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OEWG on Reducing Space Threats: Recap Report

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ABBREVIATIONS AND ACRONYMS

ASAT	Anti-satellite
OEWG	Open-ended Working Group
PAROS	Prevention of an arms race in outer space
UNODA	United Nations Office for Disarmament Affairs



INTRODUCTION

INTRODUCTION

Space security has been a topic of importance for the international community for many years. States are increasingly aware of the importance of space systems to humankind and have put forth multiple initiatives that seek to preserve outer space as a peaceful and secure environment. The 2023 Open-ended Working Group (OEWG) on Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviours is one such initiative.

The OEWG was convened under General Assembly resolution 76/231 on Reducing space threats through norms, rules and principles of responsible behaviours¹, and was tasked with “mak[ing] recommendations on possible norms, rules and principles of responsible behaviours relating to threats by States to space systems, including, as appropriate, how they would contribute to the negotiation of legally binding instruments, including on the prevention of an arms race in outer space”.² The OEWG was tasked with submitting a report to the seventy-eighth session of the General Assembly.

Although the members of the OEWG did not agree on a report, the work that States and other stakeholders carried out throughout the four sessions held in 2022 and 2023 helped advance multilateral space security discussions. Now, as the international community moves forward and considers new initiatives and processes to prevent an arms race in outer space and achieve space security, it is also important to look back at the recent past. This report therefore looks at the genesis of the OEWG, what its mandate was, and what the outcome of the process was. Moreover, this report highlights some key takeaways for the future, outlining what worked well in the OEWG process and what can be improved as States continue their work to achieve space security.

1 G.A. Res. 76/231, 76th Sess. on Reducing space threats through norms, rules and principles of responsible behaviours (24 Dec. 2021) [hereinafter ‘Res. 76/231’], <https://undocs.org/A/RES/76/231>

2 Ibid., ¶15 c).



**THE DEWG IN
CONTEXT: WHAT, WHY,
WHO AND HOW?**

THE OEWG IN CONTEXT: WHAT, WHY, WHO AND HOW?

WHAT - THE MANDATE OF THE OEWG

The Open-ended Working Group (OEWG) on Reducing space threats through norms, rules and principles of responsible behaviours was given a four-pronged mandate by the United Nations General Assembly:

- a. Take stock of the existing international legal and other normative frameworks concerning threats arising from State behaviours with respect to outer space;
- b. Consider current and future threats by States to space systems, and actions, activities and omissions that could be considered irresponsible;
- c. Make recommendations on possible norms, rules and principles of responsible behaviours relating to threats by States to space systems, including, as appropriate, how they would contribute to the negotiation of legally binding instruments, including on the prevention of an arms race in outer space;
- d. Submit a report to the General Assembly at its seventy-eighth session.³

The OEWG, convened under General Assembly resolution 76/231 of 24 December 2021, held an organizational session on 7–9 February 2022. The four substantive sessions, which took place in May 2022, September 2022, January 2023, and August 2023, respectively addressed each of the items outlined in the mandate in turn. The OEWG was mandated to operate on the basis of consensus, which it did not manage to reach, and thus was unable to submit a report to the General Assembly after its conclusion. Moreover, although the Group did not agree on a report, at the end of the fourth session, the Chairperson introduced a document summarizing the proceedings, which was prepared under his sole authority and reflects his understanding of the views expressed without prejudice to the positions of any State.⁴

³ Ibid., ¶15.

⁴ Chairperson of the Open-ended Working Group on Reducing space threats through norms, rules and principles of responsible behaviours, Chairperson's Summary, U.N. Doc. A/AC.294/2023/WP.22 (1 September 2023) [hereinafter 'Chairperson's Summary'], available on the OEWG webpage here: <https://meetings.unoda.org/meeting/57866/documents>

WHY – THE GEOPOLITICS OF SPACE SECURITY THAT LED TO THE CREATION OF THE OEWG

Multilateral space security discussions are not new. The idea of the ‘prevention of an arms race in outer space’ (PAROS) emerged for the first time in 1978 and not long thereafter PAROS was added as an item to the agenda of the Conference on Disarmament. Space security matters are also discussed by the Disarmament Commission and the First Committee of the General Assembly, which adopts multiple space-security related resolutions every year.⁵

Over the years, the international community has recognized the need for a secure and peaceful space environment and has proposed multiple mechanisms to achieve this goal, with varying degrees of success.⁶ Traditionally, such proposals belonged to one of two groups: (i) initiatives seeking to agree on a legally binding instrument specific to space security and PAROS; or (ii) proposals pursuing the establishment of non-legally binding mechanisms to complement already existing instruments, such as the Outer Space Treaty.⁷ These two approaches have traditionally been seen as incompatible and mutually exclusive, although in recent years, and partly due to the work done by the members of the OEWG, this irreconcilability has, in great part, been deemed a false dichotomy, as States have increasingly realized the complementary and mutually reinforcing nature that such different initiatives have.⁸

Resolution 75/36 on Reducing space threats through norms, rules and principles of responsible behaviours⁹ –resolution 76/231’s predecessor, and the first to bear that title—called on States to submit views to the Secretary-General on what activities “could be considered responsible, irresponsible or threatening”. This resolution urged States to “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” as a first step towards formal discussions that could lead to “further consideration of legally binding instruments in this area”.¹⁰ The reference to both legally binding and non-legally binding approaches in the same resolution constituted a novel step forward towards bringing the two aforementioned traditionally opposed groups together.

5 Almodena Azcárate Ortega & Hellmut Lagos Koller, *The Open-Ended Working Group on Reducing Space Threats through Norms, Rules and Principles of Responsible Behaviours: The Journey so Far, and the Road Ahead*, 48, *Air and Space Law*, 19, 2023. <https://kluwerlawonline.com/journalarticle/Air+and+Space+Law/48.SI/AILA2023029>

6 Ibid.

7 *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 Jan. 1967, 18 UST 2410; 610 UNTS 205; 6 ILM 386.

8 OEWG, *The Role of Norms, Rules and Principles of Responsible Behaviour for Space Security*, UNIDIR (24 Jan. 2023), U.N. Doc A/AC.294/2023/WP.3, <https://undocs.org/en/A/AC.294/2023/WP.3>

9 G.A. res. 75/36, 75th Sess., on Reducing space threats through norms, rules and principles of responsible behaviours (7 Dec. 2020), <https://undocs.org/A/RES/75/36>

10 Ibid.

Thirty States, the European Union, and nine non-State actors submitted substantive comments. Key elements of these submissions were compiled in a Report of the Secretary-General “without prejudice to their individual positions”.¹¹ The submissions to the Secretary-General served to highlight that, despite the diverse and sometimes diverging approaches and priorities of States when it comes to space security, the desire to achieve PAROS is shared by all.¹²

WHO – THE OPEN-ENDED NATURE OF THE OEWG

The OEWG process was open to participation by all States as well as non-governmental entities, such as the commercial industry, civil society and academia. The Chair of the OEWG encouraged States and other stakeholders to take advantage of the open-ended nature of the process to participate actively and in a diverse manner to share their views in the pursuit of common understandings on space security.

