategy are the improved intelligence, reconnaissance and surveillance (ISR) systems based on drones but also on improved aerial and satellite-based systems. Together, these provide a high degree of near real-time overview of the battlefield.

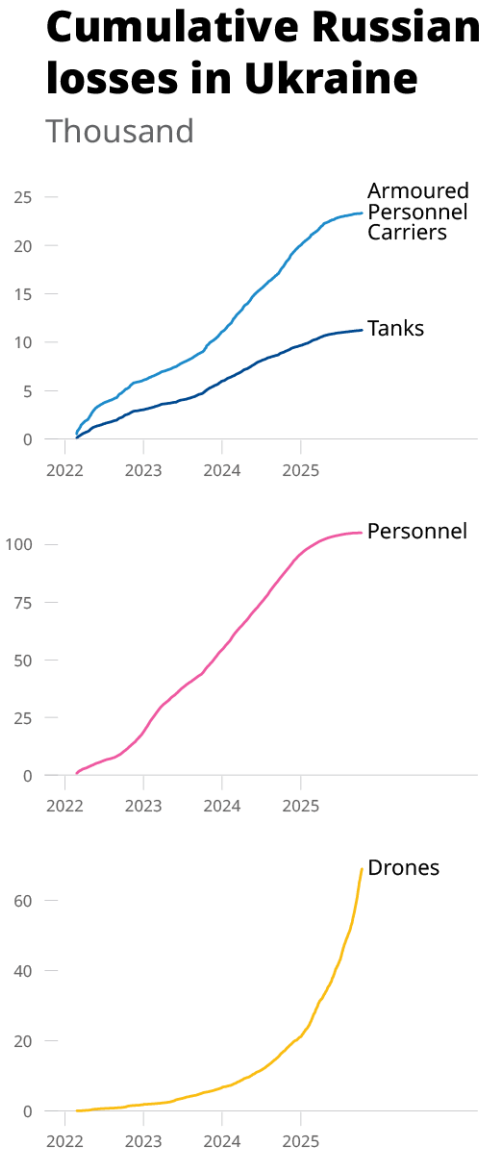
If we return to Kalistratov, he acknowledged that the massive appearance of drones as a new means of armed struggle was unexpected for Russian military science. Indeed, he noted that "drones have become the main means of destroying weapons and military equipment."[44] It was now only possible to move troops "in conditions of limited visibility," and "drones have even begun to hunt individual military personnel."[45] Orlyansky, Gerasimov and Rudenko observed that Ukrainian drones "sharply reduce the capabilities of our troops to conduct active combat actions; carry out manoeuvres and concentrate forces."[46]

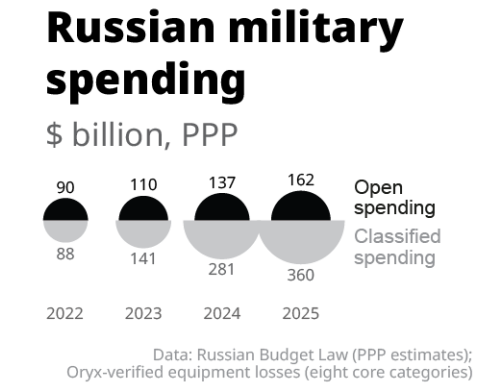
This view is echoed by Lieutenant Colonel Nikolai Sokolov, senior researcher at the Ministry of Defence's engineering academy. He argued that the use of drones "has made a significant contribution to changing the character of combat operations."[47] For Sokolov, it was now one of the "main military-technical components of combat actions."[48] This was both due to a quantitative and qualitative leap. The widespread use of drones in a theatre of military operations could solve a wide range of tasks, providing "total situational awareness" as well as a forming a critical part of the reconnaissance-strike complex.[49]

This differs from the start of the war in Ukraine. Then, drones were mostly operating on the operational-tactical level at medium altitude. The emphasis shifted due to the mass use of affordable components in "all environments: in the air, on the ground and in the water."[50] This provided challenges for operational art. Right now, according to Sokolov, drone operators – together with artillery and air defence systems – are the main targets for both sides of the SVO. Operators are "hunted in the same way snipers were hunted in their time."[51]

As important as the strike component is the sensor component. This gave rise to a transparent battlefield that could lift the "fog of war." Former Chief of General Staff

