



What's Next for Europe in Multilateral Engagement on Space Security?

The UN OEWG and its success(ors)



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TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	SPACE, AN INCREASINGLY TENSE DOMAIN SUBJECT TO GROWING THREATS OF CONFLICT.....	3
2.1	An evolving context with potential major consequences.....	3
2.2	Is there currently an arms race in outer space?	4
2.2.1	Rivalry	5
2.2.2	Corresponding capabilities.....	5
2.2.3	Acceleration of development.....	6
3	MULTILATERAL MECHANISMS: ENHANCING SECURITY IN SPACE THROUGH VARIOUS FORA OF DISCUSSION.....	8
3.1	Outcome-oriented processes.....	9
3.1.1	Draft Treaty on the Prevention of the Placement of Weapons in Space, or the Threat or Use of Force against Outer Space Objects (2008-today).....	9
3.1.2	EU Draft International Code of Conduct for Outer Space Activities (2008-2015)	10
3.2	Exchange-oriented processes.....	11
3.2.1	Group of Governmental Experts on Transparency and Confidence-Building Measures for Space Activities (2012-2013)	11
3.2.2	Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space (2018-2019)	12
4	THE OEWG ON REDUCING SPACE THREATS: ADOPTING A NEW APPROACH TO TACKLE SPACE SECURITY ISSUES.....	14
4.1	A new kind of mechanism to address space security: the OEWG process (2022-2023)..	14
4.2	The recommendations of the OEWG: taking into account a new context while recalling longstanding principles	17
5	MULTIPLYING PARALLEL INITIATIVES FOR SPACE SECURITY, THE RIGHT WAY FORWARD?	21
5.1	Exchanges at multilateral level through different settings	21
5.2	ESPI Recommendations: Reinforcing Europe's influence in multilateral <i>fora</i>	24
	ANNEXES	25
	Annex A: Full recommendations compiled in the Draft report of the Open-Ended Working Group.....	25
	AUTHORS.....	28

LIST OF ACRONYMS

Acronym	Definition
CD	Conference on Disarmament
EEAS	European External Action Service
GGE	Group of Governmental Experts
ICoC	Draft International Code of Conduct for Outer Space Activities
ISAM	In-space servicing, assembly and manufacturing
NAM	Non-Aligned Movement
NGO	Non-Governmental Organisation
OEWG	Open-Ended Working Group
PAROS	Prevention of an Arms Race in Outer Space
PPWT	Draft Treaty on the Prevention of the Placement of Weapons in Space, or the Threat or Use of Force Against Space Objects
RPO	Rendezvous and proximity operations
UN	United Nations
UNGA	United Nations General Assembly
UNIDIR	United Nations Institute for Disarmament Research
STM	Space Traffic Management
WEOG	Western European and Others Group



1 INTRODUCTION

For more than forty years, the international community has acknowledged that geopolitics has a strong influence on and can pose a risk to global space activities.¹ This is largely due to the fact that space technology plays a key role in every modern military and, in an effort to overcome the space-based advantages of their potential adversaries, countries are investing resources into capabilities that can disrupt, disable or even destroy satellites.² As such, the current geopolitical situation on Earth is being reflected in space, with the possibility of open hostile actions against space systems becoming increasingly likely. **In the past decades, the growing risks to space systems have not been matched by equivalent success in international arms control or disarmament dialogues, which remain limited.** Therefore, there is little to prevent current risks and threats from evolving into more serious issues.

However, global perspectives are beginning to coalesce around a common path towards a new normative framework that can enhance space security for all and ensure sustainable space activities in the future. In 2023, a UN Open-Ended Working Group (OEWG) on Reducing Space Threats through Norms, Rules and Principles of Responsible Behaviours met for its fourth and final session in Geneva (28 August – 1 September), at the premises of the Conference on Disarmament.³ **The mandate of this OEWG was primarily to take stock of existing security threats to global space systems originating from States, and to make recommendations on norms, rules or principles that could mitigate those threats.**⁴ The establishment of this group marked a significant milestone for multilateral space security dialogues as, officially, it received overwhelming global support (the resolution for its creation was passed with 150 votes in favour, 8 against and 7 abstentions). To provide a point of reference, the previous working group addressing similar issues, the Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space, was established in 2017 by a vote of 108 in favour, 5 against and 47 abstentions, with nearly all Western countries either abstaining or voting against.

Unfortunately, at the end of its final session in September 2023, the OEWG was unable to fulfil its mandate and adopt a report with any recommendations, an action that required consensus. This consensus was broken in large part due to Russia, which asserted that its positions had been “discriminated against and ignored”.⁵ Moreover, Russia challenged the legitimacy of developing norms of responsible behaviours at the United Nations,⁶ as it stands in direct contradiction with the development of a treaty.⁷ The country also considers that addressing the concept of responsible behaviours is divisive and controversial and does not aim at preventing military activities and

¹ The UN Yearbook of 1981 first mentions that “concern was expressed during the General Assembly session that rapid advances in science and technology had made the extension of the arms race into outer space a real possibility, and that new kinds of weapons were still being developed despite the existence of international agreements such as [the Outer Space Treaty] which prohibited nuclear and other weapons of mass destruction from being placed in orbit or elsewhere in space”. United Nations (1981) *United Nations Yearbook*. ([Link](#))

² Weeden, B. and Samson, V. (eds.) (2023) *Global counterspace capabilities*, Secure World Foundation. ([Link](#))

³ The Conference on Disarmament (CD) was recognised by the Tenth Special Session on Disarmament of the United Nations General Assembly (SSOD-II) (1978) as a single multilateral disarmament negotiating forum of the international community. The CD adopts its own rules of procedure and its own agenda (including the Prevention of an Arms Race in Outer Space). It reports annually to the United Nations General Assembly (UNGA), taking into account the recommendations and proposals of the UNGA, though it is not bound by them. The CD has negotiated several major multilateral arms control agreements, such as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), or the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BWC). It should be noted that the OEWG is not a working-group of the CD but of the UNGA, though it convened in Geneva to benefit from the expertise available at the State missions present there.

⁴ UN General Assembly Resolution 76/231, par 5b and c. ([Link](#))

⁵ Hitchens, T. (2023) *Russia spikes UN effort on norms to reduce space threats*, Breaking Defense. ([Link](#))

⁶ Statement by the Russian Federation at the first session of the OEWG (9 May 2022). ([Link](#))

⁷ See the recording of the 10th meeting at the 4th session of the UN OEWG (starting at 1:21:00). ([Link](#))

weapons in orbit, but rather at regulating them.⁸ Russia also went one step further and blocked the adoption of a procedural report, which would have merely stated that the OEWG met, on which days, and listed the participants. **Therefore, the OEWG ended up without any official document.** Such tactics are not atypical currently, particularly for an issue as sensitive as space security.⁹

While the lack of consensus is regrettable and would suggest that no progress was made, this is not necessarily true upon closer analysis. The statements made at the OEWG provide insights into the risks and threats that States are most worried about, and into possible measures to address them. Such mitigating measures would be greatly welcome now since a global arms race is taking place, with space being one of its major components.¹⁰

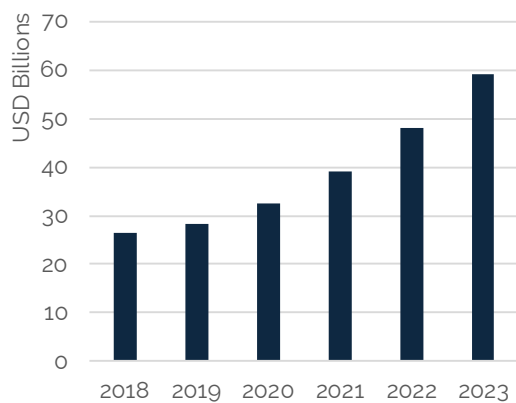


Figure 1: Evolution of global military space budgets (Data: Euroconsult)

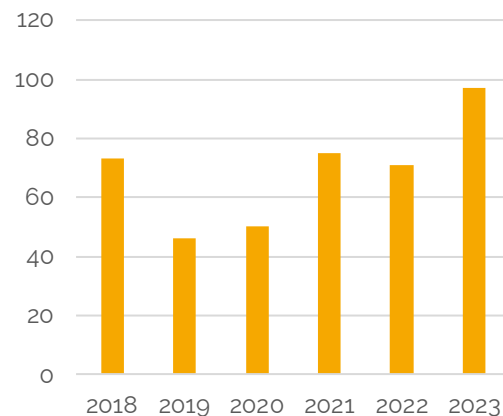


Figure 2: Number of military spacecraft launched per year (Data: ESPI)

This report will first examine the impact of the current geopolitical developments on space activities, and the potential threats posed to global space users. Next, it will examine the recent history of multilateral dialogues on space security, and highlight some lessons learned along the way. The report will then analyse the 2022-2023 OEWG, particularly its format and the recommendations it produced (even though they were not formally approved). Finally, it will provide perspectives on the new initiatives for space security announced after the end of the OEWG, including considerations on Europe's next steps in this context.



