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Panel 1. Nominating State: Italy

Panellist Sergio Marchisio,

Implications of the legal framework for space resource activities

Mister Ambassador, Distinguished Delegates,

I am honoured to contribute to Panel 1 of the International Conference on Space Resources, held in connection with the 63rd session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space and to speak about the Implications of the legal framework for space resource activities.

Allow me to offer two preliminary remarks—one concerning **governance**, the other **implementation**.

It is often said that activities related to space resources should be approached incrementally, in line with current technologies and practices. This is certainly true. However, **adaptive governance** must also be complemented by a **predictive approach**. Technological advancements in space resource activities would undoubtedly benefit from a robust set of legal principles—principles that foster investment, reduce uncertainty, and help prevent conflict. In this regard, adaptive and predictive regulation should go hand in hand.

On another note, operational implementation of existing regulations on space resource activities, as well as information on planned initiatives, remains limited. Therefore, one of the key benefits of a potentially agreed legal framework would be the **clarification of the current regime**. Operators would be better positioned to comply with international obligations if a scheme endorsed within

the United Nations were available—particularly one that also identifies areas where further regulatory development is needed.

In this context, there are already valuable reference materials stemming from prior international efforts, such as the **Building Blocks for the Development of an International Framework on Space Resource Activities**, as well as the practice of groups of States engaged in lunar exploration, including the **Artemis Accords** signatories and the participants in the **International Lunar Research Station** (ILRS) program. National legislation adopted by some countries in this domain is also of significant relevance.

Clarification is essential to reduce existing uncertainties surrounding the utilization of space resources under the United Nations space treaties, particularly with regard to the conditions under which such activities may be considered acceptable and legitimate. If these activities are not widely perceived as legitimate, the effectiveness and cost-efficiency of social regulation are diminished.

The main implications span from ensuring compliance with existing rights and obligations under international law, to clarifying their scope, and to balancing the freedoms granted under the Outer Space Treaty with their corresponding limitations and responsibilities.

The key principle of **freedom of exploration and use of outer space** and celestial bodies, as enshrined in Article I of the Outer Space Treaty (OST), is framed as being in the "province of all mankind." Freedom of exploration refers to the right to investigate whether and how outer space can be used, while use encompasses both non-economic and economic activities, including the exploitation of space resources for commercial gain. As a result, under Article VI of the OST, States may authorize and supervise private entities to engage in specific resource-related activities. Notably, the concept of freedom of use emerges as the foundational notion that must be clearly defined and agreed upon.

Drawing from Roman law, the concept of **usufruct** illustrates a legal right to derive utility from property—whether through use or enjoyment—while preserving the substance of the property itself. In essence, the usufructuary may benefit from the "fruits" of the property, provided its core integrity is not impaired.

This analogy raises an essential question: what limitations apply to the freedom of use of outer space, celestial bodies, and their natural resources? Just as Roman law permitted usufruct but did not allow **usucapion**—the acquisition of ownership through continuous possession over time—so too does Article II of the OST prohibit appropriation. It affirms that use, occupation, or any other means cannot establish a legal claim of sovereignty over outer space or celestial bodies.

However, the **prohibition of appropriation** under Article II of the Outer Space Treaty (OST) is not the only limitation on the freedom of use. Article III of the OST provides that States shall conduct their activities in the exploration and use of outer space and celestial bodies in accordance with international law, including the Charter of the United Nations. This means that a future legal framework developed under the auspices of the United Nations should not only clarify and build upon the specific rules of space law but also take into account other relevant norms of international law—whether customary, conventional, or otherwise—that are applicable to space activities.

One such foundational principle is **the no-harm rule**, which prohibits States from engaging in activities that cause damage to other States or to areas beyond national jurisdiction. This principle is particularly relevant to outer space and celestial bodies, which—although often described as "global commons"—are more precisely defined, in legal terms, as areas beyond the limits of national jurisdiction.

The general duty of environmental care in such areas has been affirmed by the International Court of Justice (ICJ). In its 1996 Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, the Court recognized “a general obligation of States to ensure that activities within their jurisdiction and control respect **the environment of other States or of areas beyond national control.”** This obligation forms part of the *corpus* of international law and further supports the need for responsible conduct in the use of outer space and celestial bodies.

Article IX of the Outer Space Treaty, after affirming the principles of cooperation and mutual assistance, emphasizes the obligation of due regard as a condition for the lawful exercise of the freedom to explore and use outer space.

Compliance with this obligation is essential to ensuring the peaceful coexistence of multiple, equally legitimate activities within a given area of outer space or on a celestial body.

Notably, Article IX requires that States give **due regard to the corresponding interests of other States**—not merely their rights, whose respect is already mandated by the Treaty. This distinction is significant, as it implies a more nuanced duty to prevent harmful interference and to engage in consultations where potential conflicts may arise. As such, this provision offers a solid normative foundation for the development of more specific rules governing space resource activities, particularly in situations where multiple actors may be interested in the same resources or where extraction activities occur in close proximity.

In the context of space resource utilization, the due regard obligation would entail, for example, careful consideration during mission planning of how proposed operations might affect the ongoing or planned activities of other States. This fosters sharing of information, predictability, coordination, and mutual respect—crucial elements in an increasingly congested and contested space environment.

Conversely, I do not invoke the concept of the **common heritage of mankind** as found in the 1979 Moon Agreement. While it played a significant role in the historical development of the law of the sea, its limited acceptance and lack of practical applicability in space law suggest that its future relevance will be marginal compared to other emerging legal approaches. This concept has had a great past, but its future looks less promising.

Finally, since the large-scale operational implementation of space resource activities has yet to commence, it remains difficult to supplement these considerations with concrete examples of current practice. Nevertheless, it is worth noting that the Artemis Accords reaffirm all the core principles of the Outer Space Treaty (OST), emphasizing that space resource activities conducted by States and private operators must be carried out in accordance with the OST. Importantly, they clarify that **the extraction of space resources does not, in itself, constitute national appropriation**. Other provisions of the Accords also underscore the importance of transparency, information sharing, and responsible behavior.

In this context, the potential conclusions of the UN Working Group—while not amounting to an authoritative interpretation of, or a proposed amendment to, the relevant UN space treaties—would nonetheless be of considerable importance. They could significantly contribute to the development of a shared understanding of the fundamental principles governing space resource activities and the conditions under which such activities are deemed legitimate and consistent with international legal obligations.