



INFORMATION SERIES

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Issue No. 512

January 13, 2022

Russia and Missile Defense: Toward An Integrated Approach

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Introduction

For much of the past twenty years, a broad consensus has existed across multiple administrations and Congress supporting the development, fielding and integration of missile defenses into the U.S. strategic posture. That consensus is oriented around two central policy goals. Fielding missile defenses to defend against emerging rogue state ICBM threats to the American homeland (defined today as North Korea and Iran); and the deployment of missile defenses to protect U.S. military forces abroad, as well as allies and partners throughout Europe, the Middle East, and Asia, against regional missile threats.

In recent years, the missile threat environment has become more dangerous. Both large powers and regional actors are expanding their capabilities, adding new technologically innovative types of missile systems to their arsenals, and integrating these offensive weapons "ever more thoroughly into their coercive threats, military exercises, and war planning."¹ In response to the growing threat to American security from these weapons, the United States is considering



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how best to improve and modernize its homeland and regional missile defenses to strengthen deterrence against missile attacks and, if deterrence fails, to provide protection from such attacks. Russia has reacted to this development by significantly escalating its opposition to U.S. missile defense systems, deployments and cooperative efforts with allies and partners. Russian officials argue that additional U.S. missile defenses will pose a threat to Russia's nuclear forces compelling Moscow to respond and inevitably provoking a "destabilizing" nuclear arms race.²

What is generally missing from the discussion and debate about Moscow's objections and the future of the U.S. missile defense enterprise is a more balanced and insightful appreciation of Russia's approach, past and present, to missile defense. This includes Russia's own enduring interest in a missile defense posture oriented around the nationwide integration of multiple capability sets including ballistic missile defense and air and passive defenses. Heightened attention to this would provide a greater understanding of how Russia views the benefits of missile defense in its strategy. In turn, this can offer a more informed basis for U.S. policymakers when assessing Russia's objections to U.S. missile defenses as "destabilizing." In short, a deeper understanding of how Russia views its missile defenses will not only produce a better appreciation of the broader aims of its defense strategy, but also clarify the policy choices facing the United States.

Foundations of Russian Missile Defense

For over seven decades, Russia has invested in developing, fielding, and more recently, modernizing a wide range of missile defense capabilities as one component of a strategic posture to assure its security and sovereignty. Throughout the Cold War and into today's era of renewed great power competition, Russia has remained committed to the continuous, if uneven, improvement of its missile defenses. Moscow's interest in missile defense dates back to the 1950s and the recommendations of the Soviet military leadership to mobilize the military-scientific and industrial capacity of the state to develop active defenses to counter U.S. ICBMs. Following several years of experimental work and testing, Moscow proceeded in 1959 with the development of a ballistic missile defense or Anti-Ballistic Missile (ABM) system known as the A-35.³ During the 1960s and 1970s, the Soviet Union carried out extensive development and testing on multi-stage ABM interceptors carrying nuclear warheads designed to destroy incoming ballistic missiles.⁴ The Soviets achieved a satisfactory level of operational effectiveness by 1977-78, and the ABM system was placed on combat duty around Moscow.

During this timeframe, the Soviet leadership also carefully considered the role of missile defense within a larger integrated system of strategic defenses designed to deter a nuclear missile attack and, if deterrence failed, to provide a measure of protection and damage limitation to the nation. Looking both to its past and future, the Russian Ministry of Defense summed up its decades-long approach as follows: "The main purpose of the missile defense system is to deter threats of use of missile weapons against Russia and to ensure the protection



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of state and military facilities, groups of troops, administrative and industrial centers, environmentally hazardous facilities and the civilian population from missile attacks.”⁵ This early doctrinal focus on protecting the Russian homeland, preserving the viability of the national leadership, and limiting, where possible, socio-economic damage from missile attacks, should not be surprising. Russia had recently emerged from World War II with losses exceeding 25 million. The principle of strategic defense of the homeland, comprised of layers of active and passive defenses, had become and would remain, an essential part of its approach to strategic security and warfare.