⁸ Reaching Critical Will, *First Committee Monitor* (21 October 2023). ([Link](#))

⁹ Fokht, E.F. and S.S., Samokhina, S. and Goryashko, S. (2023) *Threats, insults, and Kremlin 'robots': How Russian diplomacy died under Putin*, BBC News. ([Link](#))

¹⁰ Silverstein, B., Porras, D. and Borrie, J. (2020) *Alternative Approaches and Indicators for the Prevention of an Arms Race in Outer Space*, UNIDIR. ([Link](#))

2 SPACE, AN INCREASINGLY TENSE DOMAIN SUBJECT TO GROWING THREATS OF CONFLICT

2.1 An evolving context with potential major consequences

The current space landscape is characterised by an **elevation of the status of space in the strategic considerations** of many states, in particular in major spacefaring nations. This primarily takes place through a triple evolution: **changes in strategies and doctrines**, with the proclamation of space as a warfighting domain and the subsequent elaboration of more assertive postures; **organisational changes**, with the creation of entities dedicated to military space affairs such as space commands or space forces; and **capability development**, especially of counterspace capabilities, but also through growing investment in military spacecraft.¹¹

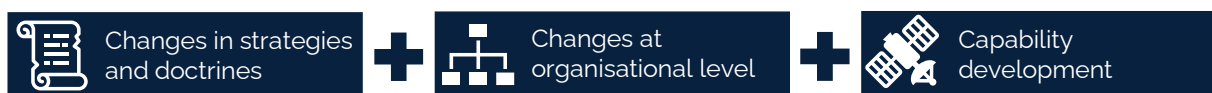


Figure 3: Recent evolutions in the military space field

This evolution leads to concerns and interrogations regarding prospects for the stability of the domain, whose disruption would have a major impact on societies and economies around the globe as well as on the military capabilities of major powers. Moreover, it is often believed that tensions in space could spill over and lead to conflict on Earth. Hence, maintaining stability in orbit has become a key stake in today's international relations.

Although there is consensus that an open conflict in space would have widespread negative consequences, it is impossible to predict what they would be exactly, largely because it is not clear what form a conflict would take (kinetic or non-kinetic).

In terms of impact, it could lead to communication disruptions in isolated geographical locations for instance. While most domestic telecommunications and internet still rely on fibre-optic cables and landlines, widespread disruption to international satellite telecommunication would likely be very costly, particularly to civilian populations.

Another scenario that would certainly have major impact is the widespread loss of GPS. This system, operated by the U.S. Department of Defense, is freely available to users all over the world. If it were to be attacked in a way that disabled the service provided, it would have wide-ranging impacts felt by populations on a global scale, even if alternative systems (GLONASS, Beidou, Galileo) have been developed in the past decades. Notably, financial institutions that use the GPS atomic clock to provide timestamps to transactions¹² would have to find a new system, likely resulting in financial chaos over an unpredictable period of time. The impact on global transportation would also potentially be catastrophic.

Perhaps the most worrisome scenario for the future of space activities is the general destruction of objects in space. While using kinetic means to destroy a satellite is the least cost-effective method, it remains as one simple tool to neutralise a particular satellite service. What has already been seen in previous kinetic anti-satellite (ASAT) tests indicates that the widespread physical destruction of objects in LEO would produce a large number of uncontrollable debris and result in cascading

¹¹ Bataille, M. and Messina, V. (2020) *Europe, Space and Defence: From « Space for Defence» to «Defence of Space»*, European Space Policy Institute. ([Link](#))

¹² *Timing Applications* (2022) GPS.gov. ([Link](#))

effects generating more debris (Kessler Syndrome) and, very likely, the end of any financially practical exploitation of Earth's most valuable orbits.¹³

While the physical consequences of conflict in space are unpredictable, an attack on a foreign space object or system would likely result in serious escalation between geopolitical rivals. For example, in its 2019 Space Policy, NATO specified that an attack on an allied satellite is a sufficient cause to trigger an armed collective response.¹⁴ There is no further clarification on what NATO considers to be an "attack", though previous experience would suggest that GNSS interference is tolerable up to a point.¹⁵ However, that level of tolerance could change, especially during periods of heightened tension. The war in Ukraine, for example, could very well have shifted attitudes towards jamming of NATO ally satellites. If so, the elements for a miscalculation or misjudgement are present for a potential outbreak of hostilities in orbit.

2.2 Is there currently an arms race in outer space?

In 2019, the United Nations Institute for Disarmament Research (UNIDIR) released a publication questioning the current existence of an arms race in outer space, as well as the inevitability that such an arms race would result in open conflict in orbit. To answer this question, UNIDIR identified three characteristics indicative of an arms race. These were:¹⁶



Figure 4: The three characteristics of an arms race (source: UNIDIR)

The Institute concluded that an arms race is taking place on Earth, and that space is a key dimension in that race. It is the case in both defensive and offensive capacities, meaning that States are simultaneously seeking to protect their assets and to neutralise the assets of their rivals. In this context, the growing availability of counterspace capabilities (destructive and non-destructive) also makes it more likely that hostilities will, at some point, emerge in space. A cursory review of these three characteristics reveals that the situation in space has only worsened since the publication of this report, and that the possibility of an open conflict involving space objects is growing.

¹³ Jones, A. (2023) *Chinese satellite in near miss with Russian ASAT test debris*, SpaceNews. ([Link](#))

¹⁴ *NATO's approach to space* (2022) NATO. ([Link](#))

¹⁵ Hitchens, T. (2022) *Satellite jamming 'normal' by militaries during conflict, not peacetime: State dept. official*, Breaking Defense. ([Link](#))

¹⁶ Silverstein, B., Porras, D. and Borrie, J. (2020) *Alternative Approaches and Indicators for the Prevention of an Arms Race in Outer Space*, p.17

2.2.1 Rivalry

In terms of rivalry, current headlines show that relations between the main space powers are fraught with tension.¹⁷ Indeed, the war in Ukraine has severed ties between Russia and the United States, as well as most of the NATO allies. Similarly, China presently has very tense relationships with the United States and India, not to mention other Western allies in the region such as Japan, the Republic of Korea and Australia. Each of these countries and their relevant military forces are highly reliant on space capabilities for communications, intelligence and even missile-targeting. **Given their reliance on satellites, it is not surprising that these States consider the emergence of counterspace capabilities to be a national security threat.**

"Preventing an arms race in outer space is the key precondition for peace, safety and the sustainable use of outer space."

Chinese statement at the UN OEWG

"Ceasing the destructive testing of direct-ascent anti-satellite missiles would reduce tension among countries given the threat these ASAT systems pose"

U.S. statement at the UN OEWG

2.2.2 Corresponding capabilities

The second characteristic of an arms race is the development of corresponding capabilities, meaning **capabilities intentionally developed in relation to each other**. The corresponding capabilities that are particularly relevant for space security are those that can negate advantages presented by space technology, namely, counterspace capabilities. These types of weapons can be divided into four categories:¹⁸

Kinetic	Use physical force to strike and destroy a satellite. A prime example is a direct ascent missile that destroys a spacecraft by physically striking the satellite, causing the object to break up. Examples: ground station attack; direct-ascent attack; co-orbital ASAT
Electronic	Rely on electronic interference. This can involve electronic jamming of a signal, making it impossible to receive communications, or spoofing, which provides a false electronic signal either to a satellite or user on the ground. Examples: uplink jamming; downlink jamming; spoofing
Directed-energy	Use powerful and directed-energy, such as lasers, which can cause both temporary and permanent damage. Indeed, while their main application would be blinding or dazzling a camera or sensor, they could, in theory, be used at a frequency that is high enough for the laser to cause permanent damage, including on the satellite bus. Example: laser dazzling or blinding; high-power microwaves
Cyber	Specific type of attack that targets the software or network behind a satellite (meaning the spacecraft itself, the ground segment or the link between both). Examples: data interception; data corruption; seizure of control

Table 1: Types of counterspace capabilities

¹⁷ Examples of such headlines: *US to Ban American investments in China Tech Sector (2023)* BBC News. ([Link](#)); *India bars makers of military drones from using Chinese parts (2023)* The Economic Times. ([Link](#))

¹⁸ These classifications were originally formalised in the Secure World Foundation Global Counterspace Report. Other organisations have differing classifications but they generally follow similar lines.



All major military space powers have some level of proficiency in each of these four categories, and they are continuing to pursue future developments.¹⁹ From close-proximity operations to the testing of laser prototypes, it is increasingly evident that all major modern militaries are investing in the ability to carry out some form of interference against foreign space objects. For instance, China tested a direct-ascent kinetic ASAT in 2007; the U.S. military spaceplane X-37B has started to fly in 2010, with seven missions conducted since then; and Russia unveiled the Peresvet laser in 2018. Beyond hard capabilities, major spacefaring nations are also developing their broader military space ecosystems, for instance with the multiplication of exercises and the facilitation of wargaming activities.²⁰

Furthermore, private actors have also quickly understood that **the development of tensions creates a potential market for them, in which long-term demand can be sustained by military actors worldwide.** In this context, some of them are signing contracts and demonstrating capabilities to contribute to the protection of satellites for military customers.²¹

The result of all this investment in research capabilities is that geopolitical actors are now feeling pressured to outpace each other, with progress in other countries being usually presented as the prime justification for the development of a state's own systems.²²

2.2.3 Acceleration of development

The final characteristic of an arms race is acceleration in the development of corresponding capabilities. Specifically, this refers to a meaningful acceleration in the tempo of capability production cycles or deployment. Unfortunately, this last characteristic is difficult to measure without examining military budgets to see exactly how much spending is being done for specific counterspace programmes. However, this acceleration can be measured by examining proxy indicators such as weapons tests, demonstrations and policy shifts, particularly the creation of new command structures to incorporate counterspace operations.²³

For example, the creation of the United States Space Force marked a notable acceleration of the development and deployment of military space capabilities by virtue of signalling that the United States now needed an entire military branch to manage its military space operations (including counterspace activities). Rather than having diverse space capabilities for different branches of the military, **it became necessary to have a single branch that prioritised the space domain completely, with specialised training and technology acquisitions focusing solely on orbital capabilities.** Indeed, the Space Policy Directive-4, which started the process to establish the U.S. Space Force, states that one of the objectives of the new organisation is to “consolidate existing forces and authorities for military space activities, as appropriate, in order to minimize duplication of effort and eliminate bureaucratic inefficiencies”²⁴ while the Defence Space Strategy released in 2020 asserts that the U.S. Space Force “will bring unity, focus, and advocacy to organizing, training,

¹⁹ Weeden, B. and Samson, V. (eds.) (2023) *Global counterspace capabilities*, p. xxvii.

