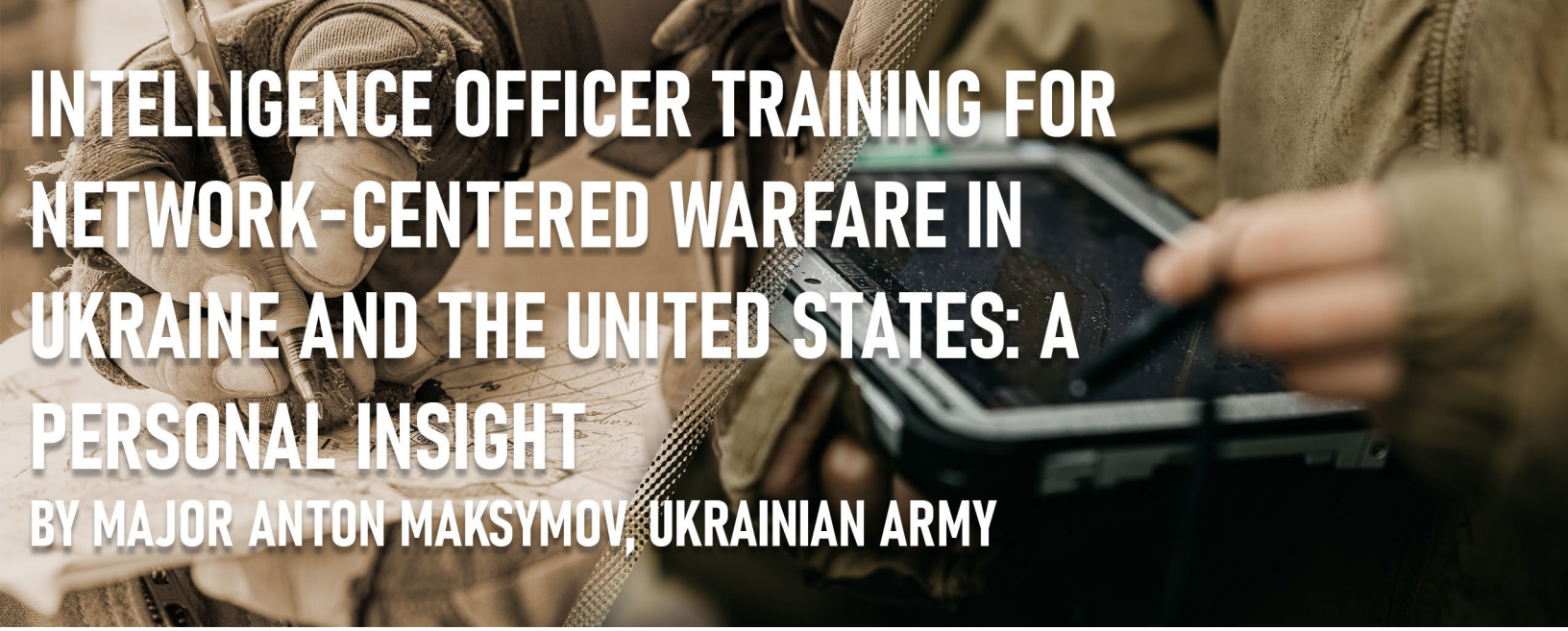

INTELLIGENCE OFFICER TRAINING FOR NETWORK-CENTERED WARFARE IN UKRAINE AND THE UNITED STATES: A PERSONAL INSIGHT

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Introduction

Russia's full-scale invasion of Ukraine in February 2022 marked a key moment in modern military history, creating new opportunities to study the evolving nature of warfare in general and, more specifically, methods for teaching tactical intelligence. What both the Kremlin and some Western democracies had initially expected to be a quick, victorious campaign for the Armed Forces of the Russian Federation has instead become a prolonged war of attrition, turning the battlefield into a real-world testing ground for new military technologies, doctrines, and operational adaptations. Tactically, among the most significant developments has been the transformative role of reconnaissance and strike-capable unmanned aerial vehicles (UAVs), Starlink satellite internet terminals, and battlefield management systems. These technologies have revolutionized the dynamics of war, challenging traditional force structures. Simultaneously, the conflict has elevated the importance of several key areas: the rapid collection, processing, exploitation, and dissemination of intelligence; the application of electronic warfare and artificial intelligence (AI); and the ability to adapt quickly to new circumstances.

