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| DISEC

AGENDA: PREVENTION OF ARMS RACE IN THE OUTER SPACE.

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LETTER FROM EXECUTIVE BOARD

Dear Delegates,

It gives us immense pleasure to welcome you to the United Nations General Assembly – Disarmament and International Security Committee at Techfest World MUN 2020 where we mainly will be focusing on Prevention of Arms Race in the Outer Space. DISEC was formed to respond to the need for an international forum to discuss issues of peace and security among members of the international community. The United Nations charter and subsequent treaties/conventions serve as the basis for DISEC's mandate. We hope you will find this Background Guide useful as an introduction to the agenda for this committee.

It is highly recommended that you explore your country's foreign policy in depth in order to comprehend the agenda at hand, as well. Lastly, do not limit yourself to this background guide as it should be solely treated as the first step towards completing your research.

Having said this, please feel free to contact us with whatever queries you may have regarding the committee. The Executive Board will be at your beck and call, whenever you require us to be so.

You can reach us at komalmekala99@gmail.com/ aleymanurbakar@hotmail.com /mehulchandrajoshi2002@gmail.com for any queries.

We hope to make this committee a memorable experience for you. All the very best!

Regards,

Komal Mekala
Co-Chair

Aleyna Bakar
Co-Chair

Mehul Joshi
Rapporteur

MANDATE OF DISEC

The United Nations General Assembly First Committee - Disarmament and International Security Committee (DISEC) deals with disarmament, global challenges and threats to peace that affect the international community and seeks out solutions to the challenges in the international security regime.

It considers all disarmament and international security matters within the scope of the Charter or relating to the powers and functions of any other organ of the United Nations; the general principles of cooperation in the maintenance of international peace and security, as well as principles governing disarmament and the regulation of armaments; promotion of cooperative arrangements and measures aimed at strengthening stability through lower levels of armaments.

The Committee works in close cooperation with the United Nations Disarmament Commission and the Geneva-based Conference on Disarmament. It is the only Main Committee of the General Assembly entitled to verbatim records coverage pursuant to Rule 58 (a) of the rules of procedure of the General Assembly.

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The First Committee sessions are structured into three distinctive stages:

General debate

Thematic discussions

Action on drafts

INTRODUCTION TO ARMS RACE IN OUTER SPACE

Mankind has made massive strides in all fields of life, be it biological weapons or nuclear weapons. With the increasing growth of technology, the topic of Prevention of Arms Race in Outer Space has become an arena of concern. In discussion since the 1950s, the international community has been unable to arrive at any tangible conclusion with respect to the definition of the basic terms involved and the regulatory framework to be employed. Weaponization of outer space poses severe military and ecological threats to the planet.

Prevention of Arms Race is a multi-faceted agenda which needs deliberation and consensus building on various planks. The non-availability of commonly agreed definitions with regards to outer space causes a disagreement between member states with considerable space exploration capabilities. There are differing stances on thresholds of what qualifies as weaponization, militarization and peaceful uses of outer space. The issue of space debris and their environmental impact and cyber warfare pose significant threat to the existing peaceful space exploration and usage programs.

HISTORICAL PERSPECTIVE

The exploration of outer space and its militarization dates back to the Nazi Germany and their attempts for developing weaponry. Though their efforts didn't materialize into tangible results, the usage of outer space entered the arena of military strategization.

The major progress in development of satellites and race for outer space militarization began in the Cold War era. The two superpowers, United States of America and the former Soviet Union spent large proportions of their GDP on developing military

technologies. The nations tried to place objects in Earth's orbit and hence, starting off the Space Race¹. In 1957, USSR launched the first artificial satellite, Sputnik 1.