²⁰ Chen, S. (2023) *By unveiling previously Secret Tech, is China preparing to fight space wars?*, South China Morning Post. ([Link](#))

²¹ A few examples include: Harris, M. (2023) *Enter the Hunter satellites preparing for Space War*, Wired. ([Link](#)); Erwin, S. (2023) *True anomaly gets \$17 million Space Force contract for Space Domain Awareness Software*, SpaceNews. ([Link](#))

²² See the following articles: Sample, I. (2023) *US 'ready to fight in space if we have to', says military official*, The Guardian. ([Link](#)); Sankaran, J. (2022) *'Russia's anti-satellite weapons: A hedging and offsetting strategy to deter Western Aerospace Forces'*, *Contemporary Security Policy*, 43(3), pp. 436–463. DOI:10.1080/13523260.2022.2090070; Zhen, L. (2023) *China slams US call to ban anti-satellite missile tests as 'fake arms control'*, South China Morning Post. ([Link](#))

²³ Silverstein, B., Porras, D. and Borrie, J. (2020) *Alternative Approaches and Indicators for the Prevention of an Arms Race in Outer Space*, p.19

²⁴ *Space Policy Directive-4: Establishment of the United States Space Force* (2019) National Archives and Records Administration. ([Link](#))



and equipping space forces".²⁵ While this is not conclusive evidence that such activities are part of a broader arms race, it is highly indicative that it is. This is even more so when one considers the changes in doctrine and policies related to space security, some of which declaring space a "warfighting domain" and including the capacity to deny or degrade a rival's own space assets.²⁶

To this end, it is worth noting that new countries are added to the Secure World Foundation's Global Counterspace report each year due to policy changes involving the development of counterspace capabilities. Recent additions include Australia, France, South Korea and the United Kingdom. Moreover, when one considers that cyberattacks are also a means to interfere with space systems, the list of potential aggressors becomes considerably longer.

In this context, **it is increasingly evident that geopolitical rivals are looking for ways to exploit vulnerabilities of space objects.** Up till now, there has never been a recorded or disclosed kinetic attack on a foreign space object, although satellite systems are regularly jammed (as happened to the GPS system during a major NATO exercise in Norway in 2018²⁷) and there have been several instances of hacking and cyberattacks, the most notable being the attack against Viasat's KA-SAT at the start of the war in Ukraine.²⁸ Suspicious close proximity operations are also on the rise (e.g. U.S. GSSAP spacecraft approaching Chinese satellites in GEO²⁹). None of these activities have yet escalated into what might be considered "open conflict" in space, but it does appear that States are preparing for such an eventuality.

Faced with an increasingly tense context that creates heightened risks with unpredictable consequences, and willing to reduce them, the international community has implemented several initiatives at multilateral level, in particular in the framework of the United Nations, to address space security issues.

²⁵ U.S. Department of Defense (2020) *2020 Defense Space Strategy summary*. ([Link](#))

²⁶ As expressed, for instance, in the U.S. Defense Space Strategy.

²⁷ Goff, S. (2018) *Russia jammed GPS signals during NATO military exercise involving US troops*, Inside GNSS. ([Link](#))

²⁸ Other famous examples include hacking attempts against a NOAA weather system in 2014 and a NASA Earth observation satellite in 2008: Flaherty, M.P., Samenow, J. and Rein, L. (2014) *Chinese hack U.S. Weather Systems, satellite network*, The Washington Post. ([Link](#)); Franzen, C. (2011) *NASA confirms 'suspicious events' in Satellite hacking report*, TPM – Talking Points Memo. ([Link](#))

²⁹ Jones, A. (2023) *Chinese study finds GSSAP close approaches a threat to its Geo Assets*, SpaceNews. ([Link](#))

3 MULTILATERAL MECHANISMS: ENHANCING SECURITY IN SPACE THROUGH VARIOUS *FORA* OF DISCUSSION

The international community has a long history of tackling space security issues and challenges, though its **success rate is questionable**. Indeed, one of the oldest and most well-entrenched space arms control measures is found in Article IV of the Outer Space Treaty, whereby States are prohibited from placing nuclear weapons or weapons of mass destruction in orbit.³⁰

However, **it was not until the late 1970s, during the Tenth Special Session of the General Assembly in 1978, that concerns were first explicitly raised over a potential arms race in outer space**. This issue was ultimately remanded to the Conference on Disarmament, which first addressed the Prevention of an Arms Race in Outer Space (PAROS) in 1983, and led to the creation of an Ad Hoc Committee on PAROS in 1985.³¹ However, even at this early stage, it was evident that political divisions existed between UN Member States, largely along the same lines that divided the world in the context of the Cold War.³² As such, very little was accomplished beyond the examination of space security threats and how they might be conceptualised.

Following the fall of the Soviet Union, it became the position of numerous UN Member States that no arms race was taking place in space and that there was no need to address the PAROS item, in large part because there was only one dominant military space power at this time.³³ However, following the 2007 Chinese ASAT test, the international community took the topic back up with a greater sense of urgency. Since then, three more states have conducted destructive ASAT demonstrations (the United States, India and Russia) and numerous countries have indicated their desire to acquire counterspace capabilities in the near future.³⁴ In addition, the development of non-destructive ASAT systems is also continuing. And while there are several recurring resolutions at the UN, such as the resolution calling on States to Prevent an Arms Race in Outer Space or a resolution whereby States promise "No First Placement" of weapons in space, the security context of and in space continues to get worse.

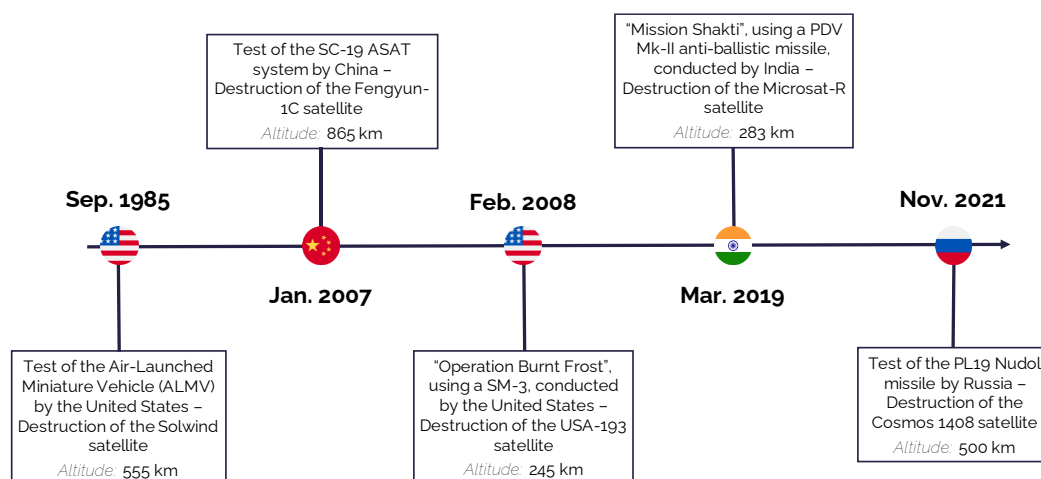


Figure 5: Timeline of direct-ascent kinetic ASAT tests resulting in the destruction of a spacecraft

³⁰ It is worth noting that none of the terms "nuclear weapon", "weapons of mass destruction" nor "orbit" are defined by the Outer Space Treaty or any other UN document.

³¹ Meyer, P. (2011) *The CD and Paros a short history*, UNIDIR. ([Link](#))

³² Statement by the Russian Federation at the first session of the OEWG (9 May 2022). ([Link](#))

³³ Conference on Disarmament (24 August 1994) *Report of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space* (Document CD/1271), §13. ([Link](#))

³⁴ Weeden, B. and Samson, V. (eds.) (2023) *Global counterspace capabilities*



Amid this backdrop, there have been several efforts by the international community to enhance space security over the past 15 years. Each has been slightly different from the others, with specific settings and objectives. Some have sought to establish norms, others have promoted the adoption of a treaty. Some were mandated by the UN General Assembly (UNGA), while at least one took place partially outside of the UN system. **One way to consider these efforts is to split them into two categories: those aiming at elaborating self-standing documents that have a political or legal value and can then be approved by States; and those whose emphasis is more on the process itself, leading to recommendations that aim at facilitating later work.** Regarding the former, there have been two major efforts to adopt a specific treaty or code. Regarding the latter, there have been several efforts to adopt recommendations that could start a larger process towards a normative framework for space activities, including the latest OEWG.

Outcome-oriented processes	Exchange-oriented processes
Although these processes are valuable per se, their main objective is to produce a document that can then be endorsed by States (e.g. a treaty, a Code of Conduct).	These processes usually aim at preparing recommendations for further reflection on the topic of space security, but their main value resides in fostering exchanges between States.

