FULCRUM GLOBAL

The publishing arm of the Society for Defense and Strategic Studies (SDSS) at the American Military University (APUS)

INTELLIGENCE BRIEF # 10

NAME OF PRIMARY ANALYST: James W. Weichold

SUBJECT: Russian Threats to United States Space Assets

COUNTRY/REGION: Outer Space/Global

BACKGROUND OF SUBJECT:

The threat to United States (US) space assets from the Russian Federation (Russia) originally began at the end of World War I with the development of a revolution in new military technologies. By the end of World War II this revolution had reached a climax representing a fundamental revolution in military affairs that the Union of Soviet Socialist Republics (USSR) had attached itself too firmly. On 4 October 1957, the USSR opened the "space race" and the challenge to US space assets of the future with the launch of Sputnik. This event not only set the US Government reeling with surprise and disbelief but challenged the world view of the US having technological superiority globally. Since this time the USSR, now Russia, has maintained a presence, and leadership role in space.

CUSTOMER QUESTIONS:

1. Does Russia present a threat to United States space assets and dominance?
2. When did Russia become a threat to United States space assets and dominance?
3. What is the threat to United States space assets and dominance from Russia?
4. How can those threats from Russia affect United States space assets and dominance?

CURRENT ASSESSMENT;

Russia's space program is robust but more narrowly focused than China's (PRC) space program. Moscow's budget is more limited than Beijing's when it comes to space, which also affects their ability to acquire space technology. This is a big Reason why Moscow has adopted a whole-of-government approach to foreign space and counterspace technologies. The sanctions that were placed on Russia by the US and its allies following its invasion of the Crimean

Peninsula in 2014 had forced Moscow to develop multiple technology collection paths to mitigate their economic impacts. Even with these mitigation methods, the sanctions are still affecting space system production and acquisitions. Nonetheless, during the past couple of decades plus, Moscow has continued to pursue the development of a suite of counterspace weapons including electronic warfare (EW) to deny, degrade, and disrupt communications, position, navigation and timing, (PNT) space assets, and directed energy weapons (DEWs) to deny the use of space-based assets.

Space plays a critical role in Russian military thinking, which has concentrated on countering US air power through a policy called "strategic aerospace operations," with degrading US space capabilities being an important element of this policy. Oddly however, Moscow sees overreliance on space assets as a military vulnerability and is determined to avoid becoming too dependent on space to conduct its national defense/security mission. Russia views the US dependance on space as an Achillies' heel that can be exploited to achieve Russian wartime objectives. In addition, they have developed earth-based systems to complement or even replace space assets that may be denied to them during a wartime conflict with an adversary. Russia does openly support space arms control agreements to prevent the weaponization of space even though their military policy and doctrine view space as a war fighting environment. They also regularly pursue legally binding space arms control agreements to curb US strength in space, all while developing an arsenal of counterspace abilities to attack US and allied space assets.

Russia is currently upgrading its space launch capabilities to increase the reliability of these systems. Currently, they are only upgrading medium and heavy lift launchers to allow them to tailor a space launch vehicle (SLV) to a specific configuration. As of now they are not focusing on upgrading light lift SLV's. They are also in the early stages of developing a super heavy lift SLV similar to the old US Saturn V or the newer US Space Launch System. They do have their sights set on crewed missions to Luna, our Moon, and Mars and this super heavy lift SLV is suited to this task. They have designed and fielded some of the world's best intelligence, surveillance, and reconnaissance (ISR) systems despite funding issues and technology setbacks. They have approximately 30 ISP satellites that provide electro-optical imagery, a new radar observation platform, missile warning, as well as electronic and signals intelligence. GLONASS, Russia's PNT capability, provides worldwide satellite navigation for their national security interest, launching new PNT satellites as needed to maintain the constellation while developing a next-generation GLONASS satellite system.

