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Implications of the Successful Russian Sarmat ICBM Test

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In May 2026, President Vladimir Putin announced that Russia had conducted a successful test of the Sarmat “super heavy” ICBM. According to Putin:

First, it is the most powerful missile system in the world, comparable in strength to the Voevoda missile system [SS-18] previously in service, which, as mentioned earlier, was developed during the Soviet era. The combined yield of the payload is more than four times greater than that of any existing Western counterpart.

Secondly, and most importantly, the missile is capable of travelling not only along a ballistic trajectory, but also along a suborbital one. This, and this is the third point, extends its operational range to over 35,000 kilometres while simultaneously doubling the accuracy. Finally, it makes the missile capable of penetrating any missile defence systems that are in service or in development at this time. The Sarmat will indeed be placed on combat duty by the end of this year.¹

The Russian Sarmat announcement was part of a pattern of recent nuclear threats. As Paul K. Baev wrote, “Moscow’s recent nuclear brinkmanship includes missile tests, military exercises and another Oreshnik strike near Kyiv.”² This is happening in the context of increased Ukrainian battlefield successes.



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The day after the Sarmat announcement, Putin visited the Moscow Institute of Thermal Technology (MITT), which manufactures the Topel M Variant 2 ICBM (SS-27 Mod 1), the Yars ICBM (SS-27 Mod 2) and the Bulava-30 SLBM. Putin said these missiles “...now form the backbone of Russia’s nuclear triad.”³ At MITT, Putin also indicated that, “Advanced and truly revolutionary for that time missile technology was conceived and mastered here; technology that, without exaggeration, transformed the entire history of the 20th century, while forging the Motherland’s nuclear shield.”⁴ (MITT produces offensive nuclear missiles, not “nuclear shields,” impenetrable or otherwise.) Putin added, “We will certainly continue to modernise and develop our strategic nuclear forces, creating missile systems with greater combat power, capable of defeating all current and future missile defence systems.”⁵ Putin does love his nuclear missiles.

As Putin indicated, Russia will probably deploy the Sarmat ICBM by the end of this year. However, it will take a few more successful tests before Russia can have real confidence in its reliability, particularly for its main mission, which is counterforce strikes against U.S. military forces. Putin also said it was twice as accurate as its predecessor (the SS-18).⁶ This appears credible since the SS-18 Mod 5 dates from the 1980s. Its deployment would represent a substantial improvement in Russian damage expectancy against hard targets.

The first two Sarmat tests, silo ejection and first stage ignition, were successful as were the first and last full Sarmat missile flight tests. However, between the first and the last test, there were three or four launch failures.⁷

President Putin’s statement that, “The combined yield of the [Sarmat] payload is more than four times greater than that of any existing Western counterpart,” appears to be accurate if one assumes he was talking about the U.S. Trident II SLBM, which can carry eight of the high-yield W88 warheads. (U.S. Trident IIs do not carry eight warheads because they have been downloaded to comply with the now expired New START Treaty.) Putin’s claim also seems consistent with the 2019 statement of the Russian Defense Ministry that the Sarmat ICBM “...will be able to carry up to 20 warheads of small, medium, high power classes.”⁸ Russian and Western sources suggest that this means 100 to 150 kilotons, 300 to 350 kilotons and 800 kilotons, respectively.⁹ This is credible in light of reports that the older (dating from the late 1970s) and much less capable SS-18 Mod 4 could carry 14 warheads.¹⁰ Additionally, Russia says that the Sarmat has 10,000 kg of throw weight.¹¹ This would certainly allow for the possibility of arming the Sarmat with 20 warheads. The frequently quoted report that the Sarmat can carry 10-15 warheads dates back to a Russian source which described an earlier concept for the Sarmat that had half of its launch weight.¹² The Sarmat exploits the fact that the New START Treaty eliminated all of the START Treaty prohibitions against new and improved types of heavy ICBMs.

The number of warheads the Sarmat can carry suggests that Russia was not planning a strategic nuclear force limited by arms control constraints.¹³ Russia was spending heavily to create a capability that could not be feasible under an arms control regime with equal or greater limitations than contained in the New START Treaty, which expired earlier this year and which was violated by Russia.



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Putin's statement about a 35,000-km range for the Sarmat, an implied threat against the entire world, is clearly a reference to its Fractional Orbital Bombardment (FOB) capability and its ability to carry hypersonic boost glide vehicles.¹⁴ General Anthony J. Cotton, then-Commander of U.S. Strategic Command, stated that its orbital capability may go beyond a "partial" orbital capability.¹⁵ (Bear in mind that placing nuclear weapons into orbit violates the Space Treaty.) FOBs permit surprise nuclear electromagnetic pulse attacks which could have devastating effects.

Colonel General Sergei Karakayev has stated that the Sarmat can carry several Avangard hypersonic glide vehicles.¹⁶ Moreover, FOBs permit launching attacks on the United States by flying over the South Pole. When the Clinton Administration eliminated the most important U.S. early warning radars pointing south, it created a vulnerability that could be exploited. Putting the Sarmat payload into a low orbit can evade the remaining U.S. early warning radars by under flying them. This permits a Sarmat surprise attack against critical U.S. military and nuclear deterrence facilities such as the U.S. National Command Authority, bomber bases and submarine bases, under the guise of a satellite launch.