By the end of late 1960s, regular deployment of satellites became a norm. Reconnaissance satellites, i.e, satellites for Earth observation for military and intelligence purposes, were used by both the sides to gain strategic data about the military capabilities of the enemies. And here entered another technology in outer space arms race, Anti-Satellite Weapons (A-SAT). Anti-satellite weapons are space weapons designed to incapacitate or destroy satellites for strategic military purposes. Directed-energy weapons, kamikaze-style satellites, as well as orbital nuclear explosives were researched with different levels of success. Spy satellites were, and continue to be, used to monitor the dismantling of military assets in accordance with arms control treaties signed between the two superpowers. To use spy satellites in such a manner is often referred to in treaties as "national technical means of verification²."

In order to enable warfare over long distances, the superpowers started brainstorming and developing technologies in order to strengthen their capabilities. Missile technology progressed and the range of missiles increased and intercontinental ballistic missiles (ICBM) were created, which could strike virtually any target on Earth in a timeframe measured in minutes rather than hours or days. To cover large distances, ballistic missiles are usually launched into sub-orbital spaceflight.

As the Cold War came to an end with the fall of the Soviet Union, the space race between the two superpowers ended. The United States of America was the only remaining superpower on Earth with a large concentration of the world's wealth and technological advancement. Despite the United States' unilateral power in the world, the monopoly of space militarisation wasn't established. Countries such as China, Japan, and India have begun their own space programmes, while the European Union

¹ Quinn, Adam G., "The New Age of Space Law: The Outer Space Treaty and the Weaponization of Space" (2008). Minnesota Journal of International Law. 63. <https://scholarship.law.umn.edu/mjil/63>

² Reed, Jacob A. 'Cold War Treaties in a New World: The Inevitable End of the Outer Space and Antarctic Treaty Systems'. Air & Space Law 42, no. 4&5 (2017): 463–486. <http://www.eu-space.eu/images/2018/document/Articles/Cold-war-treaties-in-a-New-World-the-inevitable-end-of-the-outer-space-and-antarctic-treaty-system.pdf>

collectively works to create satellite systems to counter those of the United States. Russia also successfully began development of satellite technologies.

EXISTING LEGAL INSTRUMENTS AND PAST UN ACTION

Until the end of the 1950s, proposals to counter a possible arms race in outer space came directly under the purview of the United Nations General Assembly and the Disarmament Commission, and were twofold in approach; General and Complete Disarmament (GCD) or Partial Disarmament Measures (PDM). In the case of GCD, these proposals were aimed at a prohibition on the testing or deployment of weapons of mass destruction on land, at sea or in the air, intrinsically including the outer space environment and an assurance that outer space would be used for peaceful and scientific purposes only, such was the basis of the working papers submitted to the Subcommittee of the Disarmament Commission in 1957. One of the proposals provided for ground, sea and aerial inspection of conventional and nuclear disarmament including the launching of objects through outer space. In the case of PDM, the proposals sought to ensure that the launching of ICBMs (Intercontinental Ballistic Missiles) and other objects either passing through space or placed in orbit would not be used for military purposes. However, despite the difference in approach, the GCD and PDM had a common goal in seeking the introduction of measures to assuage the then-growing preoccupation that there might be a large-scale surprise attack by one of the major powers.

The international community favoured the latter with the establishment of an Ad Hoc Committee on Peaceful Uses of Outer Space in 1958 which was charged to report to the General Assembly on various aspects of the peaceful use of outer space, including: activities of the United Nations and its specialized agencies, dissemination of data on outer space research; coordination of national research programs; future international arrangements to facilitate international co-operation in outer space within the framework of the United Nations, and legal problems which might arise as

a result of the exploration of outer space. The Committee was later given permanent status as the Committee on Peaceful Uses of Outer Space (COPUOS).

