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Legal Subcommittee
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**General exchange of views on potential legal models
for activities in the exploration, exploitation, and
utilization of space resources**

Germany – Input to the Working Group on Legal Aspects of Space Resource Activities

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* [A/AC.105/C.2/L.323](#).



Working Group on Legal Aspects of Space Resource Activities at COPUOS Legal Subcommittee

German Contribution to

Invitation by the Chair and Vice-Chair for States members of the Committee on the Peaceful Uses of Outer Space to Provide Submissions on the Mandate and Purpose of the Working Group on Legal Aspects of Space Resource Activities

Intersessional Period – December 2022

Germany attaches great importance to the work of the Working Group on Legal Aspects of Space Resource Activities and welcomes the endorsement of its workplan by COPUOS at its 61th session.

We thank the chair and the vice-chair for their invitation to provide views with regard to the mandate and purpose of the Working Group. We would like to note that the following considerations are preliminary in nature and subject to amendment and revision during the course of the work of the Working Group. Our delegation looks forward to fruitful exchanges, constructive discussions and results-oriented deliberations at the next meeting of the Working Group.

I. The type of space resources that fall within the mandate and scope of the Working Group.

It is our view that the mandate of the Working Group is comprehensive and therefore in principle the Working Group may attend to all kinds of resources in outer space and on celestial bodies including the moon, other planets, comets, asteroids etc. This may, in principle, encompass biotic and abiotic materials, but also topographical features such as peaks of eternal light, pits or cold traps. However, it is important to ensure that the deliberations of the working group are relevant and beneficial. Therefore, especially those space resources within reach for human activities (short/medium term) need to be considered, as they most urgently warrant international governance in order to be carried out in accordance with international law and in a safe, sustainable, rational and peaceful manner.

Therefore, the Working Group could decide to focus its discussions on:

- All extractable and/or recoverable natural resources on celestial bodies, from regolith, metals, to water/ice, oxygen etc.
- Topographical features of the moon and other celestial bodies such as pristine conditions for astronomy, radio silence or cold traps should also receive due consideration. It could be considered to structure the discussions according to the different types of resources, e.g. limited raw materials, essential resources to sustain human presence and/or according to the different types of activities, and define work packages to be dealt with separately in the Working Group.
- While recognizing that orbits and frequencies can also be considered as space resources, we are convinced that these aspects are properly dealt with in the frame of the ITU and therefore warrant no specific attention by the WG.

II. The type of activities that fall within the mandate and scope of the Working Group.

As a matter of principle, the mandate and scope of the WG should be understood as comprehensive and therefore encompassing every type of activity involving space resources, regardless of their nature, location, point in time or responsible entity. Thus, for the purposes of the working group, space resource activities should refer to planned, ongoing or future actions related to the exploration, exploitation and/or utilization of space resources, regardless of where these activities take place, conducted by governmental or non-governmental actors for scientific or non-scientific purposes.

It may be useful to clarify that while all these activities may be considered to fall under the mandate of the WG, this does not necessarily mean that they should all be treated equal when it comes to their international governance. For the purposes of the Working Group, it may be advisable to focus on activities related to extractable and/or recoverable natural resources on celestial bodies, including every activity using, extracting or refining space resources as well as preparatory activities (such as prospecting, measuring, localizing). Conditions for activities exploiting certain unique topographical features of the moon and other celestial bodies should also receive consideration by the Working Group. Taking into account the freedom of scientific investigation as safeguarded by Art. I (3) OST, it could be advisable to focus discussions on those space resource activities that lead to an alteration of the space environment which is, based on current knowledge and technology, irreversible and/or which involve the extraction of material in a scale exceeding the taking of scientific samples, especially if these materials shall be processed or utilized. Special diligence is required, since all exploration activities influence the natural surroundings on celestial bodies and thus may deprive science of the opportunity to investigate their original conditions. Scientific interests should enjoy highest priority and are to be taken into account in any mission planning.

