



## Great Power Competition and/or Cooperation in Space: The State of Play

Namrata Goswami, Independent Scholar and Author

Space is becoming a critical determinant of how states behave in the arena of international relations.<sup>1</sup> The Russian invasion of Ukraine in February 2022 has accentuated this dynamic, especially in how states strategize or utilize space to change how other states respond. Roscosmos Director General Dmitry Rogozin tweeted that U.S. sanctions affected the Russian aerospace industry, thereby severely undermining Russia's capability to support the International Space Station (ISS) built on the cooperation of the U.S., Russia, Canada, Japan, and the European Space Agency (ESA).<sup>2</sup> Rogozin implied that without Russian support for ISS positioning and orbiting, the plausibility of an uncontrolled fall towards Earth was high, and could impact countries like the U.S., India, or China.<sup>3</sup> While NASA dismissed such claims, the strain of the Ukraine conflict directly affected space cooperation and revealed Russia's willingness to use the ISS for strategic bargaining.<sup>4</sup> Russia and ESA cancelled high-level space cooperation, forcing delays for the ExoMars program, and cancelled their joint lunar missions; Russia withdrew all its staff from the Kourou spaceport in French Guiana and suspended all space cooperation with ESA.<sup>5</sup>

Consequently, the Russian invasion of Ukraine offers insights into how competition and conflict between the great powers in space (U.S. versus China-Russia) inadvertently affects any space cooperation. One thing is certain: space is critically connected to other forms of power projection and military capability, including coordinating forces beyond "line of sight;" command, control, and

communications; Positioning, Navigation, Timing (PNT); missile tracking; Global Positioning System (GPS)-enabled navigation; and damage assessment. The role of the commercial space sector in providing vivid images of the Ukrainian conflict to include Maxar's images of the 40-mile-long Russian convoy outside of Kyiv reveals the spillover of great power conflict to the private sector.<sup>6</sup> Moreover, when we speak of great power cooperation, we are really speaking about cooperation between countries that would otherwise compete for strategic advantage. So, while the Artemis Accords, for lunar development, led by the U.S. and signed by U.S. allied partners, is critical for space cooperation, it is not as much of a "game changer" in comparison to if India signs the Artemis Accords.<sup>7</sup> Strategic alignments are playing out at the level of geopolitics vis-à-vis Ukraine with both China and India abstaining from deploring Russia's Ukrainian invasion at the United Nations Security Council (UNSC) and at the meeting of the United Nations General Assembly (UNGA).<sup>8</sup>

Considering these factors and recent events, what has changed, if at all, as competition and cooperation move into space? How do they affect allies' and adversaries' views of space-related capacities, and how have strategic alignments changed and adapted to new realities?

There are three drivers informing how space is being constituted, and how states are adapting to the realities of the 21st century. These include leadership and norm building; strategic alignment and space as "critical infrastructure and a national security asset"; and the salience of the

United Nations.

### Leadership and Norm Building

Space is becoming an integral part of great power grand strategy for signaling leadership and the constitution of norms. Unlike the Cold War when space was perceived as part of ideological and technological prestige signaling by the U.S. or the erstwhile Soviet Union—a competition between capitalism and communism—today, great powers like the U.S and China specify the economic contributions of space to the global economy. China has articulated ambitions for the utilization of space resources to include asteroid mining and developing space-based solar power (SBSP).<sup>9</sup> The U.S. passed the Commercial Space Launch Competitiveness Act in 2015 that offers U.S. citizens the ability to own the resources that they would mine in space.<sup>10</sup> India, which according to its Minister of External Affairs, S. Jaishankar, in his book *The India Way*, as a leading power, has articulated ambitions of playing a key role in constituting internal space regulations and external norm-building for space governance.<sup>11</sup> Great powers are vying for establishing regional leadership by offering their space capabilities to countries in their region that lack it. China offers its BeiDou navigation system to countries in the Indo-Pacific.<sup>12</sup> In 2014, India launched the South Asia satellite to cater to countries in South Asia.<sup>13</sup> China also announced its Belt and Road Spatial Information Corridor in 2018 to develop the space infrastructure of member countries with China as the lead actor.<sup>14</sup> Critically, one of the rationales for India's anti-satellite (ASAT) test in 2019 was to ensure that India is part of the ASAT regime, if and when constituted. This Indian strategic thinking is informed by the country's

