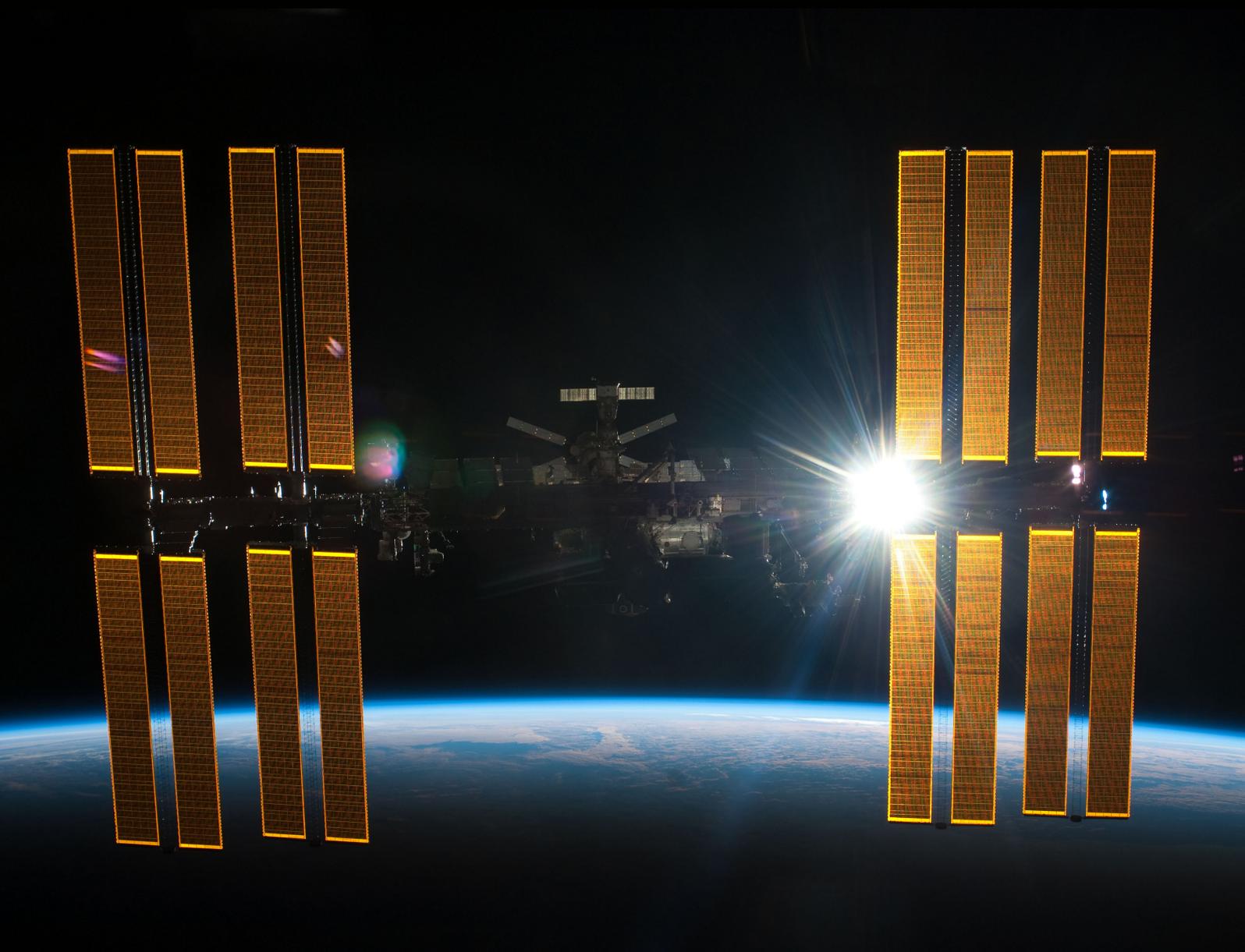


# Norms for Outer Space

A Small Step or a Giant Leap for Policymaking?

Jessica WEST  
Almudena AZCÁRATE ORTEGA



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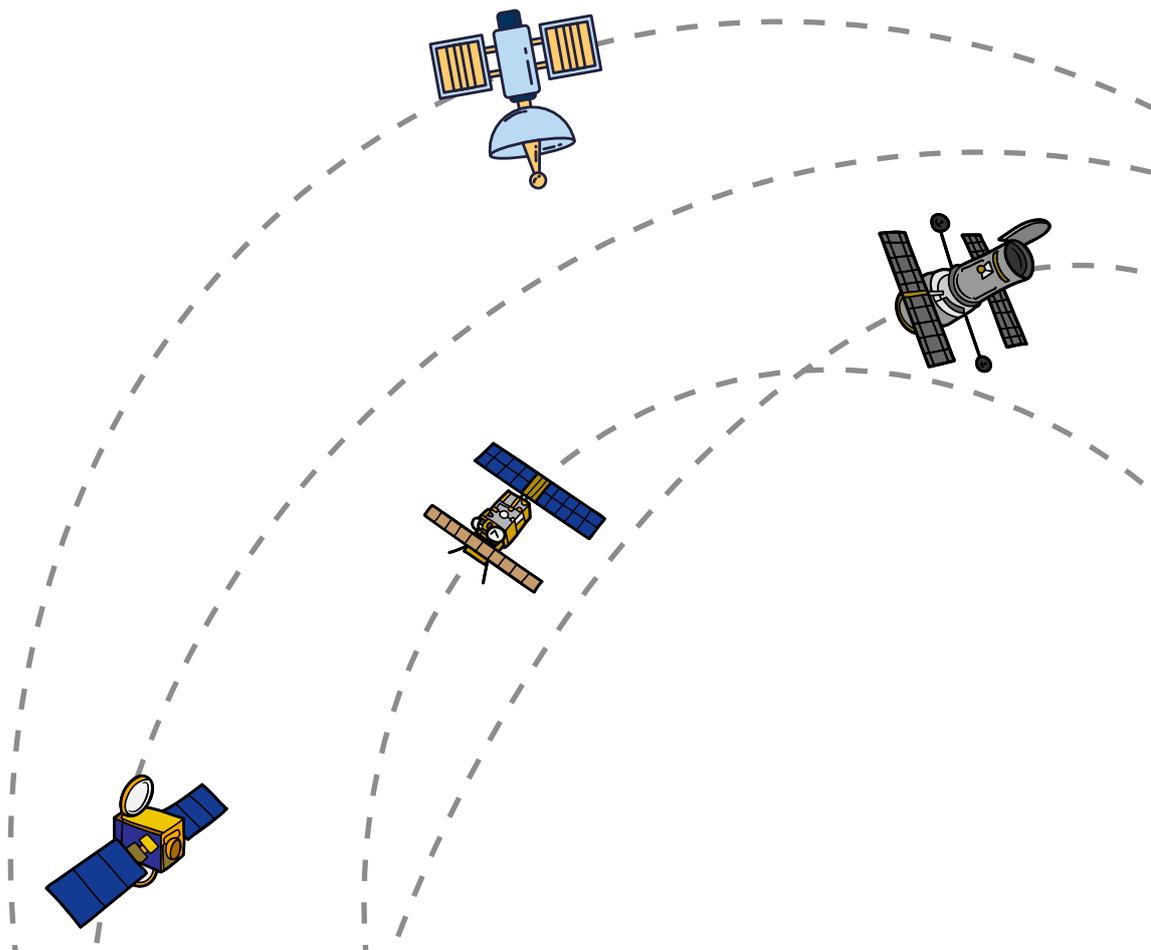
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# ACRONYMS AND ABBREVIATIONS

<b>ALBM</b>	Air-launched ballistic missile
<b>ASAT</b>	Anti-satellite
<b>CD</b>	Conference on Disarmament
<b>CIL</b>	Customary international law
<b>COPUOS</b>	Committee on the Peaceful Uses of Outer Space
<b>EWIPA</b>	Use of explosive weapons in populated areas
<b>GGE</b>	Group of Governmental Experts
<b>GNSS</b>	Global Navigation Satellite System
<b>HCoC</b>	The Hague Code of Conduct against Ballistic Missile Proliferation
<b>IADC</b>	Inter-Agency Space Debris Coordination Committee
<b>NAM</b>	Non-Aligned Movement
<b>OEWG</b>	Open-ended working group
<b>OST</b>	Outer Space Treaty
<b>PAROS</b>	Prevention of an arms race in outer space
<b>PPWT</b>	Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects
<b>RPO</b>	Rendezvous and proximity operations
<b>SSA</b>	Space situational awareness
<b>SSOD</b>	United Nations Tenth Special Session of the General Assembly on Disarmament
<b>TCBMs</b>	Transparency and confidence-building measures
<b>UNDC</b>	United Nations Disarmament Commission
<b>UNGA</b>	United Nations General Assembly

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# KEY TAKEAWAYS

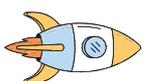
This paper looks at the role that norms can play in achieving the objectives of the Prevention of an Arms Race in Outer Space (PAROS), to keep the outer space domain peaceful and secure.

Due to their flexible nature, norms can be a useful tool to build trust and to create common understandings among the members of the international community that carry out activities in outer space or otherwise benefit from the services made available by space technology. Norms can also help to curb potentially harmful activities and to promote behaviours that mitigate the risk of conflict due to misperceptions and unintended escalation.

As this paper highlights, norms are a necessary starting point to achieve the objectives of PAROS. Moreover, norms for outer space already exist, and the international community must focus on complementing and building upon these.

To ensure that norms are effective, the process to negotiate and implement them is key. So that norms truly benefit all humankind, this process must be inclusive. Yet political agreement alone is insufficient. Effort must be placed on moving from words to actions. This includes attention to institutional measures to support implementation, including capacity-building as well as mechanisms for monitoring compliance and facilitating ongoing consultations and dialogue among all stakeholders.

As a means of promoting mutual security and preventing conflict, however, norms alone are insufficient. They can be a useful tool to build a more transparent, trusting, and stable space environment, but they cannot be the ‘end game’ of space security governance. Yet, with sufficient focus on widespread practice and participation that sustain changes in behaviour—not just by States but also by non-governmental entities—norms could become a pathway to more permanent and binding agreements for space security that stakeholders will comply with.





▲ **27 NOVEMBER 1984: First Committee Adopts Texts on Preventing Outer Space Arms Race and Climatic Effects of Nuclear War.** "A draft resolution under which the General Assembly would reaffirm that 'general and complete disarmament warrants that outer space should be used exclusively for peaceful purposes and that it shall not become an area for an arms race' was approved this afternoon by the First Committee (Political and Security)."

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# INTRODUCTION

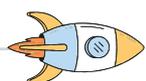
Space is increasingly critical to modern life on Earth. But there is growing concern that, as it becomes more economically and strategically important, tensions between different actors are heightening in a manner that could lead to conflict.<sup>1</sup> This could have devastating consequences for humankind. The accelerating proliferation of counterspace capabilities, which can damage and incapacitate space objects, as well as the enactment of national policies that deem space an operational or warfighting domain, underlines the very real nature of threats that exist and highlights the importance of keeping space peaceful.

The international community has had limited success in addressing concerns posed by the increased threat of weapons and warfare in outer space through traditional arms control mechanisms. The notion of the ‘Prevention of an Arms Race in Outer Space’ (PAROS) emerged in 1978 during the tenth special session of the General Assembly (that special session being the first devoted to disarmament). Since then, it has been the primary objective of multilateral discussions on space security within the United Nations, featuring regularly in resolutions and in the mandates of working groups. However, despite much effort, little practical progress towards an arms control agreement has been achieved due to both political and technical obstacles. Core challenges include concerns over potential space-based strike weapons versus Earth-based anti-satellite capabilities, competing preferences for legally binding versus voluntary measures, and differences in focus on space ‘weapons’ —and what their definition should be—or behavioural rules of the road. All of these diverging views have resulted in a stalemate that has reinforced geopolitical differences.

The permissive and open-ended language of applicable outer space laws, including but not limited to the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies<sup>2</sup> (the Outer Space Treaty or OST), has a permissive and open-ended language which leaves room for different interpretations when it comes to the use and exploration of space. This complicates progress. Despite aspirations of peace and inclusivity, the emphasis on freedom of action at the centre of these instruments has facilitated turning outer space into a domain where military activities are accelerating, and geopolitical tensions are escalating at a rapid and dangerous pace. Unless the international community acts swiftly to diffuse these growing tensions, humankind risks suffering the devastating consequences of a space-based conflict.

<sup>1</sup> Ludmila V. Pankova, Olga V. Gusarova, Dmitry V. Stefanovich, *International Cooperation in Space Activities amid Great Power Competition*, 19 *Russia in Global Affairs*, 97, 99 (2021).

