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EUROPE

US turns to Ukraine's 'battle lab' for drone lessons

Ukrainian soldiers in civilian clothing work on a Techno Taras interceptor drone during training at an undisclosed location about an hour outside Kyiv, Ukraine, on July 21, 2026. (Phillip Walter Wellman/Stars and Stripes)

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STARS AND STRIPES

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KYIV, Ukraine — The idea that a drone could be used to shoot down another drone seemed fanciful — even "mad" — when Ukrainian engineers began trying to turn it into reality two years ago.

They tinkered for about six months before producing the Sting, a 3D-printed, bullet-shaped quadcopter that became the first known interceptor to ram into and destroy a Russian Shahed-type drone last spring.

The technology and other systems like it ushered in a new era in air defense and now account for the majority of Shahed interceptions in the Russia-Ukraine war, said Mike Orliuk, a spokesman for Wild Hornets, Sting's manufacturer.

Today those innovations, battle-tested by Ukrainian troops, are making their way into the hands of American service members.

In the Middle East, U.S. troops have been equipped with the same Merops counter-drone system used in Ukraine to defend against attacking Iranian Shahed drones.

The system was developed by an American company that drew on the experiences of Ukrainian fighters at the front and downed thousands of Russian drones before being deployed to the war against Iran.

Such technological advancements, forged over four years of rapidly evolving war in Ukraine, are increasingly in demand as the U.S. and other countries prepare their armed forces for drone-dominated warfare.

“Ukraine has transformed from a security assistance recipient to a producer of next-generation battlefield tech,” Matthew Whitaker, the U.S. ambassador to NATO, declared in a video last month.

The country, he said, was now “the battle lab of the future.”

A Sting interceptor drone flies during a demonstration at an undisclosed location in Ukraine, July 14, 2026. The high-speed quadcopter destroys targets by colliding with them and detonating its explosive payload. (Phillip Walter Wellman/Stars and Stripes)

Drone dominance program

The U.S. is looking to tap into that expertise as it contends with Iranian drone strikes on its bases in the Middle East and confronts a world in which smaller adversaries can inflict outsized damage with cheap unmanned systems.

The Pentagon this month will host a second competition round for its $1 billion Drone Dominance Program in an effort to amass more than 200,000 small attack drones by 2027. Several Ukraine-linked companies are vying for orders.

Some have already inked deals in the U.S. F-Drones announced last month that it had delivered the first Ukrainian drones approved for export to America, shipping 2,000 exploding first-person-view drones to the U.S. military.

At Wild Hornets, a Ukrainian company that grew out of a group of volunteer engineers, employees are focused on meeting high demand from the Ukrainian military, Orliuk said. Everything produced is sent to its warfighters.

The company recently showed off the Sting at a testing ground an hour outside Kyiv, Ukraine's capital. More than a year after its debut, the drone consistently ranks as troops' most-used interceptor, Orliuk said, citing government data.

The challenge now is making it fast enough to bring down Russia's new jet engine-powered versions of the Shahed. They can reach top speeds of more than 300 mph while the Sting flies up to nearly 200 mph.

"There are some tricks to intercept them, but it's quite hard, to tell the truth," Orliuk said.

Unmanned systems are developing so quickly that instructors at the Serhiy Prytula Charity Foundation's military training courses say they are learning alongside the drone operators they are teaching.

Roman, 52, marveled at the speed of iteration as he stood on a grassy field preparing to train a handful of Ukrainian soldiers on fixed-wing drones. Prior to all-out war, he had seen drones mostly as children's playthings.

"But after the first one took to the air, everything changed drastically," he said. "No one knew that these drones would serve as our third eye in the sky and that they'll help us carry out combat missions and bombing and deliver water and get supplies to our positions."

A Ukrainian soldier who uses the call sign Supra is photographed during drone training about an hour outside Kyiv, Ukraine, July 21, 2026. (Phillip Walter Wellman/Stars and Stripes)

One of his students, a 24-year-old soldier who goes by the call sign Supra, saw the remaking of modern warfare up close.

He was studying at the National Guard Military Academy of Ukraine when Russia invaded in 2022 and was rushed into service, taking up position as a commander of an anti-tank missile platoon.

War in that first year resembled World War II, with tank battles and artillery barrages. The widespread introduction of drones in 2023 put tanks at risk, reducing their role on the battlefield and rendering his unit essentially obsolete, Supra said.