Table 2: Two types of processes to address space security issues

3.1 Outcome-oriented processes

3.1.1 Draft Treaty on the Prevention of the Placement of Weapons in Space, or the Threat or Use of Force against Outer Space Objects (2008-today)

The only formal proposal for a legally binding treaty is the Chinese-Russian proposed draft Treaty on the Prevention of the Placement of Weapons in Space, or the Threat or Use of Force against Outer Space Objects (also called by its acronym PPWT).³⁵ First proposed in 2008 and revised in 2014, its fundamental innovation is that it prohibits States from placing any type of “weapon” in space that could be used to attack either objects in space or on the ground.

Example of a dual-use technology: Active Debris Removal (ADR)

ADR systems aim at contributing to the de-orbiting of debris. But the technologies used for this activity, such as rendezvous and proximity operations, robotic arms or harpoons, could also be used to disrupt or destroy another country's spacecraft. Due to this inherent dual nature, the development of these capabilities can fuel tensions.

This draft text has largely been refuted by Western countries, though many as well as India believe it can serve as the basis for a negotiation on a binding instrument on PAROS.³⁶ The **major criticism with this proposal is that it does not define the term “weapon” – a major challenge in a field where nearly all technology can be dual-use/dual-purpose**³⁷ – and that the treaty is not strategically verifiable.³⁸ No further progress has been made on this treaty since 2014.

³⁵ Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects. ([Link](#))

³⁶ Statement by the Indian Permanent Representative to CD on PAROS (2015) Permanent Mission of India to the Conference on Disarmament. ([Link](#))

³⁷ For further discussion on the dual-use/dual-purpose distinction, see Ortega, A.A. (2023) *Not a rose by any other name: Dual-use and dual-purpose space systems, Default*. ([Link](#))

³⁸ Statement by ambassador Wood: *The threats posed by Russia and China to security of the Outer Space Environment*. (2019) U.S. Mission to International Organizations in Geneva. ([Link](#))



Figure 6: Timeline of the Draft PPWT

3.1.2 EU Draft International Code of Conduct for Outer Space Activities (2008-2015)

Another effort aiming at proposing multilateral norms for space activities was the EU draft International Code of Conduct for Outer Space Activities (ICoC).³⁹ This effort originated with the European External Action Service (EEAS) and was conducted, technically, outside of the scope of the UN. The ICoC was originally negotiated and drafted by EU Member States, in consultation with key allies such as the United States, Australia and Japan. Its contents were norms and best practices on a variety of activities, including debris mitigation and the weaponisation of outer space.

However, the lack of inclusiveness of non-aligned States resulted in little diplomatic support.

Delegations, many of whom also represented their countries in UN proceedings, did not have clarity on the legal status of the process nor on the binding nature of the results. As such, countries such as Brazil, Russia and South Africa led a growing coalition of States in rejecting the ICoC document.

Eventually, the Code was debated at the United Nations in July 2015, but the event organised was demoted from a “negotiation” to a mere “consultation” as the EU is not a “member” of the Organisation. After this meeting, the EU and its Member States decided to revise their approach and support the negotiation of an agreement within the framework of the United Nations.⁴⁰ Ultimately, the ICoC lost momentum as an initiative and ceased to be discussed.

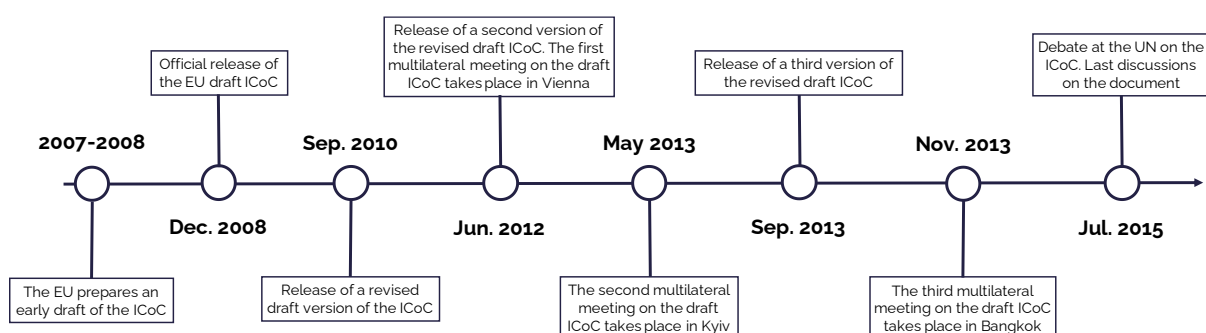


Figure 7: Timeline of the Draft ICoC

Despite the difficulties, at least two valuable lessons were learned from the draft ICoC. The first is that any effort to create norms for space activities will **necessarily have to receive buy-in from the entire international community**. This will require engagement and meaningful participation from all UN Member States. Secondly, there is **global recognition that measures must be taken to**

³⁹ Johnson, C. (2014) *Draft International Code of Conduct for Outer Space Activities: Fact Sheet*, Secure World Foundation. ([Link](#))

⁴⁰ Pellegrino, M. and Stang, G. (2016) *Space security for Europe*, European Union Institute for Security Studies. ([Link](#))



ensure the long-term security of space activities, even among States that have none. Whether they are space users or space beneficiaries, all countries want to see some action taken to maintain stability in space. The question is what form it should take.

3.2 Exchange-oriented processes

Beyond the preparation of specific documents (treaties, codes of conduct), some efforts have taken the shape of **ad hoc fora created to address space security issues and lead to recommendations for further work**.

While these *fora* are often expected to produce a final report, their added value lies mostly in the opportunity they give to the various participating States to interact and exchange on issues of common concern. In the realm of space security, two types of mechanisms have been set up so far: two **Groups of Governmental Experts (GGE)** and one **Open-Ended Working Group (OEWG)**.

GGE and OEWG: which differences?

A Group of Governmental Experts is usually restricted to a maximum of 25 experts appointed by Member States. These experts are independent from their national delegations, though, in practice, it is difficult to be certain that they are not completely influenced by national positions. The UN usually seeks to have fair and equitable regional geographical representation in a GGE.

An Open-Ended Working Group is open to all UN Member States that are interested in participating. Other actors, such as other international organisations or NGOs, can also be invited to attend public sessions. Participants will elect a Chair and determine their own agenda, though its mandate is set by the UN Secretary General.

	GGE	OEWG
Number of participants	Up to 25	Open
Nature of participants	Government representatives	Government representatives + civil society, commercial actors and other international organisations' representatives
Outcomes	Consensus report	Consensus report

3.2.1 Group of Governmental Experts on Transparency and Confidence-Building Measures for Space Activities (2012-2013)

One of the **most successful efforts to launch a conversation about space security issues** stemmed from the 2013 Group of Governmental Experts (GGE) on Transparency and Confidence-Building Measures for Space Activities.⁴¹ This GGE **originated in the UNGA First Committee**, requesting that then-Secretary General Ban Ki Moon establish a working group to make recommendations on how to improve international cooperation and reduce the risks of misunderstanding, mistrust, and miscalculations in outer space activities. The GGE was composed of 15 experts from major spacefaring nations (China, Russia (Chair), the United States, some European States) and emerging space actors (Brazil, Nigeria, Republic of Korea). The resulting recommendations largely focused on information exchange that could reduce the likelihood of

⁴¹ Johnson, C. (2014) *The UN Group of Governmental Experts on Space TCBMs*, Secure World Foundation. ([Link](#))

misunderstandings. This included measures like sharing data on scheduled manoeuvres (launches, re-entries, etc.) as well as publishing information on space doctrine and strategies. The GGE recommendations were adopted by consensus.

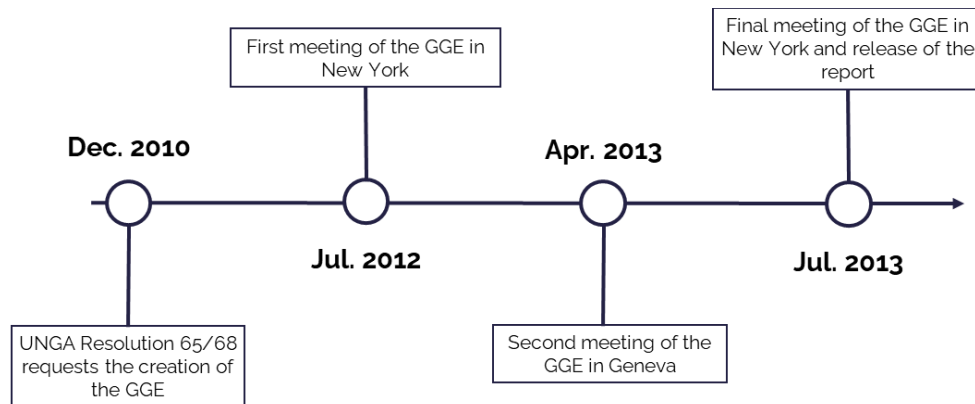


Figure 8: Timeline of the GGE on TCBMs

The **adoption of these recommendations however by no means established norms of responsible behaviour**. Indeed, it is difficult to quantify the actual impact of this GGE, although it has certainly been influential. Today, States are usually not specifying what actions they are taking to follow the measures advocated by the GGE report. **However, the conversation around norms has certainly continued to use much of the language contained in the GGE's recommendations.** To this end, all the work currently taking place on space security has some basis in the foundations laid by the 2012-2013 GGE, particularly on issues dealing with misunderstandings and miscalculations. As such, this Group was particularly successful at launching a discussion and setting the parameters whereby the issues would be viewed by following processes.

