

If You Do Not Deal With Space Law, Space Law Will Deal With You

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Introduction

Space mining holds the potential to revolutionize the space sector, but whether this revolution will be for good or for worse depends on how it will be governed. Under international space law, private space activities require the prior authorization and continuing supervision of a State, which bears international responsibility for their compliance with international space law. This principle applies also to space resource activities, and is the reason why more and more States are discussing the regulation of space mining at the domestic, international, and multilateral levels.

The establishment of these rules can lead to positive or negative outcomes, depending on the inputs that will feed their development. Moving from a quick recollection of the applicable legal framework and recent policy initiatives at the domestic, international, and multilateral levels, the proposed talk will discuss why and how companies, scientists and engineers should engage with these processes to ensure the informed development of pragmatic rules.

A Snapshot of the Legal Framework

The exploration and use of outer space, including resources on the Moon and other celestial bodies, is governed by international space law. The core of this specialized body of international law, also known as *Corpus Iuris Spatialis*, comprises of five international treaties, the most important of which is the Outer Space Treaty (OST) [1]. Since the OST is a *treaty on principles*, its provisions can be interpreted in various ways, depending on preferred balancing choices and methods of interpretation [2]. In principle, space resource activities can be conducted as part of the freedom to use celestial bodies [3]. So far, existing State practice has clarified the permissibility of the recovery and use of small quantities of lunar and asteroid resources for scientific purposes [4]. However, the larger scale and commercial purposes of future planned space resource activities have triggered national and international efforts to develop dedicated rules ensuring their rational, peaceful, safe and sustainable conduct in compliance with international law.

Recent Legal and Policy Developments

Starting from the national level, between 2015 and 2022 the United States, Luxembourg, the United Arab Emirates, and Japan have each enacted domestic laws to regulate the conduct of space resource activities by their nationals [5]. These laws allow the conduct of

space resource activities by private actors so long as it is done in compliance with international law [5]. However, none of them clarifies in concrete terms how such compliance would be evaluated [5]. This makes sense: since States licensing private space mining will bear international responsibility for any violation of the OST, there is a strong incentive to agree on a common set of rules at the international and multilateral levels, rather than risking to be alone on the wrong side.

To ensure regulatory harmony among partner Nations cooperating under the Artemis Program, in October 2020 a group of eight countries including the United States, Australia, Canada, Japan, and Luxembourg, have agreed on a common set of principles for peaceful and sustainable space activities known as the Artemis Accords [6]. Relative to space resources, the Accords recognise their importance for the long term sustainability of space exploration and acknowledge the general permissibility of their extraction and use under the OST [6]. While the Accords emphasize that space resource activities should be executed in compliance with the OST, they also do not specify what does this mean in practice [6].

Prompted by these domestic and international developments, in 2022 the Legal Subcommittee of the UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS) has established a Working Group on the Legal Aspects of Space Resource Activities [7]. The Working Group has a five-years mandate to develop an initial set of principles ensuring the rational, peaceful, safe and sustainable conduct of space resource activities in compliance with international law [7]. Since February 2024 UNCOPUOS is also considering the establishment of an Action Team on Lunar Activities Consultations (ATLAC) to assess the development of an international mechanism for the consultation and coordination of lunar activities [8].

In parallel to these governmental efforts, civil society organisations and expert academics have come together to produce a series of substantive inputs for consideration by States: the Hague Building Blocks [9], the EAGLE Report of the Space Generation Advisory Council [10], the Recommended Framework of the Global Expert Group for Sustainable Lunar Activities [11], the Lunar Policy Handbook of the Moon Dialogs [12], and the Lunar Policy Priorities Report of the Lunar Policy Platform [13]. Depending on their level of political support, these contributions are being taken

into consideration by national and international decision-making bodies for possible implementation.

Why Engaging With Space Law and Policy.

Just like all space activities, space mining cannot happen in a legal vacuum. While there is no doubt that the OST is applicable to space resource activities, there are many open questions as to *how* it will be applied. As briefly outlined in this abstract, there are many initiatives trying to answer these questions under the framework of UNCOPUOS.

In a few years these processes will produce the first rules shaping the conduct of space resource activities. Today, we are still in time to ensure that these rules can promote safety and sustainability without hindering progress and innovation. Businesses, scientists, and engineers can do so by providing policymakers with targeted inputs on the requirements they need to succeed and the hinderances that can make them fail. The time to act is now: if you do not deal with space law, space law will deal with you.

References: Use the brief numbered style common in many abstracts, e.g., [1], [2], etc. References should then appear in numerical order in the reference list, and should use the following abbreviated style:

[1] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, entered into force Oct. 10, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

[2] P.J. Blount, *Innovating the law: fifty years of the outer space treaty*, in: M. Hofmann, P.J. Blount (Eds.), *Innovation in, Outer Space: International and African Legal Perspectives* 34, Nomos, 2018.

[3] M. Hofmann, *Space resources: regulatory aspects*, in: *Innovation in Outer Space*, 2010, pp. 202–203, book cited at [2].

[4] A. Salmeri, *The Multi-Level Governance of Space Mining*, Kluwer, 2023, p. 322.

[5] For the United States: Commercial Space Launch Competitiveness Act entered into force Nov. 25, 2015, H.R.2262, 114th Congress (2015-2016).

For Luxembourg: Loi du 20 juillet 2017 sur l’exploration et l’utilisation des ressources de l’espace, entered into force July 28, 2017, Lux Recueil de Legislation A674, 2017.

For the UAE: Federal Law No. 12 of 2019 on the Regulation of the Space Sector, Entered into Force Jan. 20, 2020, 669 UAE Official Gazette 111, 2019.

For Japan: Space Resources Act, Entered into Force Dec. 23, 2021, 141 Japan Official Gazette 4 (2022), 2010.

[6] The Artemis Accords, Principles for Cooperation and Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes, 2020.

[7] Report of the Chair and Vice-Chair of the working group established under the Legal Subcommittee agenda item entitled “General exchange of views on potential legal models for activities in the exploration, exploitation and utilization of space resources”, UN DOC A/AC.105/C.2/2022/SRA/L.1, p. 1 (2022).

[8] Report of the Working Group of the Whole to the Scientific and Technical Subcommittee on its sixty-first session, held in Vienna from January 29th to February 9th, UN DOC A/AC.105/C.1/WGW/2024/L.1, p. 1 – 2 (2024).

[9] Building Blocks For The Development of an International Framework For The Governance Of Space Resource Activities, The Hague International Space Resources Governance Working Group (2019).

[10] Effective And Adaptive Governance For A Lunar Ecosystem, Space Generation Advisory Council (2021).

[11] Recommended Framework and Key Elements for Peaceful and Sustainable Lunar Activities, Global Expert Group on Sustainable Lunar Activities (2023).

[12] Lunar Policy Handbook, Moon Dialogs (2023).

[13] Lunar Policy Priorities Report, Lunar Policy Platform (2023).