

# Space for All Humanity

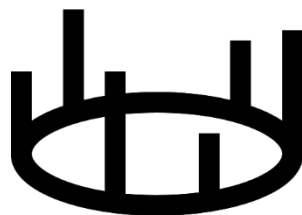
The Right to Equal Access to Space

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Jus Ad Astra

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*Photo: NASA*



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## Introduction

By 2022, the SpaceX Dragon Spacecraft is anticipated to become the first independent provider for private space travel to the International Space Station. This marks a significant watershed moment for human spaceflight,<sup>1</sup> with the several select human spaceflight participants involved will allegedly pay USD\$55 million per-person in order to take part within this historic event.<sup>2</sup> Consequently, the evolution and expansion of the international space industry highlights the ongoing commercialization and democratization of the outer space domain. This precipitates the need to ensure the Right to Equal Access to Space (REAS) - reinforced by the concept of state responsibility under International Human Rights Law (IHRL) and precedent frameworks in international law - in creating a diverse, inclusive, and equitable outer space environment for the benefit of all humanity.

For most of humanity's history in space, the notion of access to the outer space domain has been largely confined to national governments. Where the entirety of the US Apollo Program alone cost the US government USD\$165 billion,<sup>3</sup> the human exploration of outer space has long remained beyond both the capabilities of less developed and technologically advanced nations. While the pace of technological advancement over the past several decades under the Space 2.0 phenomenon has seen space become increasingly democratized, the SpaceX Dragon mission highlights persisting issues of economic and social inequality concerning access to outer space. Indeed, many national governments still lack the financial resources and technical expertise to own a satellite or launch an object into space independently.

While only a select group of national governments and transnational corporations currently possess self-launch capabilities and access to Low Earth Orbit (LEO),<sup>4</sup> the positive applications of space under the growing international Space4All movement bears a variety of benefits for humanity as a whole.<sup>5</sup> As an example, access to space allows for the advancement of governance through initiatives such as connectivity and rural participation in elections<sup>6</sup> - allowing stable governments to focus on development and strengthening society while strengthening the rule of law. In board terms, the use and exploration of outer space facilitates development and the advancement of a variety of substantive and procedural human rights - conducive to satisfying and securing individual's health, wellbeing, and human dignity. The enduring dominance of major spacefaring nations, coupled with the evolving private space sector,<sup>7</sup> elicits the question of whether space should continue to be considered as a global commons?

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<sup>1</sup> Robert Z. Pearlman, 'Axiom Space Names First Private Crew to Visit Space Station' on Scientific American (26 January 2021) <<https://www.scientificamerican.com/article/axiom-space-names-first-private-crew-to-visit-space-station/>>.

<sup>2</sup> ABC, 'Space tourists paying \$71 million each to be first all-private International Space Station crew' on ABC (27 January 2021) <<https://www.abc.net.au/news/2021-01-27/1st-private-space-crew-paying-71m-each-to-fly-to-station/13096360>>.

<sup>3</sup> NASA, '12. Cost' on NASA (2021) <[https://www.nasa.gov/pdf/140643main\\_ESAS\\_12.pdf](https://www.nasa.gov/pdf/140643main_ESAS_12.pdf)>.

<sup>4</sup> Spacepolicyonline.com, 'International Space Activities' on Spacepolicyonline.com (2021) <<https://spacepolicyonline.com/topics/international-space-activities/>>.

<sup>5</sup> UNOOSA, 'Space Supporting the Sustainable Development Goals' on UNOOSA (2021) <<https://www.unoosa.org/oosa/en/ourwork/space4sdgs/index.html>>.

<sup>6</sup> UNOOSA, 'Sustainable Development Goal 10: Reduced Inequalities' on UNOOSA (2021) <<https://www.unoosa.org/oosa/en/ourwork/space4sdgs/sdg10.html>>.

<sup>7</sup> CSIS, 'Space Environment: Total Launches by Country' on CSIS (30 March 2020) <<https://aerospace.csis.org/data/space-environment-total-launches-by-country/>>.

