

IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)
Space Mining: National Authority? International Authority? Both? (5)

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THE IMPACT OF PLANETARY PROTECTION IN PROVIDING AN APPROPRIATE LEGAL
FRAMEWORK FOR SPACE MINING

Abstract

Space mining – and generally the exploitation of space natural resources – is currently in the heart of a salient debate inside the international space community, both at technical and legal levels. The importance of the debate is clearly demonstrated by the inclusion in the agenda of the UN-COPUOS Legal Subcommittee (since 2017) of an item addressing “potential legal models for activities in exploration, exploitation and utilization of space resources.” At first, the discussion was focused on different, and often controversial, interpretations of the relevant space law provisions (particularly Articles I, II, and VI of the Outer Space Treaty [OST]), and on whether multilateralism or unilateralism should prevail in regulating the exploration, exploitation, and utilization of space resources. However, it now seems crucial to broaden the perspective by including more dimensions of both a technical and legal nature. For instance, it now becomes evident that an appropriate such model cannot ignore issues such as the advancement of space technology (i.e. the construction of adequate space vehicles), Space Traffic Management (still at embryonic stage), and environmental concerns associated with the radical changes that space mining activities will cause to the environment of celestial bodies. This paper explores this last dimension and emphasizes how the concept of planetary protection can affect space mining activities and, consequently, even define the nature of the legal framework to be finally opted for (national or international).

The planetary protection concept, which is legally based on Article IX OST, specifically addresses environmental issues in outer space and aims to protect “solar system bodies (i.e., planets, moons, comets, and asteroids) from contamination by Earth life, and protecting Earth from possible life forms that may be returned from other solar system bodies” (according to a definition provided by NASA). Despite the focus of planetary protection policy (PPP) on (forward and back) biological contamination – which nevertheless continues to be a pending issue with respect to space mining – recent trends (e.g. in the context of COSPAR PPP) make a case for other forms of contamination, beyond its biological and organic forms.

Such a broad understanding of planetary protection profoundly affects the model to be chosen for the regulation of space mining activities, given their impact on alien environments but also on Earth, as extraterrestrial resources will be brought to our planet. Therefore, this paper will demonstrate how the PPP will inevitably promote legal solutions of an international character.