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How are 'kamikaze' drones being used by Russia and Ukraine?

🕒 3 January

Russia-Ukraine war



REUTERS

| Wreckage of a Shahed-136 (or Geranium-2) kamikaze drone shot down by the Ukrainians

Russia is planning to "exhaust" Ukraine with attacks using Iranian-made drones, President Volodymyr Zelensky has said.

Ukraine's government and Western intelligence agencies say Russia has been using **Iranian-made Shahed-136 drones in the conflict since autumn last year.**

Also called the Geranium-2 by Russia, it has explosives in a warhead on its nose and is designed to loiter over a target until it is instructed to attack.

The Shahed-136 has a wingspan of about 2.5m (8.2ft) and can be hard to detect on radar.

Iran's government says **it supplied "a small number" of drones to Russia before the war.**

But the US and the European Union have accused Iran of sending regular deliveries of drones to Russia, and **the EU has imposed sanctions in response.**



Source: Defence Express, Getty Images

BBC

Defence experts think Russia may be using Shahed-136 drones rather than cruise missiles for air attacks because they are relatively cheap - about \$20,000 (£17,800) each.

What damage have kamikaze drones done in Ukraine?

Russia was first reported to have used a Shahed-136 drone on 13 September, attacking military targets in the Kharkiv region in the east of the country.

Since then, Russia has made repeated attacks with drones on both military and civilian targets in the areas of Kyiv, Odesa and Mykolaiv.

Ukraine says Russia launched more than 80 Iranian-made Shahed drones on 1 January and 2 January, but claims to have shot all of them down.

Ukrainian armed forces have used small arms fire, heavy machine guns, portable anti-air missiles and electronic jamming devices to try and shoot down drones.

This can be difficult when they are sent in large numbers, or "swarms".

However, Ukraine says its air defences have managed to shoot down over 80% of all the drones Russia has sent against it.

Has Ukraine used 'kamikaze' drones?

The US has said it is supplying Ukraine with 700 of its Switchblade kamikaze drones, but it is not known whether any have yet been used.

Experts say Ukraine used kamikaze drones of some sort last autumn to attack a Russian military base in western Crimea, an airbase near Sevastopol, and ships in Sevastopol harbour.

Russia says Ukraine also used kamikaze drones in December for three separate attacks on airbases at Saratov and Ryazan - both hundreds of miles inside Russian territory.

What other drones do Ukraine and Russia have?

Ukraine's main military drone is the Turkish-made Bayraktar TB2. It is about the size of a small plane, has cameras on board, and can be armed with laser-guided bombs.

A Bayraktar drone was used in the attack which **sank the Russian warship Moskva in the Black Sea** in April 2022.

Russia also uses the smaller, more basic Orlan-10, which has cameras and can carry small bombs.



Source: BBC Research, Getty Images

BBC

How have military drones been used?

For both sides - Russia and Ukraine - drones have been effective for locating enemy targets and guiding artillery fire toward them.

In the past, observers might have had to spend 20 or 30 minutes pinpointing a target, says Dr Jack Watling, defence analyst at the Royal United Services Institute.

Now, however, he says: "Russian forces can bring their guns to bear on the enemy within only three to five minutes of an Orlan-10 drone spotting the target."

Dr Marina Miron, defence researcher at Kings College London, says drones have allowed Ukraine to stretch its limited forces.



EPA

| Russian Orlan-10 drones can target artillery fire on enemy positions within minutes

The main problem in using military drones is that they are large and slow moving, and are easy to shoot down.

They are also expensive to replace - a single Bayraktar TB2 costs about \$2m (£1.7m).

How are non-military drones being used?

Both sides in the war - but especially Ukraine - have increasingly been using **small, cheap commercial models of drone** such as the DJI Mavic 3, which costs about £1,700.



Source: DJI, Getty Images

BBC

These can be fitted with small bombs, but are mainly used to spot enemy troops and to direct attacks.

However, commercial drones are much less capable than military ones.

For example, the DJI Mavic's total flying distance is only 30km, and it can only fly for a maximum of 46 minutes.