3.2.2 Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space (2018-2019)

The next major call for a process fostering exchanges on space security came in 2018 when the UNGA First Committee once again formed a GGE on Further Practical Measures for the Prevention of an Arms Race in Outer Space. This time, the objective was to **examine possible elements of a legally binding instrument related to PAROS**.⁴² Where previous discussions sought to address space risks through politically binding norms and best practices, this GGE would examine areas that could be addressed in a formal treaty prepared in a subsequent effort. As such, this was, yet again, the beginning of a long process. Chaired by the representative of Brazil, this GGE drafted a report but was unable to reach consensus, preventing the release of an official document.

⁴² Group of Governmental Experts on further effective measures for the prevention of an arms race in Outer Space (2019) United Nations Office for Disarmament Affairs. ([Link](#))

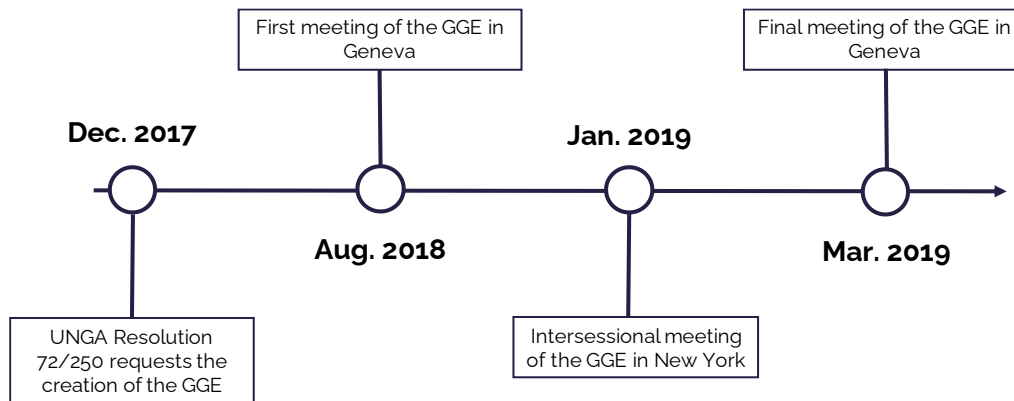


Figure 9: Timeline of the GGE on elements of a legally binding instrument

However, a **draft of this report emerged and, once again, helped to change the conversation and language around space security**.⁴³ In particular, it was **acknowledged that the dual/multi-use nature of space technology made it very difficult to monitor and verify the “nature, characteristics and intended function of an outer space object once placed in orbit”**⁴⁴ and therefore, the respect of the established norms and practices by all States.

Alternatively, the **report emphasised that it might be possible to restrict certain behaviours**, such as hostile acts against other space objects, through a legally binding instrument. Also of note was the inability to identify at what point accidental interference with a satellite could be considered an attack, with numerous contextual variables playing into possible calculations.

Several initiatives have thus been established in the past decades to address the topic of space security. Although most have been fraught with difficulties and a lack of consensus, some of the recommendations developed have helped shape future debates. These past efforts were complemented in 2022-2023 by the Open-Ended Working Group on Reducing Space Threats through Norms, Rules and Principles of Responsible Behaviours.

⁴³ Recommendations to promote the practical implementation of transparency and confidence-building measures in outer space activities with the goal of preventing an arms race in outer space, in accordance with the recommendations set out in the report of the Group of Governmental Experts on transparency and confidence-building measures in outer space activities: working paper / submitted by Nigeria (on behalf of the African Group) (A/CN.10/2019/WP.1) (2019) United Nations. ([Link](#))

⁴⁴ Ibid.

4 THE OEWG ON REDUCING SPACE THREATS: ADOPTING A NEW APPROACH TO TACKLE SPACE SECURITY ISSUES

4.1 A new kind of mechanism to address space security: the OEWG process (2022-2023)

The OEWG that met in 2022-2023 began with a **proposal by the UK Government in the UNGA First Committee**, which led to the adoption of UN Resolution 75/36 in 2020. This resolution called on the UN Secretary General to conduct a survey among Member States regarding what they considered to be the greatest threats to space activities and what could be some approaches to mitigating those threats. A number of States, as well as international organisations and NGOs, submitted responses.⁴⁵ Many of these replies overlapped, though **distinct groups of countries could be identified: those worrying about threats to space systems, and those that were more concerned with threats from space systems**. Moreover, the debate regarding norms versus treaties remained vivid. On this latter point, it is important to note that the UK Government's draft text of Resolution 75/36 specifically did not rule out the possibility of using legally binding instruments as a possible option to address space threats.

Based upon these ideas, and overwhelming support in the UNGA First Committee for the findings of the Secretary General's survey, the UN General Assembly went on to pass Resolution 76/231, by which the Secretary General was asked to establish the OEWG. It was decided that this OEWG would be open to all interested parties, and that it would meet four times over the course of two years in Geneva. The Chair of the OEWG was tasked with elaborating a series of recommendations to be made to the Secretary General on addressing space threats through norms, rules and principles. It is important to note that the OEWG worked by consensus, meaning that even one dissenting vote would result in no recommendations being made. The Chairmanship of the OEWG was offered to Mr Hellmut Lagos, a long-time representative of the Government of Chile.

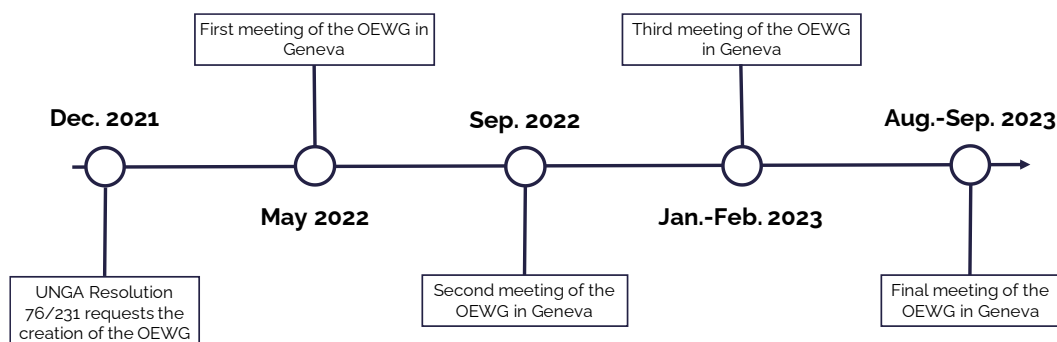


Figure 10: Timeline of the OEWG on Reducing Space Threats

The OEWG began with a number of unique challenges, which were potential obstacles for fruitful discussion. In particular, the war in Ukraine created a difficult context for discussions, as relationships between Western nations and Russia were tense from the outset. Moreover, there was **considerable disagreement over the participation of civil society and private actors**, with some States preferring to keep the discussion restricted to government representatives. Despite this reluctance, there was eventually overwhelming support for keeping at least parts of the meetings

⁴⁵ Report of the Secretary-General on reducing space threats through norms, rules and principles of responsible behaviors (2021) (2021) United Nations Office for Disarmament Affairs. ([Link](#))



open to civil society representatives (in particular NGOs and think tanks) and commercial actors, not least of all as a means of keeping their expertise on hand.

According to the Resolution 76/231, the mandate of the OEWG was fourfold:⁴⁶

- Take stock of the existing international legal and other normative frameworks concerning threats arising from State behaviours with respect to outer space;
- Consider current and future threats by States to space systems, and actions, activities and omissions that could be considered irresponsible;
- 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; and
- Submit a report to the General Assembly at its seventy-eighth session.

Despite failing to adopt a report to submit to the General Assembly, the meetings of the OEWG can still be read in a positive light by the mere fact that they took place. Notably, **non-major spacefaring nations demonstrated greater willingness to participate and put pressure on all space actors to adopt new security measures**. Some of this support is likely owed to a change in position regarding legally binding instruments. Where **Western States previously did not want to even discuss treaties, the possibility was left open during the OEWG meetings**. Indeed, norms are now being discussed as a possible “first step” towards a legally binding regime. This is evidenced in the mandate of the OEWG, which reiterates:

*the need for all States to work together to reduce threats to space systems through the further development and implementation of norms, rules and principles of responsible behaviours with the aim of maintaining a peaceful, safe, stable, secure and sustainable outer space environment, which might, as appropriate and without prejudice, contribute to further consideration of legally binding instruments on the prevention of an arms race in outer space.*⁴⁷

Overall, the pursuit of voluntary norms of behaviours and of legally binding measures are seen by many as complementary approaches, as also mentioned in the resolution establishing the OEWG:

[...] possible solutions to outer space security can involve a combination of legally binding obligations and political commitments, and that work in both of these areas can be further pursued in a progressive, sustained and complementary manner, without undermining existing legal obligations.

The role of non-major spacefaring nations, particularly throughout the global South, should be highlighted once again. While traditional space powers (the United States, Russia, China, India, etc.) and other members from the Western European and Others Group (WEOG) tend to dominate conversations on space matters, the **responses received to the survey on space security (UN Resolution 75/36) show that an increasing number of participants in these discussions are from the Non-Aligned Movement (NAM)**. These actors have a distinct set of considerations and interests from the WEOG, notably in rejecting the “weaponisation” of space in any way.⁴⁸ Whilst it is unlikely

⁴⁶ UN General Assembly Resolution 76/231. ([Link](#))

⁴⁷ UN General Assembly Resolution 76/231, our emphasis

⁴⁸ A few examples include statements made by Mexico, Indonesia or Chile on the topic. See: *Opinión de México de conformidad con el párrafo 5 de la resolución “Reducción de las amenazas relacionadas con el espacio mediante normas, reglas y principios de conductas responsables” (A/75/36)*. ([Link](#)); *Views of the Government of the Republic of Indonesia pursuant to UNGA Resolution 75/36 on Reducing Space Threats Through Norms, Rules and Principles of Responsible Behaviours*. ([Link](#)); *Posición de Chile frente a la Resolución 75/36 de Naciones Unidas sobre la reducción de las amenazas relacionadas con el espacio mediante normas, reglas y principios de conductas responsables*. ([Link](#))
















that any of these countries will expend resources towards the acquisition of counterspace capabilities, they will have a significant role to play in the development of any form of a global normative framework for space activities.