Over the years, these non-governmental stakeholders have become increasingly vocal in expressing the need to maintain space security, and have contributed various governance proposals over the decades, including ideas for a space code of conduct, and calls for a ban on the testing of kinetic anti-satellite (ASAT) weapons.¹³ Non-governmental entities, particularly the commercial industry, make up around an 80 per cent of the space economy and their unique perspective and know-how can aid in the shaping of space security by providing States with valuable insight that could support the optimization of policymaking.¹⁴

11 Report of the Secretary-General A/76/77, on Reducing space threats through norms, rules and principles of responsible behaviours, ¶¶ 14, 17 (13 Jul. 2021), <https://undocs.org/en/A/76/77>

12 Azcárate Ortega & Lagos Koller, supra note 5.

13 Jessica West & Almudena Azcárate Ortega, Space Dossier 7 – Norms for Outer Space: A Small Step or a Giant Leap for Policymaking?, UNIDIR, 6–7 (Mar. 2022), <https://doi.org/10.37559/WMD/22/Space/01> See also Michael Krepon, Space: A Code of Conduct, The Henry L. Stimson Center (16 Sept. 2010), https://www.stimson.org/wp-content/files/file-attachments/MKrepon_Final_Format_1.pdf; Nivedita Raju, A Proposal For a Ban on Destructive Anti-Satellite Testing: a Role for the European Union?, 74, Non-Proliferation and Disarmament Papers (Apr. 2021), <https://www.sipri.org/publications/2021/eu-non-proliferation-and-disarmament-papers/proposal-ban-destructive-anti-satellite-testing-role-european-union>; Outer Space Institute, Letter to UNGA President Volkan Bozkur (2 Sept. 2021), http://outerspaceinstitute.ca/docs/OSI_International_Open_Letter_ASATs_PUBLIC.pdf; Daniel Porras, Space Dossier 2 – Towards ASAT Test Guidelines, UNIDIR (17 May 2018), <https://unidir.org/sites/default/files/publication/pdfs//en-703.pdf>

14 Manon Blancafort, Sarah Erickson & Almudena Azcárate Ortega, Commercial Actors and Civil Society Consultation Report: How Can Non-Governmental Entities Contribute to Reducing Threats to Outer Space Systems? (13 Mar. 2023), <https://doi.org/10.37559/WMD/23/Space/02>

ATTENDANCE

The OEWG was attended by 115 different entities.¹⁵ State representation made up 67.8% of total attendees. The remaining 32.3% of attendees were from international organizations having received a standing invitation to participate to the UN General Assembly as observers and other international organisations, commercial actors, and civil society. Out of the five UN General Assembly regional groupings, the most represented regions by attending State delegations were Asia-Pacific States and Western European and Other States, followed by the Latin American and Caribbean States, Eastern European States and African States (see fig. 1).

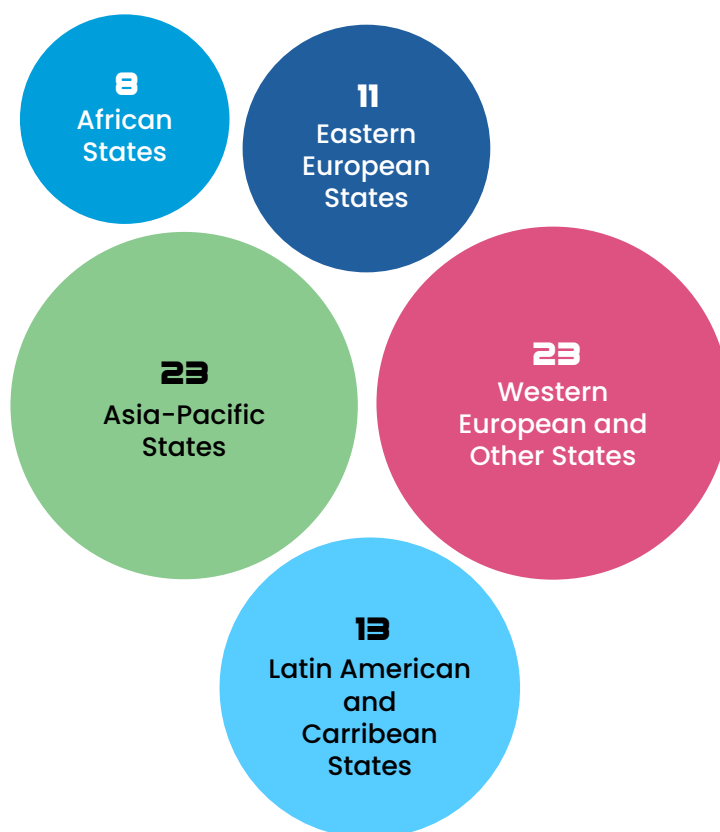


Figure 1. OEWG State Attendance

¹⁵ The list of attendance by State delegations, permanent observers, and international organizations and entities that have received a standing invitation to participate in the sessions and the work of the General Assembly as observers can be found under UN document A/AC.294/2023/INF.3 on the OEWG webpage <https://meetings.unoda.org/meeting/57866/documents>. The attendance list of other international organizations, commercial actors and civil society organizations attending the OEWG in accordance with resolution 76/231 can also be found on that webpage under UN document A/AC.294/2023/INF.2.

There was a total of 507 State delegates present. In regard to gender parity, out of all the State delegates, 62.7% were men 37.3% were women (see fig. 2).¹⁶

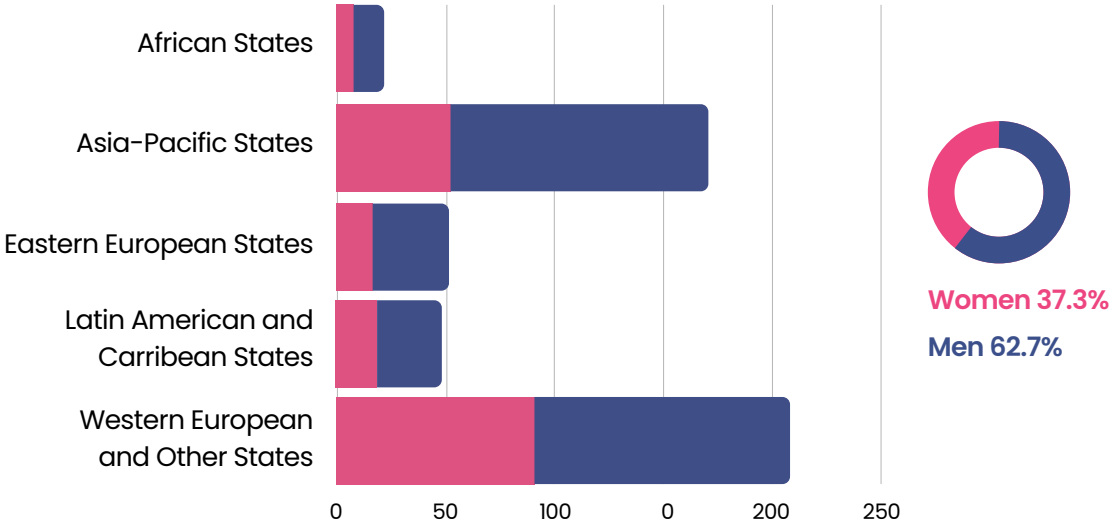


Figure 2. OEWS State Attendance by Gender

16 This report recognizes the risk of misgendering. In order to minimize this risk, the majority of the data on gender is pulled from the official participants list supra note 15, which includes the honorifics of representatives.

ACTIVE PARTICIPATION

Participation by States and other entities varied across different formats including both oral and written participation through delivered statements, dynamic responses, written contributions, and working papers. The following participation data was gathered through open-source information available from the open sessions of the OEWG. The majority of active participation was in the form of spoken statements and oral responses, 43.7% of which came from Western European and Other States, 29.3% came from Asia-Pacific States, 12.7% came from Latin American and Caribbean States, 7.2% came from Eastern European States, 3.7% came from African States, and 3.4% came from other non-governmental stakeholders (see fig. 3).