42 Franz-Stefan Gady and Michael Kofman, "Ukraine's Strategy of Attrition," *Survival*, 65 (2, 2023), p.7-22.
43 Krisztian Jójárt, "Russian Views On The Future Of Manoeuvrist Approach Based On The Lessons Learned From The War In Ukraine," *The Defense Horizon Journal,* 24 March 2025, https://tdhj.org/blog/post/russian-manoeuvrist-approach/.
44 Kalistratov, "K voprosu," 2024b.
45 Kalistratov, "K voprosu," 2024b.
46 Orlyansky, Gerasimov and Rudenko, "Problema manevra," p.42.
47 Nikolai Sokolov, "Analiz tendentsiy primeneniya bespilotnykh platform v spetsialnoy voyennoy operatsii" (Analysis of trends in the use of unmanned platforms in the Special Military Operation), *Voyennaya Mysl*, 8 (2024), p.59.
48 Sokolov, "Analiz tendentsiy," p.50.
49 Sokolov, "Analiz tendentsiy," p.59.
50 Sokolov, "Analiz tendentsiy," p.50.
51 Sokolov, "Analiz tendentsiy," p.53.





Baluyevsky noted the combination of a "huge number of constantly used intelligence and target acquisition tools, primarily unmanned and satellite."[52] The "unmanned revolution ensured unprecedented transparency of the battlefield."[53] It was not only the sensors, however, but the volumes and speed of intelligence and reconnaissance that accounted for the elimination of the "fog of war." Sensors and the ability to process their data "speed up the processes of target designation and decision-making" in the kill-chain.[54]

The transparent battlefield posed a significant challenge to Russian operational art. Borsolyuk stated that it required "an immediate increase in efforts to significantly boost the capabilities of unmanned systems and other robotic systems" based on AI, as well as cost-efficient means to counter UAVs.[55] It also required other adaptations. For instance, Colonel General Aleksandr Romanchuk, head of ground forces at the Combined Arms Academy, and Colonel Alexei Shigin, professor at the operational department of the same academy, argued that in the transparent battlefield, it was essential to disperse forces, increase camouflage and fortify command posts as well as weapons, ammunition and fuel storage.[56] Command posts required frequent movement in order not to be struck. The transparent battlefield notably increased the need to avoid stereotypical activity and to confuse the opponent by using false targets and new imitation devices.[57]

The use of Starlink's satellite internet service allowed Ukraine to make use of the data collected. Starlink became "a key combat control and data transmission system for the Ukrainian armed forces, propelling them into the 21st century."[58] This allowed Ukraine to operate "anywhere." It could distribute information and control vehicles in a manner that "even the U.S. military expected to receive no earlier than the mid-2030s."[59] With Starlink, the sensors, internet connectivity and the command systems turned "every combat unit and every weapon … into a network-centric one capable of real-time target designation, guidance and adjustment."[60] In effect, the Ukrainian side managed, according to Pukhov, to turn ordinary weapon systems into high-precision ones, and to gain temporary fire superiority in late 2022.[61]

The networked system was something that the professors of the National Information Centre viewed as the implementation of NATO's concepts and doctrine, which placed primary emphasis on "high-precision weapons, integrated with reconnaissance means … to the full depth of the enemy's operational formation."[62] As a result, manoeuvrability was impaired in the present and expected to be reduced even more in the short-term future. They noted that

52 Baluyevsky, "SVO i revolyutsiya."
53 Baluyevsky, "SVO i revolyutsiya."
54 Baluyevsky, "SVO i revolyutsiya."
55 Borsolyuk, "Nekotorye faktory," p.43.
56 Aleksandr Romanchuk and Alexei Shigin, "Perspektivy povysheniya effektivnosti armeyskikh oboronitelnykh operatsiy" (Prospects for increasing the effectiveness of army defensive operations), *Voyennaya Mysl*, 4 (2023), p.24.
57 Romanchuk and Shigin, "Perspektivy povysheniya," p.24.
58 Pukhov, "From 'Special' to 'Military.'"
59 Pukhov, "From 'Special' to 'Military.'"
60 Pukhov, "From 'Special' to 'Military.'"
61 Pukhov, "From 'Special' to 'Military.'"
62 Orlyansky, Gerasimov and Rudenko, "Problema manevra," p.42.