inability to become part of the Nuclear Non-Proliferation Treaty regime as a nuclear weapon state in 1970, due to its lack of a nuclear weapon test (India conducted its first nuclear tests in 1974).<sup>15</sup> This, in turn, India argues, has created a discriminatory nuclear regime between the “nuclear haves” and the “nuclear have-nots.”<sup>16</sup> India does not want a repeat of that strategic trauma in regard to space governance.

### Strategic Alignment and Space as “Critical Infrastructure and National Security Asset”

While Russia's invasion of Ukraine indicates that there are geopolitical fissures in regard to strategic alignment, these alignments played out in space well before February 2022. For instance, Russia and India signed a ten-year defense agreement in December 2021 to collaborate in high-end defense technologies and space cooperation.<sup>17</sup> Indian astronauts trained for India's 2023 Low Earth Orbit mission (Gaganyaan) in the Yuri Gagarin Cosmonaut Training Center.<sup>18</sup> China and Russia signed a Memorandum of Understanding (MoU) to develop a lunar research base by 2036.<sup>19</sup> Russia indicated in mid-2021 its intention to leave the ISS by 2025,<sup>20</sup> perhaps sooner now due to the Ukraine conflict, and plausibly partner with China's space station, the Tiangong. The U.S. announced its Artemis Lunar program in 2020, whereby it would sign bilateral agreements with democratic space nations to develop a lunar presence and resource utilization.<sup>21</sup> In April 2020, Beijing designated space as part of “critical infrastructure.” The national security dimensions of space to include its direct support to Earth military capabilities and alignments forms a vital part of great

power competition and/or cooperation impacted by strategic alignments. Both China and Russia view their space development, both civilian and military, as augmenting national defense. China established the People's Liberation Army Strategic Support Force (PLASSF) in 2015; the U.S. and India established their space forces in 2019. This trend has influenced middle powers like France (2019) and Japan (2020) to establish their own respective space forces.

### Salience of the United Nations for Space Governance

Great power competition and/or cooperation have influenced member state activities in the UN. The concern over ASAT tests and space debris has motivated countries like the United Kingdom (UK) to introduce UNGA Resolution 75/36 to reduce space threats “through norms, rules, and principles of responsible state behavior.”<sup>22</sup> In November 2021, the UN First Committee responsible for international security voted 163-8 to establish an Open-Ended Working Group (OEWG) to develop rules and guidelines for military space activities, again sponsored by the UK.<sup>23</sup> Luxembourg signed an MoU with the United Nations Office for Outer Space Affairs (UNOOSA) to launch a project on space law for new space actors in 2019.<sup>24</sup> In 2019, UNOOSA signed an MoU with the Asteroid Foundation of Luxembourg to raise awareness on asteroids and to build intergovernmental cooperation in regard to planetary defense via UNOOSA's International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG).<sup>25</sup> China and Russia introduced their draft treaty on the prevention of placement of weapons in

outer space to the Conference of Disarmament in 2008.<sup>26</sup> In 2019, Belgium and Greece introduced a resolution on regulating space resources to the Legal Sub-Committee of the UN Committee on the Peaceful Uses of Outer Space (COPUOS).<sup>27</sup>

Great power competition and cooperation have resulted in broadcasting both civilian and military capacities. These have included signing civilian space cooperation agreements to explore the Moon and Mars along divergent strategic alignments resulting in competition between blocs (U.S.-led versus China-led). Cooperation between adversarial blocs (U.S.-China) in space is not possible due to legal stipulations (the 2011 Wolf amendment, which prevents NASA from cooperating with Chinese entities without permission), and due to genuine concerns of civil-military fusion of space activities in China. Strategic alignments are occurring along predictable lines; for instance, partners of the U.S.-led Artemis Accords include U.S. allies, with India still not a participant of either the U.S.-led or China-led space bloc. Middle powers are responding to great power alignments with a willingness to collaborate with both sides, based on their own strategic interests (Luxembourg is part of both the Artemis Accords and China's BRI). Middle powers are utilizing their UN membership to constitute space norms that could restrain military activities of the great powers in space. The future of space depends on which great power can offer the most compelling inclusive vision backed by financial investments in the space infrastructure of partner nations.