<sup>2</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 27 January 1967, 18 UST 2410; 610 UNTS 205; 6 ILM 386 [hereinafter “Outer Space Treaty” or “OST”].



In response, some experts in space security have been increasingly calling for more robust norms of behaviour in outer space.<sup>3</sup> A focus on norms has also been proposed by some within the diplomatic community as a mechanism that could be effective in breaking the existing stalemate and reducing the geopolitical tensions, misperceptions, and competition that exist in space.<sup>4</sup> The most recent iteration of this proposal is the UN General Assembly resolution 75/36 on “Reducing space threats through norms, rules and principles of responsible behaviours,” adopted in December 2020 with 164 votes in favour, 12 against, and 6 abstentions.<sup>5</sup> This was followed by a First Committee resolution in November 2021, which was adopted by the General Assembly with 150 votes in favour, 8 against, and 7 abstentions, to create an with the mission of “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.”<sup>6</sup>

Although this is not the first or only attempt to agree on norms<sup>7</sup> applicable to the space domain,<sup>8</sup> it has renewed momentum on this topic within the international community. This raises the question of whether or not norms—understood here as standards of behaviour, elaborated further below—can achieve the goal of preserving peace in outer space effectively and, if so, how. In answering this question on the role of norms in enhancing space security, this paper will first provide an overview of the road to establishing space norms by briefly outlining some relevant highlights of the history of space security that led to the international community’s current situation with regard to regulating space security matters.

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- 3** Brian Weeden & Victoria Samson, *India’s ASAT Test is Wake-Up Call for Norms of Behavior in Space*, Space News (8 April 2019), available online at <https://spacenews.com/op-ed-indias-asat-test-is-wake-up-call-for-norms-of-behavior-in-space>. Phillip Swarts, ‘Standards and Norms’ Needed in Space, *Pentagon Experts Say*, Space News (18 November 2016), available online at <https://spacenews.com/standards-and-norms-needed-in-space-pentagon-experts-say>. Bruce McClintock, *Space Safety Coordination: A Norm for All Nations*, RAND (16 April 2019), available online at <https://www.rand.org/blog/2019/04/space-safety-coordination-a-norm-for-all-nations.html>.
  - 4** Comm. on the Peaceful Uses of Outer Space, *Operating in Space: Towards Developing Protocols on the Norms of Behaviour*, U.N. Doc A/AC.105/2019/CRP.12 (June 13, 2019).
  - 5** GA Res. 75/36, 75<sup>th</sup> Sess., on Reducing space threats through norms, rules and principles of responsible behaviours (16 December 2020) [hereinafter “Res. 75/36”], available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F75%2F36&Language=E&DeviceType=Desktop>.
  - 6** GA Res. 76/231, 76<sup>th</sup> Sess. 5 c) (30 December 2021) [hereinafter “Res.76/231”], available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F76%2F231&Language=E&DeviceType=Desktop>.
  - 7** It should be noted that resolution 75/36 not only focuses on norms, but also on rules and principles. According to social science literature, principles are beliefs of fact, causation, and rectitude; norms are standards of behaviour defined in terms of rights and obligations; and rules are specific prescriptions or proscriptions for action. This paper will focus on norms and their relationship with social behaviours. See Stephen D. Krasner, *Structural Causes and Regime Consequences: Regimes as Intervening Variables*, 36 *International Organization* 185, 186 (1982).
  - 8** Interest in behavioural ‘rules of the road’ developed in the early 1980s during debates about a ban on anti-satellite (ASAT) weapons. Since then, several initiatives have been proposed. See Jessica West, *The UK Process On Norms And Space Security*, Project Ploughshares (July 2021) [hereinafter “West, UK Process”].

The paper will then explore whether norms can serve as an effective mechanism to regulate behaviour in outer space by analysing both their advantages and drawbacks when applied to space. This analysis shows that, while norms can help mitigate mistrust and reach common understandings on space security issues, they should not be seen as the end goal, but rather as a starting point—the beginning of a renewed international commitment to preventing an arms race in outer space as well as the undesirable future of space eventually becoming a theatre for armed conflict.

**6 MAY 1959: UN Committee on Outer Space Holds First Meeting.**

The first step toward the peaceful, orderly and international development of outer space was taken today with the convening at UN Headquarters of the Ad Hoc Committee on the Peaceful Uses of Outer Space.

At the conference table, heading their delegations, are (l to r, front): Mr. Pierre de Vaucelles (France); Mr. C.S.A. Ritchie (Canada); and Mr. Mario Gibson Barboza (Brazil).  
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# THE ROAD TO ESTABLISHING NORMS FOR SPACE SECURITY

## A BRIEF HISTORY OF SPACE SECURITY REGULATIONS

Although the desire to ensure peace and security in space has gained particular prominence in recent years, it is by no means a new focus of the international community. Indeed, security concerns related to outer space have been present since the dawn of the space age in 1957, when the Soviet Union successfully launched Sputnik I, the first artificial satellite to ever complete an orbit around the Earth. This successful launch gave the Soviet Union the distinction of putting the first human-made object in orbit and opened the door to space exploration. It also served to effectively demonstrate the capability of intercontinental ballistic missile (ICBM) technology for the first time.<sup>9</sup> The launch of Sputnik—which was not protested by the international community—also made real the principle of ‘freedom of space’, establishing in practice the right of free use of, and passage through, space.<sup>10</sup> Tests of counterspace technology by various States soon followed.

In 1958, the United States carried out several weapons tests in space, including nuclear detonations.<sup>11</sup> Operation Argus involved high-altitude nuclear detonations over the South Atlantic Ocean, marking the birth of the first non-kinetic anti-satellite (ASAT)<sup>12</sup> weapon intended to target space objects through the creation of a radiation belt produced by a nuclear detonation in outer space.<sup>13</sup>

**9** VANNEVAR BUSH, *MODERN ARMS AND FREE MEN: A DISCUSSION OF THE ROLE OF SCIENCE IN PRESERVING DEMOCRACY* 116-117 (1949).

**10** M.J. PETERSON, *INTERNATIONAL REGIMES FOR THE FINAL FRONTIER* 50 (2005).

**11** Jackson Nyamuya Maogoto & Steven Freeland, *Space Weaponization and the United Nations Charter Regime on Force: A Thick Legal Fog or a Receding Mist*, 41 *Int'l Law* 1091, 1094-1095 (2007).

**12** Todd Harrison, Kaitlyn Johnson, Joe Moye, Makena Young, *Space Threat Assessment 2021*, CSIS (April 2021), available online at <https://www.csis.org/analysis/space-threat-assessment-2021>. There are different types of ASAT or counterspace technologies. These vary significantly in the “types of effects they create, how they are deployed, how easy they are to detect and attribute, and the level of technology and resources needed to develop and field them”. ASATs can be categorized into four groups according to their capabilities:

1. Kinetic physical → these systems can disable or destroy a satellite by means of striking it directly, or exploding in its close proximity. They can be direct ascent (launched from Earth) or co-orbital.
2. Non-kinetic physical → they can have physical effects on satellites and ground stations without needing to make physical contact. They can be used to permanently or temporarily blind or dazzle a satellite’s sensors, or damage a specific sensitive location, such as a fuel tank. Examples include lasers, high-powered microwaves (HPM), and electromagnetic pulse (EMP) weapons.
3. Electronic → these weapons have the ability to target the means by which space systems transmit and receive data by jamming or spoofing radio frequency (RF) signals.
4. Cyber → these weapons do not target the transmission signals, but rather they target the data itself, as well as the systems that use this data.

**13** Operation Argus was conducted to establish a proof of theory that a very high-altitude nuclear detonation could produce phenomena of potentially significant military importance by interfering with communications and weapons performance. The Argus nuclear tests grew out of an idea conceived of by physicist Nicholas Christofilos. In late 1957 and early 1958, he examined the possibility that a nuclear detonation at an extremely high altitude would create an artificial radiation belt in the upper regions of the Earth’s atmosphere. “It was theorized that the radiation belt would have military implications, including degradation of radio and radar transmissions, damage or destruction of the arming and fusing mechanisms of ICBM warheads, and endangering the crews of orbiting space vehicles that might enter the belt”. US Department of Defense, *Operation Argus* 1958, 1 (1982). Available online at [https://www.dtra.mil/Portals/61/Documents/NTPR/2-Hist\\_Rpt\\_Atm/1958\\_DNA\\_6039F.pdf](https://www.dtra.mil/Portals/61/Documents/NTPR/2-Hist_Rpt_Atm/1958_DNA_6039F.pdf).

In 1959, the United States' Bold Orion programme, which was testing the feasibility of air-launched ballistic missiles (ALBM), conducted a flight test targeting a point in space very close to the U.S. Explorer I satellite, demonstrating the ability of ballistic missiles to intercept satellites.<sup>14</sup> Subsequently, in 1963 the Soviet Union began tests of a co-orbital ASAT system, designed to approach a satellite target from orbit.<sup>15</sup>

These tests demonstrated that the military competition that existed on Earth could extend to space. In response, the General Assembly expressed the need “to avoid the extension of present national rivalries into this new field”.<sup>16</sup> The concern prompted the creation of the Committee on the Peaceful Uses of Outer Space (COPUOS), and it was under its auspices that the Outer Space Treaty<sup>17</sup> was eventually drafted in 1967. Seeking to keep space as a domain to be explored “for the benefit and in the interests of all countries”,<sup>18</sup> the treaty emphasized a spirit of peaceful use and banned the testing of any weapons or the conduct of any military activity on the Moon and other celestial bodies, preserving these exclusively for peaceful purposes.<sup>19</sup>

The OST also served as a form of arms control agreement to ensure stability in space and included a key provision to this effect.<sup>20</sup> Following the demonstration of devastating damage to both satellites and the surrounding environment by nuclear explosions in outer space, such testing in space as well as in the atmosphere and underwater was banned by the 1963 Partial Test Ban Treaty.<sup>21</sup> The OST added to this ban a prohibition on the placement, installation, or stationing of nuclear weapons or other weapons of mass destruction in orbit, on the Moon, or on other celestial bodies.<sup>22</sup>

**14** “Eight tests of this version were conducted between May 26, 1958, and June 19, 1959, during which the missiles reached apogees near 100 kilometers (62 miles) during their flights”. Brian Weeden, *Through a Glass, Darkly: Chinese, American, and Russian Anti-Satellite Testing in Space*, Secure World Foundation 20 (17 March 2014). Available online at [https://swfound.org/media/167224/through\\_a\\_glass\\_darkly\\_march2014.pdf](https://swfound.org/media/167224/through_a_glass_darkly_march2014.pdf).

**15** Laura Grego, *A History of Anti-Satellite Programs*, Union of Concerned Scientists (2012), available online at [https://www.ucsusa.org/sites/default/files/2019-09/a-history-of-ASAT-programs\\_lo-res.pdf](https://www.ucsusa.org/sites/default/files/2019-09/a-history-of-ASAT-programs_lo-res.pdf).

**16** GA Res. 1348 (XIII), U.N. GAOR, 13<sup>th</sup> Sess., Supp. No. 18b U.N. Doc. A/4090 (Dec., 13 1958), available online at [https://www.unoosa.org/oosa/oosadoc/data/resolutions/1958/general\\_assembly\\_13th\\_session/res\\_1348\\_xiii.html](https://www.unoosa.org/oosa/oosadoc/data/resolutions/1958/general_assembly_13th_session/res_1348_xiii.html)

**17** The OST has, as of 1 January 2021, 111 States Parties and has been signed by 23 other States according to the list on the status of international agreements relating to activities in outer space compiled and distributed by the United Nations Office for Outer Space Affairs, available online at: <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/status/index.html>.

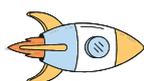
**18** See Outer Space Treaty, *op. cit. supra* note 2, at art. I.

**19** *Ibid.* at art. IV.

**20** FRANCIS LYALL & PAUL B. LARSEN, *SPACE LAW: A TREATISE* 453-454 (2d ed. 2018). U.S. President Lyndon Johnson termed the OST as “the most important arms control development since the Limited Test Ban Treaty of 1963”. Lyndon Johnson, *Statement by the President Announcing the Reaching of Agreement on an Outer Space Treaty, 8 December 1966*, in Lyndon Johnson, LYNDON B. JOHNSON: 1966 (IN TWO BOOKS): CONTAINING THE PUBLIC MESSAGES, SPEECHES, AND STATEMENTS OF THE PRESIDENT. [Book 2] 1441 (1967), available online at <https://quod.lib.umich.edu/p/ppotpus/4731549.1966.002/815?rgn=full+text;view=image>

**21** Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 480 UNTS 43; 14 UST 1313; 2 ILM 889 (1963), [hereinafter “Partial Test Ban Treaty”].

