

SPECIAL **REPORT** NO. 136

Space Security Governance: ORF Submission on UNGA Resolution

**ORF Centre for Security,
Strategy and Technology**



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Introduction

Observer Research Foundation (ORF), a public policy think tank based in New Delhi, India wishes to submit its views on the UN General Assembly Resolution 75-36, “Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviours.” ORF is a not-for-profit, multi-disciplinary think tank that works on contemporary policy issues with different stakeholders. ORF’s Centre for Security, Strategy and Technology (CSST) has in particular devoted a significant part of its research to outer space from a security, strategic and global governance perspective. This submission seeks to highlight the growing threats to space security and sustainability as well as global governance, which may be relevant as Member States submit their own views on the Resolution.

This submission will address three specific paragraphs contained in Resolution 75-36.

Para 2. Encourages those States that have not yet become parties to the international treaties governing the exploration and use of outer space to give consideration to ratifying or acceding to those treaties in accordance with their national law, as well as incorporating them into their national legislation;

Para 3. Expresses the desire that all Member States reach a common understanding of how best to act to reduce threats to space systems in order to maintain outer space as a peaceful, safe, stable and sustainable environment, free from an arms race and conflict, for the benefit of all, and consider establishing channels of direct communication for the management of perceptions of threat;

Para 5. Encourages Member States to study existing and potential threats and security risks to space systems, including those arising from actions, activities or systems in outer space or on Earth, characterize actions and activities that could be considered responsible, irresponsible or threatening and their potential impact on international security, and share their ideas on the further development and implementation of norms, rules and principles of responsible behaviours and on the reduction of the risks of misunderstanding and miscalculations with respect to outer space.

Global Governance (Response to Para 2 in Resolution 75-36)

- a. Urging more States to become parties to international treaties and conventions governing outer space activities is important. But equally important is encouraging States that are already parties to existing international treaties and conventions to fully live up to their commitments under these treaties and commitments. For example, even States that are parties to these treaties and conventions do not provide full information that are required under the Registration Convention. Therefore, while encouraging more States to become parties, States that are already parties should be encouraged to fully live up to their commitments.
- b. Global governance debates also need to address advanced civilian technologies with relevance to space because of its potential for misuse.

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Reducing Threats to Space Systems (Response to Para 3 in Resolution 75-36)

- a. Existing norms and regulations guiding outer space activities are being diluted. For example, the unwritten moratorium on ASAT testing has been broken. Similarly, there are reports of interference in satellite operations through cyber and other means. Thus, there also needs to be a focus on shoring up existing norms.
- b. All Member States should reach a common understanding of how best to act to reduce threats to space systems in order to maintain outer space as a peaceful, safe, stable and sustainable environment, free from an arms race and conflict, for the benefit of all, and consider establishing channels of direct communication for the management of perceptions of threat.
- c. Irrespective of the final shape it may take, whether it is a legal instrument or a political measure, there is need for more effort to generate definitional clarity on key terms relating to space security. Concepts such as “space weapon”, “weaponisation of space”, and “peaceful uses of space” have increasingly been interpreted expansively. This is not helpful, especially in addressing counterspace threats such as cyber and electronic warfare in space. The current legal regime has proven to be inadequate to deal with these threats.
- d. Another issue is the need for defining terms and strengthening the legal regime to keep pace with developing technologies and the explosive growth of privately-owned assets in space. Till 1990, 90% of the payloads launched into space were state-owned, whereas today 90% of the payloads launched are privately-owned.
- e. As it is difficult to characterize technologies as entirely offensive or defensive, States have to focus on prohibiting particular kinds of behaviour rather than on prohibiting or limiting technologies.
- f. Some agreement is needed on when an electronic or cyber-attack has taken place. Typically, States find it easier to agree that an attack has taken place when there is physical destruction or there are casualties. But there is difficulty in building consensus when a State or a private industry engages in cyber or electronic warfare to steal data or tamper with the functioning of a satellite which may cause only temporary disruptions and not physical destruction of a satellite. While these are considered criminal activities, whether it would be categorised as international aggression is unclear.

Space Security Threats (Response to Para 5 in Resolution 75-36)

- a. Growth of counterspace capabilities should be of particular focus while developing a new international regime. With the increasing reliance on space systems for national security missions, there is also the danger of the domain becoming more competitive and contested. The return to anti-satellite (ASAT) weapons testing over the past two decades is a case in point. While this has compelled more States to develop appropriate response measures, including demonstration of their own ASAT capabilities, there are other worrying trends in space security that must find adequate attention. Debris-producing ASAT tests get a lot of international attention, but development of other counterspace capabilities such as electronic and cyber warfare, which are equally damaging and dangerous, do not. Similarly, Directed Energy Weapons covering space-based and ground-based lasers and Microwave Weapons can also cause serious damage to spacecraft. While these are not debris generating kinetic energy weapons, they can disable satellites and leave dead mass in space. Therefore, more attention needs to be paid to other types of counterspace activities.
- b. Given the increasing integration of capabilities across cyber, electronic and other emerging technologies, States must make efforts to broaden the conversation to include these as well, instead of keeping these in separate silos.
- c. Given the poor state of some multilateral institutions for arms control such as the Conference on Disarmament (CD) in Geneva, it is also important for States to deliberate and agree upon on other possible venues for discussion on electronic and cyber warfare in space. These discussions could have a broader approach and discuss electronic and cyber warfare in outer space in a more general context or have a narrower approach where each of these are taken separately to arrive at,