In early April 2022, just as Russian forces were forced to retreat from the Kyiv region after suffering heavy casualties, the author of this article was in a forest gluing together a large-scale tactical map. This was part of his training as a junior S-2 officer in a newly formed mechanized brigade. Days were filled with building elaborate PowerPoint presentations, establishing a mock S-2 section with an ancient field telephone to receive reports from the mock observation post, recording received reports in a logbook, calculating Blue Force-to-Red Force ratios in Microsoft Excel, coloring acetate overlays, and other similarly consequential analog tasks.

As the war progressed, the unit completed its formation, and almost immediately, orders came to relieve the battle-hardened 54th Mechanized Brigade in one of the front-line's most volatile areas in just three days. On arriving at the 54th's command post, the S-2 section of the rookie brigade experienced something not unlike what a group of cavemen might feel if they suddenly found themselves aboard a spaceship. Massive screens lined the walls, some showing live video feeds from UAVs, while others displayed high-resolution digital maps with clusters of markers indicating enemy objects and activities. Transcriptions of intercepted radio chatter streamed non-stop in dedicated WhatsApp groups. Personnel moved and spoke to one another quickly, coordinating responses and updating incoming data in real time. The newcomers had 72 hours to catch up and take over the mission. They failed on so many levels.

The Problem

Over the course of the Russo-Ukrainian War, every warfighting function had to adapt its tactics to a transparent battlefield, where massed forces could be easily detected and targeted. The most dramatic changes, however, occurred in tactical intelligence, whose methods and functions have seen unprecedented transformation over a very short period. As the pace of operations and decision making continues to accelerate, driven by increasingly automated, AI-supported intelligence, surveillance, target acquisition, and reconnaissance processes, it is clear that near-peer warfare will never again look as it did in 2021.

When people sign up for driving school, they do not expect to start with horseback riding lessons just in case their car breaks down or runs out of gas. Instead, the instructor teaches them how to drive a modern vehicle, most likely with an automatic transmission, but it's not a bad idea to learn how to drive a stick shift, too. The same reasoning should apply to military intelligence (MI) training. Mounted scouts for intelligence collection have long since been replaced. Instead, radars, satellites, machine vision drones, and a multitude of other sensors, interconnected within a single command and control system, shape the battles of today and tomorrow. Preparing officers for a war of the past means preparing them for defeat, but militaries still do, and not only in Ukraine.

A look at the cutting-edge unmanned systems supporting Ukraine. On the left, the tube-launched Switchblade 300, a lightweight "kamikaze" drone used for precise strikes against personnel and light vehicles. On the right, the versatile ALTIUS-600, which can be launched from the ground or air to perform surveillance, electronic warfare, or kinetic attacks. Both systems were included in United States aid packages to enhance Ukraine's ability to counter Russian forces.[1] (Left photo: U.S. Marine Corps; Right photo: U.S. Army)

Since 2022, the Armed Forces of Ukraine have trained at combat training centers in European countries; however, many of the military personnel who trained abroad noted that they were preparing for a war of the past—a war without drones, based on NATO scenarios from Iraq and Afghanistan, conflicts in which reconnaissance and strike UAVs were not yet prevalent. In a 2025 article for BBC Ukraine, one Ukrainian sergeant noted, "They want us to go in tanks and Humvees right to the trench. Well, we told them that it doesn't work that way anymore. You put on a camouflage suit or an anti-thermal cloak to be as invisible as possible, and you go to the position on foot."[2] Similarly, in survival classes, platoon instructors demonstrated how to navigate the terrain using paper maps. In over three and a half years of practical combat operations, however, soldiers never had to do this—because all the maps were on their phones or tablets.[3]