## Endnotes

1. “In the context of space, great powers are nations that have the technological and economic capacity to shape the international space system to their benefit. Great powers are particularly important because they determine how other nations will create space policy.” See, Namrata Goswami, “The Second Space Race: Democratic Outcomes for the Future of Space,” *The Georgetown Journal of International Affairs*, January 25, 2022, <https://gjia.georgetown.edu/2022/01/25/the-second-space-race-democratic-outcomes-for-the-future-of-space/>; I define competition as great powers jockeying to get the most advantageous position and denying it to competing “others.” Competition includes micro-aggression that challenges easy cooperation (U.S-Russia-China; India-China). This would include provocations, if not all out war, over which value system (liberal/authoritarian) should shape the international order; cooperation in space entails working together in joint projects like a Moon and Mars mission, planetary defense, exchange of high-end technology and skill, personnel, and resources. It also includes military space cooperation like satellite data sharing and intelligence, surveillance, reconnaissance (ISR).
2. NASA, “International Partner Research on the Space Station,” [https://www.nasa.gov/mission\\_pages/station/research/international\\_partners.html](https://www.nasa.gov/mission_pages/station/research/international_partners.html).
3. Elizabeth Howell, “Russian Space Program Chief Says U.S. Sanctions Could ‘destroy’ International Space Station partnership,” *Space.com*, February 26, 2022, <https://www.space.com/roscosmos-rogozin-russia-iss-space-sanctions>.
4. Ramin Skibba, “Turmoil over Ukraine Could Debilitate Russia’s Space Program,” *Wired*, March 4, 2022, <https://www.wired.com/story/turmoil-over-ukraine-could-debilitate-russias-space-program/>.
5. Skibba, “Turmoil over Ukraine Could Debilitate Russia’s Space Program.”
6. Nicole Werbeck, “Satellite Images Show 40-mile-long Russian Military Convoy Nearing Kyiv,” *NPR*, February 28, 2022, <https://www.npr.org/sections/pictureshow/2022/02/28/1083650286/satellite-images-show-40-mile-long-russian-military-convoy-nearing-kyiv>.
7. Ajey Lele, “India Needs to Avoid Moon Trap,” *Financial Express*, October 11, 2021, <https://www.financialexpress.com/lifestyle/science/india-needs-to-moon-trap/2347744/>.
8. Sachin Parashar, “Russia Vetoes UNSC Resolution; India, China Abstain,” *Times of India*, February 26, 2022, <https://timesofindia.indiatimes.com/world/rest-of-world/russia-vetoes-uns-resolutions-india-china-abstain/articleshow/89852711.cms>; and Ivana Saric and Zachary Basu, “141 Countries Vote to Condemn Russia at UN,” *Axios*, March 2, 2022, <https://www.axios.com/united-nations-ukraine-russia-141-55872481-a143-4423-9d3d-80450f01c754.html>.