**22** Outer Space Treaty, *op. cit. supra* note 2, art. IV.



The OST has become the basis of all space law, and its importance cannot be overstated. However, it is a treaty comprised primarily of high-level principles, light on detail of how these are to be implemented. The working of several such principles has since been elaborated in subsequent treaties, including those on the registration of objects launched into outer space, astronaut rescue and return, liability, and governance of the Moon.<sup>23</sup> Regarding the principle of non-contamination, COPUOS has developed a series of non-binding resolutions regarding the conduct of space activities which have been subsequently adopted or endorsed by the General Assembly. The Space Debris Mitigation Guidelines and the Guidelines for the Long-term Sustainability of Outer Space Activities are examples of this.<sup>24</sup>

But neither treaty-making efforts nor attempts at promoting voluntary measures have addressed gaps in the OST's arms control functions, which have allowed the development and testing of conventional weaponry, both in space and targeting objects in space from Earth, to continue.<sup>25</sup> An escalating risk of armed competition and conflict in outer space poses a threat to space objects, the space environment, and potentially to Earth, which is at odds with the Treaty's core concern with universal interests and benefits, not to mention the spirit of peacefulness.

This ongoing gap is not for lack of concern, nor effort on the part of both States and non-governmental entities. During the special session of the General Assembly devoted to disarmament (SSOD I) in 1978, States concluded that:

“ in order to prevent an arms race in outer space, further measures should be taken and appropriate international negotiations held in accordance with the spirit of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the Outer Space Treaty).<sup>26</sup> ”

**23** Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 UST 7570; TIAS 6599; 672 UNTS 11 [hereinafter “Rescue Agreement”]; Convention on the International Liability for Damage Caused by Space Objects, March 3, 1972, 24 UST 2389; TIAS 7762; 961 UNTS 187 [hereinafter “Liability Convention”]; Convention on Registration of Objects Launched Into Outer Space, Nov. 12, 1974, 28 UST 695; TIAS 8480; 1023 UNTS 15 [hereinafter “Registration Convention”]; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Dec. 5, 1979, 18 ILM 5 1434; 1363 UNTS 3 [hereinafter “Moon Agreement”].

**24** Other principles and guidelines that have stemmed from those General Assembly discussions:

- Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space
- Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting
- Principles Relating to Remote Sensing of the Earth from Outer Space
- Principles Relevant to the Use of Nuclear Power Sources in Outer Space
- Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries

**25** Brian Weeden & Victoria Samson eds., *Global Counterpace Report*, Secure World Foundation (April 2021), available online: <https://swfound.org/counterspace/>.

**26** GA Res. S-10/2, 10<sup>th</sup> Special Session of the United Nations General Assembly on Disarmament: Final Document, U.N. Doc A/RES/S-10/2, ¶ 80 (Feb. 5 1980), available online at <https://undocs.org/pdf?symbol=en/A/res/S-10/2>.

This marks the formation of the concept of the prevention of an arms race in outer space (PAROS). The General Assembly adopted the first two resolutions related to PAROS in 1981.<sup>27</sup> However, these competing resolutions—one focused on banning any type of space weapons (including those that could target objectives on Earth)<sup>28</sup> and the other on ASATs<sup>29</sup>—proposed contrasting approaches and priorities that have hindered political discussions on PAROS and impeded practical progress on this issue for the past 40 years. PAROS has traditionally been discussed within the Conference on Disarmament (CD)—the primary body of the United Nations that serves as a multilateral disarmament negotiating forum of the international community. However, a lack of consensus among States on space and other issues has made it difficult to conduct substantive discussions.

There is also disagreement on the means of achieving PAROS. Some States—led by the Russian Federation, China and some Eastern European States—believe that existing legal instruments, such as the Outer Space Treaty and the Charter of the United Nations, are insufficient for the task, prompting an effort to develop an additional treaty specifically banning weapons in outer space. The most recent proposal in this regard is the draft treaty on the Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force Against Outer Space Objects (PPWT). First presented by the Russian Federation and China to the CD in February 2008 and revised in 2014, the PPWT would obligate States to not “place in orbit around the Earth any objects carrying any kinds of weapon” nor “resort to the threat or use of force against outer space objects”.<sup>30</sup> This proposal is yet to garner sufficient support from the international community and was unable to reach the consensus needed in the CD to proceed.

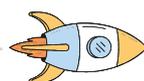
In contrast, others—led chiefly by Western European States—have argued that existing legal instruments already provide “an equitable, practical, balanced and extensive legal system for ensuring the use of outer space for peaceful

**27** Benjamin Silverstein, Daniel Porras, John Borrie, *Space Dossier 5 - Alternative Approaches and Indicators for the Prevention of an Arms Race in Outer Space*, UNIDIR 9 (2020).

**28** GA Res. 36/99, 36<sup>th</sup> Sess., on Conclusion of a treaty on the prohibition of the stationing of weapons of any kind in outer space (9 December 1981), available online at <https://digitallibrary.un.org/record/27062?ln=en>. This resolution was sponsored by Angola, Bulgaria, Byelorussian SSR, Cuba, Czechoslovakia, German Democratic Republic, Hungary, Lao People’s Democratic Republic, Mongolia, Poland, Ukrainian SSR, USSR, and Viet Nam, and sought to encourage the international community “by concluding an appropriate international treaty, to prevent the spread of the arms race to outer space”, as its sponsoring States considered that the OST was insufficient.

**29** GA Res. 36/97 C, 36<sup>th</sup> Sess., on Prevention of an arms race in outer space ¶¶ 3–4 (9 December 1981), available online at <https://undocs.org/en/A/RES/36/97>. This resolution was sponsored by Australia, Barbados, Belgium, Canada, Denmark, Federal Republic of Germany, France, Greece, Italy, Japan, Netherlands, New Zealand, Niger, Norway, Spain, United Kingdom, and Uruguay, and aimed to prompt the negotiation at the Committee on Disarmament of “effective and verifiable agreements aimed at preventing an arms race in outer space, taking into account all existing and future proposals designed to meet this objective”, in particular the negotiation of an “effective and verifiable agreement to prohibit anti-satellite systems”.

**30** Article II of the 2008 draft of the PPWT, submitted by China and the Russian Federation, <https://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2008/documents/Draft%20PPWT.pdf>. See also CD/1839 (29 February 2008).



purposes”.<sup>31</sup> Initially, these States were sceptical about the need for an additional treaty, and instead advocated for voluntary transparency and confidence-building measures, originally as an alternative to a new treaty,<sup>32</sup> and eventually as mechanisms that complement legally binding measures, and could form the basis for them.<sup>33</sup> In 2008, the European Union proposed a draft International Code of Conduct for outer space activities. This voluntary instrument had the objective of forming a regime of transparency and confidence-building measures (TCBMs) to complement existing regulations applicable to outer space and to enhance the safety, security, and sustainability of all outer space activities.<sup>34</sup> A revised draft was released in 2014 following international consultations.<sup>35</sup>

Nonetheless, the EU-led Code of Conduct, drafts of which were elaborated through consultations outside of the United Nations, received mixed reviews and failed to garner sufficient support from the international community due to both substantive and procedural challenges.<sup>36</sup> Although several States announced their willingness to initiate a multilateral negotiating process to develop an international code of conduct using the EU draft as a foundation,<sup>37</sup> many parties, led by the United States, eventually withdrew their support from the project in 2015,<sup>38</sup> ending this effort to develop voluntary rules of the road for outer space.<sup>39</sup>

In addition to the above, UN Member States have pursued two Group of Governmental Experts (GGE) processes aimed at advancing both legal and non-legal approaches to PAROS. In 2013, a GGE on transparency and confidence-build-

**31** Conference on Disarmament, *Report of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space*, document CD/1271 ¶ 13 (24 August 1994), available online at <https://undocs.org/pdf?symbol=en/CD/1271>

**32** Benjamin Silverstein *et al.*, *op. cit. supra* note 27 at 11.

**33** Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities, U.N. GAOR, 68th Sess. U.N. Doc A/68/189\* (29 July 2013), available online at [https://www.unoosa.org/oosa/oosadoc/data/documents/2013/a/a68189\\_0.html](https://www.unoosa.org/oosa/oosadoc/data/documents/2013/a/a68189_0.html).

**34** Christopher Johnson, *Draft International Code of Conduct for Outer Space Activities Fact Sheet*, Secure World Foundation (February 2014), available online at [https://swfound.org/media/166384/swf\\_draft\\_international\\_code\\_of\\_conduct\\_for\\_outer\\_space\\_activities\\_fact\\_sheet\\_february\\_2014.pdf](https://swfound.org/media/166384/swf_draft_international_code_of_conduct_for_outer_space_activities_fact_sheet_february_2014.pdf).

**35** International Code of Conduct for Outer Space Activities - Version 31 March 2014, Draft, available online at [https://eeas.europa.eu/topics/disarmament-non-proliferation-and-arms-export-control/14715\\_en](https://eeas.europa.eu/topics/disarmament-non-proliferation-and-arms-export-control/14715_en).

**36** The EU was negotiating outside of the mandate of the United Nations, to which some States objected. EU States negotiated the text of the Code among themselves before presenting it as a finished product to the rest of the international community, which many criticized. *See Ibid.* *See also* P.J. Blount, *Sorting out Self-Defense in Space: Understanding the Conflicting Views on Self-Defense in the EU Code of Conduct*, in MONOGRAPH SERIES V-CONFLICTS IN SPACE AND THE RULE OF LAW 311-330 (Maria Manoli & Sandy Belle Habchi, eds. 2018).

**37** *Ibid.*

**38** Critics feared that if the United States adopted the Code of Conduct, its military capabilities, even if they were ‘defensive’ in nature, were likely to be heavily scrutinized and criticized by the international community, and thus restricting U.S. freedom of action in space. *See* Jack M. Beard, *Soft Law’s Failure On The Horizon: The International Code Of Conduct For Outer Space Activities*, 38 U. Pa. J. Int’l L. 336, 379-380 (2017).

**39** Cassandra Steer, *Russia’s Anti-Satellite Weapons Testing Reminds Us that Arms Control in Space is a Responsibility for all Nations*, Center for Ethics and the Rule of Law (CERL) – University of Pennsylvania (1 May 2020), available online at <https://www.law.upenn.edu/live/news/10023-russias-anti-satellite-weapons-testing-should/news/cerl-news>.

ing measures adopted a consensus report recommending a series of voluntary measures to reduce military tension in space and to increase transparency, such as sharing of information and notification of certain space activities.<sup>40</sup> Following informal discussions on the practical implementation of these TCBMs in 2017, the UN Disarmament Commission (UNDC) adopted the item on its agenda for the 2018–2020 cycle,<sup>41</sup> but has seen little progress due to various factors, including the fact that the UNDC was unable to convene from 2019 through 2021.

Another GGE was convened in 2018 and 2019 to identify issues and options to advance a legally binding instrument on PAROS. However, the Group was unable to reach consensus on a final report of recommendations.<sup>42</sup> Nevertheless, the work carried out by the Group did highlight points of convergence in several areas, such as the applicability of international law—in particular the Charter of the United Nations—to outer space, the freedom of access to outer space without discrimination and on the basis of equality, and the need to avoid hampering the economic or technological development of States.<sup>43</sup>

Issues relating to PAROS continue to be discussed in the First Committee of the General Assembly. In 2021 the General Assembly adopted five resolutions on this topic that largely reflect increasingly entrenched positions around space security: “Prevention of an arms race in outer space”,<sup>44</sup> “No first placement of weapons in outer space”,<sup>45</sup> “Further practical measures for the prevention of an arms race in outer space”,<sup>46</sup> “Transparency and confidence-building measures in outer space activities”,<sup>47</sup> and “Reducing space threats through norms, rules and principles of responsible behaviours”.<sup>48</sup> The last of these is a follow-up to resolution 75/36 on norms of responsible behaviour, discussed in more detail below.

**40** See Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities, *op. cit. supra* note 33.

**41** 2018 Disarmament Commission Working Group II, Secretariat non-paper (2018) available online at <https://www.un.org/disarmament/wp-content/uploads/2018/03/WG2-secretariat-non-paper-outer-space-TCBMs-FINAL.pdf>.