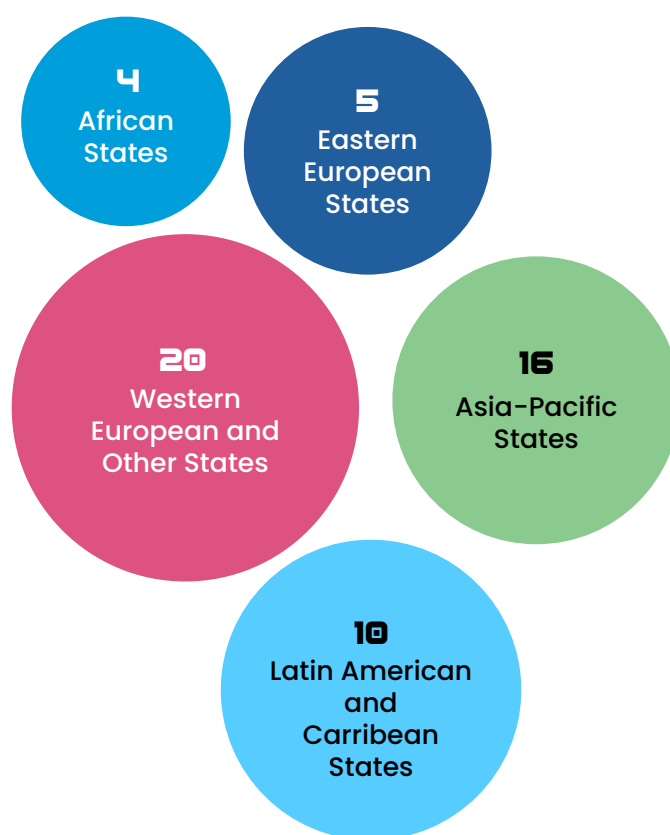


Figure 3. OEWG State Participation Breakdown

Regarding gender parity, out of the total oral interventions, 23.7% were by women and 76.3% were by men (see fig. 4 below).

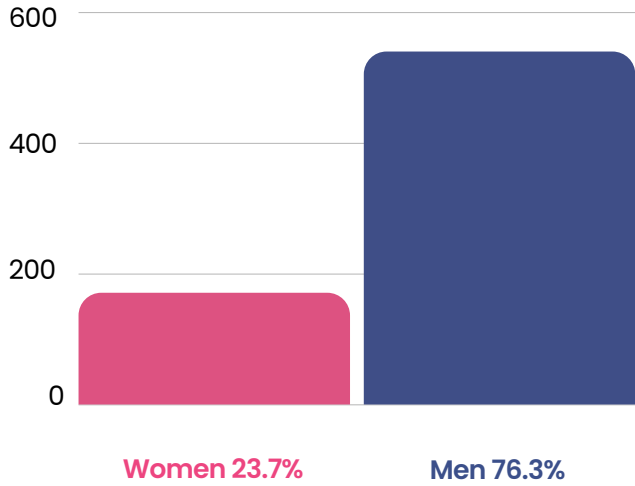


Figure 4. OEWG Oral Interventions by Gender

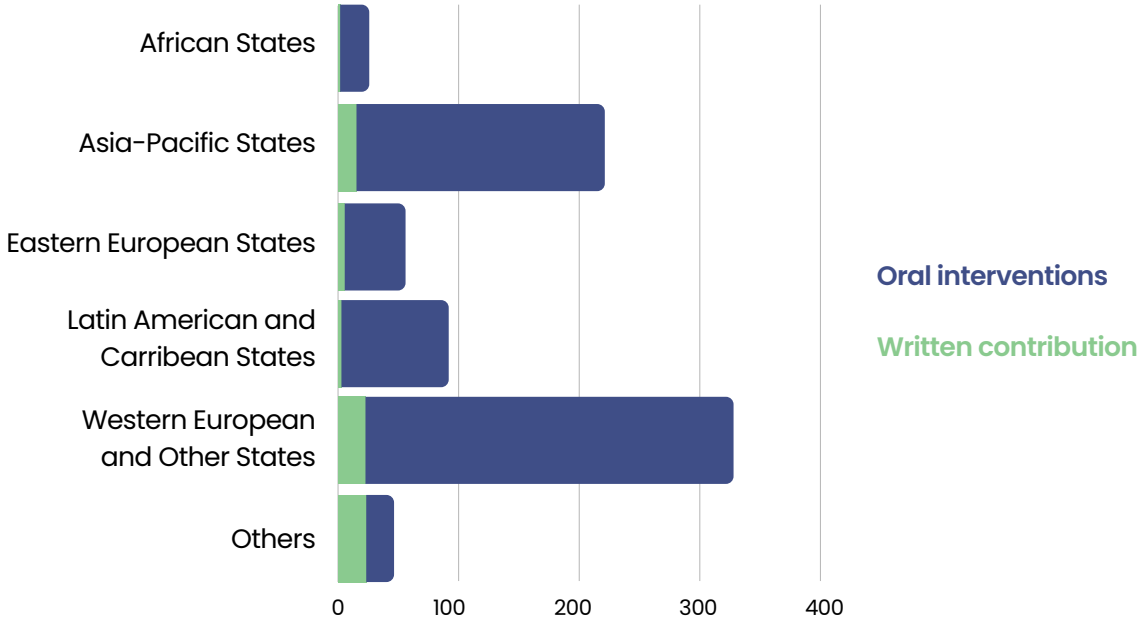


Figure 5. OEWG State Participation by Oral Intervention and Written Submission

HOW – THE FOCUS ON RESPONSIBLE BEHAVIOURS

The OEWG’s focus on the behaviours of States when carrying out space activities is different to previous initiatives to address space security, which had traditionally focused on the capabilities of space systems. This novel approach to PAROS was partly motivated by the perceived challenges to arms control posed by the dual-use and dual-purpose nature¹⁷ of many space systems.¹⁸ Their growing prevalence blurs the conceptual boundaries of weapons, making control through restrictions on hardware difficult.¹⁹ A focus on behaviours, however, does not signify that capabilities should be disregarded, but that capabilities can often be neutral and can be misused, thus making an approach that focuses on behaviours more effective in ensuring space security in the eyes of certain States.²⁰

Moreover, the emphasis on “responsible” and “irresponsible” sought to highlight that even when certain activities might be considered to be within the threshold of legality, they do not necessarily foster space security and sustainability. Rather, they can escalate tensions and risk peace in outer space.²¹

17 In this report, dual-use objects are defined as those that have a military and security function, as well as a civilian or commercial function. Dual-purpose objects are defined as those designed to fulfil a benign objective (such as debris removal or on-orbit servicing), but which could potentially be repurposed to harm other space objects. These two categories are commonly referred to as “dual-use” in a joint manner by many members of the international community. See Almudena Azcárate Ortega, Statement to the Open-Ended Working Group on ‘Reducing space threats through norms, rules and principles of responsible behaviours’ - Topic 3: Current and future space-to-space threats by States to space systems, UNIDIR (14 Sept. 2022), <https://documents.unoda.org/wp-content/uploads/2022/09/Azcarate-Ortega-Almudena-OEWG-dual-use-presentation-FINAL.pdf>

18 Azcárate Ortega & Lagos Koller, *supra* note 5.

19 West & Azcárate Ortega, *supra* note 13. See also Jessica West & Mehnaz Hossain, The Open-Ended Working Group on Space Threats: Recap of the first meeting, May 2022, Project Ploughshares (6 Sept. 2022), <https://www.ploughshares.ca/reports/the-open-ended-working-group-on-space-threats-recap-of-the-first-meeting-may-2022>

20 OEWG, Second session, Statement by Canada; UNIDIR *supra* note 8.

21 UNIDIR, *supra* note 8.



**TAKING STOCK
OF EXISTING
INTERNATIONAL LAW**

TAKING STOCK OF EXISTING INTERNATIONAL LAW

The first substantive session of the OEWG was held in Geneva from 9 to 13 May 2022. The focus of the session was the existing international legal and other normative frameworks concerning threats arising from State behaviours with respect to outer space. During the session, five main topics were addressed: (i) existing international law; (ii) international law relating to the use of force in international affairs; (iii) protection of civilians, civilian objects and the natural environment; (iv) applicable elements of the legal regimes governing aviation and the sea; and (v) voluntary mechanisms and regimes applicable to outer space. Several experts were invited to give presentations on the different topics addressed by the group to aid the discussion by providing context and fostering an understanding of these issues. Their presentations covered the following matters (see table 1).

