

Non-paper submitted by Luxembourg and Belgium

Working Group on Legal Aspects of Space Resource Activities

Expert meeting collecting preliminary inputs for consideration at the international conference in Vienna in 2024, held on 26 March 2024 in Luxembourg

I. Introduction

1. In its sixty-sixth session, the Committee noted that the working group had agreed that an event would be held in Luxembourg during the Space Resources Week entitled “Expert meeting collecting preliminary inputs for consideration at the international conference in Vienna in 2024”, which would be co-hosted by Belgium and Luxembourg and organized in cooperation with the United Nations (A/78/20, para. 232).
2. The working group on Legal Aspects of Space Resource Activities had agreed that the presenters of the expert meeting would be nominated by their respective national delegations and that the list of speakers would be, through close consultations between the Chair and Vice-Chair of the working group and States members of the Committee, prepared and finalized (A/78/20, para. 233).
3. The “Expert meeting collecting preliminary inputs for consideration at the international conference in Vienna in 2024” (hereinafter the “Expert Meeting”) was held on 26 March 2024 in Luxembourg with participants and speakers in person and online.
4. The Luxembourg and Belgium, the co-hosts of the event, wish to provide a short overview of the Expert Meeting and their main take aways.

II. Co-hosts provided support

5. The Expert Meeting was organised by the United Nations, the Chair and Vice-Chair of the working group. The working group agreed on the Expert Meeting date, programme, and other substance matters. Luxembourg and Belgium provided a logistical support and a set up for the Expert Meeting, such as the meeting venue, event identity, badges, reception for the event breaks, event website unoosaem.lu, where the speakers and attendees could access to the latest version of the updated programme and livestream, as well as all the support requested by the Secretariat.
6. Due to unavailability of the UN Webcast services, the Expert Meeting was streamed through the dedicated event website unoosaem.lu.
7. Nominations of the speakers and participants were organized following usual procedures and practices of the United Nations. The programme and overall content of the Expert Meeting was skilfully designed and managed by the Secretariat, the Chair and Vice-Chair of the working group.
8. The organizers of the Space Resources Week extended their sincere invitation to all delegations and participants of the Expert Meeting to attend the Space Resources Week. While recognising that the Expert Meeting and the Space Resources Week are



two separate events, the co-hosts of the Expert Meeting wished to create an opportunity for an informal exchange between the participants of both events. This informal exchange was created through synchronised breaks, lunch and the invitation to the evening reception.

III. Speakers and Participants

9. The Expert Meeting was opened by the following co-hosts representatives and the Vice-Chair of the working group as well as the keynote speaker Ms. Aarti Holla-Maini, Director of the United Nations Office for Outer Space Affairs (UNOOSA).

Mr. Jean Olinger, General Secretary, Ministry of Foreign and European Affairs, Defence, Development Cooperation and Foreign Trade, Luxembourg.

Mr. Thomas Dermine, Secretary of State for Economic Recovery and Strategic Investments, in charge of Science Policy, Belgium.

Mr. Steven Freeland, Vice-Chair of the working group on Legal Aspects of Space Resource Activities of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space.

10. The following esteemed speakers were nominated to the Expert Meeting to speak on the topics agreed by the working group:

(1) The scope of future space resource activities

- o Ernest Tan, Senior Project Engineer, Canadian Space Agency, (Canada)
- o Liu Jizhong, Chief Designer of Tianwen-3 Mission, Lunar Exploration and Space, Engineering Center, China National Space Administration, (China)
- o Alexis Paillet, Project manager - Chief of Moon & Mars Station, CNES, (France)
- o Philipp Reiss, Professor of Lunar and Planetary Exploration, Technical University of Munich, (Germany)
- o Bernhard Hufenbach, Commercialisation and Innovation Team Leader, European Space Agency, (Luxembourg)
- o Arvid Bertheau Johannessen, Lead, Human Spaceflight and Exploration, Norwegian Space Agency, (Norway)
- o Kevin Cannon, Assistant Professor, Colorado School of Mines, (United States)
- o Kota Tanabe, Director, Space Exploration System Technology Unit, JAXA Space Exploration Center, (Japan)
- o Marilena Amoroso, Head of the Infrastructure Office of the Robotic Exploration Unit, Italian Space Agency, (Italy)
- o Ayman Mahmoud Mohamed Ahmed, General Manager of the Space Imaging Department, Egyptian Space Agency, (Egypt)

(2) Environmental and socioeconomic aspects of space resource activities

- o Jean Robert Batana Pires Ferreira, General Coordinator of Strategic Technologies, Ministry of Science, Technology and Innovation, (Brazil)
- o Du Hui, Research Fellow, China Academy of Space Technology, (China)
- o Mardianis, (Indonesia)
- o Kathryn Hadler, Director of the European Space Resources Innovation Centre, (Luxembourg)
- o Vlada Stamenković, Senior Director Space Resources Program, Blue Origin, (United States of America)

- o Philip de Man, Research Manager Leuven Centre for Global Governance Studies, (Belgium)
- o Laércio Massaru Namikawa, Senior Technologist, National Institute for Space Research, (Brazil)
- o Thao Nguyen, Director of Mission Engineering, Off-Planet Systems, ICON Technology Inc., (United States of America)
- o Simone Pirrotta, Head of Robotic Exploration Office - Programs Directorate, Italian Space Agency, (Italy)
- o Jesús Roberto Romero Ruíz, Deputy Director of Space Security, Mexican Space Agency, (Mexico)