On the one hand, these countries have a **vested interest in promoting space security, as any degradation of the situation in orbit may have consequences on their societies and economies**; on the other hand, the space powers may want to convince them to support their own views for political reasons. Therefore, efforts to develop a global space traffic management/coordination system, or harmonised standards for the authorisation of mega-constellations, will require the active participation and involvement of these newly interested countries. Indeed, while UN debates formally do not like to mix security and safety issues (like STM or space debris), **many countries consider both security and safety aspects when evaluating their own strategies for space policies**. Reaping the benefits of NAM's support for a future STM framework, or harmonised authorisation standards, will likely **require giving more room for non-traditional voices in space security dialogues like the OEWG**.

European participation in the OEWG

European States have taken an active part in the debates of the Open-Ended Working Group, through different types of contributions, primarily statements but also written inputs such as working papers or non-papers. Overall, European States support the approach promoted by the OEWG, i.e. the definition of what responsible behaviours are and the risks that a lack of agreement on how to conduct activities in orbit creates for space security. Moreover, some NGOs, think tanks, universities and companies established in Europe have also supported the work of the OEWG, in particular through written contributions.⁴⁹

Country	Written inputs	Statements
 Austria	0	8
 France	4	2
 Germany	3 (through multinational papers)	5
 Holy See	0	2
 Hungary	0	1
 Ireland	0	1
 Italy	1	2
 Netherlands	1 (through a multinational paper)	5
 Norway	0	3
 Sweden	0	2
 Switzerland	1	5
 United Kingdom	2	15
 European Union	5	2

⁴⁹ Such as, for instance, the input provided by the European Space Policy Institute. ([Link](#))

4.2 The recommendations of the OEWG: taking into account a new context while recalling longstanding principles

Despite not being able to reach a formal consensus, efforts to develop norms and standards of responsible behaviour for space activities have gained some momentum. The international context and diverging interests, especially among major spacefaring nations, **currently lead to incompatible positions resulting in the inability to even adopt a procedural report**. However, the OEWG process seemingly demonstrated its value as platform for discussion given that states supported initiatives to continue discussions and further address space security matters.

Therefore, the same discussions will resume, although one could regret that time is lost due to the current hurdles while the threats at hand are urgent to address. As such, it is worth examining the recommendations developed within the OEWG for possible measures to reduce space threats. While these recommendations were not adopted by consensus, they still received considerable support. The recommendations below are based on the draft report released by the Chair of the OEWG.⁵⁰

Recommendation 1: Damage and destruction of space objects or use of space objects as weapons (Par. 49(a))

Purpose: This recommendation asks States to refrain from any "deliberate acts" that cause physical harm or damage not only to other satellites, but also their own. This would largely speak to kinetic ASAT tests that generate debris, which creates hazards for all space stakeholders.

Analysis: While the Outer Space Treaty prohibits the placement of nuclear weapons or weapons of mass destruction in orbit, it is not expressly forbidden to refrain from testing other destructive ASAT weapons. However, such an activity can result in an acceleration of collisional cascading (Kessler Syndrome), a scenario whereby colliding debris generate more additional debris particles until near-Earth orbits are effectively useless for human space activities. This recommendation already has considerable global support, with 37 countries (including all EU Member States) having pledged unilaterally not to conduct kinetic ASAT tests in orbit, and the adoption of a UN resolution to the same effect with overwhelming support.⁵¹

This recommendation is **likely to feature prominently in all multilateral space security discussions going forward and may become a recurring resolution at the UN General Assembly every year**. Of all the recommendations present in the OEWG draft report, it can be argued that this one is **well on its way to becoming a globally recognised norm of responsible behaviour** and will be one of the easiest to implement, as it relies mostly on States' political will. However, one can also note that it could encourage States to develop non-destructive technologies whose attribution in case of use is more difficult, thus contributing to instability in space.

Recommendation 2: Development and deployment of space objects for hostile purposes (Par. 49(b-d))

Purpose: This recommendation calls on States not to "develop, produce or deploy" weapons in space, and also specifically not to do so with directed-energy weapons or electronic warfare capabilities that target space objects.

Analysis: This recommendation echoes similar provisions to those of the Chinese-Russian

⁵⁰ Draft report of the Open-ended working group on reducing space threats through norms, rules and principles of responsible behaviours (document A/AC.294/2023/CRP.1/Rev.1) (2023). ([Link](#))

⁵¹ Reaching Critical Will, *First Committee Monitor* (21 October 2023). ([Link](#))



proposed draft PPWT, which calls on States not to deploy weapons in space. While not providing a specific definition for “weapon”, it does single out directed-energy and electronic warfare capabilities, which some States might not qualify as “weapons” *per se*. However, **it does suggest that States would be willing to accept a norm** that activities such as jamming communications or spoofing GNSS signals is not permissible. This would include not only targeting spacecraft but also ground segments such as terminals or ground stations, as well as the link between both.

Recommendation 3: Interference with the normal and safe operation of space objects (Par 49(e))

Purpose: This provision further elaborates on the idea that States should not interfere with the normal operation of a satellite controlled by another State, whether it is by interfering with a flight trajectory or with normal communications. This recommendation also asks States not to conduct close-proximity operations without prior consent and notification of the manoeuvre, leaving it up to States to mutually determine what constitutes a “safe distance”.

Analysis: Much of this recommendation restates what is otherwise already said in the previous two recommendations and relies on an approach that can already be found in Article IX of the Outer Space Treaty. However, references to close-proximity operations and prior consent appear to be the foundations of what might also be seen as “**safety zones**”. As noted in the recommendation, new activities such as rendezvous and proximity operations (RPO) and in-space servicing, assembly and manufacturing (ISAM) can create tensions among States, and it is desirable to establish norms to prevent miscalculations or misunderstandings. It is likely that this recommendation will eventually be set aside for **greater elaboration on what “mutually acceptable” distances might be**, particularly when it comes to sensitive strategic satellites.

This desire for greater security will, however, have to be balanced against the principle of freedom of use of outer space, which could be impacted if States are able to exclude others from approaching their satellites. In addition, the creation of “safety zones” and definition of the actions that would be taken in case they are not respected may **encourage actions under the established threshold** (e.g., provocation, harassment) that would be “legal” but would feed mistrust among States.

One more challenge will be to **agree on the size and boundaries of such zones**, which could also vary depending on the environment, orbit, etc, and to make these requirements monitored and respected through national licensing processes. Moreover, these discussions should consider the physical and technical feasibility of the implementation of such zones⁵² as well as their likely consequences on the activities of commercial actors.

Recommendation 4: Protection of critical space-based services (Par. 49(f-h))

Purpose: This recommendation seeks to create special layers of protection for human spacecraft and services that are critical to civilian populations. It calls on States not to interfere with either and proposes options to designate certain space objects as those that “provide critical space-based services to civilians” (e.g. systems and services that are necessary for the survival of some populations, the conduct of humanitarian operations or the safety of installations hosting hazardous material).

Analysis: Recommendations such as this are largely aimed at protecting humans in space and critical systems like GNSS, meteorological services or communication systems used for emergency management. Given the ubiquity and uniqueness of these systems (e.g. 90% of the

⁵² Dickey, R. and Wilson, J. (2023) *Why there should not be a norm for 'Minimum safe distance' between satellites*, War on the Rocks. ([Link](#))



data used in global numerical weather prediction models come from space-based systems⁵³, interference with them could result in significant harm to civilians all over the world.

However, it must be acknowledged that **assessing the exact impact of a spacecraft on civilians on the ground is very difficult**. This situation is made even more complex when the spacecraft is part of a constellation as, in that case, its service could also be provided by other systems in the constellation (given that redundancy/resilience of the service is one of the objectives of such architectures).

Recommendation 5: Assistance and encouragement in certain acts (Par. 49(i-j))

Purpose: This recommendation seeks to ensure that States do not induce (or hire) other actors to violate the norms listed above. Specifically, it asks States to "strengthen supervision" of private sector actors to ensure that they do not create strategic misunderstandings or misinterpretations.

Analysis: While this recommendation can apply to nearly any actor, it will likely have the biggest impact on two types of stakeholders/activities. First, activities related to the **cyber dimension** of the space infrastructure, as States could hire hackers or established hacktivist groups to conduct offensive cyber operations against their adversaries without being officially associated with such attacks. Second, **RPO and ISAM activities** will be impacted, in particular actors seeking to provide in-space logistical services such as close-approach inspections or docking manoeuvres. Indeed, there is already an existing concern that RPO and ISAM may be used for different purposes, including as weapons in space, and it is also possible that commercial actors could be hired to support military operations, given that some companies are already developing capabilities supporting such potential missions.⁵⁴ Thus, this recommendation seeks to ensure that States are especially cautious about the manner in which they authorise and supervise sensitive missions.

Recommendation 6: Military space policies, doctrines and strategies (Par. 49(k))

Purpose: This recommendation seeks to ensure that States avoid including incendiary language in their space doctrines, strategies and policies, and are transparent in both civilian and military space activities.