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In reinforcing the principle of ‘space for all humankind’ within international discourse, the growing spacefaring divide demands global attention. Policymakers must also move to consider the intersection between IHRL and space developmental assistance.<sup>8</sup> Herein, the application of the Law of the Sea (LOTS) to the domain of outer space provides a legal framework through which the international community may promote concordance, cooperation, and capacity building between major spacefaring nations and developing nations.

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<sup>8</sup> Tyler A. Way, ‘The Space Gap: Unequal Access to Technology, and the Perpetuation of Poverty’ (2018) 5(1) *International ResearchScope Journal*, 1-20.

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## Context

The domain of outer space and the high seas are recognised in international law as *res communis*,<sup>9</sup> or the global commons.<sup>10</sup> This status means that outer space is not subject to claims of sovereignty, and falls under the de-facto ownership and administration of the international community as a collective.<sup>11</sup> In advancing REAS, space must remain accessible for all nations and their citizens. However, this is limited by the fact that the International Space Law (ISL) does not yet require a state to facilitate this right, given the technical realities and financial limitations which limit many developing countries' access to space.

This practical incapacity of many states to access space as a global commons may be contextualized against the principles and realities contained within LOTS. The *1982 United Nations Convention on the Law of the Sea* (UNCLOS)<sup>12</sup> recognises the right of land-locked states (LLS) to access the sea, and creates practical provisions for coastal states to recognise this right. Analogising ISL against UNCLOS provisions and international customary law leads to the conclusion that ISL jurisprudence must recognise a REAS, upon which the onus for compliance falls large upon spacefaring states.

The transposition of UNCLOS principles across ISL instruments and principles will build upon an area of law underlain with centuries of human experience. This provides a nuanced approach to the crystallization of REAS and the reduction of growing inequalities in space, premised upon a common and equal approach to the recognized beneficial applications of outer space and IHRL.

Practically, the adoption of a top-down approach follows that the realization of REAS be facilitated within public international law at the state-to-state level through multilateral and bilateral agreements - promoting mutual respect, solidifying space partnerships, and narrowing the spacefaring divide.

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<sup>9</sup> Rudiger Wolfrum, 'The Principle of the Common Heritage of Mankind' (1983) 1(43) *Zeitschrift für ausländisches* 312-337.

<sup>10</sup> Shadi A. Alshadaifat, 'Who Owns What in Outer Space? Dilemmas regarding the Common Heritage of Mankind' (2018) 1(1) *Pecs Journal of International and European Law* 21-43.

<sup>11</sup> Louis de Gouyon Matignon, 'The *res communis* concept in Space Law' on Space Legal Issues (28 February 2019) <<https://www.spacelegalissues.com/space-law-the-res-communis-concept-in-space-law/>>.

<sup>12</sup> *Convention on the Law of the Sea*, signed 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994).

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## Applicable Space Law With Respect to Access

As the foundational international instrument within ISL, the *1967 Outer Space Treaty* (OST)<sup>13</sup> recognizes under Article 1 that “Outer space ... shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.” This provides a compelling foundation for the notion that all states, regardless of their developmental status or spacefaring capacity, possess the right to access space.

A prima facie interpretation highlights that the conception of REAS herein advanced is construed as a freedom to access and utilize outer space rather than an absolute right to access space, advancing freedom of equality and opportunity over that of equity and justice. However, due to the operability of soft international law and prevailing state practice, an alternative interpretation may frame REAS as a right of access which carries the active obligation for states to adopt positive measures to this end.

Indeed, some scholars assert that the OST’s preamble - stating that the principle of a “common interest of all [hu]mankind in the progress of the exploration and use of outer space for peaceful purposes” - when considered simultaneously with provisions of *1979 Moon Agreement* (Moon Agreement),<sup>14</sup> advocate for an equitable share of the benefits in outer space through the foundation of REAS.<sup>15</sup>

It must also be noted that the *2020 Artemis Accords*,<sup>16</sup> a multilateral agreement to facilitate the civil exploration and use of celestial bodies, rejects the position that outer space is the common heritage of humankind as conceptualized under the Moon Agreement.<sup>17</sup> Owing to the lack of clarity surrounding the authority of the Moon Agreement under international law, Section 1 of the Accords exists as an alternate avenue to establishing REAS as part of international customary law.