**42** GA Res. 72/250, 72<sup>nd</sup> Sess., on Further practical measures for the prevention of an arms race in outer space (24 December 2017), available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F72%2F250&Language=E&DeviceType=Desktop>

**43** See Annex II of the Report of the Group of Governmental Experts on further practical measures for the prevention of an arms race in outer space, UN GAOR, 74<sup>th</sup> Sess. U.N. Doc A/74/77 (9 April 2013), available online at <https://undocs.org/pdf?symbol=en/A/74/77>

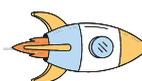
**44** GA Res. 76/22, 76<sup>th</sup> Sess., on Prevention of an Arms Race in Outer Space, (6 December 2021), available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F76%2F22&Language=E&DeviceType=Desktop>.

**45** GA Res. 76/23, 76<sup>th</sup> Sess., on No First Placement of Weapons in Outer Space, (6 December 2021) [hereinafter “Res. 76/23”], available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F76%2F23&Language=E&DeviceType=Desktop>.

**46** GA Res. 76/230, 76<sup>th</sup> Sess., on Further Practical Measures for the Prevention of an Arms Race in Outer Space, (30 December 2021), available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F76%2F230&Language=E&DeviceType=Desktop>.

**47** GA Res. 76/55, 76<sup>th</sup> Sess., on Transparency and Confidence-building Measures in Outer Space Activities, (13 December 2021), available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F76%2F55&Language=E&DeviceType=Desktop>.

**48** Res. 76/231, *op. cit. supra* note 6.



Non-governmental entities have also 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 ASAT weapons.<sup>49</sup>

## RESOLUTION 75/36 ON REDUCING SPACE THREATS THROUGH NORMS, RULES AND PRINCIPLES OF RESPONSIBLE BEHAVIOURS

In an effort to reset international discussion related to PAROS, resolution 75/36 on “Reducing space threats through norms, rules and principles of responsible behaviours” was introduced by the United Kingdom in 2020. It was adopted by the General Assembly on 7 December 2020 with a vote of 164 in favour, 12 against, and 6 abstentions.<sup>50</sup> Broad support for the resolution underpins States’ increasing fears of the threat posed to space-based systems by weapons capabilities both in space and on Earth, and the desire to advance multilateral prevention measures.<sup>51</sup>

Calling on States to submit views to the Secretary-General on what activities “could be considered responsible, irresponsible or threatening”,<sup>52</sup> the UK-led resolution initiated a process to further develop norms of responsible behaviour for outer space activities, setting aside any focus on defining and regulating weapons in space. The objective is 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 to formal discussions that could lead to “further consideration of legally binding instruments in this area”.<sup>53</sup>

Thirty States, the European Union, and nine non-State actors submitted substantive comments.<sup>54</sup> Key elements of these submissions were compiled in a Report of the Secretary-General “without prejudice to their individual positions”.<sup>55</sup>

The submissions have served to highlight that, even though States may have differing ideas on how to tackle the goals of PAROS, they share many common concerns.<sup>56</sup>

**49** Michael Krepon, *Space: A Code of Conduct*, The Henry L. Stimson Center (Sept. 16, 2010), available online at [https://www.stimson.org/wp-content/files/file-attachments/MKrepon\\_Final\\_Format\\_1.pdf](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 (April 2021), available online at [https://www.sipri.org/sites/default/files/2021-04/eunpdc\\_no\\_74.pdf](https://www.sipri.org/sites/default/files/2021-04/eunpdc_no_74.pdf); Outer Space Institute, Letter to UNGA President Volkan Bozkur (Sept. 2, 2021), available online at [http://outerspaceinstitute.ca/docs/OSI\\_International\\_Open\\_Letter\\_ASATs\\_PUBLIC.pdf](http://outerspaceinstitute.ca/docs/OSI_International_Open_Letter_ASATs_PUBLIC.pdf); Daniel Porras, *Space Dossier 2- Towards ASAT Test Guidelines*, UNIDIR, 2018.

**50** Reducing space threats through norms, rules and principles of responsible behaviours Voting Data, United Nations Digital Library (7 December 2020), available online at [https://digitallibrary.un.org/search?ln=en&cc=Voting+Data&fct\\_2=General+Assembly&p=A/RES/75/36](https://digitallibrary.un.org/search?ln=en&cc=Voting+Data&fct_2=General+Assembly&p=A/RES/75/36).

**51** West, UK Process, *op. cit. supra* note 8.

**52** Res. 75/36 *op. cit. supra* note 5.

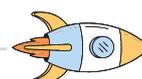
**53** *Ibid.*

**54** The details of each submission are available online on the UN Office of Disarmament Affairs website, available at <https://www.un.org/disarmament/topics/outerspace-sg-report-outer-space-2021/>.

**55** Report of the Secretary-General A/76/77, on reducing space threats through norms, rules and principles of responsible behaviours, ¶ 4 (13 July 2021), [hereinafter “SG Report”], available online at <https://undocs.org/en/A/76/77>.

**56** See generally West, UK Process, *op. cit. supra* note 8.

Concerns	Rationale	Proposed responsible behaviours
<b>Space debris</b>	Almost every State that submitted comments to the UNSG mentioned space debris as either a key threat to space activities or as a priority for additional governance measures, including efforts to limit the deliberate creation of long-lived debris and large debris clouds.	<ul style="list-style-type: none"> <li>● Complying with existing space law. According to many of the submissions, States should consider joining existing United Nations treaties related to space where they have not done so.</li> <li>● Increasing transparency and communication to avoid misunderstandings and the creation of mistrust, which can heighten tensions among actors. Suggestions of practical ways to do this include notifications and enhanced communication and information exchanges on planned activities, as well as the gathering and sharing of space situational awareness (SSA) data.</li> <li>● Banning the use and testing of kinetic ASAT weapons and other intentional acts that create debris.</li> <li>● Pursuing de-escalation and deconfliction mechanisms such as consultation and lines of communication to address miscalculation and misunderstanding.</li> </ul>
<b>Weapons</b>	Many States are concerned with the proliferation of counterspace technologies (both ground-based and those placed in space). Of particular concern are kinetic ASATs, targeting objects in space, and producing space debris.	
<b>Harmful interference</b>	States also expressed concerns about the potential use of non-kinetic technologies that could intentionally interfere with the regular operations of a satellite system, through electronic, cyber or other non-kinetic means, which could have dangerous effects on the services that these satellite systems provide.	
<b>Dual-use and dual-purpose space objects</b>	<p>States expressed worries about what they term ‘dual-use space objects’ due to the role these can play in fostering mistrust among space actors as a by-product of their dual nature, which can increase tensions and pose a risk to security. Submissions referred to two different types of dual-use space objects:</p> <ul style="list-style-type: none"> <li>● Actual dual-use space objects: they can have (i) military and security, as well as (ii) civilian and commercial functions (such as, for example, GNSS).</li> <li>● Dual-purpose space objects: designed to fulfil a benign objective (such as debris removal or on orbit servicing), but they can be repurposed to harm other space objects.</li> </ul>	
<b>Reverberating effects</b>	Beyond specific threats, an underlying concern with reverberating effects is clear, specifically the secondary damage and human impacts caused by disruption to, or destruction of, critical infrastructure capabilities and the space environment.	



Following this consultation process, the United Kingdom initiated a subsequent resolution to establish an inclusive OEWG to consider threats and to make recommendations on norms, rules, and principles of responsible behaviour in space. This resolution was adopted by the First Committee on 1 November 2021 with 163 votes in favour, 8 against, and 9 abstentions. The General Assembly adopted the resolution on 24 December 2021 with 150 votes in favour, 8 against, and 7 abstentions. The envisaged OEWG is mandated to:

- 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.<sup>57</sup>

Working on the basis of consensus, the OEWG is expected to conduct its work in 2022 and 2023. The process is designed to be inclusive of intergovernmental and international organizations, organizations and bodies of the United Nations, commercial actors and civil society representatives.<sup>58</sup>

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**57** Res. 76/231, *op. cit. supra* note 6, at ¶ 5.

**58** *Ibid.* at ¶ 6.

# NORMS AS A TOOL FOR OUTER SPACE GOVERNANCE

## WHAT ARE NORMS?

For the purposes of this paper, we draw on social science literature to define norms as “a standard of appropriate behaviour for actors with a given identity”.<sup>59</sup> Reflecting behaviours that one ‘ought’ to conform with, norms are inherently social and value-laden rules. Compliance with norms is driven by the social and political expectations that they set, internalization of the rules and values, a sense of social or moral duty, fear of condemnation, or all of the above.<sup>60</sup>

Although sometimes described as ‘less than’ law, norms are essential to collective governance because—like law—they drive behaviour. Norms are also directly relevant to legal frameworks.<sup>61</sup> Legal rules can both facilitate and impede the establishment of norms, and the reverse is also true.<sup>62</sup> Moreover, as an expression of values, principles, and practices, law is often the basis for norms. In outer space, legal principles of due regard and non-contamination of the space environment inform space debris mitigation practices. Indeed, norms often inform and reflect how law is interpreted and applied in practice and can help to resolve conflicting legal rules. Moreover, it is not uncommon that norms eventually become binding laws through codification in legal agreements. Norms can also become binding customary international law (CIL), which consists of rules of law derived from the consistent behaviour of States acting out of the belief that the law required them to act in a certain manner.<sup>63</sup> Further exemplifying the normative

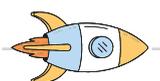
**59** Martha Finnemore & Kathryn Sikkink, *International Norm Dynamics and Political Change*, 52 *International Organization* 887, 887-917 (1998). This definition is classically employed in the field of international affairs. The legal theory equivalent would generally be ‘standards’. See generally Joseph Raz, *Legal Principles and the Limits of Law*, 81 *Yale L. J.* 823 (1972). Norms as described in this paper should not be confused with the concept of ‘legal norms’ often used in normative legal theory, which defines norms as rules of conduct dictated or promulgated by a legitimate power to regulate human behaviour by means of prescription, authorization or prohibition. It assumes that its non-compliance generates a coercive sanction. See generally HANS KELSEN, *THE PURE THEORY OF LAW* (1934).

**60** Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 *Mich. L. Rev.* 338, 340 (1997).

**61** As the SG Report remarks “Some of the earliest international disarmament agreements codified universal norms against weapons that cause superfluous injury or unnecessary suffering, or whose use would be repugnant to the conscience of humankind.” See SG Report, *op. cit. supra* note 55.

**62** Non-legally binding norms are often connected to hard law and can serve as precursors of international customary and treaty law. Alternatively, politically binding measures can fill legal gaps and can eventually form State practices that are used to interpret treaties. See generally Cass R. Sunstein, *Social Norms and Social Roles*, 96 *Colum. L. Rev.* 903 (1996) [hereinafter “Sunstein, *Social Norms and Social Roles*”]. Carmen Wunderlich, Harald Müller and Una Jakob, *WMD Compliance and Enforcement in a Changing Global Context*, UNIDIR (2021), available online at <https://doi.org/10.37559/WMD/21/WMDCE02>. See also Cass R. Sunstein, *Unleashed: The Role of Norms and Law*, Harvard Law Review Blog (17 October 2017), available online at <https://blog.harvardlawreview.org/unleashed-the-role-of-norms-and-law/>.

**63** Two elements of customary international law will always be required to see if CIL has been formed: (1) the general practice / widespread repetition of international acts by States over time (State practice); and (2) the requirement that the acts must occur out of a sense of legal obligation (*opinio juris*). See International Law Commission, *Draft Conclusions on Identification of Customary International Law*, with Commentaries, *Y.B. Int’l L. Comm’n*, Vol II, Pt. 2 152 (2018), available online at [https://legal.un.org/ilc/texts/instruments/english/commentaries/1\\_13\\_2018.pdf](https://legal.un.org/ilc/texts/instruments/english/commentaries/1_13_2018.pdf)



nature of CIL, State practice need not be perfectly uniform for such law to be established, so long as there is evidence of condemnation or denial of violations that points to the recognition of the rule, such as the *Nicaragua* case ruling on the principle of non-intervention.<sup>64</sup> However, norms can also govern behaviour in the absence of—or even irrespective of—legal rules.<sup>65</sup>

From a governance perspective, norms are valued for their ability to mitigate the types of dangers and threats that can emerge from collective action (or inaction) in a shared or social setting.<sup>66</sup> In this context, norms are sometimes referred to as ‘non-binding rules,’ ‘voluntary behaviours,’ or ‘soft law’. Because norms usually reside in social values and expectations rather than law, they are often easier to develop and to adapt through political rather than legal means. For this reason, norms are viewed as a more flexible way of addressing issues and challenges that are marked by ongoing evolution or unanticipated developments, such as the rapidly changing technical capabilities and the diversification of actors that are emerging in outer space. At the international level, the processes of norm-making may be more amenable to constructive diplomatic discussion in a tense political environment,<sup>67</sup> especially because norms are typically voluntary measures (although this characteristic is also what makes them more vulnerable to potentially being bent by one of the parties in the negotiation). However, while norms might be considered ‘easier’ than the pursuit of legal agreements, the dynamics of norm-making and change are complex.

