

## Ukraine Takes the Fight to Russia's Doorstep

by Ekaterina Zolotova - September 13, 2024

A little over a year since two suicide drones first tried to reach the Kremlin, Ukrainian drone strikes deep inside Russian territory are now a regular aspect of the conflict between Russia and Ukraine. On Sept. 1, residents of a small town on the Volga River, 150 kilometers (90 miles) north of Moscow, woke to a bright glow near one of central Russia's largest power plants. The fire's apparent cause was a low-flying Ukrainian drone, captured in videos shared online, that had somehow avoided the fate of 158 others that Russian forces reportedly shot down. The incident was replayed on Sept. 10, when Russian air defenses reportedly intercepted 144 drones across nine regions but missed at least one that set a house ablaze in Ramenskoye, a few dozen kilometers southeast of the capital.

For two and a half years, residents of Moscow and other large Russian cities followed the conflict in Ukraine from a distance. Their sense of detachment faded, however, when Ukrainian forces breached the Kursk region and drone attacks started inflicting damage – and even a few casualties – deep inside Russia. Since its much-publicized successes using Turkish-made Bayraktar TB2 drones against invading Russian forces early in the war, Kyiv has invested heavily in building a domestic drone industry. New Ukrainian-made drones – like the Lyutyy ("Fierce"), which resembles the TB2 but has a range of 1,000 kilometers compared with the Turkish drone's 150 kilometers – can fly farther, do more damage and better withstand Russia's electronic countermeasures. As Kyiv's drone attacks continue to grow in frequency and scale, they threaten to shift Russian public sentiment as the conflict drags on.





## Ukrainian Drones Shot Down Over Russia, Sept. 10, 2024

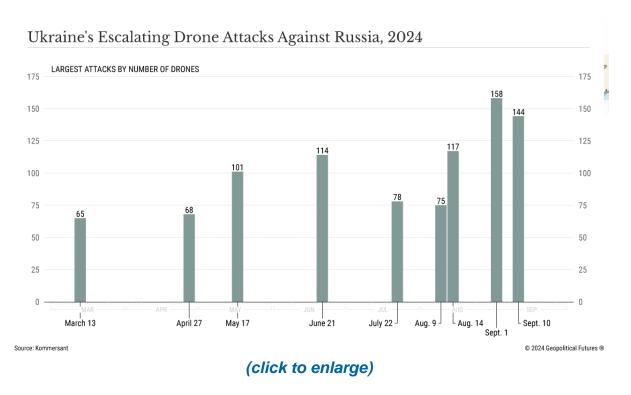
## **Drone Arms Race**

Advances in Ukraine's drone capabilities have exceeded expectations in the Kremlin, where the unpredictability of the drone strikes is a major cause of frustration. Even the launch sites of some of the drone attacks remain a mystery to Russian intelligence officials. For example, some question whether the drones that targeted the Olenya airfield in the Russian Arctic on Sept. 12 originated in Finland. Others may have been launched from Russian territory by Ukrainian sympathizers.



Whatever the case may be, the drone war is a rare arena where Russia might even be at a disadvantage, qualitatively and quantitatively, relative to its much smaller neighbor.

One reason is the belligerents' unequal access to foreign technology and financing. Boosted by Western gear, know-how and investment, Kyiv has at its disposal a variety of drones whose ranges exceed 700 and even 1,000 kilometers. According to its minister of strategic industries, Ukraine plans in 2024 to produce more than 10,000 medium-range attack drones and more than 1,000 drones with a range exceeding 1,000 kilometers. Supplementing Ukraine's arsenal are foreign imports, such as those from Germany's Quantum Systems, which has supplied Kyiv with drones since May 2022 and plans to deliver 500 this year.



Russia, by contrast, is hobbled by sanctions and restricted access to Western components, without which it is difficult to modernize older models or produce new ones at the cutting edge. The Kremlin continues to build backdoors to acquire Western technology and support the development of homegrown substitutes, while simultaneously focusing on its Unified Air Defense System, which is intended to protect Moscow and other densely populated areas. Russia has had some success, producing 4,000 first-person view drones daily in August, expanding drone pilot training and stimulating the creation of start-ups. However, because of Western sanctions and scarce resources, it will likely be some time before Russia can deploy at a significant scale the most advanced



capabilities, such as interceptor drones and heavy drones capable of carrying payloads in excess of 150 or 200 kilograms (330-440 pounds).

## Morale

Amid Ukraine's increasingly frequent drone attacks and its ground operation in Kursk, questions about the durability of public support for the war are an even more serious issue for the Kremlin. Although Russian air defenses have largely prevented drones from reaching critical infrastructure and Moscow, concerns are rising among city residents about potential future damage from drone strikes or fragments of downed drones. Anxiety levels spiked after the attack on the Kursk region, with 90 percent of respondents in a Levada Center survey expressing concern about the attack and nearly two-thirds saying they were very worried.

Consideration among Ukraine's allies about permitting strikes deeper into Russia is also a growing concern, especially as Russians fear that such moves might be accompanied by more direct Western involvement and the targeting of civilian infrastructure. The Kremlin's framing of the increased drone attacks and Kursk offensive as psychological pressure aimed at diverting Russian forces from Donbas has not reassured everyone. The continued attacks and perceived lack of a strong response from the Kremlin have led some residents to consider relocating to safer areas, while others question the government's ability to secure remote regions, its transparency regarding the state of the conflict and its overall trustworthiness.

Russian forces have halted and partly rolled back Ukrainian advances in Kursk, and Russian air defenses are still repelling most of Ukraine's drone attacks. Still, Ukraine's drones are becoming more numerous and more advanced – with longer ranges, smaller radar signatures and larger payloads – posing a threat that the Kremlin may not be able to downplay for much longer. Most important, a decline in public support could seriously hinder Russia's ability to outlast Ukraine and the West and achieve its political and military objectives.

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