Day	Topics addressed
1	<ul style="list-style-type: none"> • International law applicable to military activities in outer space, including gaps in currently applicable laws and regulations, and how these gaps can contribute to creating uncertainty in the space regime and lead to the increase of geopolitical tensions.²² • The military and non-military duality of many space objects and the legal implications of such intermingling of military and civilian functions under the laws of armed conflict.²³ • The importance and applicability of the due regard principle.²⁴
2	<ul style="list-style-type: none"> • Meaning and relevance of the concept of use or threat of use of force.²⁵ • Existing gaps in currently applicable laws in relation to the placement of conventional weapons in orbit²⁶

22 Kuan-Wei (David) Chen, Presentation to OEWG on Topic 1: Existing international law concerning threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 9 May 2022.

23 David Koplow, Presentation to OEWG on Topic 1: Existing international law concerning threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 9 May 2022.

24 Setsuko Aoki, Presentation to OEWG on Topic 1: Existing international law concerning threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 9 May 2022.

25 Guoyu Wang, Presentation to OEWG on Topic 2: International law relating to the use of force in international affairs in the context of threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 10 May 2022.

26 Andrey Malov, Presentation to OEWG on Topic 2: International law relating to the use of force in international affairs in the context of threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 10 May 2022.

3	<ul style="list-style-type: none"> • How key principles of international humanitarian law, such as distinction, proportionality and neutrality, could apply to space.²⁷ • Protection of civilians and civilian objects as well as the natural environment in the space domain, particularly within the context of military operations in space.²⁸
4	<ul style="list-style-type: none"> • Similarities and differences that exist between space law and other areas of the law that can serve as inspiration in seeking to strengthen the space law regime, particularly air law and the law of the sea²⁹ • Transparency and confidence-building measures, and how these tools could be used to address threats to space systems arising from State behaviours.³⁰
5	<ul style="list-style-type: none"> • Transparency and confidence-building measures, and how these tools could be used to address threats to space systems arising from State behaviours.³¹

Table 1. Expert Presentations to the OEWG (First Substantive Session)

Expert presentations were followed by a general exchange of views between all members of the OEWG (States and non-governmental participants alike). During this exchange, delegations reaffirmed the applicability of international law to the outer space domain, including the Charter of the United Nations, customary international law and the treaties to which States are a party. The need to reach a common understanding regarding perceived gaps or grey areas in currently applicable laws was also discussed, and it was noted that the existing legal framework applicable to outer space by itself is not sufficient and would need to be strengthened, particularly to deal with new threats.³²

27 Cassandra Steer, Presentation to OEWG on Topic 3: Protection of civilians, civilian objects and the natural environment in relation to threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 11 May 2022.

28 Wen Zhou, Presentation to OEWG on Topic 3: Protection of civilians, civilian objects and the natural environment in relation to threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 11 May 2022.

29 Almudena Azcárate Ortega & Charles Stotler, Presentation to OEWG on Topic 4: Applicable elements of the legal regimes governing aviation and the sea in the context of threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 12 May 2022.

30 Nivedita Raju, Presentation to OEWG on Topic 4: Applicable elements of the legal regimes governing aviation and the sea in the context of threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 13 May 2022.

31 Nivedita Raju, Presentation to OEWG on Topic 4: Applicable elements of the legal regimes governing aviation and the sea in the context of threats arising from State behaviours with respect to outer space, Agenda item 6(a), First session, Geneva, 13 May 2022.

32 Chair's Summary of Discussions under Agenda Items 5 and 6 (a), U.N. Doc A/AC.294/2022/3 (20 May 2022), <https://documents.unoda.org/wp-content/uploads/2022/07/A-AC.294-2022-3-Chairs-summary-Advanced-Unedited-Version.pdf>; Chairperson's Summary, *supra* note 4.



**CONSIDERING
CURRENT AND FUTURE
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TO SPACE SYSTEMS**

CONSIDERING CURRENT AND FUTURE THREATS TO SPACE SYSTEMS

The second session of the OEWG took place in Geneva from 12 to 16 September 2022. This second session was dedicated to discussing current and future threats to space systems.³³ The discussion was structured around the different threat vectors to space systems, and the following topics were addressed: (i) nature and uses of the outer space environment and space systems in relation to current and future threats by States to space systems; (ii) current and future Earth-to-space threats by States to space systems; (iii) current and future space-to-space threats by States to space systems; (iv) current and future space-to-Earth threats by States to space systems; and (v) current and future Earth-to-Earth threats by States to space systems.³⁴

Experts were invited by the Secretariat to provide input to aid in the contextualization of the different issues addressed by the Group (see table 2).

Day	Topics addressed
1	<ul style="list-style-type: none"> • General context on the physics of the space domain and of space systems • Distinction between space safety and security³⁵
2	<p>Earth-to-space threats</p> <ul style="list-style-type: none"> • Direct ascent kinetic ASAT capabilities³⁶ and their dangerous debris-creating effects • Non-kinetic ASAT capabilities to target the space components of a system from Earth, underscoring how electromagnetic, cyber and non-kinetic physical interference could compromise these systems and the services they provide by causing harmful interferences.³⁷ • Counterspace capabilities and the danger they pose for emerging spacefaring

33 Laetitia Cesari Zarkan, One Step Closer to Space Security: The Role of Multilateral Discussions, Global Policy - Observer Research Foundation (ORF) Series, 90, 2022, <https://orbilu.uni.lu/handle/10993/53187>

34 Azcárate Ortega & Lagos Koller, supra note 5.

35 Kazuto Suzuki, James Black, Guoyu Wang & Clinton Clark, Presentation to OEWG on Topic 1: Nature and uses of the outer space environment and space systems in relation to current and future threats by States to space systems, Agenda item 6(b), Second session, Geneva, 12 Sept. 2022.

36 Victoria Samson, Presentation to OEWG on Topic 2: Current and future Earth-to-space threats by States to space systems, Agenda item 6(b), Second session, Geneva, 13 Sept. 2022.

37 Laetitia Cesari Zarkan, Presentation to OEWG on Topic 2: Current and future Earth-to-space threats by States to space systems, Agenda item 6(b), Second session, Geneva, 13 Sept. 2022.

	States, with new and expanding space programmes ³⁸
3	Space-to-space threats <ul style="list-style-type: none"> • Placing and manoeuvring of co-orbital space systems to potentially attack another satellite.³⁹ • The importance of distinguishing between dual-use and dual-purpose space assets.⁴⁰ • The use of lasers in space and their possible repurposing into counterspace technologies.⁴¹ • The role non-governmental entities –particularly the commercial industry– can play in encouraging responsible behaviour in connection with rendezvous and proximity operations, including standards for transparency.⁴²
4	Space-to-Earth threats <ul style="list-style-type: none"> • Strategic advantage that could be derived from the deployment of space-based strike capabilities.⁴³ • The high cost of maintaining space-based strike capabilities.⁴⁴ • The placement of weapons in outer space and its relationship to geopolitics on Earth.⁴⁵
5	Earth-to-Earth threats <ul style="list-style-type: none"> • The emergence and use of megaconstellations in low Earth orbit and the use of other space assets during military operations and military conflicts.⁴⁶ • The humanitarian consequences of using space assets during an armed conflict, and the impact their targeting and disabling can have for civilian populations.⁴⁷ • The dangers of targeting through cyber means and the threats posed by cyber counterspace capabilities due to their accessibility and their difficulty in attribution.⁴⁸

Table 2. Expert Presentations to the OEWG (Second Substantive Session)

38 Victoria Valdivia, Presentation to OEWG on Topic 2: Current and future Earth-to-space threats by States to space systems, Agenda item 6(b), Second session, Geneva, 13 Sept. 2022.