Where do norms come from? Norms are rooted in shared values and principles, and are reflected in and reinforced by the practices of individuals or organizations.<sup>68</sup> Norms in turn are shaped by the variety of governance instruments, including international law, national regulation, political agreements, technical standards, protocols, and other practices.<sup>69</sup> Efforts to frame and assert normative expectations can be identified in high-level statements, codes of conduct, guiding principles or declarations, recommendations, toolkits, or other model

**64** International Committee of the Red Cross, *Customary IHL Database*, “Introduction,” ICRC, available online: [https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1\\_rul\\_in](https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_in). See also *Republic of Nicaragua v. United States of America*, International Court of Justice, 1986, 1986 I.C.J. 14, available online at <https://www.icj-cij.org/public/files/case-related/70/070-19860627-JUD-01-00-EN.pdf>.

**65** Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 Mich. L. Rev. 338 (1997), available online at [https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2654&context=journal\\_articles](https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2654&context=journal_articles). See also generally ROBERT C. ELLICKSON, *ORDER WITHOUT LAW* (1994).

**66** United Nations Institute for Disarmament Research, *A Brief Overview of Norms Development in Space*, UNIDIR (May 30, 2013), available online at <https://www.unidir.org/files/publications/pdfs/a-brief-overview-of-norms-development-in-outer-space-en-462.pdf>.

**67** *Non-proliferation Export Controls: Origins, Challenges, and Proposals for Strengthening* 64 (Daniel Joyner ed., 2006). See also Wunderlich *et al. op. cit. supra* note 62.

**68** Jessica West, *Norms, Space Security, and Arms Control*, Project Ploughshares (June 2021), [hereinafter “West, Norms, space security, and arms control”]. See also generally Cristina Bicchieri, Ryan Muldoon, Alessandro Sontuoso, *Social Norms*, The Stanford Encyclopedia of Philosophy (2018), available online at <https://plato.stanford.edu/entries/social-norms/#Bib>; TALCOTT PARSONS, *THE SOCIAL SYSTEM* (1951).

**69** Martha Finnemore & Duncan B. Hollis, *Constructing Norms for Global Cybersecurity*, 110 Am. J. Int’l L. 425, 427 (2016).

frameworks.<sup>70</sup> But because norms are related to broader social, political, and legal structures, they are relational, and rarely exist in isolation of one another. Instead, norms often form clusters or “collections of aligned, but distinct norms or principles” within a specific governance regime.<sup>71</sup> Numerous practices associated with the principle of the protection of civilians during armed conflict, such as the obligation of distinction or discrimination between civilians and combatants as well as civilian objects and military objectives, or the duty to review new weapons, are examples of a norm cluster linked to international humanitarian law.<sup>72</sup>

Because norms exist primarily as a social or political institution with many different sources of influence, they are dynamic and continuously developing.<sup>73</sup> The path of norm development has been described in terms of a spiral or a cascade, beginning with the emergence or proposal of a norm, followed by broad community acceptance, and finally internalization.<sup>74</sup>

**70** Roxana Radu, Mattias C. Kettmann, Trisha Meyer, and Jamal Shahin, *Normfare: Norm Entrepreneurship in Internet Governance*, 45 *Telecommunications Policy*, 2 (2021), available online at <https://doi.org/10.1016/j.telpol.2021.102148>.

**71** Jeffery S. Lantis & Carmen Wunderlich, *Resiliency Dynamics of Norm Clusters: Norm Contestation and International Cooperation*, 44 *REV. OF INT'L STUDIES* 570 (2018), available online at <https://www.cambridge.org/core/journals/review-of-international-studies/article/abs/resiliency-dynamics-of-norm-clusters-norm-contestation-and-international-cooperation/0EC3E9FA953F144859EC48C95E27A07E>.

**72** M. Cherif Bassiouni, *The Normative Framework of International Humanitarian Law*, 75 *Int'l L. Studies* (2000). Available online at <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1436&context=ils>. It should be noted that although these obligations may have started as norms, they have been codified in the Additional Protocol I (API) to the Geneva Conventions, particularly in part IV. Furthermore, these norms that embody the principles of distinction /discrimination, military necessity, proportionality, precautions, humanity (unnecessary suffering) and honour (chivalry) are considered to be customary international law, and bind even those States that have not ratified AP I. See Protocol (I) Additional to the Geneva Conventions of August 12, 1949, and Relating to the Protection of Victims of International Armed Conflicts, 8 June 1977, 1125 UNTS. 3.

**73** Finnemore & Hollis, *op. cit. supra* note 69 at 425-479.

**74** Finnemore & Sikkink, *op. cit. supra* note 59.



Stages of norms <sup>75</sup>			
	1. Norm emergence	2. Norm cascade	3. Norm internalization
Actors	Norm entrepreneurs (such as States, civil society actors, or private sector organizations)	States, networks, international organizations	Law, professions, bureaucracy
Process	Persuasion and normative contestation	Socialization, institutionalization, and demonstration	Conformity
Tools	Framing: norm linkages and issue resonance Mobilizing logics of appropriateness Organizational platforms Expertise and information	Implementation and emulation Incentives and sanctions State identity and reputation: praise and shame	Professions and professional training Iterative behaviour and habit Procedures and political processes
Outcome	Norm is institutionalized in a set of specific rules	New norm redefines appropriately behaviour and is broadly accepted	Norms acquire taken-for-granted quality, are self-reinforcing

Norm creation and change can occur organically within a community, but can also be the result of an intentional process. When it comes to the intentional creation of norms, content, process, and actors all matter. The development of new norms is often led and actively managed by what are referred to as ‘norm entrepreneurs’.<sup>76</sup> Although power is important, norm entrepreneurs are not necessarily the most powerful actors: in the context of international governance, small and medium spacefaring States (and even those that are not yet spacefaring) as well as civil society organizations and private sector actors have all been involved in the promotion of new norms of behaviour, from the use of landmines to the current process unfolding to influence Internet governance.<sup>77</sup>

<sup>75</sup> Adapted from Finnemore & Sikkink, *ibid.*

<sup>76</sup> *Ibid.*

<sup>77</sup> Carol M. Glen, *Norm Entrepreneurship in Global Cybersecurity*, 49 *Politics and Policy* 1121, 1121-1145 (2021), available online at <https://onlinelibrary.wiley.com/doi/10.1111/polp.12430?af=R>.

The declaration of a new norm or rule is not enough. Efforts to establish new norms are best framed by prevailing values and the pattern of existing standards of behaviour.<sup>78</sup> And moving from identification and articulation of a norm to legitimacy and widespread practice depends on an effective process of institutionalization, socialization and internalization.<sup>79</sup>

Regardless of the process, the emergence of international norms is ultimately determined by the will and behaviour of States.<sup>80</sup> Their impact depends on recognition and implementation in State practice, which affects the relative strength of norms.

Not all norms are created equal. What makes some norms stronger than others? Power matters. Declarations and actions by powerful States have a greater effect on the shaping of norms. The emergence and interpretation of ‘freedom of action’ in outer space is a case in point.<sup>81</sup> The launch and overflight of the Sputnik-I satellite cemented the right of all States to explore space without the limitation of national borders even before it was codified in the OST. Content also matters. Adherence to core values, institutionalization, and legal relationships is important, as is alignment with norm clusters, which provide an additional layer of robustness to individual norms.<sup>82</sup> And identity matters: norms motivate behaviour in part because they are associated with specific qualities and characteristics, such as what it means to be a ‘State.’<sup>83</sup> But State identity is multifaceted. Assessments of compliance with norms by other States can be bound up in perceptions of identity.<sup>84</sup> Norms can also be the subject of intense competition by different actors to influence rules according to their preferences.<sup>85</sup>

While internalized norms are generally stable, the dynamic nature of norms means that they can also change rapidly in the face of new circumstances, expectations, or practices,<sup>86</sup> or collapse completely.<sup>87</sup> Sometimes norms are

**78** Radu *et al.*, *op. cit. supra* note 70 at 3; Finnemore & Hollis, *op. cit. supra* note 69, at 427.

**79** Finnemore & Sikkink, *op. cit. supra* note 59.

**80** Justin Gest *et al.*, *Tracking the Process of International Norm Emergence*, 19 *Global Governance* 153, 172 (2013).

**81** Melanie K. Saunders, *Conference Diplomacy as the Machinery for Manufacturing Consent*, 22 *Melb. J. Int'l L.* (2021).

**82** Lantis & Wunderlich, *op. cit. supra* note 71.

**83** Ronald L. Jepperson, Alexander Wendt and Peter J. Katzenstein, *Norms, Identity and Culture in National Security*, in *The Culture of National Security: Norms and Identity in World Politics* (Peter Katzenstein ed., 1996).

**84** Marie Isabelle Chevrier & Iris Hunger, *Confidence-Building Measures for the BTWC: Performance and Potential*, *Non-Proliferation Review* 24-42 (Fall-Winter 2000).

**85** Radu *et al.*, *op. cit. supra* note 70.

**86** Sunstein, *Social Norms and Social Roles*, *op. cit. supra* note 62, at 909.

**87** See generally THE AMERICAN WAY OF BOMBING: CHANGING ETHICAL AND LEGAL NORMS, FROM FLYING FORTRESSES TO DRONES, (Matthew Evangelista and Henry Shue eds., 2014); NACHMAN BEN-YEHUDA, ATROCITY, DEVIANCE, AND SUBMARINE WARFARE: NORMS AND PRACTICES DURING THE WORLD WARS (2013). See also generally Jeffrey W. Legro, *Which Norms Matter? Revisiting the “Failure” of Internationalism*, 51 *International Organization* 31 (Winter 1997).

intentionally abandoned;<sup>88</sup> traditional gender roles are one example. Other times norms decay naturally through changes in external conditions, technology, values, or actions.<sup>89</sup> An example of this is the Soviet Union's voluntary moratorium on ASAT tests,<sup>90</sup> which led to several years of restraint, between 1985 and 1988, in which neither the Soviet Union nor the United States conducted counterspace tests,<sup>91</sup> thus seemingly creating a norm in this regard. The United States, which had established domestic constraints on the funding and use of ASATs, eventually revoked its ban upon suspecting that the Soviet Union was developing laser technology that could be used against satellites.<sup>92</sup>

Despite the positive connotation of the word 'norms', not all norms are good for either individuals or the broader community. Sometimes commonly accepted practices—such as speeding, smoking, or in the case of outer space the creation of debris—diminish well-being or other social and political objectives.<sup>93</sup> This is why attention to norms—and the management of norms—is a critical component of collective governance.<sup>94</sup>

## NORMS AND OUTER SPACE GOVERNANCE

Despite frequent assertions that outer space is a 'Wild West', many norms related to behaviour in outer space already exist.<sup>95</sup> As a basis of norms, the OST is the clearest expression of our collective principles and values in space. But it is also a codification of previously articulated norms, including those outlined in resolution 1884 (Questions of General and Complete Disarmament)<sup>96</sup> calling on States to refrain from stationing weapons of mass destruction in outer space, and resolution 1962 (Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space)<sup>97</sup> setting out legal principles on outer space exploration including the right to freely explore and use space. Decades of

**88** Cristina Bicchieri & Alexander Funcke, *Norm Change: Trendsetters and Social Structure*, 85 *Soc. Rsch.*, 1-21 (2018).

**89** Catherine Liu, *A Theory of Norm Collapse*, 32 *Rationality and Soc'y* 119, 119-143 (2020).

**90** In 1983 President Yuri Andropov stated that the Soviet Union was committed to establishing a "moratorium on [ASAT] launchings for the entire period during which other countries, including the United States, will refrain from stationing in outer space anti-satellite systems of any type." See John F. Burns, *Andropov Issues a Promise on Antisatellite Weapons*, *N. Y. Times*, (19 August 1983), at A3, available online at <https://www.nytimes.com/1983/08/19/world/andropov-issues-a-promise-on-antisatellite-weapons.html>.

**91** Laura Grego, *A History of Anti-Satellite Programs*, *Union of Concerned Scientists* 5 (January 2012), available online at [https://www.ucsusa.org/sites/default/files/2019-09/a-history-of-ASAT-programs\\_lo-res.pdf](https://www.ucsusa.org/sites/default/files/2019-09/a-history-of-ASAT-programs_lo-res.pdf).

