

Proposed French contribution to the Working Group on Legal Aspects of Space Resource Activities

Introduction

France considers, as it has recalled in recent years in statements to the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS), that governance of space resource activities must be subject to an international and multilateral approach. As such, it considers COPUOS to be the appropriate forum to reflect on this governance framework.

France recalls that it has supported the creation of a working group on space resources ever since the proposal by Greece and Belgium at the 58th session of the COPUOS Legal Subcommittee. This is a subject where the legal issues have an intrinsically international dimension that transcends the individual interests of States and private operators and concerns the international community as a whole. France therefore wishes to participate actively in the work of the Working Group and proposes this contribution aimed at sharing information with the Working Group and particularly its Chair and Vice Chair that could help it apprehend and further scope out its mandate and goals.

To do so, this contribution proposes points relating to the scope of the Working Group and the nature of the information it will need to collect in its work, to the applicability and the application of the existing legal framework to space resources, and to the drafting of recommended basic principles.

A. Scope of the working group and information to collect

- ***The type of space resources that fall within the mandate and scope of the Working Group;***
- ***The type of activities that fall within the mandate and scope of the Working Group;***
- ***The type of information to be collected by the Working Group in accordance with its mandate.***

In accordance with its mandate, the Working Group on Legal Aspects of Space Resource Activities has the task to “*Collect relevant information concerning activities in the exploration, exploitation and utilization of space resources, including with respect to scientific and technological developments and current practices, taking into account their innovative and evolving nature*”.

In order to help the Working Group fulfil this mission, the notion of space resources and related activities should be clarified, as should the type of information to collect.

1. Space results within the purview of the Working Group

We propose that the Working Group should focus on “material” space resources that may be present in subsoil of or on the Moon or other celestial bodies, including asteroids.¹

The Working Group could also consider the definition of space resources for certain local in situ positions on the Moon and other celestial bodies (such as peaks of eternal light on the moon which, given their limited nature, appear to be space resources of particular interest).

Insofar as our current knowledge of space resources and sites of particular interests is still in its infancy, this notion may evolve during the work of the Working Group.

Spectrum/orbit resources that can be used in space activities on the Moon and other celestial bodies should not fall within the scope of the Working Group’s work. Governance of the use of this type of

¹ The following should be excluded from the mandate of the Working Group: Earth materials and space resources that reach Earth naturally.

resources should be the competence of the International Telecommunication Union (ITU). In this respect, it can be noted that the ITU has already adopted recommendations on orbital positions and/or frequencies that are not exclusively terrestrial, such as those on the L₂ Sun-Earth Lagrange point² and on the Shielded zone of the Moon.³

2. *Space resource activities falling within the mandate of the Working Group*

We propose a number of activities that we feel correspond to the mandate. In addition, it may be useful for the Working Group to consider in its work a possible categorization of these activities on the basis of their purposes.

- Types of space resource activities

The Working Group could give particular attention to legal governance of space resource activities such as:

- *In situ* cartography and prospection with a view to identifying the presence of space resources of interest, including extraction;
- Logistical activities, such as the use and processing of resources as life support (primarily concerning oxygen, nitrogen and water), construction or production of fuels, including extraction, processing and refining;
- Activities concerning the return of space resources to Earth;
- Activities relating to rehabilitation of sites and infrastructure created in the use of space resources.

This list is not exhaustive and may be adapted or expanded if the evolution of technologies and their prospects require.

- Accounting for the purpose of space resource activities

The Working Group may also look at the purpose of space resource activities. In this respect, it could consider the relevance of establishing different frameworks and principles on the basis of the type and/or purpose of activities.

Without prejudice at this stage as regards acceptability, the Working Group could consider the following purposes:

- Scientific research, such as the collection and sampling of minerals or other substances for scientific purposes;
- Support to exploration missions, such as the use, including where provided by private actors, in exploration programmes, of minerals and other substances in reasonable quantities to enable the missions to be fulfilled;
- Commercial activities not supporting exploration missions;
- All other purposes, except military purposes, that do not fall within one of the cases above. This could include artistic uses, historic sites, etc.

3. *Type of information for the Working Group to collect*

In its information collection work, the Working Group could ask Member States to provide the following:

- “Scientific and technical” information

² ITU, Recommendation RA.1417-1, A radio-quiet zone in the vicinity of the L₂ Sun-Earth Lagrange point, 2013.

³ ITU, Recommendation RA.479-5, Protection of frequencies for radioastronomical measurements in the shielded zone of the Moon, 2003.

In order to provide a legal response suited to technical activities, the Working Group needs detailed scientific and technical information that enable it to gain a good understanding of these activities and thus identify any related issues as comprehensively as possible.

To achieve that, the Working Group could ask Member States to provide scientific and technical information in the form of written contributions or presentations by experts to the Working Group. The Working Group could also draw on the work of the Scientific and Technical Subcommittee, if any has been done on the subject of space resources, or request its expertise.