The Accords advance the need for a common vision, reinforced by a practical set of principles and guidelines, in promoting the sustainable and beneficial use of space for all. Regardless, the prevailing accepted position within ISL jurisprudence is concentrated upon the OST, providing the right to every State to access space as similar to the high seas.

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<sup>13</sup> *Treaty on principles governing the activities of States in the exploration and use of outer space, including the moon and other celestial bodies* (Outer Space Treaty), opened for signature 27 January 1967, 610 UNTS 205 (entered into force 10 October 1967).

<sup>14</sup> *The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies* (Moon Agreement), signed 18 December 1979, 1363 UNTS 3 (entered into force 11 July 1984).

<sup>15</sup> Daniel A. Porras, ‘The “Common Heritage” of Outer Space: Equal Benefits For Most of Mankind’ (2006) 37(1) *California Western International Law Journal* 143-176.

<sup>16</sup> *The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes* (adopted 12 October 2020).

<sup>17</sup> Jack Wright Nelson, ‘The Artemis Accords and the Future of International Space Law’ (2020) 24(31) *American Society of International Law* <<https://www.asil.org/insights/volume/24/issue/31/artemis-accords-and-future-international-space-law>>.

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## Soft International Law With Respect to Access

The importance, utility, and recognized authority of formal ISL treaties are supported by soft international law – encompassing agreements, principles, and declarations that are not legally binding. This demonstrates an evolving trend toward supporting developing states through recognition that outer space is intended to be shared by all. The primary support for this argument is the *1996 Space Benefits Declaration*.<sup>18</sup> The Declaration's third operative paragraph outlines that spacefaring states "should contribute to promoting and fostering international cooperation on an equitable and mutually acceptable basis". This establishes a basis for international cooperation between spacefaring and non-spacefaring states, one which bears association to the inherent, universal, and indivisible values of IHRL.

Spacefaring states also possess a clear obligation to prevent damage to the space environment so that all actors, including non-spacefaring states, may enjoy outer space. There is a prevailing understanding among academics and scholars that ISL agreements are largely deficient in their protection of the outer space environment.<sup>19</sup> The international community has sought to rectify this with the Working Group on the Long-term Sustainability of Outer Space Activities (Working Group)<sup>20</sup> through the United Nations Office for Outer Space Affairs (UNOOSA). In establishing the Guidelines for the Long-term Sustainability of Outer Space Activities, the Working Group noted that outer space activities must be sustainable to incorporate the interests of developing and developed states alike, and in promoting the interests of all humankind.<sup>21</sup>

Soft international law therefore highlights the need for REAS in supporting the anticipated space activities of developing states, while also compelling spacefaring states to undertake their space activities in the common interest of the international community. A clear principle is therefore established that space must be accessible, and that states must facilitate the access and preservation of outer space for all humanity.

There are several clear examples of state practice which recognize the obligation of states to assist states in facilitating access to space. Firstly, under its Space4All initiative, the UN has acknowledged the benefit of space for developing nations, and is committed to providing opportunities for developing nations.<sup>22</sup> These are achieved through agency partnerships - including the Kibo-CUBE project with the Japan Aerospace Exploration Agency

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<sup>18</sup> *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*, UN General Assembly, A/Res/51/122 (adopted 13 December 1996).

<sup>19</sup> Joel Lisk, 'Review Essay: Space Law: A Treatise By Francis Lyall And Paul B Larsen Routledge, 2018' (2018) 39(2) *Adelaide Law Review* 453-477.

<sup>20</sup> UNOOSA, 'Working Groups of the Committee and its Subcommittees' on UNOOSA (2021) <<https://www.unoosa.org/oosa/en/ourwork/copuos/working-groups.html>>.

<sup>21</sup> *Guidelines for the Long-term Sustainability of Outer Space Activities*, UN Committee on the Peaceful Uses of Outer Space, A/AC.105/2018/CRP.20 (adopted 27 June 2018).

<sup>22</sup> Simonetta Di Pippo, 'Access to Space for All' on UNCTAD (28 February 2020) <<https://unctad.org/news/access-space-all>>.

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(JAXA),<sup>23</sup> and the VEGA-C with private space company Avio S.p.A.<sup>24</sup> These cooperative endeavours demonstrate the strong commitment of states and civil society to providing access to space for developing states.