Analysis: This recommendation is an effort to curb the use of bellicose language in national space strategies and policies, which has become increasingly common in recent years. Words such as "space as a warfighting domain", "space superiority" and "space dominance" are now widespread. However, while much of this language is used for domestic consumption and not always tailored for an international context, **it can still have negative consequences for space security, as it creates unnecessary frictions with other States**. The discursive dimension of space security is indeed key, and mutual accusations of weaponisation are also used as a justification to further develop military space capabilities.

In this context, States are encouraged to be more nuanced in the manner that they speak about their strategic goals in space. Moreover, public releases of military space strategies and doctrines would increase transparency and predictability, thus contributing to defuse tensions in the outer space domain. Yet, it must not be forgotten that these tensions are also due to the growing strategic and economic relevance of this sector. While global harmony may be out of reach, **good will initiatives by major spacefaring nations could help improve stability and ensure peaceful coexistence**.

⁵³ WMO reinvigorates relations with Space Agencies (2024) World Meteorological Organization. ([Link](#))

⁵⁴ Harris, M. (2023) Enter the Hunter satellites preparing for Space War, Wired. ([Link](#))



Recommendation 7: Implementation of international obligations, commitments and measures (Par. 49(l))

Purpose: Following in the footsteps of the Outer Space Treaty, which requests States to conduct space activities in accordance with international law, this recommendation calls for States to promote compliance with international law applicable to outer space activities and its obligations and invites them to foster universal ratification of all principal UN treaties on outer space.

Analysis: While this could be taken to function on many levels, including non-security related, the most pressing rule likely being addressed here is adherence to the UN Charter Article 2.4 on the prohibition of the threat or use of force, which would then encompass space objects as well.

The idea is to **encourage States to abide by the most fundamental rules governing outer space activities and increase scrutiny over activities that could be questioned or misinterpreted by other countries.** For example, this could include RPO and ISAM operations carried out by the private sector or other allied countries. By encouraging more States to ratify the corpus of international space law, the recommendation could also contribute to reinforcing the implementation of existing rules (without having to design new measures).

Recommendation 8: Notification of defense and security exercises (Par. 49(m))

Purpose: This recommendation calls on States to provide advance notice of activities or exercises that might impact space systems or the services they provide.

Analysis: Another recommendation intended to minimise the possibility of escalation through misunderstandings or misinterpretations, this particular version would **aim to deter the use of devices for jamming or otherwise interfering with certain key space activities.** It can also be understood as restating the spirit of the Article IX of the Outer Space Treaty.

To support the implementation of this recommendation, **best practices coming from other initiatives promoting the sharing of notifications on specific events could be applied.** One of the possible models is the Hague Code of Conduct against Ballistic Missile Proliferation, a politically binding agreement that calls States to share information on their past and upcoming launches of ballistic missiles and space launch vehicles, with the objective to increase transparency and trust.

Recommendation 9: Consultative mechanisms (Par. 49(n))

Purpose: States are encouraged to create channels of communication to exchange data and information.

Analysis: Despite being some of the most advanced space stakeholders, major geopolitical rivals rarely have formal channels to exchange information, in particular in case of emergency, nor do they have standards of data that could ease tensions over sensitive space activities. As such, **States have no way to raise concerns or alert to growing issues in real time.** For example, there are no existing mechanisms whereby a Chinese official could contact a U.S. counterpart to enquire about a commercial mission. Likewise, there is no formal channel whereby an EU actor could contact a Russian party to provide any type of notice regarding a particular mission outside of the usual UN channels. **The creation of such channels of communication could greatly help ease tensions,** particularly over activities such as commercial RPO and ISAM but also, potentially, to send collision avoidance warning, as such a collision could be misinterpreted and lead to hostilities in space. Existing data exchange agreements (often between like-minded nations) could be **taken as a model and tailored** to fit interaction with States where no such trust is present.

5 MULTIPLYING PARALLEL INITIATIVES FOR SPACE SECURITY, THE RIGHT WAY FORWARD?

Despite the **high expectations** created by the initiation of the process, the final session of the OEWG was eventually not conclusive. The Group was not only unable to reach consensus on recommendations, but **participants did not even adopt a procedural report**, a document which merely states that the OEWG met on certain dates and specifies who was in attendance.⁵⁵ This failure is emblematic of the political differences that increasingly divide UN Member States. However, this does not mean that the OEWG process is completely without merit. **The fact that a discussion was held means the issues in question are priorities for at least (a growing) part of the international community**, and it is likely that these discussions will continue in other bodies. In fact, several other Open-Ended Working Groups and Groups of Governmental Experts were **proposed to follow up on this OEWG effort, some of them being formed relatively quickly after the end of this process**.

5.1 Exchanges at multilateral level through different settings

The specific recommendations presented in Chapter 4 will likely serve as the basis for future discussions around enhancing space security. **Some of these recommendations (such as the recommendation on not creating debris purposefully) are not new and will likely continue to garner support** as talks shift towards a formal adoption or enactment of norms, through either UN resolutions or unilateral policies. Others (like those on keeping a "safe distance") are quite novel and will require careful study before they receive similar widespread support in formal multilateral settings. The following chart is a helpful way to visualise the recommendations:

Formality	Convergence of expectations		
		Low	High
	Low	No regime	Tacit regime <i>Recommendations 3, 7 and 9</i>
	High	Dead letter regime <i>Recommendations 2, 6 and 8</i>	Classic regime <i>Recommendations 1, 4 and 5</i>

Table 3: Distribution of OEWG recommendations in related regimes (adapted from Levy & al.)⁵⁶

As for next steps, several multilateral groups will address the topic of space security. First, it was **already decided before the end of the OEWG to establish a UN Group of Governmental Experts to consider and make recommendations on substantial elements of an international legally binding instrument on the prevention of an arms race in outer space**. This GGE met in November 2023 and will continue the mandate given to the 2018 GGE. A second session is expected in 2024. This GGE was formed by vote and proposed by Russia and China. It is unclear how the events that unfolded during the OEWG will impact GGE discussions, but Western States will likely arrive with a more reluctant attitude.

Due to the major disagreements between two blocks (Western countries on the one hand, Russia and China on the other), **two competing resolutions** calling for the establishment of **two separate open-ended working groups** were presented at the UNGA in December 2023, and **both were adopted**.

⁵⁵ Hitchens, T. (2023) *Russia spikes UN effort on norms to reduce space threats*, Breaking Defense. ([Link](#))

⁵⁶ Created by Marco Aliberti, ESPI. Adapted from Levy, M.A., Young, O.R. and Zürn, M. (1995) 'The study of international regimes', *European Journal of International Relations*, 1(3), pp. 267–330. ([DOI](#)) who propose the following definitions:

- **Tacit regime:** cases in which regular but implicit references to informal rules are common along with behavior that is consistent with some independently inferred rules
- **Dead letter regime:** existence of explicit rules including both substantive and procedural prescriptions articulated in written form, whether or not they are legally binding.
- **Classic regime:** explicit rules as well as regular references to them exist and rule-consistent behaviour is widespread



	Resolution 78/20 ⁵⁷	Resolution 78/238 ⁵⁸
Title	Reducing space threats through norms, rules and principles of responsible behaviours	Further practical measures for the prevention of an arms race in outer space
Main sponsor	United Kingdom	Russia
Key features	<ul style="list-style-type: none"> Establishes a new OEWG to make recommendations on the development of norms, rules and principles of responsible behaviours to prevent an arms race in outer space The OEWG will address five areas in particular: <ul style="list-style-type: none"> Intentional damage to and destruction of space systems; Threats to the safe operation of space objects; Rendezvous operations and proximity operations that could increase the risk of misunderstanding and miscalculation; Protecting critical space-based services to civilians as well as services that support humanitarian operations; Other activities and measures that could reduce the risk of unintended escalation and conflict The OEWG should also consider how the implementation of the norms, rules and principles can be monitored and verified 	<ul style="list-style-type: none"> Calls for an agreement on verifiable and legally binding multilateral agreements to prevent an arms race in outer space Welcomes the establishment of the 2023 GGE Establishes an OEWG to follow up on the work of the 2023 GGE The OEWG is tasked with considering and making recommendations on substantial elements of an international legally binding instrument on the prevention of an arms race in outer space, and how this issue could be tackled through such an instrument
Organisation	<ul style="list-style-type: none"> Period: 2025-2026 <ul style="list-style-type: none"> One organisational session in 2025 Two substantive sessions (five days each) in 2025 and 2026 Possibility to set up intersessional consultative meetings Open to other international organisations and non-governmental organisations 	<ul style="list-style-type: none"> Period: 2024-2028 <ul style="list-style-type: none"> One organisational session in 2024 Two sessions (one of 10 days, one of 5 days) each year between 2025 and 2028 The OEWG can stop if the CD includes negotiations on a legally binding instrument in its agenda
Vote	Yes: 166 – No: 9 Abstentions: 4 – Non-Voting: 14	Yes: 110 – No: 49 Abstentions: 8 – Non-Voting: 26

Table 4: Two competing resolutions for future debates on space security

⁵⁷ UN General Assembly Resolution 78/20. ([Link](#))

⁵⁸ UN General Assembly Resolution 78/238. ([Link](#))



While there is **considerable support among emerging space actors (particularly across Latin America and Africa) to hold simultaneous dialogues on adopting norms and a formal treaty**, some States warned that this could fragment efforts and be resource-intensive, in particular for smaller nations.⁵⁹ However, despite this situation and the fact that they appear as competing, these two OEWGs could also be an opportunity to circumvent the current deadlock by allowing each approach to be fully recognised in its own right and given the chance to make substantial progress.