39 Rajeswari (Raji) Pillai Rajagopalan, Presentation to OEWG on Topic 3: Current and future space-to-space threats by States to space systems, Agenda item 6(b), Second session, Geneva, 14 Sept. 2022.

40 Azcárate Ortega, supra note 18.

41 Petr Boháček, Presentation to OEWG on Topic 3: Current and future space-to-space threats by States to space systems, Agenda item 6(b), Second session, Geneva, 14 Sept. 2022.

42 Aya Iwamoto, Presentation to OEWG on Topic 3: Current and future space-to-space threats by States to space systems, Agenda item 6(b), Second session, Geneva, 14 Sept. 2022.

43 Dmitry Stefanovich, Presentation to OEWG on Topic 4: Current and future space-to-Earth threats by States to space systems, Agenda item 6(b), Second session, Geneva, 15 Sept. 2022.

44 Laura Grego, Presentation to OEWG on Topic 4: Current and future space-to-Earth threats by States to space systems, Agenda item 6(b), Second session, Geneva, 15 Sept. 2022.

45 Bleddyn Bowen, Presentation to OEWG on Topic 4: Current and future space-to-Earth threats by States to space systems, Agenda item 6(b), Second session, Geneva, 15 Sept. 2022.

46 David Bertolotti, Presentation to OEWG on Topic 5: Current and future Earth-to-Earth threats by States to space systems, Agenda item 6(b), Second session, Geneva, 16 Sept. 2022.

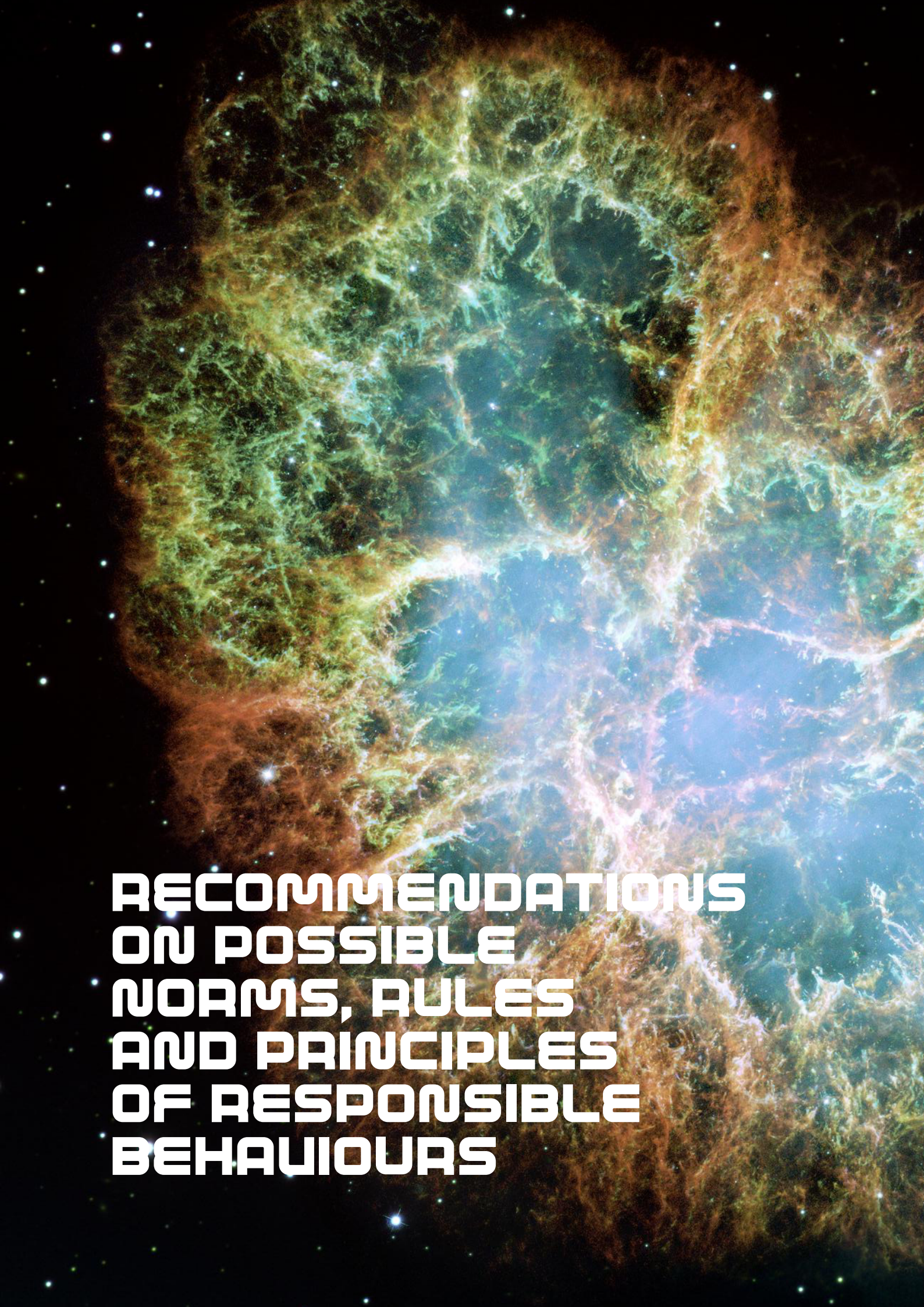
47 Mauro Vignati, Presentation to OEWG on Topic 5: Current and future Earth-to-Earth threats by States to space systems, Agenda item 6(b), Second session, Geneva, 16 Sept. 2022.

48 Elina Morozova, Presentation to OEWG on Topic 5: Current and future Earth-to-Earth threats by States to space systems, Agenda item 6(b), Second session, Geneva, 16 Sept. 2022.

Discussions during the second substantive session of the OEWG highlighted that States, despite having different priorities relating to how to tackle PAROS, largely share the same set of concerns as to what constitutes a threat to space systems.⁴⁹ Moreover, many participants of the OEWG expressed concerns regarding threats to critical national security infrastructure in outer space and the lack of transparency and common understanding in outer space. It was emphasized that measures –including norms, rules and principles– to mitigate threats to space systems must not impede the exploration and use of outer space for peaceful purposes and the development of beneficial new technologies nor the economic development of emerging spacefaring States.⁵⁰

49 OEWG, Threats to the Security of Space Activities and Systems, UNIDIR, (12 Sept. 2022), U.N. Doc A/AC.294/2022/WP.16, https://documents.unoda.org/wp-content/uploads/2022/08/20220817_A_AC294_2022_WP16_E_UNIDIR.pdf

50 OEWG, Chair’s Summary of Discussions under Agenda Item 6 (b), U.N. Doc A/AC.294/2022/4 (5 Oct. 2022), https://documents.unoda.org/wp-content/uploads/2022/10/A_AC294_2022_4_Chairs-Summ-2nd-Session-2022-au.pdf; Chairperson’s Summary, *supra* note 4.



**RECOMMENDATIONS
ON POSSIBLE
NORMS, RULES
AND PRINCIPLES
OF RESPONSIBLE
BEHAVIOURS**

RECOMMENDATIONS ON POSSIBLE NORMS, RULES AND PRINCIPLES OF RESPONSIBLE BEHAVIOURS

The third substantive session took place in Geneva from 30 January to 3 February 2023, where members of the Group considered “recommendations on possible norms, rules and principles of responsible behaviours relating to threats by States to space systems, including, as appropriate, how they would contribute to the negotiation of legally binding instruments, including on the prevention of an arms race in outer space” as established by the mandate of the OEWG.⁵¹

The following topics were discussed:⁵²

1. Norms, rules and principles derived from existing international legal and other normative frameworks.
2. (a). Norms, rules and principles relating to counter-space capabilities, including Earth-to-space and Earth-to-Earth threats.
3. (b). Norms, rules and principles relating to counter-space capabilities, including space-to-Earth and space-to-space threats.
4. Norms, rules and principles relating to operations involving dual-use capabilities.⁵³
5. Norms, rules and principles related to the prevention of the placement of weapons in outer space.
6. Norms, rules and principles related to the prevention of the use of force or threat of use of force with regard to space objects or with their use.
7. Norms, rules and principles relating to outer space objects or activities that should enjoy protection.
8. Norms, rules and principles relating to information exchange on space policies.