Secondly, noting the practical geographical constraints tied to certain developing countries and their orbital slots,<sup>25</sup> spacefaring nations have sought to assist other states through the offering of launch capabilities across a variety of equatorial locations with established space-capable infrastructure. This cooperation has focused on building partnerships for funding, capacity building, and the update of data collected by earth observation systems - providing numerous economic and social benefits for developing states and while supporting border international efforts to address environmental issues such as climate change.<sup>26</sup>

Third, multilateral cooperation within the International Space Station (ISS). To facilitate the maintenance and launch of objects for the ISS, participating member states use multiple ground facilities across different states.<sup>27</sup> The frequent use of multiple facilities has reinforced wider cooperation as obligatory, where third-party states are required to host technical equipment and astronauts and oversee its launch. Article 12 of *the International Space Station Governmental Agreement (ISS Agreement)*<sup>28</sup> provides a specific right of access for equipment, with an obligation to ensure compatibility across partner states. This practice highlights the capacity for interoperability of space equipment to relieve practical barriers to wider cooperation. In translating this to a spacefaring and non-spacefaring partnership, the international community would collaborate to guarantee that states could launch from a given site through promoting information and technology sharing and transparency. The ISS Agreement thus exemplifies a potential multilateral or bilateral framework for states to provide access to non-spacefaring nations.

In summary, consistent and general international practice by states at both the multilateral and bilateral level, combined with a subjective acceptance of the practice as law by the international community and civil society, solidifies the states' obligations to assist in facilitating access to space under REAS. This bears relevance to enabling states to pursue development, as necessary to adequately meeting the minimum standards of their economic, social, and cultural obligations under IHRL.

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<sup>23</sup> UNOOSA, 'The United Nations/Japan Cooperation Programme on CubeSat Deployment from the International Space Station (ISS) Japanese Experiment Module (Kibo) "KiboCUBE"' on UNOOSA (2021) <<https://www.unoosa.org/oosa/en/ourwork/psa/hsti/kibocube.html>>.

<sup>24</sup> UNOOSA, 'Accessing Space with VEGA-C' on UNOOSA (2021) <<https://www.unoosa.org/oosa/en/ourwork/psa/hsti/vegac.html>>.

<sup>25</sup> UNCTAD, 'Issues Paper On Exploring space technologies for sustainable development and the benefits of international research collaboration in this context – Draft' on UNCTAD (18 October 2019) <[https://unctad.org/system/files/official-document/CSTD2019-2020\\_Issues02\\_Space\\_en.pdf](https://unctad.org/system/files/official-document/CSTD2019-2020_Issues02_Space_en.pdf)>.

<sup>26</sup> Luigi Scatteia et al. 'The role of emerging space nations in supporting sustainable development and economic growth' on PwC (February 2020) <<https://www.pwc.fr/fr/assets/files/pdf/2020/03/en-france-pwc-space-practice-emerging-space-nations-paper.pdf>>.

<sup>27</sup> NASA, 'Ground Facilities' on NASA (2021) <[https://www.nasa.gov/mission\\_pages/station/behindscenes/index.html](https://www.nasa.gov/mission_pages/station/behindscenes/index.html)>.

<sup>28</sup> *The International Space Station Intergovernmental Agreement* (signed 29 January 1998) <<https://www.state.gov/wp-content/uploads/2019/02/12927-Multilateral-Space-Space-Station-1.29.1998.pdf>>.



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## Analogy to the Law of the Sea

At present, there is no binding obligation for seafaring states to facilitate REAS, despite its clear reflection within state practice. Drawing upon LOTS, and the analogy of a developing state as a LSS, provides a practical basis to establish the state obligation to assist developing nations in realising REAS.

Article 124 of UNCLOS defines LLS as a state which has no access to the sea-coast. An LLS, without traversing a transit state, does not have physical capacity to access the ocean. However, due to a LLS's interest in the ocean Article 125(1) grants a general right of access under the notion of "freedom of transit", enabling non-LLS to move through transit states by any means necessary to facilitate these rights. Furthermore, Article 125(2) facilitates this right through bilateral, subregional or regional agreements. Finally, Article 125(3) further addresses the concern of sovereignty, outlining that transit states can exercise their rights over the territory to ensure that LLS shall not infringe their legitimate interests.