"continuous optical-electronic and radar reconnaissance by foreign states of territory adjacent to the Russian Federation, to a depth of up to 400 km, ensures the disclosure of the location and nature of military formations."[63]

These new technologies impact the Russian understanding of future war in several ways. Colonel General Vladimir Zarudnitsky noted that the rapid development in science and technology would lead "to a rapid 'revolution' in the means of military violence with a shift in emphasis towards non-contact confrontation using high-precision weapons."[64] Zarudnitsky argued that "robotics and autonomous systems are currently becoming key means of conducting armed confrontation."[65] He believed that in the near future, we should expect an intensive robotization and an even more widespread use of unmanned aerial vehicles. Ultimately, these would "significantly affect the future structure of the armed forces in high-tech military states."[66]

Similarly, Baluyevsky believed that "in the coming years, tens and hundreds of thousands of small unmanned aerial vehicles will be involved in the battlefield" and that it will be an enormous task to combat them.[67]

Zarudnitsky singled out AI as a critical area of improvement. One particular concept of interest concerns swarming. Kalistratov emphasized that with the help of AI, strike drones would be used in the near future in the form of swarms. This method would increase their effectiveness "many times over."[68] Another new concept concerns the use of unmanned ground vehicles (UGVs). Sokolov noted that even though they could perform fire roles, their main promise regarded logistics.[69] A third example of practical AI applications was put forward by Lieutenant Colonel Stanislav Ryzhikov at the Military Engineering Academy. He observed that mine-clearing during the SVO was done by hand but noted that AI-assisted robots could soon overtake this task.[70]

These trends will lead to significantly reduced time parameters. At the same time, there will be a greater need to centralize and automate command and control into a networked and autonomous control system within a single information-control environment. The main features of future wars, for Tanenya and Vdovin, were: the application of hybrid methods; massive use of robotic systems; weapons based on new physical principles and AI; and dispersed, distributed and decentralized means of destruction of forces.[71] Overall, they saw both the networking of military operations and the development of new and advanced weapon systems, including UAVs, as critical to achieving superiority over an enemy.

It is clear that there is a fundamental shift taking place in Russian understanding of strategy and military art. The rapid development in unmanned drones and sensor capabilities is challenging the foundation of old concepts. As admitted by Kalistratov, this was not envisioned by Russian military science before the war, and there is now a far-reaching process to develop new solutions and concepts. The advent of drones has provided three main benefits: strike capabilities, sensor capabilities and a cost-efficient mass. These will require new organizational, technical and conceptual solutions.

Conclusions and implications for NATO

The key figures in the Russian military-theoretical debate are undergoing a fundamental rethink of their strategy and technology. The most striking finding is the renewed appreciation for positional warfare in the Russian debate. This goes against the pre-war concept of active defence, which emphasized manoeuvres to move away from positional defence. It also represents a shift in Russian military-theoretical discussions, which have long been inspired by Western warfare over the last decades. This in particular includes the 1991 Gulf War as well as the 2003 Invasion of Iraq, which were conducted at a very quick pace of manoeuvre with superior C4ISR complexes and long-range strikes.

The war in Ukraine is a peculiar case for Russian theorists. While it is the most recent and largest application of military force in over half a century, it is not the main war they are preparing for, i.e. a war with NATO. As a consequence, there is a duality in the way lessons about the use of drones and the transparent battlefield are incorporated into Russian discussions of future war. There is still an awareness that a war with NATO would look very different from the current war. The Russian leadership is mentally preparing for a war in which NATO would act more like Israel did against Iran in June 2025 than like a large ground-heavy army such as Ukraine's. Nonetheless, the lessons and experiences from Ukraine heavily shape the understanding of future war.

Manoeuvre is not forgotten among Russian theorists, but it seems that new capabilities and concepts are required to be able to break the positional deadlock. It is notable that positional warfare is now treated as a fact,