- “Programmatic” information

The Working Group could ask the Member States to voluntarily provide information to produce a panorama of envisaged projects and activities involving the use and exploitation of space resources in the short, medium and long terms. The aim of this request would be to better identify the needs of these projects and estimate the expected extent of activities and related challenges. Such an approach would also help adapt the Working Group’s work calendar to the needs identified.

As such, the Working Group could collect information concerning, *inter alia*:

- The nature of the actors concerned (public, private, public-private partnerships, States, international organizations);
- The type and estimated quantities of resources collected and used;
- The nature of the sites where the activity might be carried out;
- The methods of extracting resources;
- The purposes of the envisaged missions (scientific, commercial, etc.);
- The expected benefits (financial, scientific, technical, etc.), both for the entity conducting the activity and for humankind as a whole;
- The intention to apply standards;
- The measures envisaged to preserve the integrity of the environment of places of collection and processing (if *in situ*) of resources (site rehabilitation).

- “Legal” information

The Working Group should look first at the existing legal framework and particularly the provisions that are widely accepted within the Committee. It could build on principles from:

- 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 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space;
- The Convention on International Liability for Damage Caused by Space Objects and the Convention on Registration of Objects Launched into Outer Space and their *travaux préparatoires*.

First and foremost, the limitations of existing texts need to be identified in order for the principles or guidelines the Working Group’s principles or guidelines to address them.

Certain principles and the *travaux préparatoires* of the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies could be of interest to the work of the Group (see below).

As the issue of the governance of resources is not totally new, many texts and much legal work at national and international levels already exist on the subject and should inspire the work of the Working Group. The Working Group could look in particular at the Artemis Accords and the Building Blocks resulting from the work of the Hague Space Resources Governance Working Group. The national legislative and regulatory texts governing space resource activities that certain States have adopted could also be consulted.

The rules drawn up by the Committee on Space Research (COSPAR) could be of particular interest to the Working Group, insofar as they could directly affect the activities conducted on celestial bodies.

The Working Group could also take note of the general and technical regulations relating to similar activities carried out in different spaces, such as the law of the sea (including sea beds), Antarctica and national mining laws.

Lastly, the Group could pay particular attention to existing operating modes in other international organizations. The ITU's functioning could for example inspire the Working Group, particularly when it comes to the use of non-consumable resources (such as peaks of eternal light).

B. Applicability and application of the existing legal framework to space resources

- ***The views of States members regarding the existing legal framework for space resource activities***
- ***The current practices and challenges in the implementation of the existing legal framework for such activities.***

Under its mandate, the Working Group is to “Study the existing legal framework for such activities, in particular the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and other applicable United Nations treaties, also taking into account other relevant instruments, as appropriate”. Such study is essential to identify the need for and content of a new framework.

1. Relevant existing legal framework

It is important to note that the Working Group's work in establishing a framework for space resource activities is conducted in an existing legal context. This Working Group should take into account the existing international space law instruments. These instruments lay down the major principles governing space activities in general and accordingly, should apply to space resource activities, although they are not expressly mentioned.

To this end, France considers that the 1967 Outer Space Treaty fully applies to space resource activities. First, it is important to consider that the conduct by States and their nationals, of such activities, is an implementation of the principles of free use and free exploration of space, as well as freedom in the conduct of scientific research under paragraph 2, Article 1 of this Treaty.⁴ It is essential that space resource activities, like any activity conducted in space, be conducted in accordance with the principles in the Outer Space Treaty, particularly the principles of the use of outer space for peaceful purposes,⁵ of transparency between States conducting activities in the same environment⁶ or in accordance with the principle of the identification and the registration of the space objects and space facilities used.⁷ It is lastly important to note that the principle of States' international responsibility for the activities of their nationals also applies to space resource activities, thereby creating, for States, an obligation to establish a regime aiming at authorizing and monitoring these types of activities on a continuous basis.

France suggests that the Working Group also focus its attention on other international instruments relating to space law. Certain principles from these texts remain relevant with regard to the conduct

⁴ Outer Space, including the moon and other celestial bodies, 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 [...]

⁵ Article IV of the 1967 Outer Space Treaty

⁶ Articles IX and XI of the 1967 Outer Space Treaty

⁷ Article V of the 1967 Outer Space Treaty

of space resource activities, although they may be adapted with regard to these activities that were not envisaged at the time of their drafting:

For example, the principle of assistance laid down in the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space is of special interest and could be applied in the framework of space resource activities conducted on celestial bodies. It is important to note that this Agreement mainly pertains to rescue when astronauts are returning to Earth. It could be interesting for the Working Group to explore the application of astronaut status to individuals who are on the surface of a celestial body and envisage extending this principle of assistance in the framework of activities conducted on celestial bodies in the future framework to be implemented.

With regard to the Convention on International Liability for Damage caused by Space Objects, it should be considered that the principles and organization set out in this Convention apply to activities conducted on celestial bodies and those relating to resources. However, the implementation of these principles could raise certain questions that the Working Group should take into consideration in its work. These questions could include the linking of objects directly manufactured on a celestial body to a launching State using space resources and the need to clarify the notion of malpractice in space.