If the Working Group deems it necessary to define space resources activities (e.g. for the purposes of the elaboration of recommended principles), it may be advisable to look into the definitions elaborated by the International Seabed Authority concerning the prospecting, exploration and exploitation of mineral resources of the international seabed.

III. The type of information to be collected by the Working Group in accordance with its mandate.

The Working Group should collect information relevant to the development of a set of recommended principles for space resource activities. Especially those scientific, technological and legal aspects crucial for ensuring that space resource activities are carried out in accordance with international law and in a safe, sustainable, rational and peaceful manner need to be considered. Therefore, the Working Group should be presented with:

- Overviews of planned and envisaged missions (governmental as well as non-governmental) to the moon and other celestial bodies, with a focus on resource related activities, including their expected as well as their possible unexpected impact on the space environment,
- Information on current and future practices concerning the safe, sustainable and rational use of outer space and the celestial bodies, including information about features or regions of great scientific value or interest,
- Information on national and international legal and political instruments relevant for space resource activities, including on bilateral or multilateral instruments, national regulation etc.,
- ideas on and conceptions for a future regime on space resource activities.

States could be invited to hold national stakeholder meetings to collect information on planned activities of their nationals, be it scientific or commercial, to include in their national contributions to the WG. An involvement of the Scientific and Technical Subcommittee (e.g. through dedicated reports) may be useful to complement the legal perspective by scientific and technical inputs related to future exploration endeavours.

Civil society and academia, represented by non-governmental organizations, may be invited to provide written input to the Chairs for distribution to the Member States of COPUOS. Technical presentations of those stakeholders might be of additional value for the Working Group.

IV. The views of States members regarding the existing legal framework for space resource activities.

As previously articulated by our delegation, Germany is of the view that:

- The five UN Treaties on Outer Space form the legal basis for present and future space activities, also with a view to novel space resources activities. The principles enshrined in those treaties need to be safeguarded and continue to provide the legal framework for all space activities, including the exploration and use of the Moon and other celestial bodies.
- As outer space and the celestial bodies are global commons beyond national jurisdiction, space resource activities can only be governed by international law. In addition to the Outer Space Treaty, the Moon Treaty provides valuable legal guidance. It was drafted within COPUOS and accepted by consensus by the international community gathered at the UN General Assembly.
- Germany is of the view that the taking of scientific samples of space resources is in line with the present international legal framework. Also using space resources for sustaining scientific missions is a legitimate activity as long as it is conducted in a safe and sustainable manner, for peaceful purposes, with due regard to the corresponding interests of all other states as well as the interest of present and future generations.
- When it comes to exploitation of space resources for commercial purposes, we believe that this requires an international legal regime. Such regime should facilitate the orderly and safe development, the rational management and the expansion of opportunities in the use of outer space resources. It should appropriately take into account the efforts of countries contributing to the exploration, exploitation and utilization of celestial bodies and ensure that all countries irrespective of their degree of economic or scientific development can benefit from these activities, without taking away the investment incentives for public and private space flight. Last but not least, due account must be given to the long-term sustainability and environmental compatibility of such activities. Such international legal regime would be established by consensus, thus increasing its acceptance and implementation.

V. The current practices and challenges in the implementation of the existing legal framework for such activities.

Space activities have always been on the edge of scientific knowledge and technological evolution. Therefore, international space law is well suited to adapt to novel activities – the general principles of the outer space treaty continue to serve the international community well and provide legal stability.