Russia is using electronic devices to counter them, says Dr Miron.

"Russian forces have the Stupor rifle, which shoots electromagnetic pulses," she says. This stops commercial drones from being able to navigate using GPS, she explains.

Russian forces have also used online systems, such as Aeroscope, to detect and interrupt communications between commercial drones and their operators.

These systems can cause a drone to crash or return to base, and can stop it sending back information.

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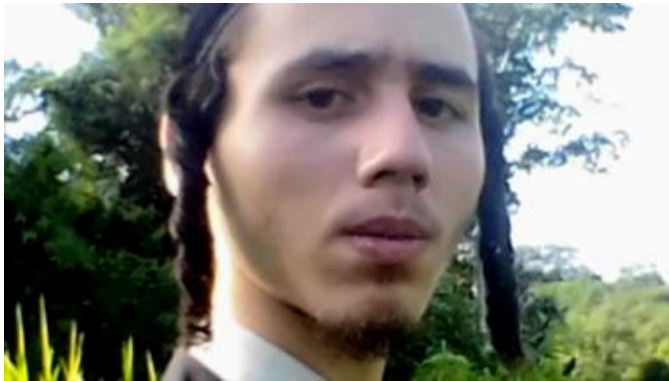
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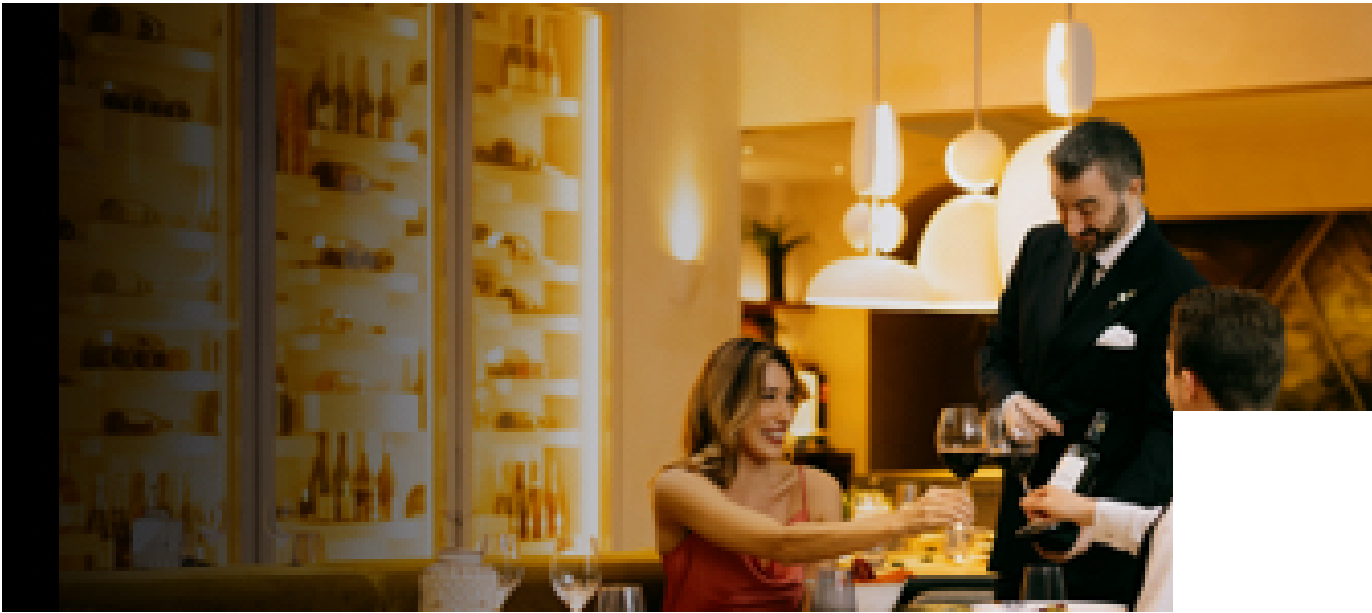
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