Lastly, in accordance with the Convention on Registration of Objects Launched into Outer Space, it is important to register objects used in the framework of space resource activities, including when they are conducted on celestial bodies. The application of this Convention could lead the Working Group to determine the type of information that could be useful to request in this case (identification of the celestial body, the area of activity, etc.) or the treatment of such objects when they are no longer used.

Regarding the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, the Working Group could be inspired by certain principles of this Agreement that could be incorporated into the future framework for space resource activities. France considers that certain principles are interesting, including those on the transparency of activities conducted,⁸ the freedom of scientific research,⁹ the protection of the moon environment¹⁰ and the creation of “moon scientific reserves”,¹¹ and the rational management of resources¹², as well as the principle on the due regard paid to the interests of current and future generations.¹³ France reiterates that several of these principles are reaffirmed in the Artemis Accords and that moreover, the principle relating to due regard paid to the interests of current and future generations is also in line with the United Nations Guidelines for the Long-term Sustainability of Outer Space Activities.¹⁴

2. *Current practices relating to the implementation of this existing legal framework*

The existing legal framework and particularly the principles from the 1967 Outer Space Treaty already enable the conduct of certain space resource activities. Missions conducted for scientific purposes implement activities to collect space resource samples, for *in situ* analysis or for analysis on Earth, and that from the first Moon missions.

⁸ Article 5 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

⁹ Article 6 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

¹⁰ Article 7.1 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies “In exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise.”

¹¹ Article 7.3 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

¹² Article 11.7.b of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

¹³ Article 4 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

¹⁴ COPUOS, United Nations Guidelines for the Long-term Sustainability of Outer Space Activities, 2018, A/AC.105/L.315

These missions are now conducted in accordance with the principles of international space law instruments and in a spirit of international scientific cooperation. To date, a large number of international agreements have been signed with a view to sharing samples in order to optimize their analysis by researchers from all over the world. The widespread publication of studies conducted on these resources also directly builds on from the Outer Space Treaty and the Moon Agreement.

France considers that these activities are fully in line with the principle of freedom of scientific research in outer space and that their implementation does not pose any specific problems. Moreover, they benefit all States and the whole of humankind in that they help to gain a better understanding of the space environment as well as the ensuing technological breakthroughs.

Although the existing legal framework is now relevant to these scientific activities, it could show its limits in a context of a significant multiplication and diversification of activities conducted on celestial bodies caused by the acceleration of technological progress. It might not be sufficient to ensure coordination of all space resources activities or prevent a risk of depleting certain resources.

Moreover, it is important to indicate that the Act relating to space operations that France passed in 2008, and the authorization regime that it establishes, do not govern, at this time, activities conducted on celestial bodies and only cover the launch and control of a space object in orbit.

C. Drafting of recommended basic principles

- ***The benefits and challenges to the development of a framework for such activities***
- ***The relevant factors for the development of a set of initial recommended principles for such activities.***

1. Benefits related to the development of a new framework governing space resource activities

Under its mandate, the Working Group must “*assess the benefits of further development of a framework for such activities, including by way of additional international governance instruments*”.

France considers that the development of such a framework has multiple benefits.

First, such a framework could help consolidate the existing international space law instruments, by adding principles that are adapted to space resource activities to them. Such principles could take into account problems related to the sustainable development of outer space activities, especially when it comes to the use of space resources. For example, it could include principles on multilateral and inclusive resource management, sustainable and responsible resource management, promotion of international collaboration, etc.

More generally, this framework could help provide predictability and legal security at the regulatory level, both for the activities of States and their nationals. The development of space resources activities is a long process that involves major technological and financial investments. This means stakeholders who wish to implement these types of activities need predictability, including at legal level. This legal security, given the international character of the space environment in which these activities are conducted, can only be obtained if the applicable international framework is clarified (types of activities that could be conducted, coordination with other stakeholders, etc.).

Such a framework would help to ensure consistency of the legislation of the various States determining the governance of space resource activities. Several of them have already passed national laws on resource activities.

2. Procedure for drafting of recommended basic principles

Under its mandate, the Working Group must “*develop a set of initial recommended principles for such activities, taking into account the need to ensure that they are carried out in accordance with*

international law and in a safe, sustainable, rational and peaceful manner, for the consideration of and consensus agreement by the Committee, followed by possible adoption by the General Assembly as a dedicated resolution or other action” and “identify areas for further work of the Committee and recommend next steps, which may include the development of potential rules and/or norms, for activities in the exploration, exploitation and utilization of space resources, including with respect to related activities and benefit sharing.”

The Working Group could pursue its discussions on what form to give the recommended basic principles they wish to establish and on any future instruments that could be implemented to govern space resource activities.

It is important to note that the recommended basic principles that the Working Group are expected to produce should remain general insofar as it will be up to States to implement them.

Lastly, France underlines the importance of respecting the five-year work schedule covering the 2023-2027 period so as not to delay the drafting of the recommended basic principles. The evolution of this legal framework needs to be consistent with the technological and programmatic advances made regarding space resource activities.