Providing access to the sea is not unconditional, and clear practical restrictions exist in assuring access<sup>29</sup> - including the qualification under Article 125(3) that such passage shall not infringe upon the "legitimate interests" of transit states. Further, UNCLOS inherently recognises that states with the capacity and physical proximity to the sea should not maintain a dominant interest in the resources of the sea, thereby recognising the common interest in the sea.<sup>30</sup> Where the terms and modalities for exercising the rights found within bilateral agreements merely facilitate the right of LSS's, the right of access exists irrespective of the agreements.<sup>31</sup>

Subsequent provisions in UNCLOS under Articles 126-131 remove tariffs and other economic barriers to access the sea - measures necessary in ensuring that such access is affordable and to preclude the levying of inequitable costs upon the LLS. This ensures the rights of LLS to access the sea, irrespective of legal and political barriers, and safeguards the LLS from economic oppression.

Finally, Article 125 of UNCLOS creates positive obligations to protect the right of access to the sea through cooperation with states.<sup>32</sup> The LSS claiming the right of transit must be capable of proving the merits and necessity of the right, and the exercise of the right must not cause disturbance or prejudice to the transit state. This two-part approach is encapsulated under the creation of bilateral/subregional/regional agreements between the LLS and transit state, providing a compelling framework for the realisation of REAS in the outer space context.

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<sup>29</sup> Endalcachew Bayeh, 'The Rights of Land-Locked States in the International Law: The Role of Bilateral/Multilateral Agreements' (2015) 4(2) *Social Sciences* 27-30.

<sup>30</sup> Kishor Uprety (eds.), *The Transit Regime for Landlocked States – International Law and Development Perspectives* (The World Bank, 2006).

<sup>31</sup> Ramesh Kumar Rana, 'Right of access of land-locked state to the sea by the example of bilateral agreement between land-locked state- Nepal and port state – India' (2010)

<<https://munin.uit.no/bitstream/handle/10037/3239/thesis.pdf?isAllowed=y&sequence=1>>.

<sup>32</sup> Vijay Jayshwal, 'Myth of Bilateral Agreement for Transit Right of Landlocked States Under UNCLOS III' on ResearchGate (March 2016)

<[https://www.researchgate.net/publication/297533229\\_MYTH\\_OF\\_%27BILATERAL\\_AGREEMENT%27\\_FOR\\_TRANSIT\\_RIGHT\\_OF\\_LANDLOCKED\\_STATES\\_UNDER\\_UNCLOS\\_III](https://www.researchgate.net/publication/297533229_MYTH_OF_%27BILATERAL_AGREEMENT%27_FOR_TRANSIT_RIGHT_OF_LANDLOCKED_STATES_UNDER_UNCLOS_III)>.

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## State Responsibility and Human Rights

As outlined under Articles 1 and 2 of the *ILC Articles on State Responsibility*<sup>33</sup> - state responsibility encapsulates the fundamental moral and legal principle that “to every legal wrong must attach legal responsibility”. This principle has been accepted as part of international customary law created by states - within which states themselves determine their own obligations for certain public acts vis-a-vis other states, and how such obligations may be enforced. It thus follows that responsibility represents the corollary of a right - wherein all rights of an international character involve international responsibility.

Human rights treaty monitoring bodies have since applied the general law of state responsibility to aspects of IHRL jurisprudence.<sup>34</sup> The Inter-American Court of Human Rights holds the view that the rules of law pertaining to state responsibility and applicability under IRHL are established by the *1978 American Convention on Human Rights*.<sup>35</sup> Similarly, the European Court of Human Rights has advanced that the boundaries of state responsibility must be determined in concert with the *1950 European Convention on Human Rights*.<sup>36</sup> Where it follows that treaty monitoring bodies have often applied the general law of state responsibility implicitly across their policy and decision making processes, this raises the possibility of extending IHRL extraterritorially in supporting REAS within the outer space domain.