⁵¹ See Res. 76/231, supra note 1 at ¶15 c).

⁵² OEWG, Indicative Timetable, Third session (28 Dec. 2022), U.N. Doc A/AC.294/2023/INF.1/Rev.3, [https://docs-library.unoda.org/Open-Ended_Working_Group_on_Reducing_Space_Threats_-__\(2022\)/A_AC294_2023_INF1_Rev.3.pdf](https://docs-library.unoda.org/Open-Ended_Working_Group_on_Reducing_Space_Threats_-__(2022)/A_AC294_2023_INF1_Rev.3.pdf)

⁵³ ‘Dual-use’ as used in the indicative timetable refers to both strictly dual-use systems and those that are dual purpose.

9. Norms, rules and principles relating to information exchange and risk reduction notifications related to outer space activities as well as to consultative mechanisms.
10. Norms, rules and principles relating to international cooperation, including with respect to space surveillance and tracking and space situational awareness.
11. Approaches for further developing norms, rules and principles, including in relation to how they would contribute to the negotiation of legally binding instruments, including on the prevention of an arms race in outer space.
12. Norms, rules and principles relating to other aspects of outer space activities.

STATES' PERSPECTIVES

During the third session of the OEWG, States reaffirmed the importance of outer space for humankind and the need to keep it as a peaceful and secure domain. In this context, States emphasized the applicability of international law to the space domain, in particular article 2(4) of the Charter of the United Nations, which prohibits the use or threat of use of force. They also highlighted the importance of existing United Nations space treaties, with several delegations indicating that there was a need to clarify the interpretation of certain principles enshrined in the agreements, such as the principle of due regard, established in article IX of the Outer Space Treaty.⁵⁴

Several States underscored that many possible solutions and initiatives to address space security concerns can exist simultaneously, and they can involve a combination of legally binding mechanisms and non-legally binding instruments, which can operate in a complementary manner. Various delegations also indicated that while non-legally binding measures do not constitute a substitute to legally binding initiatives, they can contribute to the interpretation of existing laws as well as to the consideration of concepts and proposals for legally binding measures.⁵⁵

The need for increased trust and confidence among stakeholders, particularly States, was underscored as a key issue to address, especially in light of the rapid technological development and the ever-increasing number of actors in space. Members of the Group discussed measures to build trust, including information exchange, providing assistance and training, transferring technology, and the sharing of space situational awareness data. Moreover, several States emphasized the importance of not limiting access to space and the development of space systems for peaceful purposes by emerging States. Members of the Group also discussed the importance of fostering transparency and indicated this could be achieved through information exchange and the publication of space security doctrines and policies, as well as on activities that could be perceived as threatening, such as rendezvous and proximity operations.⁵⁶

54 Azcárate Ortega & Lagos Koller, *supra* note 5; Chairperson's Summary, *supra* note 4.

55 *Ibid.*

56 *Ibid.*

INPUT FROM NON-GOVERNMENTAL STAKEHOLDERS

As highlighted above, the mandate of the OEWG enabled the participation of non-governmental stakeholders. A number of non-State actors took this opportunity and made written and oral contributions. Furthermore, the UNGA resolution establishing the OEWG allowed the possibility for interested parties to exchange views on the issues within the mandate of the OEWG with the Chair through consultations. To help facilitate such an exchange of views, UNIDIR and the United Nations Office for Disarmament Affairs (UNODA) co-organized an intersessional consultative meeting on 25 January 2023.⁵⁷

Through these modes of participation, the OEWG was able to benefit from the perspective of non-State stakeholders on space security issues. These included threat perceptions on cyber risks to more vulnerable aspects of space systems such as ground components and supply chains. Additional threat perceptions were shared on information deficits from insufficient monitoring systems and the assumption that there is enough scientific understanding to comprehensively grasp satellite behaviours and dangers to space systems. Moreover, non-State stakeholders expressed concern that a lack of trust among States and geopolitical powers could lead to escalatory pathways towards conflict. These recommendations included proposals for States to conduct joint exercises on debris removal to increase trust, explore avenues for addressing violations –particularly of non-legally binding commitments– and create cross-border academic cooperation for monitoring and understanding satellite behaviour to create future mechanisms for compliance. There were also recommendations for mandatory hardware requirements to improve tracking and effective implementation.⁵⁸

There was significant convergence on threat perceptions and recommendations between State and non-State actors (see fig. 6). Participants shared similar concerns regarding the intentional creation of space debris and interference with space systems through cyber and other non-kinetic means. Moreover, similarly to States, non-governmental entities also made recommendations such as establishing information-sharing mechanisms, calling for common understanding and the clarification of terminology. The reiteration of opinions expressed, and from different points of view, helped enable a more comprehensive and nuanced discussion.⁵⁹

57 The consultation was held under the Chatham House Rule. However, a report of the discussions was made and is publicly available at <https://doi.org/10.37559/WMD/23/Space/02>

