

New Russian weapon can travel at 27 times the speed of sound

December 27 2019, by Vladimir Isachenkov



In this photo taken from undated footage distributed by Russian Defense Ministry Press Service, an intercontinental ballistic missile lifts off from a silo somewhere in Russia. The Russian military said the Avangard hypersonic weapon entered combat duty on Friday. The Kremlin has made modernization of Russia's strategic nuclear forces one of its top priorities. (Russian Defense Ministry Press Service via AP)

A new intercontinental weapon that can fly 27 times the speed of sound became operational Friday, Russia's defense minister reported to President Vladimir Putin, bolstering the country's nuclear strike capability.

Putin has described the Avangard hypersonic glide vehicle as a technological breakthrough comparable to the 1957 Soviet launch of the first satellite. The new Russian weapon and a similar system being developed by China have troubled the United States, which has pondered defense strategies.

The Avangard is launched atop an intercontinental ballistic [missile](#), but unlike a regular missile warhead that follows a predictable path after separation it can make sharp maneuvers in the atmosphere en route to target, making it much harder to intercept.

Defense Minister Sergei Shoigu informed Putin that the first missile unit equipped with the Avangard hypersonic glide vehicle entered combat duty.

"I congratulate you on this landmark event for the military and the entire nation," Shoigu said later during a conference call with top military leaders.

The Strategic Missile Forces chief, Gen. Sergei Karakayev, said during the call that the Avangard was put on duty with a unit in the Orenburg region in the southern Ural Mountains.



In this photo taken from undated footage distributed by Russian Defense Ministry Press Service, an intercontinental ballistic missile lifts off from a truck-mounted launcher somewhere in Russia. The Russian military said the Avangard hypersonic weapon entered combat duty on Friday. The Kremlin has made modernization of Russia's strategic nuclear forces one of its top priorities. (Russian Defense Ministry Press Service via AP)

Putin unveiled the Avangard among other prospective weapons systems in his state-of-the-nation address in March 2018, noting that its ability to make sharp maneuvers on its way to a target will render [missile defense](#) useless.

"It heads to target like a meteorite, like a fireball," he said at the time.

The Russian leader noted that Avangard is designed using new composite materials to withstand temperatures of up to 2,000 Celsius

(3,632 Fahrenheit) resulting from a flight through the atmosphere at hypersonic speeds.

The military said the Avangard is capable of flying 27 times faster than the speed of sound. It carries a nuclear weapon of up to 2 megatons.

Putin has said Russia had to develop the Avangard and other prospective weapons systems because of U.S. efforts to develop a missile defense system that he claimed could erode Russia's nuclear deterrent. Moscow has scoffed at U.S. claims that its missile shield isn't intended to counter Russia's massive missile arsenals.



Russian President Vladimir Putin attends the State Council meeting on the agricultural policy at the Kremlin in Moscow, Russia, Thursday, Dec. 26, 2019. (Alexei Nikolsky, Sputnik, Kremlin Pool Photo via AP)

Earlier this week, Putin emphasized that Russia is the only country armed with hypersonic weapons. He noted that for the first time Russia is leading the world in developing an entire new class of weapons, unlike in the past when it was catching up with the U.S.

In December 2018, the Avangard was launched from the Dombrovskiy missile base in the southern Urals and successfully hit a practice target on the Kura shooting range on Kamchatka, 6,000 kilometers (3,700 miles) away.

Russian media reports indicated that the Avangard will first be mounted on Soviet-built RS-18B intercontinental ballistic missiles, code-named SS-19 by NATO. It is expected to be fitted to the prospective Sarmat heavy intercontinental ballistic missile after it becomes operational.

The Defense Ministry said last month it demonstrated the Avangard to a team of U.S. inspectors as part of transparency measures under the New Start nuclear arms treaty with the U.S.

The Russian military previously had commissioned another hypersonic weapon of a smaller range.



Russian President Vladimir Putin delivers his speech at a gala on the occasion of the New Year at the Bolshoi Theater in Moscow, Russia, Thursday, Dec. 26, 2019. (Mikhail Metzel, Sputnik, Kremlin Pool Photo via AP)

The Kinzhal (Dagger), which is carried by MiG-31 fighter jets, entered service with the Russian air force last year. Putin has said the missile flies 10 times faster than the speed of sound, has a range of more than 2,000 kilometers (1,250 miles) and can carry a nuclear or a conventional warhead. The military said it is capable of hitting both land targets and navy ships.

China has tested its own hypersonic glide vehicle, believed to be capable of traveling at least five times the speed of sound. It displayed the [weapon](#) called Dong Feng 17, or DF-17, at a military parade marking the

70th anniversary of the founding of the Chinese state.

U.S. officials have talked about putting a layer of sensors in space to more quickly detect enemy missiles, particularly the hypersonic weapons. The administration also plans to study the idea of basing interceptors in space, so the U.S. can strike incoming enemy missiles during the first minutes of flight when the booster engines are still burning.

The Pentagon also has been working on the development of hypersonic weapons in recent years, and Defense Secretary Mark Esper said in August that he believes "it's probably a matter of a couple of years" before the U.S. has one. He has called it a priority as the military works to develop new long-range fire capabilities.

© 2019 The Associated Press. All rights reserved.

Citation: New Russian weapon can travel at 27 times the speed of sound (2019, December 27) retrieved 20 March 2024 from <https://techxplore.com/news/2019-12-russian-weapon.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