In the context of the intersection between IHRL and space activities, the association between state responsibility and REAS bears relevance to the state’s obligation under international law to respect, protect, and fulfill human rights as it applies across their outer space activities.<sup>37</sup> This is predicated upon the integral nature and importance of space as a critical infrastructure sector,<sup>38</sup> supported by the broad economic, social and cultural benefits enabled by space applications and access to space.<sup>39</sup>

Firstly, states must refrain from interfering with or curtailing the enjoyment of human rights. This may be interpreted as prohibiting the actions of spacefaring states which interfere with the REAS of developing states, resulting in the curtailing of their full enjoyment of the rights encapsulated therein. As an example, this may arise where a spacefaring state places onerous or overly restrictive requirements, or attaches exorbitant costs, which impede a developing state’s REAS. This can give rise to de-facto limitations on the developmental capacity

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<sup>33</sup> *2001 Draft Articles on Responsibility of States for Internationally Wrongful Acts*, International Law Commission (November 2001) <[https://legal.un.org/ilc/texts/instruments/english/draft\\_articles/9\\_6\\_2001.pdf](https://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf)>.

<sup>34</sup> Robert McCorquodale, ‘Impact on State Responsibility’ in M. Kamminga and M. Scheinin (eds.), *The Impact of Human Rights on General International Law* (OUP, 2009) 235-254.

<sup>35</sup> *American Convention on Human Rights*, published 22 November 1969, 1144 UNTS 123 (entered into force 18 July 1978).

<sup>36</sup> *Convention for the Protection of Human Rights and Fundamental Freedoms*, signed 4 November 1950, 213 UNTS 222 (entered into force 3 September 1953).

<sup>37</sup> OHCHR, ‘International Human Rights Law’ on OHCHR (2021) <<https://www.ohchr.org/en/professionalinterest/pages/internationallaw.aspx>>.

<sup>38</sup> Markus Hesse, ‘Space as a Critical Infrastructure’ in Schrogul KU. et al. (eds.), *Handbook of Space Security*, (Springer, 2015).

<sup>39</sup> NASA, ‘15 Ways the International Space Station is Benefiting Earth’ on NASA (31 October 2015) <[https://www.nasa.gov/mission\\_pages/station/research/news/15\\_ways\\_iss\\_benefits\\_earth](https://www.nasa.gov/mission_pages/station/research/news/15_ways_iss_benefits_earth)>.

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of the state, and its ability to effect beneficial improvements within the lives of its citizens. Such acts carry the potential to negatively impact upon the ability of developing states to realize the right to education and the right to internet access (RIA) as enabled by telecommunication satellites; the right to health (RTH) where such impacts upon emergency response and tele-health services; and the right of all persons to take part in cultural life and to enjoy the benefits of scientific progress and its applications.

Second, states must act to protect individuals and groups against human rights abuses. Concerning REAS, this requires the undertaking of positive measures by a spacefaring state to ensure the continuing safety and security of a developing state's access to outer space. This spans several areas:

- Human spaceflight operations - the inclusion of human spaceflight participants/astronauts from developing states within the space programs of spacefaring states must:
  - 1) Preclude the possibility of physical threats posed by lapses in safety procedures and operations to the individual's right to life (RTL); and
  - 2) Promote diversity, inclusion, and individual dignity.
- The environment - spacefaring states must undertake measures which address the threats posed within the outer space environment to the right to a safe, clean, healthy, and sustainable environment (RHE).<sup>40</sup> This encompasses addressing the environmental dangers posed by space debris through the implementation of debris remediation efforts or in managing the volume of traffic across differing orbital slots through space traffic management measures.
- Cybersecurity<sup>41</sup> - spacefaring states must anticipate any threats posed to RIA and critical infrastructure by malicious actors through computer network attacks on space-based infrastructure. This requires that spacefaring states adopt basic cybersecurity standards for their space-based assets, to prevent the collection, disruption, denial, degradation, or destruction of information system resources.