**92** Raju, *op. cit. supra* note 50 at 3.

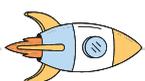
**93** Sunstein, *Social Norms and Social Roles*, *op. cit. supra* note 62, at 910.

**94** *Ibid.*

**95** For a visual representation of the normative landscape in outer space, see Jessica West, *From Safety to Security: Mapping the Normative Landscape in Outer Space*, Project Ploughshares, (March 2021), available online at [https://ploughshares.ca/pl\\_publications/from-safety-to-security-mapping-the-normative-landscape-in-outer-space/](https://ploughshares.ca/pl_publications/from-safety-to-security-mapping-the-normative-landscape-in-outer-space/).

**96** GA Res. 1884 (XVIII), 18<sup>th</sup> Sess., on Question of General and Complete Disarmament (17 October 1963), available online at <https://digitallibrary.un.org/record/203960>

**97** GA Res. 1962 (XVIII), 18<sup>th</sup> Sess., on Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, (13 December 1963).



space activity have since cemented principles such as ‘freedom of space’ through practice.

Space debris mitigation has been a subject of significant normative development over the last few decades. Shared concern relating to this issue led four civilian space agencies (NASA, Roscosmos, ESA and Jaxa) to form the Inter-Agency Space Debris Coordination Committee (IADC),<sup>98</sup> a forum for the coordination of activities to prevent and mitigate space debris.<sup>99</sup> In 2002 the IADC first published the voluntary Space Debris Mitigation Guidelines aimed at limiting the creation of long-lived space debris. These were presented to the COPUOS Scientific and Technical Subcommittee, where they served as the basis for the Space Debris Mitigation Guidelines adopted by COPUOS in 2007.<sup>100</sup> Initiatives such as the European Space Agency’s annual report on space debris help to monitor implementation of these norms in practice.<sup>101</sup>

A study of space norms led by Project Ploughshares points to the existence of overlapping clusters of principles, values, and norms of behaviour that coalesce most strongly around themes of sustainability and safety.<sup>102</sup>

**98** There are currently 13 members of IADC. They are the Agenzia Spaziale Italiana (ASI), Centre National d’Etudes Spatiales (CNES), China National Space Administration (CNSA), Canadian Space Agency (CSA), German Aerospace Center (DLR), European Space Agency (ESA), Indian Space Research Organisation (ISRO), Japan Aerospace Exploration Agency (JAXA), Korea Aerospace Research Institute (KARI), National Aeronautics and Space Administration (NASA), State Space Corporation ROSCOSMOS, State Space Agency of Ukraine (SSAU) and UK Space Agency.

**99** Inter-Agency Space Debris Coordination Comm., *What’s IADC*, available online at [https://www.iadc-home.org/what\\_iadc](https://www.iadc-home.org/what_iadc).

**100** UNOOSA, *Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space* (2010), available online at [https://www.unoosa.org/pdf/publications/st\\_space\\_49E.pdf](https://www.unoosa.org/pdf/publications/st_space_49E.pdf).

**101** ESA Space Debris Office, *ESA’s Annual Space Environment Report*, (27 May 2021) available online at [https://www.sdo.esoc.esa.int/environment\\_report/Space\\_Environment\\_Report\\_latest.pdf](https://www.sdo.esoc.esa.int/environment_report/Space_Environment_Report_latest.pdf)

**102** Jessica West & Giles Doucet, *From Safety to Security: Mapping the Normative Landscape in Outer Space*, Project Ploughshares (March 2021) available online at [https://ploughshares.ca/pl\\_publications/from-safety-to-security-mapping-the-normative-landscape-in-outer-space/](https://ploughshares.ca/pl_publications/from-safety-to-security-mapping-the-normative-landscape-in-outer-space/)

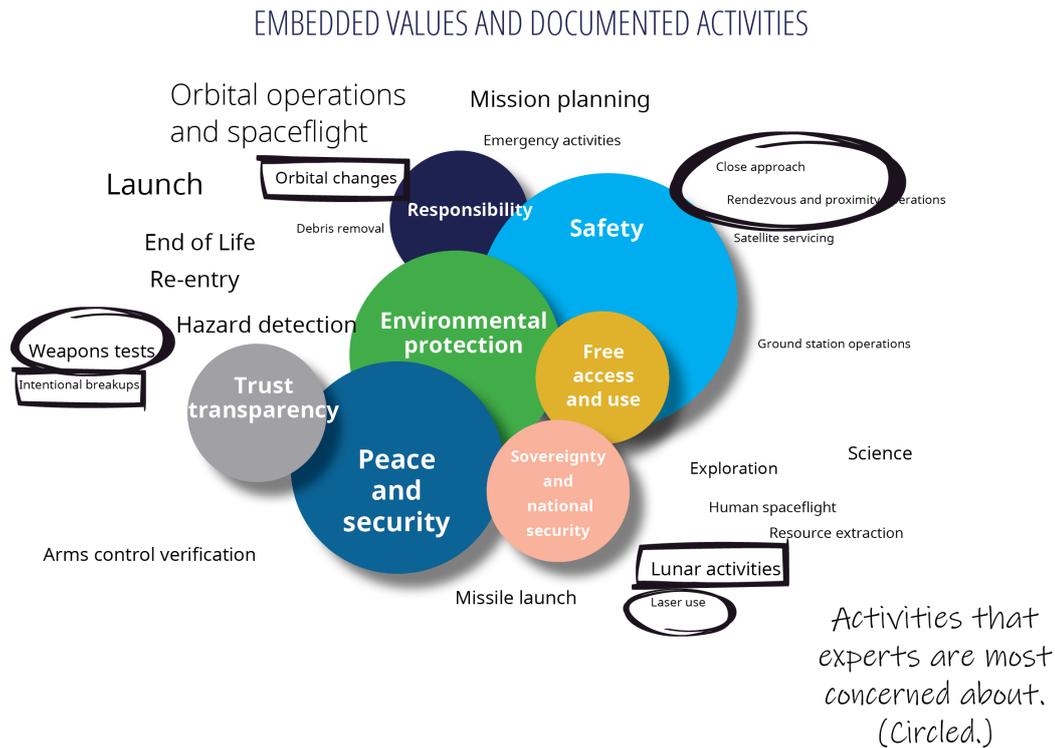


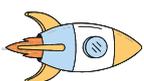
Fig. 1: “Embedded Values and Documented Activities”<sup>103</sup>

Security-related values and norms related to outer space activities also exist. Critically, these norms are closely linked to other clusters, including both safety and sustainability commitments. Several bilateral arms control treaties included commitments not to interfere with national technical means of verification (NTMs),<sup>104</sup> commonly understood to refer to military satellite capabilities that provide sensitive monitoring and communications capabilities.<sup>105</sup> For States that are signatories, space launches are subject to pre-notification and other transparency measures associated with the International Code of Conduct against Ballistic Missile Proliferation, also known as the Hague Code of Conduct (HCoC). For a time voluntary, the above-mentioned unilateral moratoria on ASAT testing in outer space seemed to create a norm against such behaviour. Additionally, the continued absence of dedicated weapons in outer space lends some credence

<sup>103</sup> *Ibid.*

<sup>104</sup> The creation of an obligation to refrain from interference originated in the SALT I negotiations, 1969-1972, which produced two agreements: the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, U.S. – U.S.S.R., 26 May 1972, 23 U.S.T. 3435 (no longer in force), which addresses NTM in its art XII; and the Interim Agreement Between the United States of America and the Union of Soviet Socialist Republics on Certain Measures with Respect to the Limitation of Strategic Offensive Arms, U.S. – U.S.S.R., 26 May 1972, 23 U.S.T. 3462 (no longer in force), which also deals with NTM in its art. V. Other examples of treaties that specify NTM obligations are the Treaty on Conventional Armed Forces in Europe, 19 November 1990, S. Treaty No. 102-8 (1991), 2441 U.N.T.S. 285, 309 (in force indefinitely); and the Treaty Between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (8 April 2010), commonly known as the New START Treaty, (in force until 5 February 2026). See David A. Koplow, *An Inference about Interference: A Surprising Application of Existing International Law to Inhibit Anti-Satellite Weapons*, Weapons, 35 U. Pa. J. Int'l L. 737, 781-794 (2014).

<sup>105</sup> *Ibid.* at 772-773.



to the idea that their placement in outer space may even be approaching ‘taboo’, although international consensus is unclear.<sup>106</sup> Critically, there are significant gaps in these norms. And those that do exist are under pressure by the growing rhetorical and operational focus on warfighting among national militaries.<sup>107</sup>

Effort is needed both to reinforce and to elaborate norms that correspond to international commitments related to peaceful use and conflict prevention in outer space. Previous efforts to do so—such as the EU Code of Conduct—have stumbled due to challenges related to both content and process.<sup>108</sup> Resolution 75/36 represents another attempt to close this gap.

## NORMS AND ARMS CONTROL

Although arms control is often associated with formal restrictions on the quality or quantity of weapons hardware, a broader view includes “all the forms of military cooperation among potential enemies that may reduce the risk of war, its scope and violence if it occurs, or the costs of being prepared for it”.<sup>109</sup> Norms are a central part of this endeavour. Faced with collapsing arms control agreements in some cases, and ongoing challenges to the adoption of new formal treaties in others, they are likely to become even more important moving forward.<sup>110</sup> Similar processes underway include the international campaign against the use of explosive weapons in populated areas (EWIPA) as well as an ongoing effort to advance, implement<sup>111</sup> and further develop<sup>112</sup> norms of responsible behaviour in cyberspace.

A focus on the adoption of shared standards of behaviour can facilitate space governance and conflict prevention in at least three ways:

- Instilling guidelines and restrictions on the uses of specific weapons systems, as well as establishing expectations around responsible and irresponsible uses of dual-use and dual-purpose systems.

**106** Todd Harrison, *International Perspectives on Space Weapons*, CSIS, 22 (May 2020), available online at [https://aerospace.csis.org/wp-content/uploads/2020/05/Harrison\\_IntlPerspectivesSpaceWeapons-compressed.pdf](https://aerospace.csis.org/wp-content/uploads/2020/05/Harrison_IntlPerspectivesSpaceWeapons-compressed.pdf). See generally Richard Price, *A Genealogy of the Chemical Weapons Taboo*, 49 *International Organization* 73 (Winter 1995).

**107** Almudena Azcárate Ortega, James Revill and John Borrie, *Star Wars: The Not-So-Phantom Menace*, *El País* (12 May 2021), available online at <https://elpais.com/opinion/2021-05-12/star-wars-the-not-so-phantom-menace.html>

**108** Raju, *op. cit. supra* note 50 at 9.

**109** Thomas C. Schelling, *The Future of Arms Control*, 9 *Operations Rsch.* 722, 723 (1961).

**110** Nina Tannenwald, *Life Beyond Arms Control*, 149 *Daedalus* 205, 205-221 (2020).

**111** GA Res. 73/266, 73<sup>rd</sup> Sess., on Advancing responsible State behaviour in cyberspace in the context of international security Statement of financial implications (2 January 2019), <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F73%2F266&Language=E&DeviceType=Desktop>

**112** GA Res. 75/240 75<sup>th</sup> Sess., on Developments in the field of information and telecommunications in the context of international security (4 January 2021), available online at <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F75%2F240&Language=E&DeviceType=Desktop>

- Transparency and confidence-building measures.
- Encouraging behaviours intended to reduce misunderstandings and misperceptions that can drive unwanted conflict escalation and the use of force.

### **Restrictions on the use(s) of particular weapons and expectations around responsible and irresponsible uses of dual-use and dual-purpose systems**

Arms control agreements are often rooted in norms about how weapons can and cannot be used. Some legally binding agreements such as the Chemical Weapons Convention<sup>113</sup> codify these existing norms—particularly norms of non-use and humanitarian principles associated with the protection of civilians—which provide both a moral and practical backdrop to arms control.<sup>114</sup> But norms can be strong without being codified. The prevailing normative taboo against the use of nuclear weapons is a case in point: some experts believe that without this stigma, the world would have witnessed greater use of these weapons.<sup>115</sup>

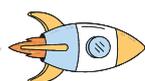
While such norms have supported the eventual adoption of legal instruments banning certain weapons altogether, a behavioural approach to arms control can sometimes leave weapons capabilities intact but impose limitations or other rules on their use. Test ban treaties, including the 1963 Partial Test Ban treaty banning certain types of nuclear weapons tests—including in space—are a key example. Other operational restrictions can include limits on where weapons can be used, or their targets. International negotiations to develop a political declaration against the use of explosive weapons in populated areas are one example, and demonstrable commitments to the non-first use of nuclear weapons are another.