Towards Integrated Strategic Defense

Throughout the 1980 and 1990s, this doctrinal focus continued shaping Russia’s missile defense programs and posture as a whole. The evolution and expansion of strategic defenses focused on the development and integration of multiple weapon systems, platforms, and capabilities in support of the deterrence and protection/damage limitation missions.⁶ This took several forms. Most importantly, by 1989 Russia carried out a substantial modernization of its existing Moscow ABM system (A-35) – fielding a layered missile defense system, the A-135, based on more advanced technology. This included replacing the earlier generation of 68 nuclear-armed interceptors with two new types – one for engaging ICBM and SLBM warheads outside the atmosphere and a second to destroy warheads inside the atmosphere. The Russians also deployed new missile tracking and fire control radars to support the new interceptors.

Russia also invested substantially to build out additional layers of defenses to limit damage from enemy missile warheads and cruise missiles. It upgraded its nationwide strategic Surface-to-Air Missile (SAM) network, already consisting of hundreds of batteries of SA-2, SA-3, and SA-5 systems, with the large-scale introduction of the SA-10 system in the early 1990s. Along with enhancing Russia’s ability to degrade U.S. strategic nuclear bomber and cruise missile strikes, the SA-10s were assessed to have a “limited capability to intercept some [ballistic missile] reentry vehicles (RVs).”⁷ As part of a comprehensive strategic defense architecture, Russia expanded its passive defense programs. This included the construction of multiple command posts and communication facilities and relocation sites across Russia for key segments of the political and military leadership. Furthermore, they put in place measures to reconstitute the industrial base and protect the critical labor force in order to shorten the duration for post-conflict recovery.⁸ This layered approach recognized that no single component of defense can provide complete protection in warfare. Rather, Russia adhered to the strategic premise that weaving together multiple force elements to counter missile and air breathing threats can strengthen deterrence by complicating the adversary’s attack plans, in turn eroding his confidence in the successful execution of those plans. In the event deterrence fails, integrated strategic defenses offer the best prospect to defend the Russian state by limiting damage to its critical political, military and economic infrastructure.



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It is important to note that this buildout phase of Russia's homeland strategic defense posture *followed* the signing of the ABM Treaty by Washington and Moscow in 1972. The Treaty established deep quantitative and qualitative constraints on missile defenses. The purpose of these constraints was to codify U.S.-Soviet mutual vulnerability to attack by limiting any meaningful missile defenses to lessen the damage to each sides' homeland from nuclear missile strikes. By severely limiting missile defenses and leaving one's homeland vulnerable to missile attacks, the argument went, a *stable balance of mutual terror* would be achieved that would both strengthen deterrence of conflict and reduce the prospect of a costly arms race in defensive and offensive systems.⁹ However, it is evident from the broad set of active and passive defense capabilities developed and deployed throughout this time that the ABM Treaty did not fundamentally alter the trajectory of the strategic importance of protection/damage limitation in Soviet strategy. In the decades following the ABM Treaty, Moscow continued its pursuit of these goals through the further development of nationwide integrated air and missile defenses—including deployment of a prohibited missile defense radar at Krasnoyarsk—that should have been all but abandoned under a stable regime of mutual deterrence.¹⁰

Post-Cold War Adaptation

With the collapse of the Soviet Union, Russia persisted with its active defense efforts, even as it transitioned through the turmoil of the early post-Soviet period. Over the past decade, Russia's missile defense development and procurement rose as its post-Cold War economic circumstances improved. This occurred as Russia's approach to warfare and its implications for defending the homeland increasingly focus on the deterrence and warfighting advantages of more tightly integrating missile defenses with other capabilities, including offensive strike forces. In support of this goal, Russia reorganized key components of its armed forces. In December 2011, for example, Russia stood-up a new organization – the Aerospace Defense Troops – with the mission to strengthen the defense of Russia against a wider range of offensive missiles, including ballistic and cruise missiles. Then in August 2015, it created the Aerospace Forces by merging the Air Force and the Aerospace Defense Troops,¹¹ bringing together its military space operations, long range strike arm and missile defenses to support the mission of strategic aerospace operations to counter offensive missile strikes.¹²