Russia's space surveillance network, their space situational awareness (SSA) system, is composed of telescopes, radars, and other sensors for tracking and characterizing satellites in all of Earths orbits. The Russian military views EW as an essential tool in gaining and maintaining superiority over its adversaries. They have fielded a wide range of ground-based EW systems to counter Global Positioning Systems (GPS), tactical communications, satellite communications, and radars. They have also fielded mobile jammers to target radar and communication satellites. DEW's pose a direct threat to space operations with the Russian Peresvet system, which President Vladimir Putin called a "new type of strategic weapon, leading the way." This is a ground-based system, already deployed, that can blind the sensors of satellites; the Russians

specifically are wanting to use this system to mask the movement of strategic missile systems. The Russians are also developing Anti-satellite (ASAT) missile systems that can destroy US and allied on orbit space systems. The system being developed now, Nudol, is said to be capable of destroying not just Low Earth Orbiting (LEO) satellites but ballistic missiles as well. They are reportedly also developing an air launched ASAT, Burevestnik, to target satellites in LEO that would be deployed from MiG-31 aircraft.

There appears to be two on orbit threats to US and ally space assets as well. The first of these on orbit threats are a series of satellites; in November 2019, Russia launched two satellites, Cosmos 2542 and 2543. After reaching orbit, 2542 began to follow a US national security satellite, close enough, to produce a dangerous operating environment for the US asset. In 2020, 2543 ejected an object next to another Russian satellite in what was a test of a space-based ASAT. Two other Russian satellites, Cosmos 2504 and 2536, are known prototype space-based ASAT satellites with kinetic kill ability in LEO. The second on orbit threat is the potential nuclear weapon satellite that the Russians may or may not have deployed. This nuclear weapon satellite, if used, would wreak havoc with not just US space assets but every country that has space assets deployed to include the Russian space assets.

ANALYSIS OF ASSESSMENT:

When one looks at Russia's space policy, doctrine, and strategy, it is apparent that the Russian government believes space to be the next environment for global domination and economic power. Although Russia officially voices the peaceful use of space and is pursuing agreements with the United Nations for the non-weaponization of space, their space policy, doctrine and strategy point in a direction that is opposite of their rhetoric. Lastly, the Russian government, views their space capabilies as being absolutely vital to the development of a modern military with the capability to fight a modern war as they believe these assets will increase their national standing.

LIST OF SOURCES AND REFERENCES:

n/a,',. (2022, March). Challenges to Security in Space: Space Reliance in an Era of Competition and Expansion. *Defense Intelligence Agency.* https://www.dia.mil/Portals/110/Documents/News/Military_Power_Publications/

Bingen, K., Chang, M., Songer, S., Swope, C., Tammelleo. J., & Young, M. (2024, April). Space Threat Assessment 2024. *Center for Strategic & International Studies*. https://www.csis.org/analysis/space-threat-assessment-2024

Platt, K. (2024, 21 July). Russia's Nuclear-Armed Spacecraft Could Supercharge Space War I. *Forbes, Aerospace & Defense.* https://www.forbes.com/sites/kevinholdenplatt/2024/07/21/russias-nuclear-armed-spacecraft could-supercharge-space-war/

Wall Street Journal (2024, Febuary 21). Russian Nuclear Weapons in Space? Here's what we

know. [Video]. https://www.youtube.com/watch?v=2KC67LjeJfo

Zaloga, S. (2002). *The Kremlin's Nuclear Sword: The Rise and Fall of Russia's Strategic Nuclear Forces, 1945-2000.* Washington, DC: Smithsonian Institution Press.

FINAL DATE OF ANALYSIS AND SUBMISSION:
May 28, 2025

EDITING TEAM:
Sam Kessler – Chief and Managing Editor
Lorinda Rosario – Senior Editor

PEER REVIEW TEAM:
Sam Kessler
Dr. Frank C. Danesy
Dan Opstal
Cameron Grischott
Ron Brooks
Brian Moody
Dustin Oaks
Nabil Rahman

WEBSITE:
www.fulcrumglobal.us

SOCIAL MEDIA PAGES:
Fulcrum Global Facebook: https://www.facebook.com/Fulcrum-Global-1398490850246444/
SDSS Facebook: https://www.facebook.com/groups/APUS.SDSS/
SDSS Twitter: https://twitter.com/sdss_apus
SDSS LinkedIn: https://www.linkedin.com/in/society-for-defense-and-strategic-studies-022182196/