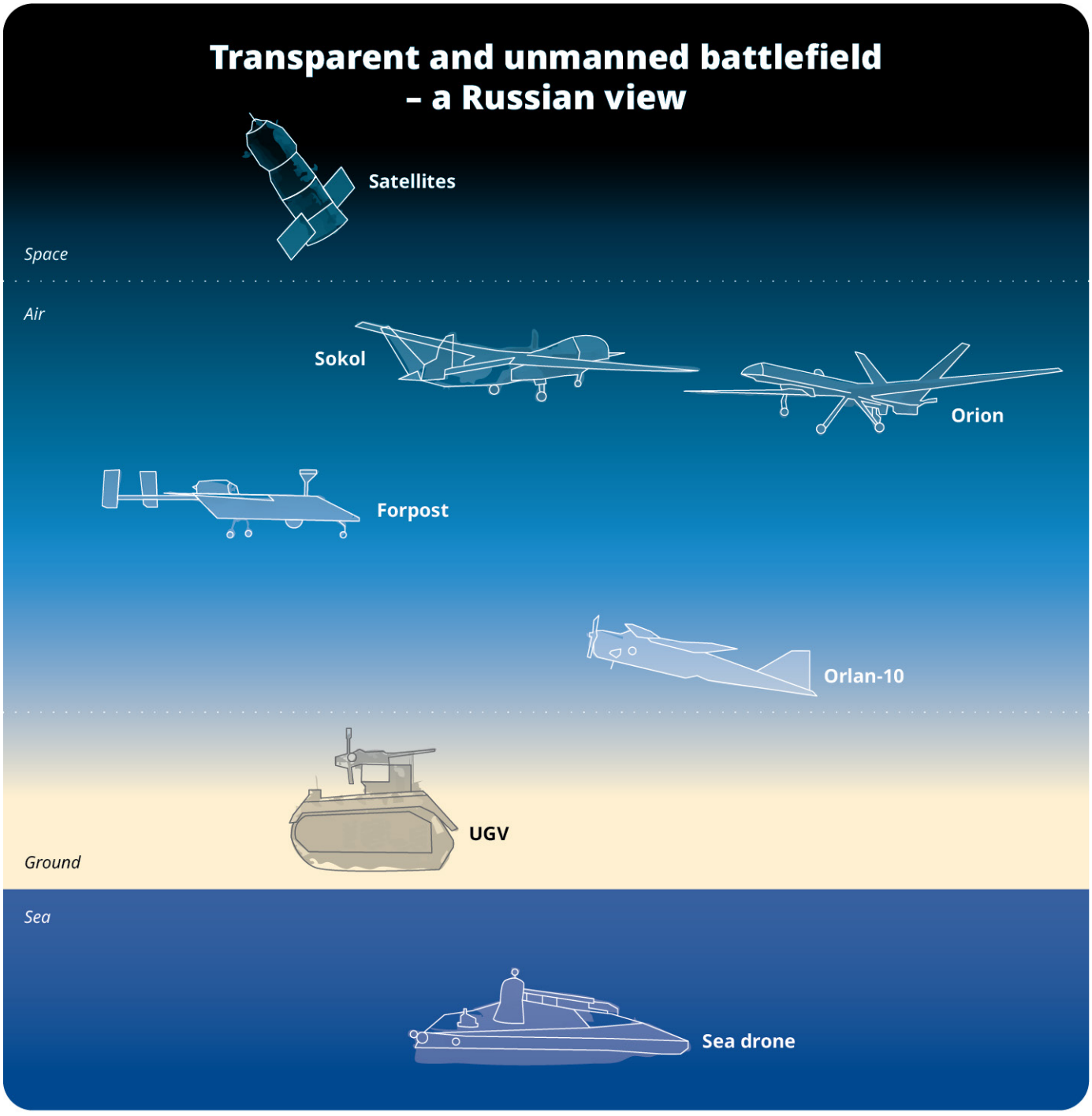
63 Orlyansky, Gerasimov and Rudenko, "Problema manevra," p.46.
64 Vladimir Zarudnitsky, "Sovremennye voyennye konflikty v kontekste formirovaniya novoy geopoliticheskoy kartiny mira" (Modern military conflicts related to the emerging geopolitical worldview), *Voyennaya Mysl*, 11 (2023), p.10.
65 Zarudnitsky, "Sovremennye voyennye konflikty," p.11.
66 Zarudnitsky, "Sovremennye voyennye konflikty," p.11.
67 Baluyevsky, "SVO i revolyutsiya."
68 Kalistratov, "K voprosu," 2024b.
69 Sokolov, "Analiz tendentsiy," p.57.
70 Stanislav Ryzhikov, "Napravleniya razvitiya teorii i praktiki preodoleniya minno-vzryvnykh zagrazhdeniy na osnove opyta, poluchennogo v sovremennykh voyennykh konfliktakh" (Directions for the development of the theory and practice of overcoming minefields based on the experience gained in modern military conflicts), *Voyennaya Mysl*, 4 (2024), p.58.
71 Tanenya and Vdovin, "Transformatsiya vooruzhennogo," p.41-42.

whereas manoeuvre warfare is more of an aspiration. The transparent battlefield and the current circumstances have led to a renewed appreciation for attrition over destruction, and for defence over offence. However, Russian theorists are working hard to come up with ways to overcome these circumstances.

What is lacking from the Russian debates of future war is a discussion of the opposite dynamic in the long-range strike campaigns. At the moment of writing, Russia is conducting a strategic bombing campaign against Ukraine with heavy use of fairly cheap long-range drones (Geran/Shahed), glide bombs and missiles that often have to be countered by more expensive air defence missiles. In other words, in the strategic bombing campaign, offensive actions are cheaper and more effective than defensive ones.