“The anti-tank guys — we reassigned them all because it’s just not effective anymore,” he said. “Right now, there’s small-arms firefights going on, but everyone’s mostly holed up in their bunkers. Only drones are flying around. That’s it.”

Supra, too, has retrained, first as an operator of quadcopter drones and now on drones that resemble model airplanes and are “a bit more complicated but more interesting,” he said.

He recently spent 10 days learning to fly the Techno Taras, a fixed-wing platform that is launched into the air from a catapult and is designed to destroy high-value Russian reconnaissance drones.

It typically costs about $1,600 and shoots down drones such as the Zala-16, valued at about $70,000, and the Merlin, which is estimated to cost $300,000.

Ukrainian Techno Taras drones, photographed at an undisclosed location near Kyiv on July 21, 2026, are interceptors designed primarily to destroy Russian reconnaissance drones. (Phillip Walter Wellman/Stars and Stripes)

‘We need to do the same thing’

U.S. military officials have been taking note of such favorable economics. Army Secretary Dan Driscoll in April touted the cost effectiveness of using $15,000 Merops anti-drone systems against Shaheds that cost around $50,000.

The Army rushed to purchase Merops at the start of the war in Iran as U.S. forces and their allies in the Middle East expended expensive air defense missiles, such as the $4 million Patriot interceptor, to combat Iranian drones.

Of all the military services, the Army was the first to see the war in Ukraine as a learning opportunity, said Bryan Clark, a senior fellow at the Hudson Institute. It initially sought insight into Russian infantry tactics and then followed the rise of drones.

The Navy took notice when Ukrainian drones drove Russia’s hard-hit Black Sea fleet into retreat. This summer, the U.S. used unmanned boats for the first time to rescue stranded helicopter pilots at sea and attack an Iranian naval port.

“I think the Ukraine war really highlighted to the U.S. that the technologies the U.S. had been playing with for about a decade actually were useful and valuable and could be decisive in battle,” Clark said.

Ukraine is also pioneering innovations of its own.

Driscoll has praised its “absolutely incredible” Delta battlefield management and awareness system for integrating real-time data from drones, sensors, satellites, troops and other sources into a unified network.

“Ours does not,” he told lawmakers in May.

Another platform, Sky Map, caught the attention of the Pentagon’s counter-drone Joint Interagency Task Force 401. The system synthesizes data from radars, video feeds and thousands of acoustic sensors to detect incoming drones.

“We need to do the same thing,” Army Brig. Gen. Matt Ross, the task force’s director, told reporters after visiting Ukraine earlier this year.

The Defense Department last week unveiled an online marketplace where military personnel and foreign militaries can quickly evaluate and buy counter-drone systems. Ukraine’s Brave1 website works similarly, allowing combat units to browse and purchase drone models.

Both aim to bypass traditional military bureaucracy to keep up with fast-changing capabilities. The Ukrainian military’s decentralized procurement process lets it speed weapons to the front and evolve alongside technology.

“Ukraine’s cutting-edge drone use, from the technology to their concepts for using them, have substantially bolstered arguments for defense reform in the United States,” said Michael Horowitz, a former defense official in the Biden administration.

Some worry that the U.S. military is learning and adapting too slowly, pointing to the Defense Department’s enduring reliance on expensive legacy weapons systems and the Trump administration’s rocky relationship with Ukraine.

Sen. Mitch McConnell of Kentucky, the Republican chairman of the Senate’s defense appropriations subcommittee, chided the Pentagon in May for not sending more senior officials to the country for firsthand observation.

“The path to drone dominance runs through partnership with the world’s foremost experts in drone warfare, the Ukrainians,” he said.

In Ukraine, service members say drones hold the key to their survival against a much larger force. Several of them recently rallied in support of an ousted defense minister who envisions a near future in which wars are fought by robots.

“Drones now occupy a preeminent place in armed conflict,” a 29-year-old soldier who goes by the call sign Mage said at a protest in Kyiv. “And that will only continue.”

Protesters gather in Kyiv on July 20, 2026, to demonstrate against President Volodymyr Zelenskyy’s decision to remove Mykhailo Fedorov as defense minister. Fedorov had become closely associated with expanding Ukraine’s use of drones, which protesters argued could reduce the military’s reliance on troops on the battlefield. (Phillip Walter Wellman/Stars and Stripes)

DRONESFEATURED ON INSTAGRAM

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