The existing legal instruments with regards to outer space are as follows:

1. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies³

The Outer Space Treaty was largely based on the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, which had been adopted by the General Assembly in its resolution 1962 (XVIII) in 1963⁴, but added a few new provisions. The Treaty was opened for signature by the three depository Governments (the Russian Federation, the United Kingdom and the United States of America) in January 1967, and it entered into force in October 1967. The Outer Space Treaty provides the basic framework on international space law, including the following principles⁵:

- a. The exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind;
- b. outer space shall be free for exploration and use by all States;
- c. outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means;
- d. States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner;
- e. the Moon and other celestial bodies shall be used exclusively for peaceful purposes;

³ https://www.unoosa.org/pdf/gares/ARES_18_1962E.pdf

⁴ <https://www.unoosa.org/oosa/en/ourwork/spacelaw/principles/legal-principles.html>

⁵ <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html>

- f. astronauts shall be regarded as the envoys of mankind;
- g. States shall be responsible for national space activities whether carried out by governmental or non-governmental entities;
- h. States shall be liable for damage caused by their space objects; and
- i. States shall avoid harmful contamination of space and celestial bodies.

2. Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space⁶

The Rescue Agreement, elaborating on elements of articles 5 and 8 of the Outer Space Treaty, provides that States shall take all possible steps to rescue and assist astronauts in distress and promptly return them to the launching State, and that States shall, upon request, provide assistance to launching States in recovering space objects that return to Earth outside the territory of the Launching State.

3. Convention on International Liability for Damage Caused by Space Objects⁷

Elaborating on Article 7 of the Outer Space Treaty, the Liability Convention provides that a launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the Earth or to aircraft, and liable for damage due to its faults in space. The Convention also provides for procedures for the settlement of claims for damages.

4. Convention on Registration of Objects Launched into Outer Space⁸

⁶ https://www.unoosa.org/pdf/gares/ARES_18_1962E.pdf

⁷ https://www.unoosa.org/pdf/gares/ARES_26_2777E.pdf

⁸ https://www.unoosa.org/pdf/gares/ARES_29_3235E.pdf

Building upon the desire expressed by States in the Outer Space Treaty, the Rescue Agreement and the Liability Convention to make provision for a mechanism that provided States with a means to assist in the identification of space objects, the Registration Convention expanded the scope of the United Nations Register of Objects Launched into Outer Space that had been established by resolution 1721B (XVI) of December 1961⁹ and addressed issues relating to States Parties responsibilities concerning their space objects. The Secretary-General was, once again, requested to maintain the Register and ensure full and open access to the information provided by States and international intergovernmental organizations.

5. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies¹⁰

The Moon Agreement reaffirms and elaborates on many of the provisions of the Outer Space Treaty as applied to the Moon and other celestial bodies, providing that those bodies should be used exclusively for peaceful purposes, that their environments should not be disrupted, that the United Nations should be informed of the location and purpose of any station established on those bodies. In addition, the Agreement provides that the Moon and its natural resources are the common heritage of mankind and that an international regime should be established to govern the exploitation of such resources when such exploitation is about to become feasible. However, it has been signed by only 11 member states which doesn't include even a single state who has space exploration capabilities and hence, is considered a failed treaty.

⁹ https://www.unoosa.org/pdf/gares/ARES_16_1721E.pdf

¹⁰ https://www.unoosa.org/pdf/gares/ARES_34_68E.pdf

WEAPONIZATION AND MILITARIZATION OF OUTER SPACE

Weaponization and militarization of outer space are two other terms which are often used ambiguously in Conference on Disarmament (CD) debates. However, the term weaponization of outer space is generally understood to incorporate the introduction of weapons into the outer space environment. In this general definition, weaponization equates to the placement of weapons in outer space. The term weaponization of outer space has been used to include space-based weapons consisting of space/Earth-strike devices. For some delegations, however, weaponization of outer space also covers ground-based weapons consisting of space-strike devices.

