

# Ukraine's Forces Get Boost From Arsenal of Old-Fashioned Artillery

Combined with drones, artillery has been highly effective against the Russian military, with the U.S. and others rushing more howitzers to Ukraine.

By Marc Champion and Aliaksandr Kudrytski  
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In the mythology of Ukraine's resistance against Russia's invading forces, light-footed infantry armed only with shoulder-fired anti-tank missiles from the U.S. and Europe have played the starring role. Yet that's only part of a story where old-fashioned artillery is helping create decisive wins.

Artillery's less articulated but central function explains why the U.S. and other nations that collectively make up Ukraine's arsenal are now putting so much emphasis on providing 155mm howitzers — in the case of the U.S., at least 90 of them, worth as much as \$750,000 a piece, plus 184,000 rounds of ammunition.

Traditional firepower, supported by drones that allow for pinpoint targeting, is set to remain dominant in the next phase of the war, along a 300-plus mile (482 km) front in the eastern Donbas region. Even before the arrival of the more sophisticated, often longer-range canons now being fed into the Ukrainian war effort, artillery was key.

The success was on show in Bucha before the town outside Kyiv in Ukraine's north became infamous for the brutality of its Russian occupation. An iconic image of Russian tanks destroyed on a main street seemed to sum up the success of Ukraine's David versus Goliath tactics.



Destroyed Russian tanks in Bucha, Ukraine, on April 4. Photographer: SOPA Images/LightRocket

It's true that just two dozen Ukrainian volunteers, armed with Kalashnikovs, hunting rifles and Soviet-era grenade launchers managed to slow the column by destroying the lead vehicle in an ambush, according to Vasyl Shcherbakov, who helped organize Bucha's defense.

The tiny force couldn't take on the entire Russian column of more than 30 tanks and fighting vehicles, but the delay they caused provided time to alert an artillery battery on the outskirts of the capital. That unit sent drones up over the column to provide targeting coordinates while it moved through the town. As Russian tanks began to pass out of Bucha, the artillery let fly with devastating accuracy.

"All those little groups played a role, but most convoys were destroyed by artillery," said Andriy Zagorodnyuk, a former Ukrainian defense minister.

The firepower now being sent by the U.S. and allies is a huge plus, but not even close to what Ukraine needs to prevail, according to Zagorodnyuk.

“It certainly won’t be a game changer if they don’t provide a lot more,” he said, adding that Ukraine’s existing artillery burned through 100,000 rounds of ammunition in a single month. “That’s why there is a lot of diplomatic work going on right now to get them to go further.”

The howitzers pledged by the U.S., for example, would make up more than a full artillery brigade, according to Mykola Bielieskov, a military analyst at Ukraine’s National Institute for Strategic Studies, a government think tank. Yet Ukraine will need as many as six new brigades worth to overcome Russia in Donbas.

In his view, Western media and analysts, as well as some defense officials, overestimate the importance that anti-tank missiles supplied by Europe and the U.S. have had on the conflict. The same goes for the importance of air power.



A banner with an image known as 'Saint Javelin' depicting a saint holding a Javelin portable anti-tank missile system, at a check point in Kyiv, Ukraine. Photographer: Rodrigo Abd/AP

“If it were not for artillery it would have been a kind of agony for Ukraine around Kyiv, not a win,” said Bielieskov. He argued Ukraine faces the risk of a slow but inevitable loss in the next stage of the war unless it gets enough artillery.

Some Western observers agree, including Michael Kofman, an analyst of Russia’s military at the Virginia-based CNA think tank. “Artillery has been much more decisive in this war than given credit,” he says. “Ukraine needs not only ammunition for existing systems, but also to begin adopting Western artillery systems for which ammo and parts are more available.”

Russia did at first attempt to dominate the skies, so it could repeat its strategy of the Syrian war of flattening cities from the air. But with independently confirmed losses of 25 fixed wing aircraft and 38 helicopters in Ukraine so far, its tactics have changed.

“Artillery is a slow but cheap version of an air force,” said Pavlo Narozhnyy, a commodities trader who moved to the Carpathian mountains in western Ukraine to organize supplies for Ukraine’s limited arsenal of long-range artillery, part of a crowd-funded logistics system that also has enabled Ukraine’s resistance.

To keep the guns working, Narozhnyy supplies everything from power cables, to spare parts for their aging tow trucks, to weather stations critical for improving accuracy.

“They sent us Javelins first because they didn’t trust Ukraine would hold up,” Narozhnyy said. The U.S. is sending artillery now, Narozhnyy believes, because that collapse didn’t happen and Washington sees the ability of Ukraine’s organized defense to survive.



Ukrainian artillery hits Russian troop positions near Lysychansk in the Luhansk region, Ukraine, on April 12. Photographer: Anatolii Stepanov/AFP/Getty Images

Artillery, said a Moscow-based military analyst who asked not to be named due to restrictions in Russia on media freedom, was also decisive in the brief 2020 conflict between Azerbaijan and Armenia. Commentary in the U.S. and elsewhere focused on Turkish-made drones that Azerbaijan's forces used to destroy Armenian tanks from the air. But long-range artillery directed by surveillance drones did most damage, the person said.

Armenia lacked drones and its Soviet-era artillery was still operating the same way as in World War II, marking out squares on a map to saturate with fire in the hope of eventually hitting the opposition, according to the analyst. The more targeted Azerbaijani fire took a terrible toll among trained Armenian artillerymen.

Russia often still uses those old school methods, said the analyst. Although it has drones, they use Russia's generally less accurate Glonass positioning system, rather than the U.S. GPS satellite network for targeting, while the drones and Russian artillery have weaker connectivity, he said.

It may yet be enough, especially if Russian forces can break through before Ukraine takes delivery of the more modern, longer range artillery that's on its way — a supply line Russia is working hard to interdict with missile strikes.



Pzh 2000 gun. Photographer: Sean Gallup/Getty Images Europe

At the start of the war, the Russian army had close to 5,000 artillery pieces in service and more than twice that number in storage. Ukraine had fewer than 2,000 in total, according to the annual Military Balance report produced by the London-based International Institute for Strategic Studies.

Once the new guns arrive, though, Ukraine will gain a qualitative edge. That's in part because the towed M777, one of the U.S. howitzer models

to be delivered, has a maximum range of 24km to 30km depending on the munitions used — more for the latest models — outstripping most Russian equivalents. It also has a better capability for digital targeting, meaning fewer shots fired to strike a target.

State of the art German-made Pzh 2000s are also on their way from the Netherlands. A more than 60-tonne, armored, self propelled and self loading 155mm howitzer, the gun has integrated GPS, weather and other systems as well as a maximum range in excess of 60 km with rocket assisted shells. That could allow it to fire out of range of Russia's artillery.

On top of these, Ukraine is getting single-use attack drones from Poland and the U.S. that can perform much the same function in destroying artillery positions. That's a weapon Russia does not yet possess and, without access to Western components, is unlikely to produce quickly.

Artillery, numbers and even technology aren't everything. Intangibles such as motivation, training and planning have been at least as important in determining the course of the war to date, according to Zagorodnyuk, the former defense minister.

"The way we look at this is that war is a competition of capabilities," he said. "One army has one advantage and the other has a different one, and when these clash the better side wins. It is just the combination that determines how it works."

That outcome, according to Zagorodnyuk, is impossible to predict.

— With assistance by Volodymyr Verbyany, and Daryna Krasnolutska