Third, states must take positive actions to facilitate the enjoyment of basic human rights.<sup>42</sup> Within the context of REAS, both spacefaring and developing states must take appropriate legislative, administrative, budgetary, judicial, and other actions; toward the full realization of associated human rights values and principles in the outer space context. As an example, states addressing RTH may focus on increasing the availability of quality and affordable health care for vulnerable groups of people in space - including persons with disabilities and children. The adoption of such measures ties into REAS where the resulting improved access to healthcare contributes to the democratization of outer space – enabling more people with pre-existing health conditions to live and work in space for prolonged periods or on a permanent basis.

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<sup>40</sup> OHCHR, 'Special Rapporteur on human rights and the environment' on OHCHR (2021)

<<https://www.ohchr.org/en/Issues/environment/SREnvironment/Pages/SREnvironmentIndex.aspx>>.

<sup>41</sup> Meg King and Sophie Goguichvili, 'Cybersecurity Threats in Space: A Roadmap for Future Policy' on Wilson Center (8 October 2020) <<https://www.wilsoncenter.org/blog-post/cybersecurity-threats-space-roadmap-future-policy>>.

<sup>42</sup> United Nations, 'Chapter Two: The Convention in detail – Obligations of States parties under the Convention' on United Nations (2021) <[un.org/development/desa/disabilities/resources/handbook-for-parliamentarians-on-the-convention-on-the-rights-of-persons-with-disabilities/chapter-two-the-convention-in-detail-4.html](http://un.org/development/desa/disabilities/resources/handbook-for-parliamentarians-on-the-convention-on-the-rights-of-persons-with-disabilities/chapter-two-the-convention-in-detail-4.html)>.

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## Conclusion

The notion that space exists as the common heritage for humankind cannot be realised without practical measures to facilitate cooperation over conflict and unity over division. Herein, the transposition of established values and principles across LOTS into ISL would ensure that developing states, without the capacity to access space, would be able to participate and reap the benefits of outer space. Simultaneously, the implications of state responsibility, as tied to IHRL bears, relevance in the advancement of REAS from a human rights-based perspective. This is advanced by enforcing the obligation of states to respect-protect-fulfill RTL, RHE, RIA, and RTH within the outer space context.

Consequently, a consideration of the “Openness Principle”<sup>43</sup> - extolled by ISL academics Egan and Hurtak - highlight that the exploration and research of outer space should be shared without discrimination due to its mutual benefit. Extrapolating the openness principle highlights that spacefaring states should therefore endeavour to provide a state access to developing nations in a manner which is accessible, adaptable, and acceptable.<sup>44</sup> Promoting REAS would afford non-spacefaring states the opportunity to share in the exploration and use of outer space, the positives of which can be analogized against the recognized benefits of foreign aid.<sup>45</sup> Firstly, this would help promote international peace and stability by improving the governance and stability of developing countries through the spurring of education and economic opportunity. Second, this would help drive innovation and advance global economic recovery and prosperity.

Due to the inherent difficulty in the negotiating and drafting of ISL agreements, states should therefore be encouraged to pursue measures within soft international law conducive to the realization of REAS. Where contract law may provide a link to ensure that this right is facilitated and each state is bound by its terms,<sup>46</sup> this is dependent upon the governmental structure of the state.<sup>47</sup> While there remain practical and economic barriers to participation and collaboration in space, the codification of REAS provides a firm foundation for spacefaring nations and non-spacefaring nations to engage in outer space.

The transformation outer space into an open and accessible domain for all of Earth’s citizens therefore places the obligation upon spacefaring states to take the lead in promoting a diverse, inclusive, and equitable outer space environment for the benefit of all humanity. For as long as poverty, injustice and gross inequality persists in our world, none of us can truly rest.

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<sup>43</sup> M. Jude Egan and James J. Hutak, ‘The Openness Principle in Multilateral Agreements for Space Exploration’ (2009) 31(1) *Journal of Space Law* 37-74.

<sup>44</sup> Social Protection & Human Rights, ‘Standards of Accessibility, Adaptability and Acceptability’ on Social Protection & Human Rights (2021) <<https://socialprotection-humanrights.org/framework/principles/standards-of-accessibility-adaptability-and-acceptability/>>.

<sup>45</sup> George Ingram, ‘What every American should know about US foreign aid’ on Brookings Institute (15 October 2019) <<https://www.brookings.edu/policy2020/votervital/what-every-american-should-know-about-us-foreign-aid/>>.