The following observations can be made on the OEWG and future steps for multilateral discussions on space security:

- 1 It is clear from the detailed discussions of the OEWG that the risks and threats to space systems, and to the people they benefit, are well and increasingly understood.
- 2 The emergence of new voices among traditional stakeholders is further evidence that the widespread international community wishes to see some form of added safeguards for space systems, whether they be norms or treaties or both.
- 3 While the overall UN objective continues to be an agreement on a package-deal that addresses many space security issues at once, States are finding novel ways to address isolated issues, such as kinetic ASAT testing.
- 4 The OEWG showed that the current international context is not conducive to multilateral negotiations, with disagreements on non-related topics leading to obstacles in space security talks. The Summit of the Future, taking place in September 2024, could be an opportunity to reinvigorate such processes or design new ones.
- 5 Despite the difficulties, the recommendations expressed by the OEWG, even though not formally endorsed, could serve as the basis for further national action.
- 6 There is close interaction between space security, safety and sustainability discussions: increased security improves safety and sustainability, and vice versa. Therefore, more open exchange between the various *fora* addressing these different issues (e.g. Conference on Disarmament, UNODA, COPUOS) as well as with the relevant UNGA Committees would be welcome.

⁵⁹ See Hitchens, T. (2023) *UN takes 'parallel' paths on space security amid geopolitical rift*, Breaking Defense. ([Link](#)) and Reaching Critical Will, *First Committee Monitor* (21 October 2023). ([Link](#))

5.2 ESPI Recommendations: Reinforcing Europe's influence in multilateral *fora*

Europe is a major actor in the space sector and has high stakes in maintaining security and stability in orbit, due to the reliance of European societies, economies and security on the services provided by space assets. To this end, **European stakeholders should ensure that their positions and preferences are well informed, properly defended, and promoted in international settings.** With these objectives in mind, European stakeholders can coordinate and set a roadmap for the rest of the decade. This is urgently needed given the ambitions of the continent in the space domain.

Undertake capability development to enhance Europe's credibility and strength

First, Europe must **accelerate the development of its own capabilities to reinforce its position at the negotiating table.** This would start with capabilities to **monitor and verify** any type of agreement made at the international level, that is, primarily SSA and SDA systems. At the EU level, such development is already on the way, as illustrated by the EU SST activities and stated by the EU Space Strategy for Security and Defence. Beyond the monitoring dimension, Europe should consider developing capabilities that enable it to **act in space**, with a particular focus on RPO systems and with the main goal of **actively protecting its space assets, deterring malicious action, and ensuring resilience.** Investing in these capabilities would enhance the credibility and weight of the continent in multilateral *fora* dealing with space security.

Improve Europe's proactiveness in space security *fora*

Second, although some of them were quite active in the OEWG, **European States could be even more vocal in future discussions at international level.** All States of the continent involved in these initiatives should speak at least once and advanced **European spacefaring nations should take the lead in addressing unique aspects of particular interest for Europe or pushing for specific recommendations.** If all European States raise their voice with messages coordinated in advance, the strength of these positions during negotiations would be strongly reinforced. Moreover, while 12 European States and the European Union took the floor during the OEWG sessions, **only a few (6 + the EU) provided written inputs**, while this is one of the key channels through which States can have their ideas presented, discussed and eventually integrated into final recommendations.

Expand communities of like-minded partners through inclusive diplomatic mechanisms

Third, some European States (Germany, the Netherlands) provided written inputs in coordination with non-European countries. Similarly, some non-European States made statements on behalf of a group of countries, including European ones. **Cooperating with countries outside of the continent appears as an appropriate strategy** to increase support and buy-in for European positions and proposals. These cross-regional coalitions, even if focused on very specific elements, are a step towards more inclusivity and acceptance and may be considered a **central piece of the European toolbox in future OEWGs and GGEs.** European States should also engage, in a coordinated way, in **Track II diplomacy** (supporting involvement of and exchanges between non-governmental actors) with these countries, to foster their positions outside of formal sessions.

Adopt a consistent stepwise approach to tackle the issue of space security

With these assets up its sleeve, Europe will have the opportunity to further weigh in in the ongoing GGE and the two future OEWGs. While European States should devise **a specific strategy for each of the OEWGs**, they will have to make sure that **the overall framework they promote in both *fora* is consistent.** Overall, they should consider these various initiatives as part of a unified effort towards increased security and stability in space. This would also fit the recent evolution towards increased recognition of norms, rules and principles as a pragmatic step towards a potential legally binding agreement.



ANNEXES

Annex A: Full recommendations compiled in the Draft report of the Open-Ended Working Group⁶⁰

Damage and destruction of space objects or use of space objects as weapons

- (a) States should consider 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. They should also refrain from any tests, experiments, or other activities that result in satellite break-ups or the intentional destruction of spacecraft or orbital stages. In particular, States should:
 - (i) Refrain from destructive direct-ascent anti-satellite missile tests, from destructive tests using any other type of counter-space capabilities, or from the development, deployment or use of such capabilities;
 - (ii) Refrain from deliberately colliding satellites or other on-orbit objects;
 - (iii) Refrain from any other non-consensual act that destroys or damages the space objects of other States;
 - (iv) Refrain from developing, testing, deploying or using weapons in outer space for any purpose, including missile defence systems, as anti-satellite weapons or for use against targets on Earth or in the air, as well as dismantling such systems already available to States.

Development and deployment of space objects for hostile purposes

- (b) States should consider not to develop, produce, test or deploy weapons in space for any purpose.
- (c) States should not develop, deploy or use directed-energy weapons to target space objects.
- (d) States should not develop, deploy or use electronic warfare capabilities to target space objects.

Interference with the normal and safe operation of space objects

- (e) States should refrain from any deliberate act that interferes with the normal and safe operation of the space objects under the jurisdiction or control of other States. Such acts of interference may give rise to tensions and increase the risk of escalation and inadvertent conflict. In particular, States should:
 - (i) Refrain from any act that destroys, damages, disrupts or alters the normal functioning or change the flight trajectory of the space objects of other States without prior consent;
 - (ii) Refrain from any act that leads to a loss of command and control over, irreversible damage to or permanent loss of space systems of other States, regardless of the means, which could include the malicious use of information and communication technologies, directed energy, or jamming or spoofing of signals, and which would be directed at any segment of a space system;
 - (iii) Maintain necessary and mutually acceptable safe separation from other space objects;
 - (iv) Ensure that satellites under their jurisdiction and control or operating on their behalf do not rendezvous, physically connect or physically damage with satellites under the jurisdiction

⁶⁰ Draft report of the Open-ended working group on reducing space threats through norms, rules and principles of responsible behaviours (document A/AC.294/2023/CRP.1/Rev.1) (2023). ([Link](#))



- and control of another State, or operate in proximity to, without prior consultation and consent;
- (v) Provide information to the extent practicable to the affected State in advance of such an operation, including notification at least of the planned timing, trajectory and objective of the operation;
 - (vi) Avoid deliberate acts that cause harmful interference with space objects that can pose a particular risk of escalation.

Protection of critical space-based services

- (f) States should avoid activities that would endanger space objects crewed by humans.
- (g) States should refrain from any acts that would impair the provision of critical space-based services to civilians. These services include services critical to the production and maintenance of objects indispensable to the survival of the civilian population and to persons and objects specifically protected under international law, as well as services that support humanitarian operations and the safety of installations containing dangerous forces such as nuclear power plants or infrastructure containing hazardous or toxic materials.
- (h) States should consider the feasibility of registering, marking or otherwise indicating space objects that provide critical space-based services to civilians and to exchange information in this regard, including through the Registration Convention, bearing in mind that the failure to so register, mark or otherwise indicate an object would not legitimize the use of force against that object.

Assistance and encouragement in certain acts

- (i) States should refrain from assisting, encouraging or inducing any State or intergovernmental organization, any entity or anyone located on their territory or under their jurisdiction or control, in the conduct of any of the above-mentioned activities from which States should refrain.
- (j) States should strengthen supervision of private sector actors under their jurisdiction, in accordance with article VI of the Outer Space Treaty, so as to reduce the potential for activities of such actors to increase the risk of misunderstanding, misperception or miscalculation between States or increase the risk of conflict in outer space, with a view to preventing an arms race in outer space.

Military space policies, doctrines and strategies

- (k) States should consider committing, as a matter of policy, to the prevention of an arms race in outer space, to the prevention of conflict in outer space and to the peaceful exploration and use of outer space for the benefit of all humankind. States should consider avoiding policies, doctrines and strategies, as well as rhetoric that could jeopardize the safety, security and sustainability of outer space activities. States should be transparent, on a voluntary basis, about their uses of outer space, both civilian and military, and should share information regarding their space activities, outer space policies, doctrines and strategies, including within multilateral forums, without prejudice to their national security interests.

Implementation of international obligations, commitments and measures

- (l) States should promote compliance with existing international law applicable to outer space activities, including all relevant treaties and applicable bodies of law and universal ratification of the principal United Nations treaties on outer space.



Notifications of defence and security exercises

- (m) States should provide advance notifications, to the greatest extent practicable, regarding defence and security exercises that could have an impact on space systems and services in order to reduce the risk of misunderstanding or misperception of intentions.

Consultative mechanisms

- (n) To facilitate exchanges of notification and information, States should establish routine channels of communication and designating points of contact, as appropriate.



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