In 2019, President Putin started to threaten attacks against the U.S. national leadership in his annual State of the Nation address to the Russian Duma when he said that, if the United States deployed missiles to Europe, "Russia will be forced to create and deploy weapons that can be used not only in the areas we are directly threatened from, but also in areas that contain decision making centres for the missile systems threatening us," and that their decision-makers should "...calculate the range and speed of our advanced weapon systems."¹⁷ (At the time, the deployment of missiles to Europe was being discussed in the context of Russian violations of the INF Treaty.)

Unless the United States goes ahead with the Golden Dome missile defense system, it will not have any capability to confirm an attack over the South Pole before impact or to engage Sarmat warheads that are injected into a low earth orbit and then de-orbit to attack their targets.¹⁸

Russia has said it intends to deploy at least 46 Sarmat ICBMs.¹⁹ This was the reported number of operational Russian SS-18 heavy ICBM silos before SS-18 silo conversion to the Sarmat began.²⁰ Deploying 46 Sarmats with 20 high-yield warheads each would permit two-on-one warhead targeting of all U.S. Minuteman ICBM silos. Putin has said the Sarmat is twice as accurate as its predecessor.²¹ However, the Sarmat will have no significant surprise attack capability against U.S. ICBM silos by flying over the South Pole since it cannot carry enough warheads and its accuracy would probably be less than on a ballistic trajectory. The number of warheads Russia can put into orbit will only be a fraction of what it can deliver using ordinary ballistic missile trajectories.

The Sarmat's capability against the new Sentinel ICBM silos using high-yield nuclear warheads on a ballistic trajectory will depend on their hardness. If the silos are constructed from the new super concrete, they could be very survivable. If the United States deploys the Golden Dome missile defense, Putin's ability to threaten large and effective pre-emptive attacks could be neutered.



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On the other hand, Russia may be planning more than 46 deployed Sarmats. In 2019, Putin was told that Russia would deploy 20 regiments of Sarmat, which is at least 120 launchers.²² This would likely require Sarmat to remain in production for at least 10 years. Unless Putin's war of aggression against Ukraine ends soon, 20 regiments of Sarmat are unlikely because of the poor state of the Russian economy. However, Putin appears to have no desire to end the war on the basis of the current line of engagement.

In December 2025, the Russian Defense Ministry revealed that the non-Ukraine war-related Russian military budget ("expenditures that are not directly related to the conduct of hostilities") was reduced only to 2.2 percent of Russia's gross national product.²³ Even with the priority Russia gives to nuclear weapons, this must hurt. Despite this, Putin is continuing Russia's nuclear buildup as a very high priority. Russia is expected to increase its ICBM force over the next decade.²⁴ Moreover, it may have covertly upgraded its ICBM and SLBM force, taking advantage of the lack of New START Treaty inspections since March 2020. The Sarmat makes no sense if it is assumed that Russia is limiting its nuclear forces to about 1,500 missile-delivered strategic nuclear weapons, the limit possible in the now defunct New START Treaty. The deployment of the Sarmat represents a major shift in Russian strategic nuclear force modernization. The main role of the Sarmat is large-scale nuclear warfighting. Significantly, it is much more expensive than any previous Russian ICBM. By contrast, the U.S. ICBM force dates back to 1970 and its successor program, the Sentinel ICBM, will not be deployed until the 2030s.

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⁴ *Ibid.*

⁵ *Loc. cit.*

⁶ "Statement by the President on the successful test launch of Sarmat missile," *op. cit.*

⁷ Pavel Podvig, "Successful test launch of Sarmat ICBM," *Russian Forces.org*, May 12, 2026, https://russianforces.org/blog/2026/05/successful_test_launch_of_sarm.shtml.

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¹⁰ Mark B. Schneider, *How Many Nuclear Weapons Does Russia Have?* (Fairfax, VA: National Institute Press, 2023), pp. 65-66, <https://nipp.org/wp-content/uploads/2023/10/IS-566.pdf>.

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¹² Viktor Litovkin, "New Russian 'Sarmat' ICBM will be like 'Son of Satan,'" *Russia Beyond the Headlines*, September 21, 2016, https://www.rbth.com/economics/defence/2016/09/21/new-russiansarmat-icbm-will-be-like-son-of-satan_631869.

¹³ Schneider, *How Many Nuclear Weapons Does Russia Have?*, op. cit., p. xvii.

¹⁴ "Presidential Address to the Federal Assembly," *Kremlin.ru*, March 1, 2018, <http://en.kremlin.ru/events/president/news/56957>.

¹⁵ Anthony J. Cotton, *Statement of Anthony J. Cotton, Commander, United States Strategic Command* (Washington, D.C.: House Armed Services Committee, Subcommittee on Strategic Forces, March 8, 2023), p. 8, <https://www.stratcom.mil/portals/8/Documents/2023%20USSTRATCOM%20Congressional%20Posture%20State%20ment.pdf?ver=bFFdbYI2D5Tju5nPNsebbw%3D%3D>.

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