In the case of militarization of outer space, a generic definition of this term would mean any use of outer space for military purposes. Unlike weaponization, this definition implies that outer space may or may not contain the weapons as such, and that any space object which is part of a larger system performing a given military assignment would constitute militarization of outer space. Satellites or any other space vehicles used in support of military operations would fall within that category and this has, not surprisingly, been argued by many delegations at the CD. Nevertheless, the term "militarization" has also been interpreted to mean "weaponization" as may be seen from a USSR statement which advocated that the international community should take measures to prevent the militarization of outer space "...before weapons penetrate into outer space". Here, the collective perception of outer space as a militarized environment is not very clear. Indeed, there are some delegations which believe that militarization of outer space would result from the introduction of weapons into that environment, and not necessarily through the military use of satellites as we know it today.

CONCERNS SURROUNDING SPACE DEBRIS AND CYBER SECURITY

Since the Committee on the Peaceful Uses of Outer Space published its Technical Report

on Space Debris in 1999¹¹, it has been a common understanding that the current space debris environment poses a risk to spacecraft in Earth orbit. Space debris can be defined as all man-made objects, including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non-functional. As the population of debris continues to grow, the probability of collisions that could lead to potential damage will consequently increase. In addition, there is also the risk of damage on the ground, if debris survives Earth's atmospheric re-entry. The prompt implementation of appropriate debris mitigation measures is therefore considered a prudent and necessary step towards preserving the outer space environment for future generations.

Historically, the primary sources of space debris in Earth orbits have been:

- (a) accidental and intentional break-ups which produce long-lived debris and
- (b) debris released intentionally during the operation of launch vehicle orbital stages and spacecraft.

In the future, fragments generated by collisions are expected to be a significant source of space debris. Space debris mitigation measures can be divided into two broad categories: those that curtail the generation of potentially harmful space debris in the near term and those that limit

their generation over the longer term. The former involves the curtailment of the production of mission-related space debris and the avoidance of break-ups. The latter concerns

¹¹ The 1999 U.N. COPUOS "Technical report on space debris" and the new work plan on space debris (2002 - 2005): perspectives and legal consequences. Benkö, M. & Schrogl, K.-U. 1999.
<http://adsabs.harvard.edu/full/2001ESASP.473..857B>

end-of-life procedures that remove decommissioned spacecraft and launch vehicle orbital

stages from regions populated by operational spacecraft.

Another concerning aspect in this regard is the emergence of electronic and cyber counter-space capabilities. It is enabling a wider range of actors, including States and non-State actors to target and disrupt space objects, including both military and civilian satellites. These capabilities are already being used, targeting objects both in space and on the battlefield. Like electronic warfare technologies, cyber warfare measures are fast emerging as a viable option for space warfare because they are cheap and easily accessible. Several States, including less advanced ones, have been able to develop cyber warfare capabilities that could interfere with outer space systems and satellite functioning, yet the number of reported incidents of use are few. Many, including the United States, the Russian Federation, China, and the Democratic People's Republic of Korea, have demonstrated their capabilities and willingness to carry out cyber attacks against non-space targets. While satellites are attractive targets, an attack on them could have serious unintended consequences and has the potential to lead to serious conflict. Moreover, commercial space satellites may be more vulnerable compared to military assets.¹²

Cyber warfare capabilities could become a larger challenge in the coming years for a number of

reasons. A basic, crude cyber capability is more easily accessible than other kinetic counter-space capabilities. It can be developed and deployed much faster than an Anti-Satellite (A-SAT) and is much cheaper. The entry barrier for these technologies is fairly low, with many independent hackers available. The deniability factor and difficulty in attribution also makes cyber measures a perfect way to create massive disruptions and damage to space systems.

¹² "Cybersecurity and the New Era of Space Activities", Council on Foreign Relations, 3 April 2018, <https://www.cfr.org/report/cybersecurity-and-new-era-space-activities>; G. Falco, "Job One for Space Force: Space Asset Cybersecurity", Belfer Center for Science and International Affairs, July 2018, <https://www.belfercenter.org/sites/default/files/files/publication/CSP%20Falco%20Space%20Asset%20-%20FINAL.pdf/>

It is important to understand that the existing multilateral regulatory framework is insufficient to cope with the threat to space systems posed by electronic and cyber capabilities, requiring new measures that define norms of behaviour and rules of engagement with this technology.