The key driver of the Russian debates on strategy is technological innovation. This includes in particular the massive proliferation of drones and the variety of sensors that create a transparent battlefield. There, old concepts are losing their relevance. One point featured in the Russian discussions is the difficulty to concentrate troops and achieve surprise, which are fundamental tenets of the manoeuvre warfare concept. Russian theorists and strategists note how the Ukrainian armed forces – with Western backing – have managed to adapt to this environment. By feeding data gathered from the sensors into an integrated combat management system, the Ukrainian side is believed to have turned ordinary conventional weapons into networked high-precision systems.

Herein lies a critical takeaway for decision-makers and practitioners in NATO: the Russian leadership seeks to emulate the Ukrainian success by creating their own networked military. By combining conventional and long-range weapons with quicker command and control cycles, Russian theorists believe they can overcome the positional deadlock. In other words, success in the



transparent battlefield is dependent on a more effective reconnaissance-strike complex. This is supported by the proliferation of sensors from drones and space and by automating command and control functions. In turn, more effective long-range strikes at a more rapid pace can break down enemy defences to the point where manoeuvre warfare becomes possible again. Such a networked military was already an objective of the New Look reforms in 2008, but these efforts fizzled out after the change of defence minister in 2012.

As always, it is important to mind the gap between theory and practice in the Russian Armed Forces. When the war in Ukraine started, the Russian Armed Forces quickly reverted to the traditional concepts that they had previously sought to root out, such as positional warfare. At the same time, the Russian Armed Forces are only now starting to implement the network-centric military in earnest, with progress in dynamic targeting, enough long-range strikes and better C2 processes. The Russian military will be much more proficient operating a network-centric military after three and a half years of fighting than after three decades of theorizing. The innovations Ukraine has brought to the battlefield are copied and employed at scale.

While an observer of the war in Ukraine will see Russian T-62 and T-72 tanks, designed in the 1950s and 1960s, the Russian analysis of the war sees decidedly modern capabilities. There is a critical focus on how the battlefield is becoming transparent due to sensors everywhere and how drones are providing cheap mass precision strike competencies. One critical enabler is AI.

AI is the foundation to improve the effectiveness of small and cheap drones and the software component that ties them together. AI is also key to strengthening the sensor network through automated analysis. As the decision-making cycles in modern war keep getting shorter, automation is important in all domains. For this purpose, the Russian MoD created a new AI department in 2022. The head of the department, Colonel Vasily Yelistratov, noted that AI would soon be "present in all weapons, especially high-precision ones and ground-, air-, and sea-based weapons systems."[72] AI is seen as critical to shortening the kill-chain but also solving other complex tasks, such as UAV swarming to saturate air defences, or using UGVs for CASEVAC and mine-clearing.

Similarly, the public became aware of a new "Rubikon" Centre for advanced unmanned technologies in August 2024, when Defence Minister Belousov visited. The Centre is an instrument to pioneer Russian drone capabilities by bringing together the best operators from the front to develop technologies, tactics and training.[73] It has already had an effect on the battlefield by enabling specialist drone units that target Ukrainian drone operators and nullify Ukrainian advantages.[74]

The answer for Russian strategists on how to be successful in modern war is half-old and half-new. The old answer is massive fires in a network-centric military, which has been a topic of debate since the early 1990s but is only now starting to be implemented. The new answer is that even the former Chief of General Staff sees the tank as dead and is calling for a massive application of drones, AI as well as new sensors and ISR as the way forward. This has already resulted in organizational change, an increase in production and new pioneering concepts.

NATO member states will face a Russian military that is accustomed to the transparent battlefield and is experimenting with mass precision strikes and AI-enabled capabilities to overcome problems. This is the key topic of Russian thinking on future war and what NATO countries need to prepare for.

72 Tass, "Russian defense ministry introducing AI technologies in army," 25 August 2022, https://tass.com/defense/1497995.

73 Tass, "V Minoborony sozdali tsentr perspektivnykh bespilotnykh tekhnologiy 'Rubikon'" (The Ministry of Defence has created the "Rubikon" Centre for promising unmanned technologies), 11 October 2024, https://tass.ru/armiya-i-opk/22099195.

74 David Kirichenko, "Fibre-optic drones reshape Ukraine's technological war," The Lowy Institute, 6 August 2025, https://www.lowyinstitute.org/the-interpreter/fibre-optic-drones-reshape-ukraine-s-technological-war.

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