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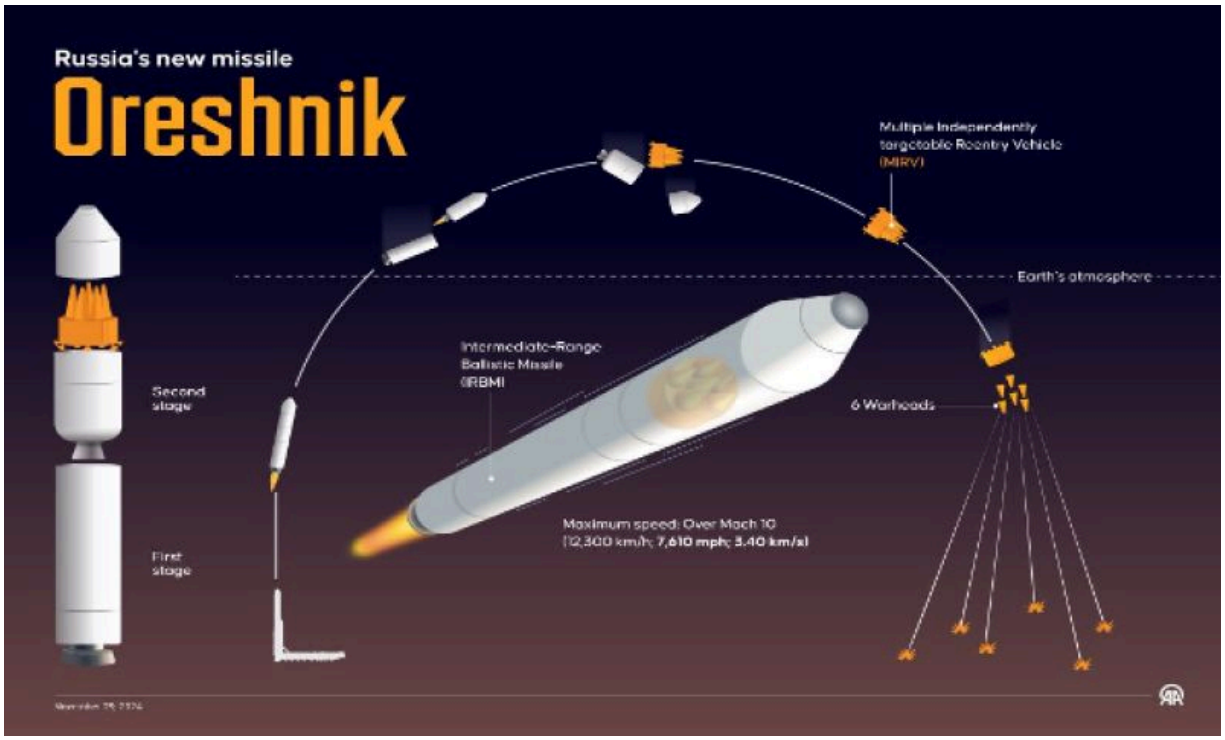

The Oreshnik Factor

Oreshnik is not only a new weapon; it also clearly shows the real capabilities of the Russian military-industrial complex. The secrecy surrounding it scares the West. There has never been a greater urgency for arms control.

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Wed 26 Nov 2025

No weapon in modern history has captured the public imagination like the Oreshnik missile, which took the world by storm when Russia fired one in combat against a Ukrainian target on November 21, 2024—just over a year ago to the day.

Our blog reported about this event in our article "Putin checkmates NATO – reason to be hopeful?"

Hazlenut

The Oreshnik—or Hazlenut in Russian—lived up to its name, the fiery streaks of its multiple warheads, each armed with multiple cluster munitions—mimicking the Hazlenut tree in full bloom as they impacted the territory of the Pivdenmash (formerly Yuzmash) factory, a major defense industrial facility that produces a variety of ballistic missiles and related technology.

THE MOMENT OF IMPACT

Fog of War

Since the announcement of the Oreshnik's inaugural combat employment by Russian President Vladimir Putin, the world is abuzz with speculation about the missile's origins, true capabilities, and whether it was a one-of-a-kind propaganda event. The Russian government hasn't helped the situation, shrouding the Oreshnik in a cloud of mystery while making repeated public announcements about its operational status and capabilities.