There can be advantages to restricting behaviours rather than hardware. These include a lower threshold—and lower risk—for implementation and compliance. Additionally, behaviours and State practices associated with uses of weapons systems can in some cases be easier to observe and verify without the need for intrusive measures. Finally, the growing prevalence of dual-use and dual-purpose technologies such as advanced robotics, artificial intelligence, and cyber capabilities blurs the conceptual boundaries of weapons, making control through restrictions on hardware difficult. In these cases, the definition of a weapon comes down to its use. For example, States have expressed concern over dual-purpose technologies, such as those capable of rendezvous and proximity operations (RPO), because even if they were designed to serve a benign function,

**113** The CWC bans the development, production, acquisition, stockpiling or retention of chemical weapons, or transfer, directly or indirectly, of chemical weapons, as well as their use. See Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Jan. 13, 1993, 1974 UNTS 45; 32 ILM 800.

**114** Robert J. Matthews & Timothy L. H. McCormack, *The Influence of Humanitarian Principles in the Negotiation of Arms Control Treaties*, 834 Int'l Rev. of the Red Cross 331, 331-352 (1999), available online at <https://international-review.icrc.org/sites/default/files/S1560775500097431a.pdf>.

**115** Nina Tannenwald, *The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use*, 53 Int'l Org. 433, 433-468 (1999).



they could potentially be repurposed to attack other objects in space. Efforts to limit harmful activities or effects, or to prevent conflict escalation, thus depend on shared standards of behaviour.

### **Building transparency and confidence**

Norms can help to lay the groundwork for future arms control measures by enhancing transparency and confidence-building. A core rationale for the 2013 GGE on TCMBs which identified national measures to enhance international trust and transparency such as publishing military doctrines and information exchange, was to create a political climate more conducive to conflict prevention and future arms control initiatives.

Such efforts do not have to be coordinated or undertaken collectively. Unilateral measures can also have positive effects and can influence reciprocal behaviour by other States. The various national ASAT testing moratoria during the 1980s serve as good examples related to outer space. Another more recent example is the Russia-led initiative in the First Committee that encourages States to make political declarations not to be the first to place weapons in space through UNGA Resolution 76/23.<sup>116</sup>

Importantly, the pursuit of voluntary rules and behavioural measures can provide an avenue towards stability and conflict prevention when other options are not available for either political or technical reasons.

### **Avoiding misunderstandings**

An important aspect of building confidence and transparency consists in working to avoid misunderstandings. Misperception, miscommunication, and misunderstanding are key drivers of conflict escalation and the resort to the use of weapons.<sup>117</sup> Measures that restrict or encourage specific actions and behaviours can help to prevent such unwanted outcomes by helping to clarify intentions and to establish procedures to cope with perceptions of threat. The bilateral 1972 Incidents at Sea Agreement between the United States and the Soviet Union is one such example. The objective of this agreement was to increase transparency by enhancing mutual knowledge of military activities, reducing the possibility of accidental conflict.<sup>118</sup> While not restricting the scope or size of naval forces, the voluntary agreement established operational rules to prevent collisions, avoid interference, limit manoeuvres, use clear signals, and provide prior notification of certain activities between their respective navies. In doing so, it not only helped to prevent unintended conflict escalation on the seas, but also stimulated a process of engagement and confidence-building.

**116** Res. 76/23, *op. cit. supra* note 46.

**117** James D. Fearon, *Rationalist Explanations for War*, 49 *Int'l Org.* 379, 379-414 (1995).

**118** West, *UK Process*, *op. cit. supra* note 8.

Norms are particularly helpful when it comes to dual-use technology: the establishment of clear rules can help to clarify peaceful or non-harmful intentions of activities that could potentially be viewed as hostile. For example, the HCoC requires participating States to provide pre-launch notification of ballistic missiles and space vehicle launches and tests.

Norms of behaviour can be useful indicators of intent. The observance of norms can help to reassure others of non-hostile intentions and reduce the drivers of arms racing. In contrast, if norms are observed during peacetime, it can be assumed that non-compliance in times of crisis is deliberate.<sup>119</sup>

## THE CHALLENGES AND LIMITS OF NORMS

Despite their necessity, norms are not a panacea for arms control, or for constraining aggressive, hostile, or dangerous behaviour in outer space. Their success is not guaranteed, and they may crumble and collapse. Non-binding rules may be politically easier, but achieving robust norms of behaviour is not. It is hard to find the basic universal values that can bring together different cultures, interests, and groups. It is even harder to put those values into practice.

Norms are fundamentally social. To be effective, they must be widely accepted and practised. This depends on shared values and mutual interests, but also trust and the 'like-mindedness' that are characteristic of a high level of social cohesion and community.<sup>120</sup> In the absence of this condition, there may instead be competition for normative influence, which some observers have labelled 'normfare'.<sup>121</sup> This is particularly dangerous in an environmentally sensitive and physically demanding shared domain such as outer space, where safety, sustainability, and security are dependent on collective action.

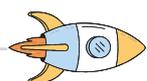
The creation and maintenance of norms is a challenging and ongoing process. It is not enough to simply proclaim them. While this can be a useful step towards their creation, for them to truly be effective, norms must be implemented.<sup>122</sup> This is not always straightforward. Because norms are rooted in values and dependent on practice, they are subject to constant interpretation and enactment. While this dynamism is beneficial in some ways, it means that norms must be constantly nurtured and reinforced, particularly if they are informal or unwritten. But this applies to written agreements as well.

**119** Audrey M. Schaffer, *The Role of Space Norms in Protection and Defense*, 87 *Joint Force Q.* 88, (2017).

**120** Christopher Ashley Ford, Assistant Sec'y, Bureau of Int'l Sec. and Nonproliferation, Rules, Norms, and Community: Arms Control Discourses in a Changing World, Remarks at the EU Conference on Nonproliferation (13 December 2019), transcript available online at <https://2017-2021.state.gov/rules-norms-and-community-arms-control-discourses-in-a-changing-world/index.html>.

**121** Radu *et al.*, *op. cit.* *supra* note 70.

**122** The development of cyber peace and security norms speaks to this need to move beyond norm articulation to implementation, which is the priority of the recently adopted Programme of Action. See Allison Pytlak, *Programming Action: Observations from Small Arms Control for Cyber Peace, Women's Int'l League for Peace and Freedom* (2021), available online at <https://reachingcriticalwill.org/images/documents/Publications/cyber-poa.pdf?fbclid=IwAR3T73GYmnyclggV9pqzbFL4Nlv7QOnaYB84uRzaTLn9FX3RTRhUEHaUSOk>.



Yet, there are practical challenges to norm implementation. Compliance with norms may be less rigorous in practice than it might seem in theory. A review of compliance with existing arms control agreements suggests that non-binding political agreements are more prone to non-compliance issues and subject to differing interpretations of obligations.<sup>123</sup> Voluntary commitments are easier to ignore, and violations may bring few—if any—repercussions. Political condemnation by the international community is a core tool of norm compliance and maintenance, but this requires leadership and collective action. In some cases, States may have a self-interest in remaining silent: there has been little official condemnation of anti-satellite weapons tests, for example.<sup>124</sup> Furthermore, the degree of condemnation has varied depending on the nature of the test—kinetic and debris-producing tests generate stronger criticism—as well as the perpetrator of the test—States’ denunciation of these tests is worded more strongly when the State that carries out the test is a competitor or adversary. In other cases, States may fear political repercussions of speaking out, particularly against more powerful States. Finally, some States may find the stigma associated with norm breaking to be worthwhile, acceptable, or even a useful way to challenge norms.<sup>125</sup>

Monitoring norm adherence can also be difficult. Although some behaviours are easier to observe using national technical means—and without the intrusive inspection requirements of hardware restrictions—not all behaviours fit this description (cyber and electronic interference are examples). In space, support for political declarations against the first placement of weapons in outer space, mentioned above, has been lacking in part due to concerns that such commitments cannot be verified in practice.<sup>126</sup> Even when behaviours can be observed, not all States have adequate access to national technical means to do so.<sup>127</sup> Without formal processes in place to collectively monitor and address concerns with norm compliance, adherence to norms is less likely to be a political priority.

**123** This conclusion is based on a review of a report by the Bureau of Arms Control, Verification and Compliance titled *2021 Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, conducted by Gilles Doucet and Andre Doucet as part of an ongoing project on lessons learned from past arms control experience, under the direction of Project Ploughshares and with funding from the Canadian Department of National Defence’s Mobilizing Insights in National Defence (MINDS) programme. The original report is available online at <https://www.state.gov/2021-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments/>.

**124** David A. Koplow, *ASAT-isfaction: Customary International Law and the Regulation of Anti-Satellite Weapons*, 30 Mich. J. Int’l L. 1187, 1238 (2009); Almudena Azcárate Ortega, *Placement of Weapons in Outer Space: The Dichotomy Between Word and Deed*, Lawfare (28 January 2021), <https://www.lawfareblog.com/placement-weapons-outer-space-dichotomy-between-word-and-deed>.

**125** Rebecca Alder-Nissen, *Stigma Management in International Relations: Transgressive Identities, Norms and Order in International Society*, 68 Int’l Org. 143, 143-176 (2014).

**126** West, *Norms, space security, and arms control*, *op. cit. supra* note 68.

**127** Permanent Mission of the Islamic Republic of Iran, *Views and Analysis of the Islamic Republic of Iran on the Resolution ‘Reducing Space Threats through Norms, Rules and Principles of Responsible Behavior’ proposed by United Kingdom of Great Britain and Northern Ireland in the First Committee of the UN (A/C.1/75/L.45/Rev.1) (11 June 2020)*, available online at <https://front.un-arm.org/wp-content/uploads/2021/04/attachment-of-iran-views-on-res-75-36.pdf>.

Poor compliance with norms leaves them more vulnerable to disintegration and collapse. While some norms, such as the nuclear taboo, have proven to be robust, such strength depends on a continued commitment by the international community and key actors to uphold them.

However, even compliance with norms may not always be sufficient to meet collective objectives. Not all norms produce positive effects. Sometimes norms can make ‘good enough’ behaviour acceptable, or even legitimize harmful activities. This concern was raised in a survey of global space experts conducted in 2020, pointing to ASAT testing and poor compliance with debris mitigation guidelines as examples.<sup>128</sup> In the case of space security and PAROS, it is possible that a narrow focus on the safety and sustainability of military space activities could help to legitimize or to perpetuate certain types of weapons tests and other behaviours that drive collective insecurity in outer space.<sup>129</sup> When it comes to the objective of arms control, norms are certainly a valuable tool to regulate and restrict dangerous behaviours and even potential uses of weapons. But an unfettered build-up of weapons capabilities leaves the international community vulnerable to catastrophe.

Overall, a general theme of these challenges and limitations is that norms—while necessary—are not sufficient, at least on their own. Successful implementation of norms requires additional measures and processes to facilitate and monitor compliance. Moreover, the progression of arms control in other domains—from norms of non-use to more formal prohibitions on weapons, such as the Ottawa Convention banning landmines, or the Treaty on the Prohibition of Nuclear Weapons—further reinforces the conclusion that norms alone are not enough.<sup>130</sup>

In cases where the consequences of violation are too significant, a legal ban and formal mechanisms for verification and compliance might ultimately be necessary. The environmental and humanitarian risks posed by dangerous behaviours or the outbreak of violent conflict in space would be devastating.<sup>131</sup> Additionally, although support for the elaboration of norms of behaviour is strong, many States, including those associated with the Non-Aligned Movement (NAM), maintain a preference for a legally binding arms control instrument for outer space

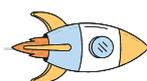
**128** West & Doucet, *op. cit. supra* note 102.

See also Robin Dickey, *Building Normentum: A Framework For Space Norm Development*, The Aerospace Corporation (July 2021) at 15.

**129** Jessica West, *A Weapons Test is the Wrong Way to Advance Norms on Responsible Behaviour in Space*, *Breaking Defense* (26 August 2021), <https://breakingdefense.com/2021/08/a-weapons-test-is-the-wrong-way-to-advance-norms-on-responsible-behavior-in-space/>.

**130** Matthews & McCormack, *op. cit. supra* note 114.

**131** International Comm. of the Red Cross, *The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law: Position paper submitted by the International Committee of the Red Cross to the Secretary-General of the United Nations on the issues outlined in General Assembly Resolution 75/36 (8 April 2021)*, available online at <https://front.un-arm.org/wp-content/uploads/2021/04/icrc-position-paper-unsg-on-resolution-A-75-36-final-eng.pdf>.