CONFIDENCE-BUILDING MEASURES AND TRANSPARENCY

The situation in outer space has changed substantially since its entry into force 50 years ago of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. The international community is increasingly dependent on space -based platforms for economic development, communications, combating climate change and ensuring global peace and security.

While civil and commercial demand has driven much of the new activities in outer space in recent decades, the number of military users and assets in outer space has also risen precipitously. Of the more than 1,400 active satellites in orbit, approximately one-quarter of them have some military application. This growing dependence on space-based platforms and the increasing strategic value of outer space raises the likelihood that a terrestrial conflict could spill over into an already fragile space environment, with potentially devastating consequences.

In general terms, transparency and confidence-building measures are a means by which Governments can share information with the aim of creating mutual understanding and trust, reducing misperceptions and miscalculations and thereby helping both to prevent military confrontation and to foster regional and global stability. They also assist in building confidence as to the peaceful intentions of States and can help States to increase understanding, enhance clarity of intentions and create conditions for establishing a predictable strategic situation in both the economic and security arenas. Although there is no universal or comprehensive prescription for

identifying transparency and confidence-building measures, there are certain characteristics that may be used to determine their effectiveness. In general, there are two types of transparency and confidence-building measures: those dealing with capabilities and those dealing with behaviours.

Transparency and confidence-building measures have been employed in a number of terrestrial contests for decades. They had an especially important role during the cold war, where they were intended to contribute to reducing the risk of armed conflict through mitigating misunderstandings related to military activities, particularly in situations where States lacked clear and timely information.

MAJOR PARTIES INVOLVED

Because of the sensitive nature of the subject at hand, there are many conflicting views at Prevention of Arms Race in Outer Space that have resulted in clashes among member states. Western groups believe that there is neither an arms race in outer space nor any significant ongoing development by any state with respect to space weapons. This view translates in their belief that there is no need for any legally binding instrument in this field. On the other side, there are many member states that have raised concerns over the imminent development of outer space weapons and the military threat that these would pose, and in so have originated and supported proposals to establish international agencies and mechanisms to monitor outer space activities and prevent the militarization of outer space.

The **United States of America** has openly criticized the usefulness of discussions regarding armaments in outer space in the context of the UN. The U.S critical stance towards PAROS should be examined both positively and negatively. On the one hand it can provide “food for thought” about the mistakes that the UN has made regarding the issue and how any future negotiations can be improved in order to produce

substantial results. On the other hand, the U.S position stands in the way of any outer space related discussions having credibility. While the U.S continues to criticize the role of the UN when it comes to PAROS, the credibility of the discussions themselves decreases.

Russian Federation believes that the existing legal instruments have not prevented any countries from launching and testing conventional weapons in space as well as weapons that are based on new technological principles such as lasers and nuclear power. Both Russia and **China** have stressed numerous times that the existing legal instruments that relate to the peaceful uses and non-militarization of outer space are inadequate to prevent an arms race.

China has played an extremely active role in the Conference on Disarmament (CD) over the last decade. Propositions from the Chinese delegation regarding PAROS often deal with the legal aspect of outer space. The nation has also advocated in favor of strengthening the conference on disarmament and specifically the prevention of an arms race in outer space.¹³

In **Japan**, the Strategic Headquarters for Space Development laid out a new Basic Plan on Space Policy on June 29¹⁴, which was approved by the Cabinet on June 30¹⁵. It calls for Japan to become an independent space power through cooperation with allies, strengthening its industrial and science technology infrastructure and expanding the scope of its space utilization. Additionally, the rapid development of dual-use technologies that have both civilian and military applications requires cooperation among industry, government and academia to guarantee the Mission Assurance of the space system. It is crucial that the industrial and science technology foundations that