"No weapon in modern history has captured the public imagination like the Oreshnik missile"

While it is normal for nations to maintain appropriate levels of secrecy regarding the technical and operational characteristics of a new weapons system, the degree to which Russia has obscured any discernable evidence of the Oreshnik's existence

is unprecedented. Beyond simple statements as to its existence, and the now-famous video of the Oreshnik's six warheads impacting the Pivdenmash facility, there is no publicly available evidence of its existence. This is in sharp contrast to how Russia has unveiled the other weapons that have become associated with its strategic nuclear deterrence—the Sarmat and Yars intercontinental ballistic missile (ICBMs), the Avangard hypersonic reentry vehicle, the Burevestnik nuclear powered cruise missile, and the Poseidon nuclear powered underwater drone.

Russian Transparency

In every case mentioned above, the Russian government has provided video and imagery—and in some cases schematics and technical drawings—of the weapons systems described. President Putin has openly stated that Russia did nothing to shield the successful flight test of the Burevestnik cruise missile from NATO intelligence gathering ships operating in the area, Russian television has filmed the production halls of the factories that produce these weapons, showing examples in the various stages of assembly, and the Russian Ministry of Defense regularly releases video of the operational tests of its strategic weapons.

But when it comes to the Oreshnik—nothing. Efforts made by foreign and Russian journalists alike to see the Oreshnik firsthand have been repeatedly rebuked by the Ministry of Defense (I have personally submitted two requests), and the Russian government has put the word out to the various experts and discussion groups that the Oreshnik is off limits when it comes to public discourse.

Strategic Secrecy

According to US and Ukrainian sources (both of which are circumspect, given their past history of deliberately distorting the truth for propaganda purposes), the Oreshnik missile is not—as claimed by President Putin—a new missile, but rather a derivative of an existing missile under development by the Russian ministry of defense. The US claims that the Oreshnik is a modification of the RS-26 Rubezh missile, which was mothballed in 2017 by the Russian government due to concerns over compliance with existing treaty obligations—the RS-26's range straddled the upper and lower limits of the INF and New START treaties, respectively, making classification a challenge, and compliance monitoring problematic. As for the Ukrainians, they have stated that the Oreshnik is a derivative of the Cedar (Kedr) ICBM which is in the early stages of development by Russia.

The reality is that in the case of Oreshnik, all three claims may possess some validity. What is likely is that the Oreshnik is a extensively modernized version of the RS-26 Rubezh that makes use of new components not available in 2017—including some components affiliated with the Cedar (Kedr) ICBM. The warhead design of the Oreshnik is completely new, incorporating new developments in heat-resistant ceramics and an advance multiple warhead dispensing mechanism developed for the Yars-M ICBM. Likewise, Oreshnik makes use of new solid rocket motor developments which incorporate new materials and stage design to provide increased acceleration and velocity altering capabilities designed to make interception during the launch phase difficult if not impossible. The Russian government has acknowledged the experimental status of the Oreshnik at the time of its operational "test" on November 21, 2024, helping feed western speculation that the Oreshnik was a "one off" weapon used by Russia for propaganda purposes and not readily replicated.

What we Assume

Russia has countered this narrative by declaring that the Oreshnik has been put into "serial production" and is currently entering "operational status." An Oreshnik missile regiment (nine launchers) has been allocated to the Belarus government, which has announced that this regiment will be operational by years end (indeed, commercial satellite imagery of a former Soviet-era missile base located south of Minsk shows that the facility is being brought back into operational status, ostensibly awaiting the arrival of the Oreshnik missile. In the most recent Zapad military exercises, conducted in October 2025, the Russian and Belorus militaries declared that the Oreshnik missile had been incorporated into its operational drills.

It is difficult to imagine a scenario where the Russian (and Belarus) governments would make such public announcements in support of a blatant falsification. The fact is that the Russian military industrial infrastructure is fully capable of viably producing the Oreshnik missile along the lines declared by the Russian government. The Moscow Institute of Thermal Technology (MITT, formerly known as the Nadaradze Design Bureau) is affiliated with all of the foundational missile systems that have been linked to the Oreshnik missile, and has a history of producing derivative missile systems on short notice in order to meet the operational requirements of the Soviet and Russian militaries. MITT maintains close and continuous relationships with the various design bureaus and production facilities associated with the components of the Oreshnik missile system, including launcher production, solid rocker fuel production, launch cannister manufacturing,

missile guidance and control, and warhead design and construction. Adapting this established supply chain to meet the needs of a new missile system is not stretch for MITT.