Within this larger strategic framework, Russia is moving forward on the modernization of its missile defense enterprise with the testing of newer interceptors and development of associated modern fire control radars and ground- and space-based systems to detect and track incoming ballistic missiles. Over the last several years, Russia has conducted multiple tests of a new ABM interceptor “designed to defend the country against strikes by a potential enemy's aerospace attack weapons.”¹³ In support of the integrated Aerospace Force mission, Russia is also continuing to field more advanced regional missile defenses. This includes improvements to the S-300 and S-400 systems to defeat more sophisticated cruise missiles, hypersonic weapons, and short- and medium-range ballistic missiles. Also under development is the S-500 regional



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missile defense system which has “built in potential for future upgrades to intercept longer range systems,” including IRBMs and ICBMs.¹⁴ The central importance of integrating the full range of regional and strategic missile defense platforms in order to blunt an adversary’s ballistic missile, cruise missile and hypersonic threats, is reflected in the very foundation of Russia’s weapon system design philosophy. Many of the systems deployed or under development are fielded in integrated units that can launch a variety of interceptor missile types (both in terms of range and function) capable of destroying ballistic, cruise, and hypersonic missiles. Some reporting even suggests that newer systems such as the S-500 might also serve to “supplement” Russia’s ABM system in a layered missile defense configuration to counter ICBMs.¹⁵ Over the coming decade, these capability developments will operationally blend regional and strategic defensive weapons in a manner furthering a more seamless national air and missile defense architecture.

Conclusion

Russia’s deeply ingrained approach to strategic defenses continues to broadly guide its behavior today with respect to key organizational concepts (e.g., aerospace defense), weapons choices, forces, and operational plans. It reflects an enduring Russian doctrinal preference to take a more comprehensive view of strategic defense – one that is oriented around the integration of multiple systems in order to degrade an adversary’s capability to effectively strike with its offensive air and missile weapons.

Failure to appreciate the predisposition of Russian thinking on this matter obscures a realistic understanding of its perceptions, intentions, and goals regarding missile defenses – *theirs and ours*. Internally, it is evident Russia views its multifaceted strategic defense efforts as not only consistent with its conception of strategic stability, but as an indispensable element of its broader approach to conflict. Externally, it can be argued that Russia employs the concept of stability to deny the United States advantages stemming from missile defense that Russia seeks for itself and to drive a wedge between the United States and its European allies. In this way, Russia preserves the strategic defense capabilities contributing to the deterrence, damage limitation and protection roles central to its military strategy, while working to constrain comparable U.S. capabilities. It is through this lens that we should weigh Russia’s objections when considering policy choices over the future role and direction of U.S. missile defenses.

¹ See *Missile Defense Review 2019* (Washington, DC: Department of Defense, January 2019), p. 6, available at <https://media.defense.gov/2019/jan/17/2002080666/-1/-1/1/2019-MISSILE-DEFENSE-REVIEW.PDF>.

² Thomas Grove, Michael R. Gordon and James Marson, “Putin Unveils Nuclear Weapons He Claims Could Breach U.S. Defenses,” *The Wall Street Journal*, March 1, 2018, available at <https://www.wsj.com/articles/putin-unveils-nuclear-weapons-he-claims-could-breach-u-s-defenses-1519911862>; Tom O’Conner “Russia Says U.S. Missile Defense



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Test Proves It Lied About Global Missile Shield," *Newsweek*, November 19, 2020, available at <https://www.newsweek.com/russia-us-missile-test-lied-global-shield-1548803>. There are a number of American commentators who make similar arguments. See, for example, Jeffery Lewis: "We're Stumbling into an arms race that is largely driven by U.S. investments in missile defenses," quoted in Joby Warrick, "China is building more than 100 new missile silos in its western desert, analysts say," *Washington Post*, June 30, 2021, available at https://www.washingtonpost.com/national-security/china-nuclear-missile-silos/2021/06/30/0fa8debc-d9c2-11eb-bb9e-70fda8c37057_story.html.