¹³ Conference on Disarmament Documents related to Prevention of Arms Race in Outer Space. U.N. Office at Geneva. [https://www.unog.ch/80256EE600585943/\(httpPages\)/D4C4FE00A7302FB2C12575E4002DED85?OpenDocument](https://www.unog.ch/80256EE600585943/(httpPages)/D4C4FE00A7302FB2C12575E4002DED85?OpenDocument)

¹⁴ Space Development Strategy Headquarters. Office of Prime Minister of Japan. https://www.kantei.go.jp/jp/98_abe/actions/202006/29space.html

¹⁵ Space Policy of Japan. Cabinet Office of Japan. https://www8.cao.go.jp/space/english/index_e.html



support Japan's independent space activities be rebuilt, and that technologies that enable flexible responses and cross-sectional management be developed.

In 2019, **India** became the fourth nation to demonstrate an Earth-to-space kinetic ASAT weapon. In a public address following the test, Indian prime minister Narendra Modi reiterated that India remains opposed to the weaponization of space. This statement would appear to indicate that India does not believe the capability it demonstrated—an Earth-to-space kinetic ASAT—is a space weapon or represents the weaponization of space.¹⁶

¹⁶ International Perspectives on Space Weapons. Todd Harrison. Center for Strategic and International Studies. May 2020. https://aerospace.csis.org/wp-content/uploads/2020/05/Harrison_IntlPerspectivesSpaceWeapons-compressed.pdf

QUESTIONS A RESOLUTION MUST ANSWER

1. Provide a definition for militarization and weaponization and elaborate upon what qualifies as peaceful use of outer space.
2. Are the existing legal frameworks in place sufficient? If not, what alternative and new legal measures can be taken to strengthen the regulatory mechanism governing outer space exploration and usage?
3. What loopholes do the existing regulatory mechanisms have and how can they be provided for?
4. How can Anti-Satellite weapons be regulated while maintaining nations inherent to self defence? What changes can be made in the existing regulatory framework for the same?
5. What can be done to prevent creation of space debris in future?
6. What can be done for mitigating the adverse effects of existing space debris?
7. How can the threat to space exploration efforts by cyberwarfare be handled?
8. What confidence building and transparency measures can be taken to bolster multilateral cooperation, especially among nations with considerable space exploration capabilities?

FURTHER READING

While you research deeper into the finer aspects of the agenda, the below-mentioned links will help you gain a better perspective and direction about the multiple facets of the agenda. With a wide body of international action in terms of paperwork already existing in public domain, we urge all member state representatives to go through the same and gain a fair idea about their foreign policy with regards to the agenda.

1. Developments made with regards to a PAROS Treaty
<https://www.nti.org/learn/treaties-and-regimes/proposed-prevention-arms-race-space-paros-treaty/#:~:text=The%20United%20States%20voted%20%E2%80%9Cno,Building%20Measures%20in%20Outer%20Space.%E2%80%9D>
2. United States of America's Space Exploration Policy
<https://www.whitehouse.gov/wp-content/uploads/2020/07/A-New-Era-for-Space-Exploration-and-Development-07-23-2020.pdf>
3. UNIDIR Report on Discussions on Prevention of Arms Race in Outer Space in Conference on Disarmament
<https://www.unidir.org/files/publications/pdfs/prevention-of-an-arms-race-in-outer-space-a-guide-to-the-discussions-in-the-cd-en-451.pdf>
4. Bilateral and Multilateral Treaties and Agreements
<https://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/bi-multilateral-agreements.html>
5. Reports of the Secretary General on Confidence Building and Transparency Measures (Note: Delegates can also go through the responses of their nations to the reports to increase their understanding of their foreign policy)
6. Delegates can also use the U.N. Digital Library (accessible at <https://digitallibrary.un.org/?ln=en>) for their research and for getting access to meeting records, draft resolutions and reports of the General Assembly and other constituent U.N. organizations.