9. Namrata Goswami, "China in Space; Ambitions and Possible Conflict," *Strategic Studies Quarterly*, 12, No. 1, (Spring 2018), <https://www.jstor.org/stable/e26333871>.
10. US Commercial Space Launch Competitiveness Act, 2015, <https://www.congress.gov/114/plaws/publ90/PLAW-114publ90.pdf>.
11. S. Jaishankar, *The India Way Strategies for an Uncertain World* (New Delhi: HarperCollins, 2020).
12. State Council, The People's Republic of China "BeiDou Navigation Satellite System," January 17, 2016, [http://english.www.gov.cn/archive/white\\_paper/2016/06/17/content\\_281475373666770.htm](http://english.www.gov.cn/archive/white_paper/2016/06/17/content_281475373666770.htm).
13. India Launches Invaluable South A Satellite," BBC, May 5, 2017, <https://www.bbc.com/news/world-asia-india-39814455>.
14. China National Space Administration, The State Council Information Office of the Peoples' Republic of China, "China's Space Program: A 2021 Perspective," January 2022, <http://www.cnsa.gov.cn/english/n6465652/n6465653/c6813088/content.html>.
15. Namrata Goswami and Peter Garretson, *Scramble for the Skies: The Great Power Competition to Control the Resources of Outer Space* (Maryland: Lexington Press, 2020).
16. Ministry of External Affairs, "India's Views on the Treaty on the Prohibition of Nuclear Weapons," January 22, 2021, <https://mea.gov.in/press->
17. Ministry of External Affairs, "India-Russia Joint Statement Following the Visit of the President of the Russian Federation," December 16, 2021, [https://www.mea.gov.in/bilateral-documents.htm?dtl/34606/India\\_Russia\\_Joint\\_Statement\\_following\\_the\\_visit\\_of\\_the\\_President\\_of\\_the\\_Russian\\_Federation](https://www.mea.gov.in/bilateral-documents.htm?dtl/34606/India_Russia_Joint_Statement_following_the_visit_of_the_President_of_the_Russian_Federation).
18. Press Trust of India, "Four Indian Cosmonauts Complete Training in Russia for Gaganyaan Mission," *The Hindu*, March 23, 2021, <https://www.thehindu.com/news/national/four-indian-cosmonauts-complete-training-in-russia-for-gaganyaan-mission/article34140964.ece>.
19. China National Space Administration, "China and Russia sign a Memorandum of Understanding Regarding Cooperation for the Construction of the International Lunar Research Station," March 9, 2021, <http://www.cnsa.gov.cn/english/n6465652/n6465653/c6811380/content.html>.
20. Elizabeth Howell, "Russia Threatens to Leave International Space Station Program Over U.S. Sanctions: Reports," *Space.com*, June 8, 2021, <https://www.space.com/russia-threatens-leave-international-space-station-program>.
21. NASA, "NASA Artemis Accords," <https://www.nasa.gov/specials/artemis-accords/index.html>.
22. United Nations, "Reducing Space Threats through Norms, Rules and Principles of

Responsible Behavior/resolution/adopted by General Assembly,” UN General Assembly 75th session, 2020-2021, <https://digitallibrary.un.org/record/3895440?ln=en>.

23. United Nations General Assembly, First Committee, Seventy-Sixth Session, 15th Meeting, “Delegates Approve 5 Draft Resolutions, as First Committee Takes Action on Peaceful Use, Non-Weaponization of Outer Space, Chemical Weapons,” November 1, 2021, <https://www.un.org/press/en/2021/gadis3676.doc.htm>; China and Russia voted against this resolution; India abstained.

24. United Nations Office for Outer Space Affairs, “United Nations Office for Outer Space Affairs Signed an Agreement with the Government of Luxembourg to launch new ‘Space Law for New Space Actors’ Project,” November 13, 2019, <https://www.unoosa.org/oosa/en/informationfor/media/2019-unis-os-523.html>.

25. United Nations Office for Outer Space Affairs, “UNOOSA and Asteroid Foundation Sign MoU,” May 21, 2019, <https://www.unoosa.org/oosa/en/informationfor/media/2019-unis-os-509.html>.

26. United Nations, “Letter dated 2008/02/12 from the Permanent Representative of the Russian Federation and the Permanent Representative of China to the Conference on Disarmament addressed to the Secretary-General of the Conference transmitting the Russian and Chinese texts of the draft ‘Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT)’ introduced by the Russian Federation and China,” 2008, <https://digitallibrary.un.org/record/633470?ln=en>.

27. M. Hofman, “Space Resources Activities from the Perspective of Sustainability: Legal Aspects,” *Global Sustainability*, Vol. 3, 2020, <https://www.cambridge.org/core/journals/global-sustainability/article/space-resources-activities-from-the-perspective-of-sustainability-legal-aspects/DF153F4A77970AC9E12444EC2B001F8A>.