58 Ibid.

59 Ibid.

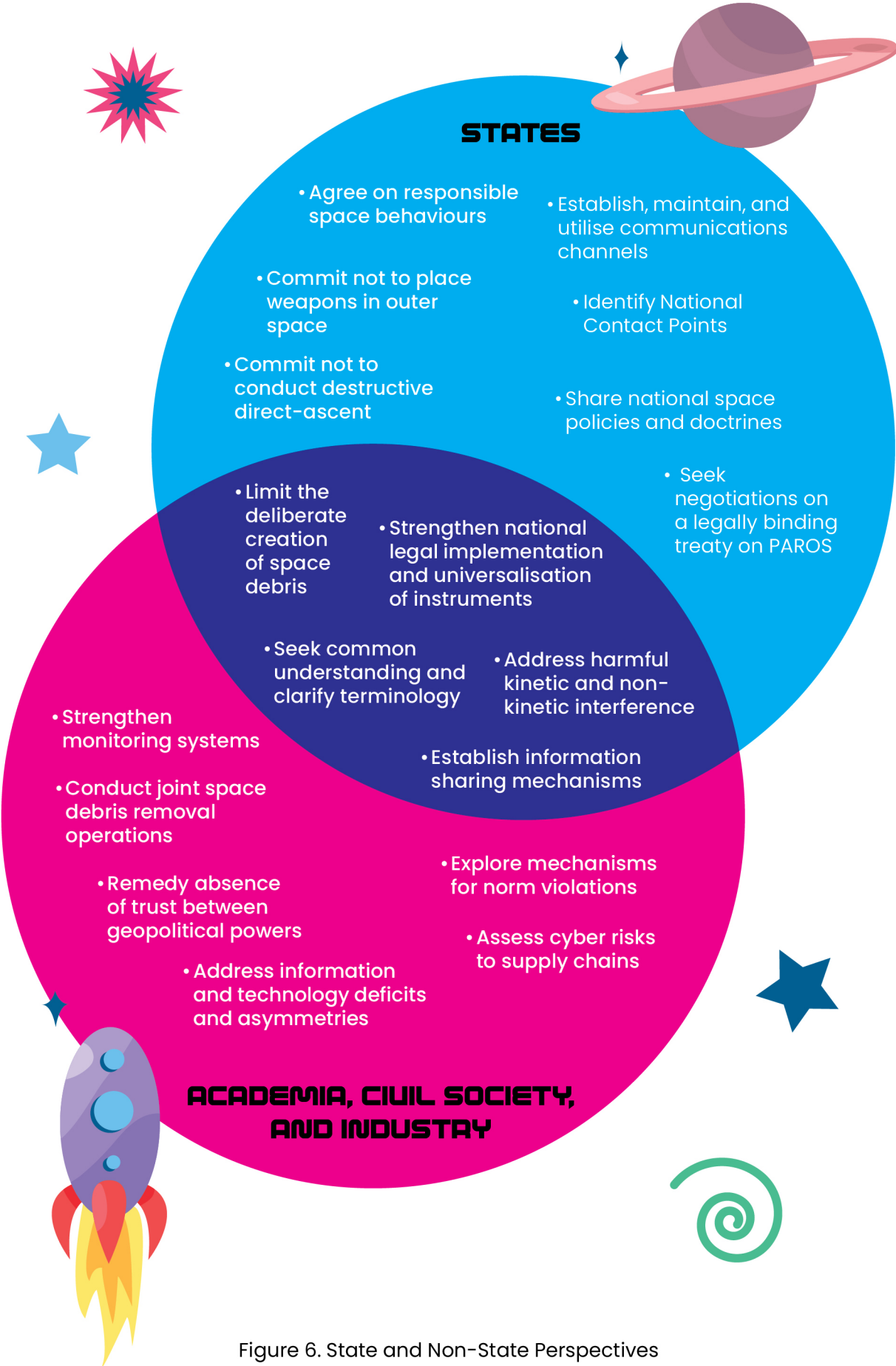
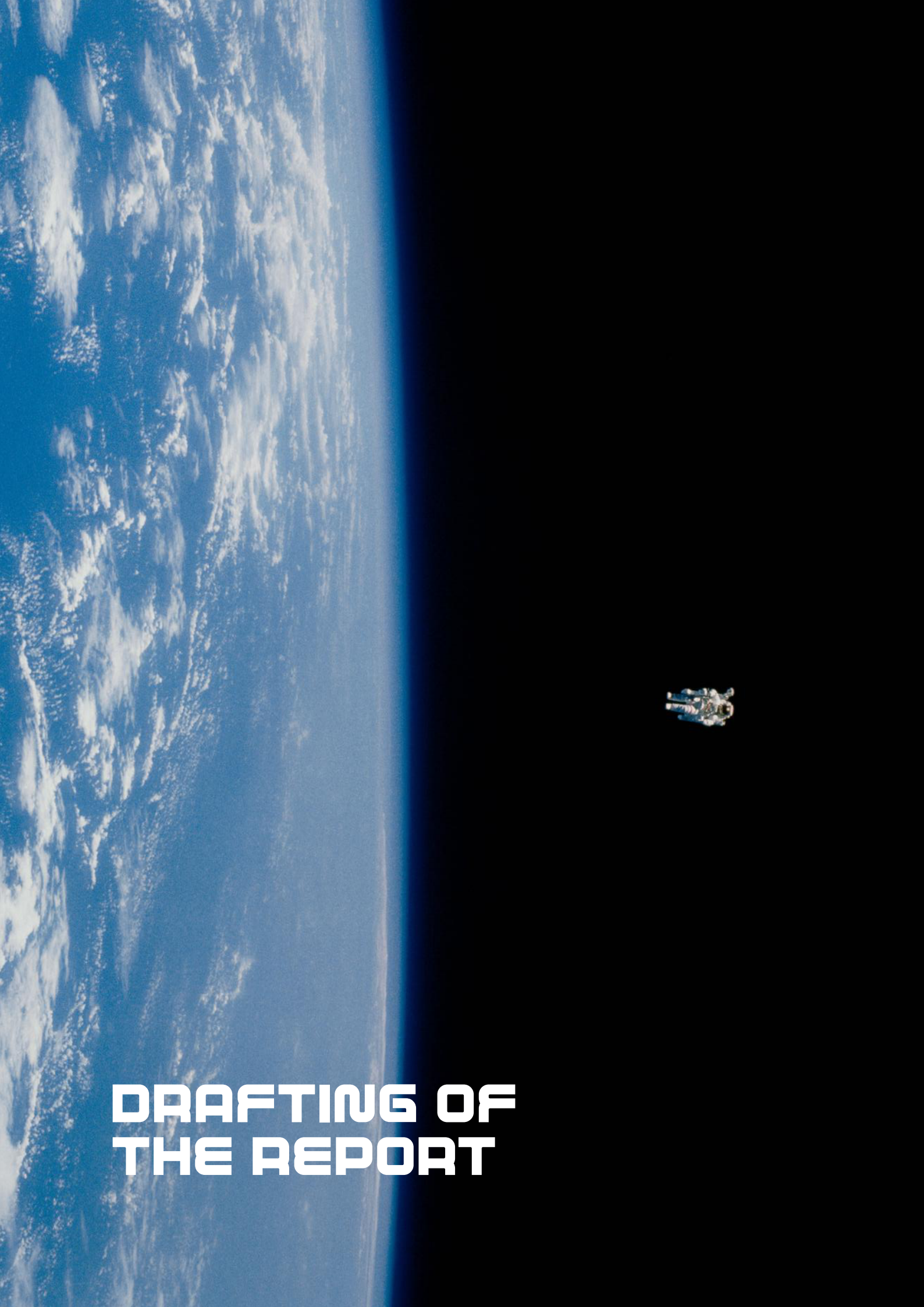


Figure 6. State and Non-State Perspectives



**DRAFTING OF
THE REPORT**

DRAFTING OF THE REPORT

The fourth substantive session took place in Geneva from 28 August to 1 September 2023. Following the mandate of the OEWG, it considered the fourth item, which was “to submit a report to the General Assembly at its seventy-eighth session”.⁶⁰ After deliberations and exchange on a draft substantive report, the Group was ultimately unable to reach consensus due to a lack of political will to make the necessary concessions on both language and substance.⁶¹ Thus, the Group was unable to produce neither a substantive report on the discussions, considerations and recommendations that took place within the OEWG, nor a procedural report to take stock of the work that had been done. Despite the inability to adopt either report, the Chair of the OEWG released under his own authority a Chairperson’s Summary to reflect his understanding of the views expressed, without prejudice to the positions of any State.⁶²

The Chairperson’s Summary presented a series of non-exhaustive elements which the Group had discussed and had considered as possible recommendations for its report that it was ultimately unable to agree on. These elements revolved around nine main topics:

- Damage and destruction of space objects or use of space objects as weapons – considerations related to this topic focused on refraining from any deliberate act that causes physical damage to or disabling or destruction of other States’ space objects, including where such acts are expected to result in the generation of space debris.
- Development and deployment of space objects for hostile purposes – considerations in relation to this topic advised against the development, production, testing or deployment of weapons in space for any purpose, including counterspace capabilities of a non-kinetic nature.
- Interference with the normal and safe operation of space objects – considerations related to this topic indicated that States should avoid deliberate acts that can interfere with the functioning of space objects under the jurisdiction or control of other States, as such acts of interference may give rise to tensions and increase the risk of escalation and inadvertent conflict.
- Protection of critical space-based services – considerations on this topic established that States should refrain from any acts that would impair the provision of critical space-based services, especially to civilians, or that would endanger space objects crewed by humans.

60 Res. 76/231, supra note 1.

61 Presentation by Hellmut Lagos, OS23 Panel II – Multilateral Efforts to Build Space Security, UNIDIR Outer Space Security Conference 2023, 00:22:29, <https://www.youtube.com/watch?v=PYLEoOZACOM>

62 Chairperson’s Summary, supra note 4.

- Assistance and encouragement in certain acts – considerations on this topic focused on how States should refrain from assisting other entities from carrying out activities that could endanger space operations, such as the ones cited above, and moreover States should also strengthen supervision of private sector actors under their jurisdiction, in accordance with article VI of the Outer Space Treaty.
- Military space policies, doctrines and strategies – considerations relating to this topic focused on how States should consider committing, as a matter of policy, to PAROS, to the prevention of conflict in outer space and to the peaceful exploration and use of outer space for the benefit of all humankind, and avoid rhetoric that could jeopardize the safety, security and sustainability of space activities.
- Implementation of international obligations, commitments and measures – considerations in relation to this topic highlighted that States should promote compliance with existing international law applicable to outer space activities.
- Notifications of defence and security exercises – considerations surrounding this topic focused on how States should provide advance notification, to the greatest extent practicable, regarding defence and security exercises that could have an impact on space systems and services.
- Consultative mechanisms – considerations relating to this topic determined that, to facilitate exchanges of notification and information, States should establish routine channels of communication and designate points of contact, as appropriate.