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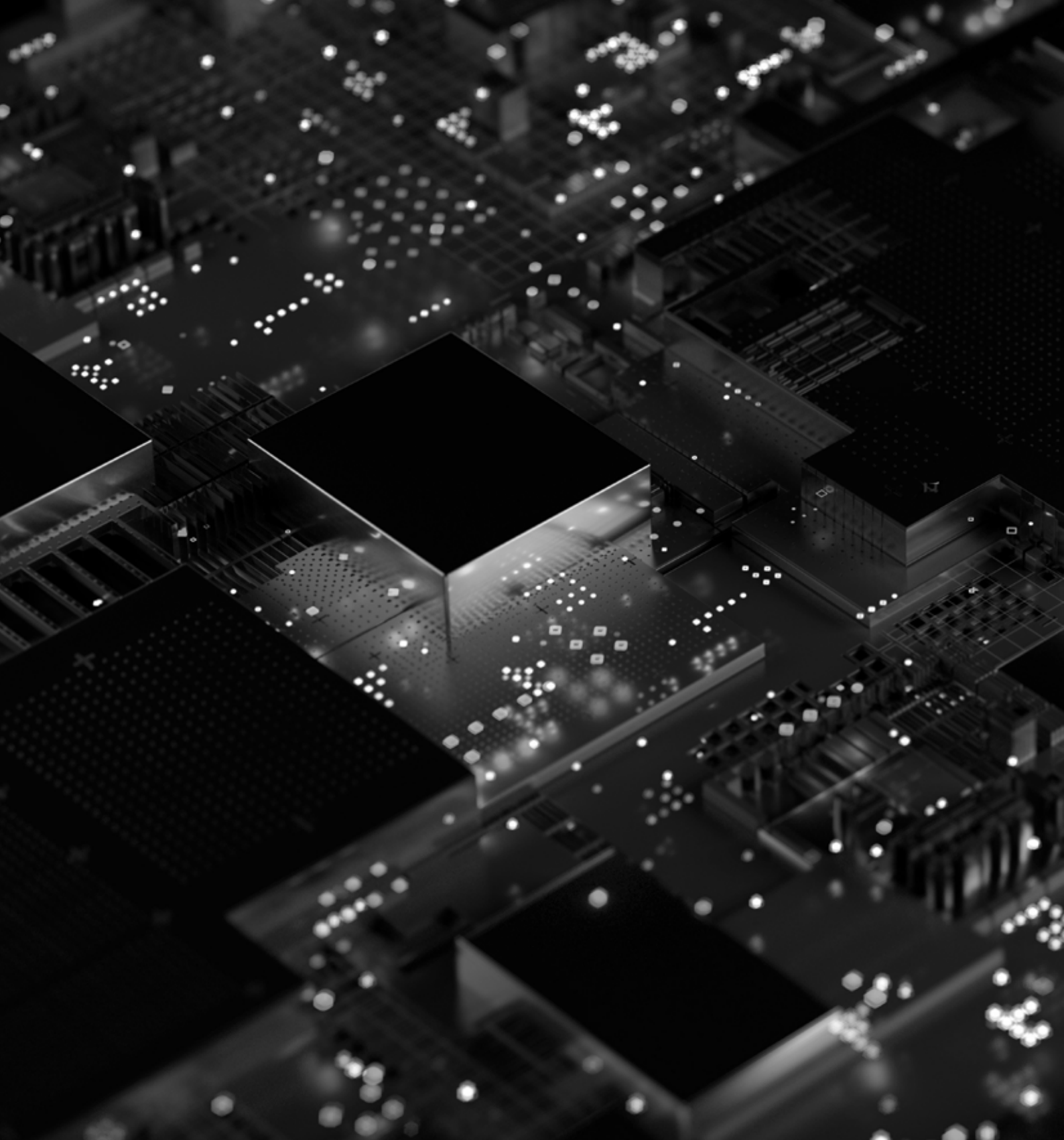
hopefully, a common understanding and policy convergence. The CD or a possible alternate venue could also take up discussions on Directed Energy Weapons and Microwave Weapons in order to arrive at a common and comprehensive understanding of all weapon systems that could damage or interfere with space systems. Once States make progress, these could be forwarded to the UN Secretary General to be taken up

under the General Assembly First Committee and Security Council for next steps. Also, there needs to be closer interaction between the CD in Geneva and Committee on the Peaceful Uses of Outer Space (COPUOS) in Vienna that can be arranged using virtual platforms as this will enable greater awareness and sharing of expertise.

(This Special Report is ORF's submission on United Nations General Assembly Resolution 75/36, encouraging member states to study existing and potential threats and security risks to space systems. ORF's response to the UN General Assembly Resolution can be found on the UN portal here: <https://front.un-arm.org/wp-content/uploads/2021/05/2105-ORF-Submission-to-UN-Secretary-General-on-UNGA-Resolution-75-36.pdf>. And this is the main response page for all countries: <https://www.un.org/disarmament/topics/outerspace-sg-report-outer-space-2021/>. For any queries, please contact Dr. Rajeswari Pillai Rajagopalan, Director, Centre for Security, Strategy and Technology (CSST), ORF.)

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**20, Rouse Avenue Institutional Area,
New Delhi - 110 002, INDIA
Ph. : +91-11-35332000. Fax : +91-11-35332005
E-mail: contactus@orfonline.org
Website: www.orfonline.org**