<sup>46</sup> Egan and Hutak, above n43, 47.

<sup>47</sup> Herbert H. Naujoks, ‘Compacts and Agreements Between States and Between States and a Foreign Power’ (1952) 36(3) *Marquette Law Review* 219-247.

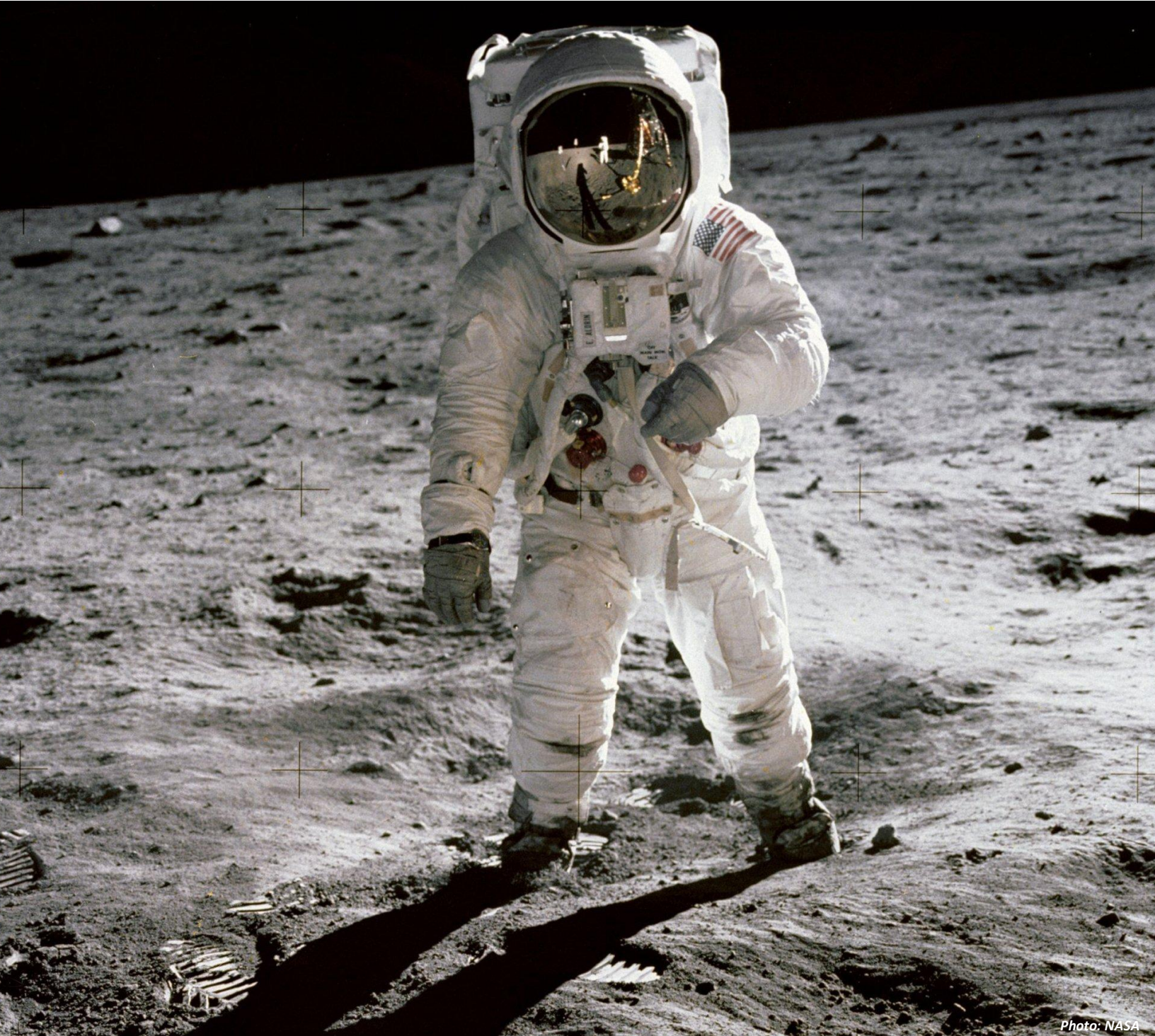


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