Moreover, MITT has a close and continuous relationship with the Votkinsk Factory, located in the city of the same name nestled in the foothills of the Ural Mountains, some 750 miles due east of Moscow. Votkinsk is home to the Votkinsk Missile Final Assembly Plant, which produced a wide range of missiles, including the Yars, Topol-M, Bulova, and the Rubezh and Oreshnik. The production halls affiliated with the manufacture of modern strategic missiles such as the Tars and Bulova have been recently filmed and broadcast on Russian television.

But the Ministry of Defense came back with an unequivocal "nyet" when a request was made to gain similar access to the Oreshnik production hall.

The Reason for Secrecy

Why the secrecy? The Russian government provided one reason, which appears quite reasonable—given the fact that the Oreshnik was used operationally against Ukraine, the Russian government is concerned that linking the Oreshnik to specific facilitates, production halls, and persons could provide the Ukrainians with information that could be used to target the individuals involved in the design, operation, and production of the Oreshnik. Given Ukraine's proclivity for carrying out targeted assassinations of Russian officials and military officers, this is an entirely credible position.

"But the Oreshnik is not simply another weapons system"

Operational Security vs. Geopolitical Reality

But the operational security issues must be balanced with geopolitical reality. As President Vladimir Putin has clearly stated, the Oreshnik missile exists only because the United States government withdrew from the INF treaty, which had banned missiles possessing the range of the Oreshnik (more than 1,000, and less than 5,500 kilometers.) Unlike the Yars and Bulova systems, which have been presented to US weapons inspectors as part of the New START on-site inspection

compliance verification mechanism), Oreshnik is covered by no treat limitations, and as such Russia is under no obligation to release any operational or technical information.

But the Oreshnik is not simply another weapons system that has been developed to sit on the shelf as a form of deterrence. The Oreshnik is the only strategic nuclear-capable missile to have been fired in combat, a terrible precedent which brings with it strategic uncertainty when assessing correlation of forces and strategic balance of power issues. The Oreshnik can employ both nuclear and conventional warheads. Meaning that by using the missile in combat, Russia has completely transformed conventional escalation models used to evaluate potential force-on-force scenarios between Russia and the West (the US and NATO). The divide between conventional and nuclear war was once discernable by the weapons systems involved. Now that the Oreshnik has been used in combat, this line has become blurred, meaning that the gap between conventional and nuclear war has become narrower, making cross-over scenarios more plausible.

The Russian development, use, production and operational deployment of the Oreshnik missile have destabilized Europe in a way that has not been seen since the deployment by the Soviet Union of the SS-20 intermediate-range missile in the 1970's and 1980's. The consequence of that deployment was the counter-deployment by the US into Europe of the Pershing II intermediate-range missile and the Tomahawk ground-launched cruise missile. The inherent instability created by the presence of these weapons put Europe on the brink of a nuclear war, a situation deemed by both the Soviets and the US to be unacceptably dangerous, leading to the signing and implementation of the INF treaty in 1987, banning all intermediate range missiles by both nations.

Today we see history repeating itself. The US is expected to match the Oreshnik's deployment by fielding its new Dark Eagle hypersonic intermediate range missile in 2026. The US currently has the capacity to deploy the ground-launched Tomahawk cruise missile to Europe. Russia has announced that it will by deploying new intermediate-range missiles in addition to the Oreshnik. Soon both Russia and Europe with find themselves in a situation where their major cities are but minutes away from nuclear annihilation. And any notion that a nuclear war could be limited to Europe is mooted by the fact that once a single nuclear weapon is launched against Russia, it will respond with the totality of its nuclear deterrence capabilities, striking targets in the United States and North America as well.

Necessity of Arms Control

There never has been a greater need for arms control than exists today. While Russia and the US are speaking about an extension of the New START treaty, there is no such dialogue taking place today about a similar treaty-based limitation of intermediate range missile systems. The mystery with which Russia has shrouded the Oreshnik missile only adds to the confusion and mistrust that already exists in the West. The need for clarity is absolute, if for no other reason than to help prevent the kind of mistakes, miscalculations, and misjudgments that can occur when an information vacuum exists. It is time for both Russia and the US to emerge from the shadows of obfuscation when it comes to intermediate range ballistic missiles and re-engage in serious arms control talks that can replicate the spirit on the 1987 INF treaty.

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