(3) International cooperation in scientific research and technological development of space resource activities

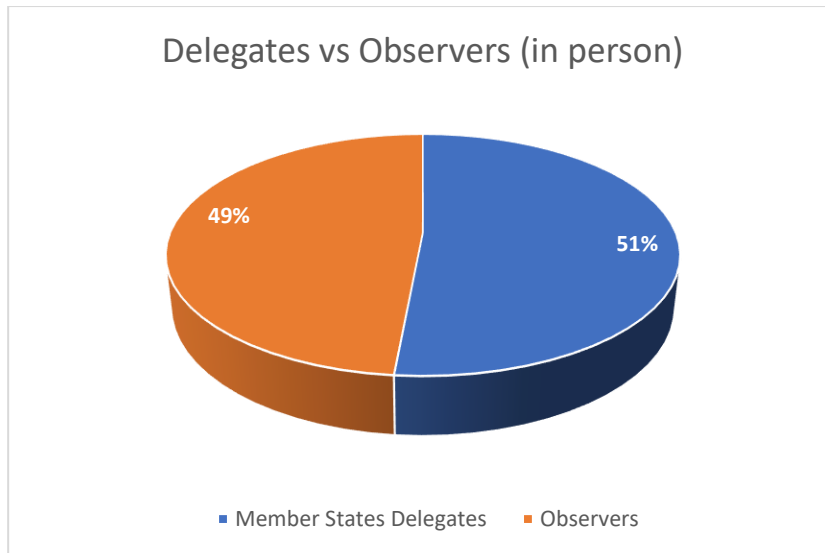
- o Carolina Eugenia Catan, Responsible on space law affairs, The National Space Agency of Argentina, (Argentina)
- o Christian David Mullo Aimacaña, (Ecuador)
- o Petra Rettberg, Head of the research group 'Astrobiology', German Aerospace Center, (Germany)
- o Setsuko Aoki, Professor of Law, Keio University, (Japan)
- o Jeremiasz Merkel, Specialist, Research and Innovation, Polish Space Agency, (Poland)
- o Thales Sehn Körting, (Brazil)
- o Guo Linli, (China)
- o Julien-Alexandre Lamamy, Director of ispace Europe SA and Member of Euro2Moon, (Luxembourg)
- o Kesniel Humberto Bravo Carpio, (Mexico)
- o Wilawan Pipatjirattikal, (Thailand)

11. Approximately 100 participants registered to attend the Expert Meeting in person according to the information provided by the Secretariat.

The table represents the number of registered participants for in person attendance by country and organization:

	Delegates	Observers	Total
Australia	0	3	3
Austria	0	1	1
Belgium	5	0	5
Brazil	3	0	3
Canada	2	0	2
China	2	6	8
France	0	2	2
Germany	4	0	4
India	1	0	1
International organizations	1	0	1
Italy	2	0	2
Japan	10	0	10
South Korea	2	0	2
Luxembourg	8	13	21
Netherlands (Kingdom of the)	0	1	1

NGO	0	3	3
Norway	1	0	1
Poland	2	1	3
Thailand	1	0	1
United Kingdom	1	4	5
Ukraine	0	1	1
Unknown	0	6	6
United Arab Emirates	0	1	1
United Nations	0	3	3
United States of America	7	4	11
TOTAL	52	49	101



The table represents a rough analysis of in person participants by affiliation:

Space Agencies	36
National Governments	25
Universities	17
Industry	12
NGOs	5
United Nations	3
Unaffiliated	3
TOTAL	101

12. The co-hosts estimate that the Expert Meeting was attended by approximately 50 participants online through the Webex platform based on the information provided by the Secretariat.

The table represents online participation by country:

Argentina	2
Australia	1
Austria	2
Bahrain	1
Brazil	2
China	3
Czechia	2
France	2

Germany	1
Greece	1
India	1
International organizations	5
Japan	2
Malaysia	2
Mexico	2
NGO	2
Pakistan	1
Paraguay	1
Poland	1
Russian Federation	1
Slovakia	1
Spain	1
Switzerland	1
Thailand	1
Türkiye	1
United Kingdom	2
United Nations	1
Unknown	2
Uruguay	1
TOTAL	46

13. The Expert Meeting was also watched by the public through the live streaming link available on a dedicated event page. The event was followed through the live streaming means by approximately 70 persons.

IV. Conclusion

14. The variety and number of participants registered to attend the Expert Meeting in person and online show the interest in the space resource activities and the future international framework from governments, academia, private industry and, to a lesser extent, the civil society. The co-hosts are of the view that the Expert Meeting contributed to the awareness-raising about the work of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) as well as the Working Group on Legal Aspects of Space Resource Activities within a larger community and it allowed for an open, dynamic, and inclusive exchange between the speakers and participants.

15. The co-hosts believe that it might be beneficial to consider, on an exceptional basis, the organisation of a follow up event of a similar nature under the auspices of the working group allowing for a more diverse participation and representation of states.

16. As a general note, Luxembourg and Belgium are of the view that organizing similar events and doing some preparatory work for substantial discussion of the COPUOS topics might allow for a better inclusion and a more diverse participation and contributions from a wider circle of stakeholders, including governmental and non-governmental actors.