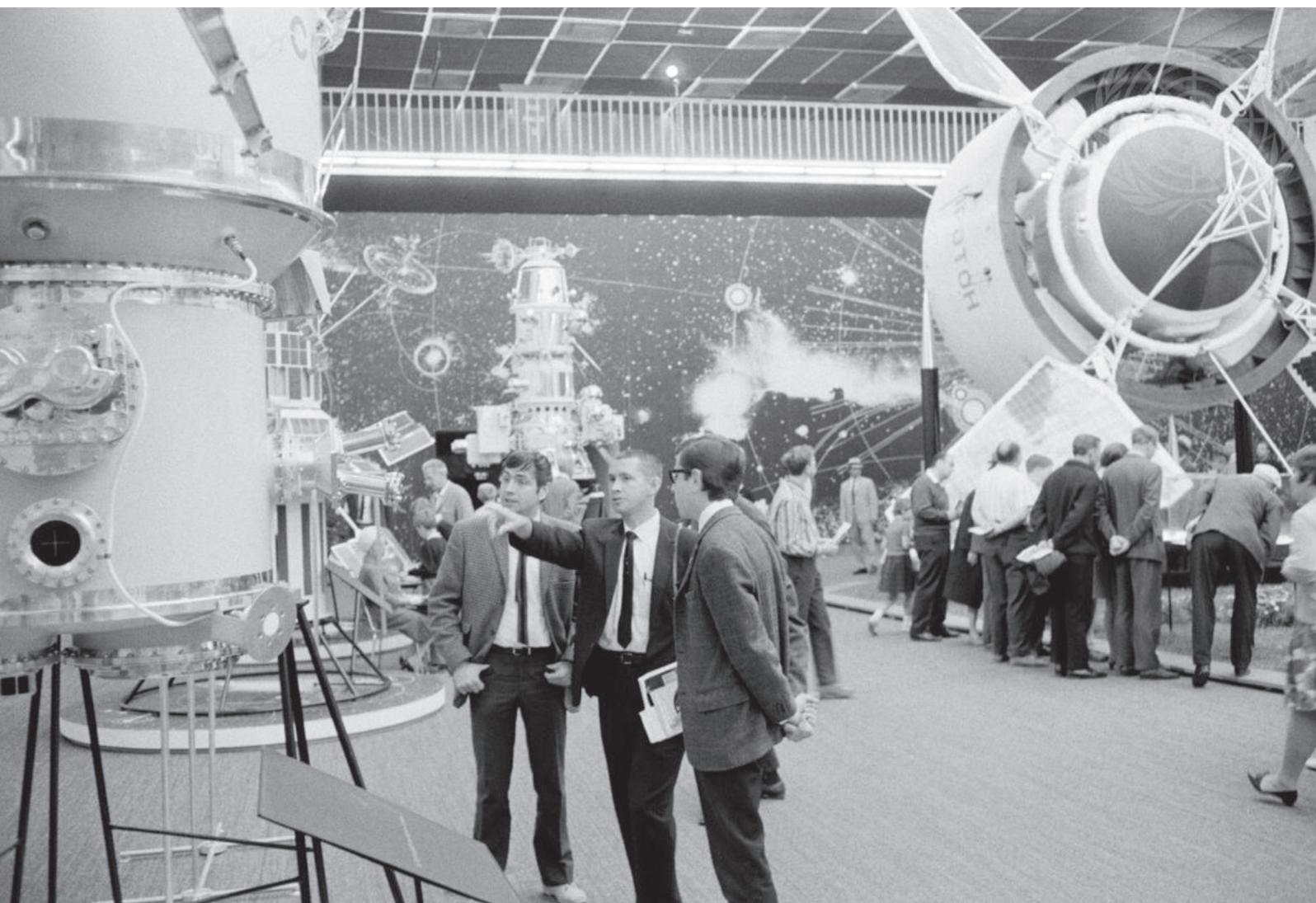
as an end goal.<sup>132</sup> The experiences in other domains, however, point to the valuable role that the development of norms can play in paving the way for legally binding measures.

**14 AUGUST 1968: United Nations Conference on Peaceful Uses of Outer Space.**

Delegates - scientists and non-scientists - from 79 nations took part in the United Nations Conference on the Exploration and Peaceful Uses of Outer Space, which met from 14 to 27 August in the Hofburg Palace in Vienna.

A view of the USSR exhibit organized at the Messehall in Vienna in connection with the Outer Space Conference.

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**132** H.E. Mohammed Koba, Ambassador/Deputy Permanent Representative of the Republic of Indonesia, Statement on behalf of the Non-Aligned Movement at the First Committee General Debate, 75<sup>th</sup> Session of the United Nations General Assembly (9 October 2020), transcript available at [https://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com20/statements/9Oct\\_NAM.pdf](https://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com20/statements/9Oct_NAM.pdf).

# MOVING FORWARD

Norms have an important role in contributing to space security. As has been highlighted throughout this paper, non-binding norms are generally considered to be more flexible and often easier to agree on than legally binding instruments. In the eyes of many, these qualities make them suitable points of departure to begin to better regulate the space domain, where technology advances faster than law and policy generally would, and where the definition of a weapon is not always linked to a specific capability, but how it is used.

Process is key to progress. The EU Code of Conduct was proof of this. Disagreement about key principles<sup>133</sup> and the choice to elaborate its content outside of the United Nations system were among the factors that caused it to fail. To address these weaknesses, the process initiated by resolution 75/36 is mandated by the General Assembly and encourages widespread participation, not only from States but also from non-governmental entities. It has also emphasized the need for reaching common understandings on what constitute responsible and irresponsible behaviours in outer space. Broad participation is central to the legitimacy of this process. However, it also means that the final outcome may result in a weaker agreement, or ‘low hanging fruit.’ But this is better than no fruit. Moreover, the elaboration of norms should not be viewed as the outcome of a single process or agreement, but instead an ongoing and iterative process to encourage and implement behaviours that contribute to collective security—and the prevention of an arms race—in outer space.

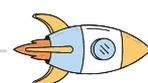
Indeed, the agreement to or proclamation of a set of norms is not enough to guarantee their effectiveness. Over and over, commitments related to the conduct of warfare—from submarines, aerial bombardment, and machine guns—have faltered. As this process moves forward, it is important to take into account that the effectiveness of any regime—whether based on non-binding norms or legally binding agreements—depends on several factors.<sup>134</sup>

**Compliance:** this relates to the implementation of an instrument, and it is the main focus of legally binding instruments. Compliance is viewed as more likely with legally binding agreements. However, the duty to comply with legal agreements can also be a double-edged sword. States might be less willing to bind themselves to a treaty depending on its content, or even the number of signatories it has.

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**133** Notably, the right to self-defence, encoded in article 51 of the Charter of the United Nations, was a key stumbling block. P.J. Blount, *The Shifting Sands of Space Security: The Politics and Law of the Peaceful Use of Outer Space*, 17 *Indonesian Journal of International Law* 8 (2009).

**134** See generally SCOTT BARRETT ENVIRONMENT AND STATECRAFT: THE STRATEGY OF ENVIRONMENTAL TREATY-MAKING (2005).



The greater flexibility of political norms is viewed as a benefit in this context, making it easier to garner agreement. However, even though norms introduce social and political obligations rather than legal ones, implementation remains critical. As part of the norms process it is essential to:

- Build on shared or core values and existing norms.
- Identify tools and mechanisms to implement and observe both existing and new norms.
- Consider incentives for compliance with the normative framework in outer space.
- Include processes and recourse for possible normative violations.

It should be noted that in the cases where the norm has become customary international law, its breach constitutes a violation of hard law.

**Participation:** this refers to the number of States that agree on a specific measure and choose to comply with it. The more widely accepted a measure is, the more effective it is. This is particularly important in the case of non-binding norms, as they lack the greater ‘compliance pull’ that legally binding instruments have.<sup>135</sup>

While norms do not require consensus, to encourage widespread participation and implementation, priority should be given to:

- An inclusive approach to their development that nurtures and expands broad community agreement, including non-State actors.
- Obligations and benefits that are shared by all parties.

Who participates and agrees to norms is also important. To ensure implementation, it is necessary for States to engage those actors that possess the technology and capabilities for which norms are sought.

**Thoroughness and ambition:** this refers to the level of detail and specificity of an agreement. More generic instruments tend to garner wider support, as general principles are perceived as easier to negotiate and to agree on than more specific issues. The Outer Space Treaty, for example, is a treaty of principles that does not delve too much into each matter it regulates. Agreements on very specific issues, such as a ban on the use of debris-generating ASATs, require greater degrees of common understanding on the topic among the different stakeholders in order to succeed.

Identifying specific rules associated with norms is essential for compliance. General commitments create room for interpretive differences and loopholes, such as the meaning of ‘long-lived’ debris. Vague rules might also deter agreement

<sup>135</sup> Daniel Bodansky, *Legally Binding versus Non-Legally Binding Instruments* 161, in *TOWARDS A WORKABLE AND EFFECTIVE CLIMATE REGIME* (Scott Barrett Carlo Carraro and Jaime de Melo, eds., 2015).

by States. For example, the lack of clarity surrounding the definition and identification of ‘space weapon’ is a long-standing obstacle to agreement on arms control measures in space. In a similar manner, a norm that is too vague will not easily evolve into a binding mechanism, either through codification or by becoming customary international law.

To this end, it is important to emphasize the identification of positive behaviours that make operators in outer space feel safe, secure, and confident in the intentions of others.

It is important to acknowledge that the road to norms is a long an ongoing process that must evolve as more actors continue to use and explore outer space, and as space technology continues to develop and evolve. Moreover, any single initiative to develop norms for outer space, such as the OEWG, is unlikely to address all of the complex issues related to the security of outer space and arms control; that should not be the intent. Nor should norms be seen as a panacea, but rather as a step towards a more transparent, trusting, and secure space environment that create new possibilities for legally binding regulations in the future.

**10 SEPTEMBER 1962: UN Committee on Peaceful Uses of Outer Space.**

The 28-member committee opened its second session this week to consider the reports of its two subcommittees on scientific and technical matters, and on legal matters. It also has before it reports prepared by the World Meteorological Organization (WMO) and the International Telecommunication Union (ITU), two specialized UN agencies.

Seen here at the meeting in conversation are: (l. to r.): Miss J.A.C. Gutteridge (United Kingdom); and Ambassador Agda Rossel, Permanent Representative to the U.N. (Sweden).

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# CONCLUDING THOUGHTS

Norms can be a useful tool to reach and maintain the objectives of PAROS. As seen throughout this paper, norms for space already exist, some of which have had great success in ensuring the continued sustainability of the outer space domain. The negotiation of new norms, building on existing principles and regulations could not only serve to further reinforce those that already exist—whether they have already been made into binding laws or not—but it could also aid in creating common understanding among the members of the international community on issues relating to space security. To achieve this, States should aim to identify and build on shared principles and values so as to avoid the phenomenon of ‘normfare’ explained in this paper, and competing interpretations, in the interest of ensuring the benefits of space for all.

Norms—as any other regulatory mechanism—will only be as effective as the willingness of space actors to comply with them. The greater the buy-in the more successful they will be. Wider and diverse participation—not just by States but also other entities active in the space domain, such as industry—could increase the much-needed trust among space actors, lessen tensions, and pave the way for future agreements on space security matters.

Norms have limitations, however, and by themselves are insufficient to ensure peace and security in outer space. In order to implement norms successfully, mechanisms need to be implemented to facilitate and monitor compliance.

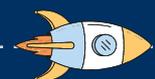
Furthermore, it should be noted that the essential nature of space technologies makes a lack of compliance with norms a potential catastrophe in terms of the effects that it could have for humanity, evidencing that, while they are a great starting point, norms that address space security matters should ideally evolve into a more permanent and binding mechanism where compliance can be more formally verified.



▲ 31 JANUARY 2019: Meeting on Prevention of an Arms Race in Outer Space.

The Group of Governmental Experts on the Prevention of an Arms Race in Outer Space holds an informal consultative meeting.

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# Norms for Outer Space

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## A Small Step or a Giant Leap for Policymaking?

Space is increasingly critical to modern life on Earth. But there is growing concern that, as it becomes more economically and strategically important, tensions between different space actors are heightening in a manner that could lead to conflict. The accelerating proliferation of counterspace capabilities, as well as the enactment of national policies that deem space an operational or warfighting domain, underlines the very real nature of threats that exist and highlights the importance of keeping space peaceful.

To address these challenges, some experts in space security have called for more robust norms of behaviour in outer space. This report explores the role of norms as a tool for outer space governance, as well as their challenges and limitations.



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