Despite the lack of a consensus report, there was evidence of convergences on many issues. Notably, a working paper on cross-regional support of the OEWG was submitted by 34 States.⁶³ The working paper demonstrated that a diverse coalition of States agreed that the OEWG was constructive to the goal of PAROS and complementary with other processes and approaches. Furthermore, the idea that political commitments on responsible behaviors can be developed in support of, and without prejudice to, the pursuit of legally binding measures and that the two approaches are not mutually exclusive was expressed in a concluding joint statement delivered on behalf 39 States.⁶⁴

63 The working paper in support of the OEWG at the final session was delivered on behalf of Argentina, Australia, Austria, Belgium, Brazil, Canada, Cambodia, Chile, Colombia, Costa Rica, Denmark, Ecuador, El Salvador, Ireland, Italy, Finland, Germany, Japan, Malawi, Mexico, the Netherlands, New Zealand, Nigeria, Norway, Panama, Peru, Philippines, the Republic of Korea, Singapore, Sierra Leone, Spain, Sweden, Switzerland, and Uruguay. It can be found under UN document A/AC.294/2023/WP.21.

64 The joint concluding statement was delivered on behalf of Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Costa Rica, Colombia, Czech Republic, Denmark, Ecuador, El Salvador, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Malawi, Mexico, the Netherlands, New Zealand, Nigeria, Norway, Panama, Peru, Philippines, Portugal, the Republic of Korea, Samoa, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and Uruguay. It can be accessed here: [https://docs-library.unoda.org/Open-Ended_Working_Group_on_Reducing_Space_Threats_-__\(2022\)/PHL-_STATEMENT_-_Concluding_Joint_Statement.pdf](https://docs-library.unoda.org/Open-Ended_Working_Group_on_Reducing_Space_Threats_-__(2022)/PHL-_STATEMENT_-_Concluding_Joint_Statement.pdf)



TAKEAWAYS FROM THE OEWG PROCESS

TAKEAWAYS FROM THE OEWG PROCESS

The OEWG is not the first initiative of the international community to address space security concerns, nor will it be the last. Nonetheless, this process served to further advance the discussion, highlighting points of convergence, such as the applicability of international law, including the Charter of the United Nations, to outer space as established by article III of the Outer Space Treaty. The OEWG also underscored that there is more work to be done, and that further discussions are needed to achieve common understanding on multiple space security issues, such as the definition of certain terms including “armament” and “weapon” in space.⁶⁵

The debate among participants of the OEWG contributed to bringing together perspectives, as many States reaffirmed that mechanisms for space security can take the form of both legally and non-legally binding instruments. While many States recognized that the latter are not a substitute for legally binding arms control instruments, work in the development of both can be “pursued in a progressive, sustained and complementary manner, without undermining existing legal obligations”.⁶⁶

While the OEWG may not have ultimately achieved a consensus report, it contributed to the furtherance of the international dialogue on space security issues. Rather than being seen as a final destination in terms of a solution to threats to space, it should be seen as a step forward, and be considered in conjunction with existing and new proposals and initiatives by States and other stakeholders.

As the international community turns its gaze to future processes, there are several takeaways from this OEWG processes which may contribute to the continuation of the dialogue and success of new initiatives and proposals to come out of those processes.

⁶⁵ Chairperson’s Summary, *supra* note 4.

⁶⁶ *Ibid.*



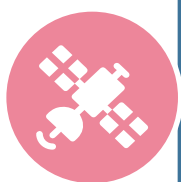
Promote open and inclusive dialogue

The OEWG mandate allowed for various global actors to be involved. Prioritizing diverse participation across regions, genders, and stakeholders is important for progress in multilateral security forums.



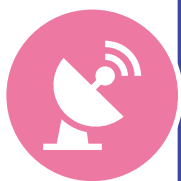
Work with the existing space governance framework

Taking stock of the existing space governance framework is essential for building congruent pathways forward and avoiding the duplication of efforts.



Take a comprehensive threat assessment approach

Stakeholders perceive a range of space security threats that arise from capabilities and behaviours. Employing an extensive threat assessment approach ensures the security concerns of the most are addressed.



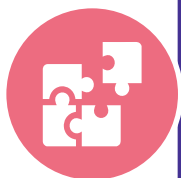
Involve practitioners and industry experts

Outer space assets are primarily owned and operated by the commercial sector. Seeking input from space industry experts brings practical insights, understanding on technical issues, and actionable solutions.



Pursue recommendations in good faith

The OEWG produced an array of recommendations each with the potential to serve as a basis for future solutions. Deliberating proposals impartially and in good faith is conducive to achieving space security.



Benefit from mutually supportive initiatives

Applying a variety of approaches, such as non-legally and legally binding instruments, ensures stakeholders take full advantage of the diplomatic toolbox for successful prospective outcomes.



Ensure the continuity of dialogue

Reaching international space security goals is dependent on finding synergies between processes and building on work and ideas of previous efforts.



CONCLUDING THOUGHTS

CONCLUDING THOUGHTS

Space security discussions are increasingly salient, as the global community recognizes the integral role that space-enabled services play in our world. Multilateral security initiatives strive to ensure that outer space remains a peaceful environment that is accessible to all. The OEWG on Reducing space threats through norms, rules and principles of responsible behaviours was one such initiative. The OEWG provided a novel framework for structuring space security discussions.






The OEWG opened multilateral space security discussions to a wide audience. Member States from all five UN General Assembly regional groupings participated in the discussions. In addition, a number of other actors, including UN permanent observers, international organizations having received standing invitation to participate to the UN General Assembly as observers, and other non-State stakeholders within academia, civil society, and industry participated in the work of the Group. Diverse participation across regions, genders, and stakeholders is important to the inclusivity, impact, and success of multilateral security fora.

The Group took stock of the existing international space governance framework, ensuring that efforts would not be duplicated and inspiring new discussions on the applicability of existing mechanisms to current issues. The OEWG also facilitated an exchange on considerations of threats to space systems. In light of the mandate, the discussion on threat perceptions was able to support a variety of concerns, beyond an encapsulated discussion on hardware and specified technologies. Furthermore, an intersessional consultative meeting of interested representatives from the commercial sector and civil society was held. Through this track two dialogue, perspectives from the space industry on space security issues were brought into the wider discussion. This was an important development, given the fact that the majority of space assets are owned and operated by the commercial sector and their input opened the door to new insights, understandings on technical issues, and actionable solutions.

Through group discussion, a number of recommendations were made on norms, rules and principles of responsible behaviours. This dialogue on recommendation proposals, including on how such recommendations could feed into a future legally binding instrument, proved to be a useful exercise in considering non-legally and legally binding approaches contemporaneously. As a result, many States noted the mutually reinforcing relationship of these approaches. Ultimately, the OEWG demonstrated some differences in perspectives as well as convergences on many issues. Despite the fact that a final substantive report was not adopted, the OEWG generated nuanced and novel ideas within space security discussions. To ensure positive prospective outcomes in space security governance, it is paramount that synergies be made between multilateral space security fora. The resources used, efforts made, and progress achieved by the international community in one initiative should not be

stifled by the onset of another initiative. Rather, these discussions should bloom and flourish from one process to the next. Through such an iterative and compounding progression can the global community come closer to guaranteeing the peace and security of outer space.



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