Recognizing the increased interest in activities on celestial bodies in general, and activities involving space resources in particular, and taking into account various initiatives to develop normative instruments applicable to space resources activities, as well as the need for legal certainty and multilateral international dialogue in this regard, we understand that it may be a challenge to develop a regime for space resources activities while these activities are only in their initial phase. However, this offers the opportunity to introduce hands-on experiences and tailored needs into the drafting process. Any future regime for space resource activities should be flexible and adaptive enough to cope with the respective technological developments and demands. Even though the working group may in the drafting process, discuss different understandings of core space law concepts, such as the “non-appropriation” principle, the working group should focus on commonalities for the development of additional useful and necessary legal guidance for space resource activities that will complement the existing legal instruments and enable states to conduct or authorize space resource activities in accordance with international law and in a safe, sustainable, rational and peaceful manner.

VI. The benefits and challenges to the development of a framework for such activities.

The benefits of developing an international framework for space resource activities are enhancing legal certainty, preventing conflict, ensuring broad international compliance and fostering multilateral international dialogue. It would give every member state the opportunity to authorize space resource activities on the firm basis of international law and thus in strict accordance with the requirements of the Outer Space Treaty and other applicable international space law instruments. By adequately considering issues of sustainability it will be ensured that also future generations may reap the benefits of space resources. To achieve those goals, an international framework should recognize both collective interests and individual rights in the exploration, utilization and exploitation of space resources and be developed in a truly multilateral process with broad geographic representation, irrespective of the degree of economic or scientific development of States. The framework to be developed in the Working Group thus bears great benefits with a view towards:

- legal certainty, which is of special importance for commercial actors;
- facilitating information exchange and creating transparency;
- confidence building and reducing potential for conflict;
- encouraging cooperation;
- promoting sustainability and protecting outer space and celestial bodies for scientific investigation by present and future generations;
- ensure the rational use of space resources.

VII. The relevant factors for the development of a set of initial recommended principles for such activities.

- The set of initial principles and if appropriate practical measures should ensure that space resource activities are carried out in a safe, sustainable and peaceful manner, for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and in accordance with international law, while ensuring investment incentives for public and private space flight. Due account must be given to the long-term sustainability and environmental compatibility of such activities.
- Any set of principles related to space resources should be consistent with the Outer Space Treaty and other applicable instruments of international space law and should balance the interests of the scientific community and the commercial sector to facilitate long-term sustainable and safe use of outer space.
- Exchange of views and needs on an international scale are needed to provide the necessary international framework for space resource activities in support of long-term exploration missions.
- It is our view, that a prudent approach to the work before us is to firstly define the interests and expectations of the Member States, secondly agree on priority items and thirdly draft principles on those priorities. We are very pleased by and appreciate the hard work of the Chair and the Vice-Chair of the Working Group and are confident that progress can be made on the above aspects in the coming sessions.

VIII. The format, agenda, topics and other details of the dedicated conference (currently) scheduled for 2024.

- Participants should be invited/chosen with a view to broad participation and representation of States, academia, the commercial sector and civil society.
- The scope of the conference should be decided upon first, should the conference aim at collecting general views and input or should the conference serve as a forum to present specific proposals/first drafts/initial principles. Should the Working Group decide to use the conference for information gathering, which could alternatively be undertaken by the Member States, 2024 could almost be too late.
- The following topics are considered as pressing and thus, are recommended to be addressed (see also: A/AC.105/C.2/2022/CRP.21*):
 - possible designs of an international lunar governance regime/space resources regime;
 - environmental aspects, sustainability of lunar resources activities and designation of protected areas, safety of operations, transparency measures and exchange of mission related information;
 - requirements for the authorization of space resources activities;
 - assistance to developing countries;
 - data sharing and access to scientific results; and
 - due regard and conflict prevention, including a potential framework for dispute resolution.
- A dedicated open and inclusive UN Conference on Space Resources is expected to lead to the following results:
 - strengthen the important multilateral dialogue on the pressing issue of space resource activities;
 - collect relevant information as contributions to the Working Group meetings in the subsequent Legal Subcommittee sessions;
 - provide a better understanding of the needs of the scientific community, academia, governments, space agencies, civil society and private companies, which shall be equally taken into account; and
 - foster a common understanding of the framework conditions for space resource activities.