The Way Forward

According to the *Army Futures Command Concept for Intelligence 2028*, MI training must shift toward developing the cognitive skills Soldiers will need for complex, high-speed, multidomain operations. To keep pace with the changes in modern warfare, MI schools must develop and regularly update structured plans to modernize officer training, integrate digital technologies, and adapt to evolving battlefield realities. These plans should focus on transitioning from analog methods to advanced digital situational awareness systems, enhancing AI integration, and implementing realistic, scenario-based training that prepares officers for current and future conflicts with peer or near-peer adversaries.[4]

The most significant changes in modern warfare that require MI training adaptation fall into four categories: the transparent battlefield, greater use of mass-precision strikes, sensor-strike synchronization at the brigade and battalion levels, and the increasing use of AI. The following sample plan translates these requirements into actionable steps:

- **Transition to digital battlespace management systems.** Replace analog mapping processes with a unified digital platform to improve speed, collaboration, and data processing accuracy. This will require formal instruction on digital mapping tools, shifting the focus from basic map reading to advanced data visualization and analysis within digital environments. A unified digital platform for mission analysis, mapping, modeling, wargaming, and intelligence collection will enable centralized data management and instant dissemination across all planning and execution phases. Analog map-reading, acetate overlays, and compass navigation should remain, but only as a critical backup for operating in electronically denied environments.
- **Incorporate updated enemy doctrine and tactics.** Training must reflect both current and anticipated enemy tactics, moving beyond generic threat models to specific, real-world threats. In addition to analyzing historical data, it is important to include modern conflicts, adversary behavior, and adversary decision-making processes to develop predictive intelligence skills. Collecting and disseminating the latest information on adversary capabilities is crucial to ensure the curriculum stays up to date with real-world threats.
- **Prepare for a transparent battlefield.** It is critically important that officers train to operate in an environment where both sides utilize strike drones against targets like vehicles, command posts, and logistics centers located as far as 20 to 25 kilometers behind the front line. In this operational environment, virtually all forces are vulnerable to persistent surveillance and rapid precision strikes. Training must focus on the coordinated use of friendly small unmanned aircraft systems for intelligence, surveillance, target acquisition,

reconnaissance, and electronic warfare protection, as well as on effective dynamic targeting with reconnaissance-strike complexes. Troops must understand the importance of dispersion, deception, cover, and concealment to increase survivability.

- **Integrate AI tools.** AI is crucial to managing the potentially overwhelming volume of intelligence data and to enhancing decision making speed. Officers, especially, should learn about the capabilities and limitations of AI and machine learning technologies in intelligence operations. Specific training on AI-powered tools for processing vast amounts of signals intelligence and geospatial intelligence data, such as speech-to-text transcription and automatic equipment identification, will allow analysts to extract critical information quickly.

Implementing these changes in MI officers' training programs will help deliver timely, relevant intelligence to commanders and ultimately enhance the Army's capacity for effective decision making.

Conclusion

History has shown that the first battle is often the most consequential, and those who fail to adapt early pay the highest price. Unprepared intelligence sections may not have time to recover in combat, which is why incorporating the steady flow of observations from the Russo-Ukrainian War into MI officers' training must be a top priority for any ambitious military force. This war is still far from over, so these adaptations are just steps in what must be a continuous process of preparing to win the first battle of the next conflict.

Endnotes

1. Chris Gordon, "Cutting-Edge Drones Headed to Ukraine in Latest US Aid," *Air & Space Forces Magazine*, February 26, 2023, https://www.airandspaceforces.com/cutting-edge-drones-headed-to-ukraine-in-latest-us-aid/.

2. Viktoria Kalimbet, "'Методички НАТО більше не працюють'. Чому на полігонах Польщі українських військових не навчали воювати дронами," ['NATO's methods don't work anymore'. Why weren't the Ukrainian military trained to fight with drones at Polish training grounds], BBC News Ukraine, November 17, 2025, https://www.bbc.com/ukrainian/articles/ce3xe35zl6po.

3. Ibid.

4. Army Futures Command (AFC), AFC Pamphlet 71-20-3, *Army Futures Command Concept for Intelligence 2028* (AFC, 2020), https://api.army.mil/e2/c/downloads/2021/01/05/26b729a6/20200918-afc-pam-71-20-3-intelligence-concept-final.pdf.

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