³ Statement by the Russian Ministry of Defense, available at <https://structure.mil.ru/structure/forces/vks/50letRKO/pro.htm>.

⁴ *Ibid.* In public commentary, Russian officials euphemistically refer to the nuclear warheads on its defensive interceptors as "special warheads."

⁵ *Ibid.*

⁶ In November 1987 President Gorbachev acknowledged the Soviet research program in advanced missile defense technologies stating: "The Soviet Union is doing all the United States is doing, and I guess we are engaged in research, basic research, which relates to these aspects which are covered by the SDI of the United States." *Soviet Military Power 1989* (Washington, DC: Department of Defense, 1989), p. 52, available at <http://edocs.nps.edu/2014/May/SovietMilPower1989.pdf>.

⁷ *Soviet Military Power 1990* (Washington, DC: Department of Defense, 1990), pp. 56-59, available at <http://edocs.nps.edu/2014/May/SovietMilPower1990.pdf>.

⁸ *Ibid.*

⁹ Keith Payne and Michaela Dodge, *Stable Deterrence and Arms Control in a New Era, Occasional Paper, Volume 1 Number 9* (Fairfax, VA: National Institute for Public Policy, September 2021), p. 17, available at <https://nipp.org/wp-content/uploads/2021/09/Payne-Dodge-OP-9.pdf>.

¹⁰ In contrast, the ABM Treaty had an immediate impact on U.S. missile defense programs and capabilities. Within a few short years of 1972, the United States not only abandoned its entire ballistic missile defense efforts but also its nationwide strategic air defenses and passive defenses—behavior fully consistent with the logic of embracing societal vulnerability.

¹¹ *Russia Military Power 2017* (Washington, DC: Defense Intelligence Agency, 2017), pp. 36-37, available at https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/Russia_Military_Power_Report_2017.pdf.

¹² Michael Kofman, Anya Fink, Dmitry Gorenburg, Mary Chesnut, Jeffrey Edmonds, and Julian Waller, *Russian Military Strategy: Core Tenets and Operational Concepts*, CNA Research Memorandum, August 2021, p. 56, available at https://www.cna.org/CNA_files/pdf/Russian-Military-Strategy-Core-Tenets-and-Operational-Concepts.pdf.

¹³ The Russian News Agency TASS, "Russian aerospace forces successfully test launch new ballistic air defense missile," November 25, 2020, available at <https://tass.com/defense/1228071>; TASS, "Russia successfully test-fires new ABM interceptor missile," April 26, 2021, available at <https://tass.com/defense/1282957>.

¹⁴ Department of Defense, Office of Public Affairs, *Chinese and Russian Missile Defense: Strategies and Capabilities*, July, 2020, available at https://media.defense.gov/2020/Jul/28/2002466237/-1/-1/1/CHINESE_RUSSIAN_MISSILE_DEFENSE_FACT_SHEET.PDF.

¹⁵ Joseph Trevithick, "Russia's S-500 Air Defense System Reportedly Hits Target Nearly 300 Miles Away," *The Drive*, May 24, 2018, available at <https://www.thedrive.com/the-war-zone/21080/russias-s-500-air-defense-system-reportedly-hits-target-nearly-300-miles-away>. Also see Mark Episkopos, "S-550: Should NATO and America Fear Russia's New Missile Defense System?," *The National Interest*, November 18, 2021, available at



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<https://nationalinterest.org/blog/buzz/s-550-should-nato-and-america-fear-russias-new-missile-defense-system-196479>.

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