1 Identification

1.1 Session ID 200411

1.2 Session Title The principle of Space as a Commons to govern activities on the Moon and the use of lunar resources

1.3 Session Date and Time September 20, 2024 9-11 am EDT

1.4 Convenor name Vidvuds Beldavs

2 Speakers and Panelists

2.1 Moderator

2.1.1 Name: Marlène M. Losier, PhD, JD

2.1.2 Organisation name: Losier González, PLLC and co-founder of ACES Worldwide

2.1.3 Type of organisation: Law firm specializing in international law.

2.1.4 Title of the presentation: Moderator

2.1.5 Dr Losier guided the session with professional finesse at a pace that enabled all speakers to make their points and left time for interactive discussion. She and raised penetrating questions that gave the speakers ample opportunity to address issues raised by their presentations as well challenged the panel to deliver lively commentary on the question of governance of activities on the Moon.

2.2 Speaker 1 and convenor

2.2.1 Name: Vidvuds Zigismunds Beldavs

2.2.2 Organisation name: Co-founder International Lunar Decade Working Group, co-founder Riga Photonics Centre, board member – ACES Worldwide.

2.2.3 Type of organisation: Riga Photonics Centre is a not-for-profit research institution

2.2.4 Title of the presentation: The Moon Summit 2028: Towards breakout to space settlement

2.2.5 Summary of the presentation: Space technologies including artificial intelligence have progressed to where now space settlement is plausible with breakout possible in the coming decade. A key barrier is the absence of an agreed to legal framework for governance of activities on the Moon and the extraction and use of lunar resources despite the Moon Treaty coming into force in 1984. The extraordinary decision of the US Trump administration's Executive Order of April 6, 2020 to authorize use of diplomatic pressure to oppose the Moon Treaty from becoming customary law and the refusal of China, Russia and other countries to refuse to sign the Artemis Accords offered by the US as principles to govern activities on the Moon creates a divide between space power blocs that hinders the international cooperation needed to for breakout to space settlement and prospects for sustainable development for humankind for centuries to come. The Moon Summit convened by the Secretary General of the UN is proposed in 2028 as a high level forum involving world leaders to resolve the conundrum of lack of agreement on governance of lunar resources and to mobilize global cooperation to enable breakout to space settlement.

2.3 Speaker 2

2.3.1 Name: Andrew Lee

2.3.2 Organisation name: Associate Attorney, Greenberg Traurig, LLP

2.3.3 Type of Organization: Law firm specializing in international aerospace law

2.3.4 Title of Presentation: Domain Specificity and State Interests in International Space Law

2.3.5 Summary of the Presentation: Treaties can be seen as contracts between states that can be amended by custom and by state practice, but they are not a source of space law per se. There is no space court because at present there are few state interests involving activities on the Moon. Low Earth orbit represents a domain of high state interest where customary law has emerged to govern matters relating to specific domains such as orbital and frequency allocation, debris removal, and so forth. The Moon Treaty can be considered as "communist" in that Article 11. Par. 3 proscribes property ownership: "Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international, intergovernmental, or non-governmental organization, national organization or non-governmental entity or of any natural person. Lee saw that future interests on the Moon would be governed by whoever gets there first for permanent settlement that will have compelling, real, and present interest to ensure safe operations, safety of astronauts, use resources in situ, etc. OST Art. II "national appropriation" can and likely will be interpreted, by state practice, maximally narrowly to only mean territorial sovereignty. The Artemis Accords Section 11 "safety zones" are akin to EEZ and thus a form of multilateralism.

2.4 Speaker 4

2.4.1 Name: Dennis O'Brien, Founder and President of the Space Treaty Project, member – Moon Village Association

2.4.2 Organization name: Space Treaty Project

2.4.3 Type of Organization: NGO

2.4.4 Title of Presentation: How the Outer Space Treaty Can Help Protect the Commons of Outer Space

2.4.5 Summary of the Presentation: The Outer Space Treaty (OST) is the constitution of outer space law. Its provisions can serve as the legal framework for governance of activities on the Moon and for the extraction and use of lunar resources. O'Brien draws on the economics of common pool resources of Nobel laureate Elinor Ostrom advancing the idea that national appropriation of lunar resources which is not permitted by Article II of OST is a form of exclusion. Exclusion zones on the Moon then can be seen as a form of appropriation. Discussed were exceptions to the ban on appropriation: Article VIII states that articles landed on or constructed on a cosmic body remain under the jurisdiction of the launching state; Article XII extends the jurisdiction of the state to include stations, installations, and facilities, e.g., mines and solar farms; sites on the Moon protected for public policy reasons are covered by Article I "There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation." Article IX protects sites that are not exclusion zones: "In the exploration and use of outer space . . . States Parties . . . shall conduct all their activities in outer space, including the moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty." A consultation process is called for to resolve matters between parties. Article IX is also intended to protect the future interests of parties that arrive later – weakening the claims of those that come first.

2.5 Speaker 5

2.5.1 Name: Dr. George D. Kyriakopoulos

2.5.2 Organisation name: Vice-Dean of the Law School, Associate Professor of International Law, National and Kapodistrian University of Athens, Greece

2.5.3 Type of Organization: University

2.5.4 Title of Presentation: "Multilateralism vs Unilateralism in outer space: thoughts on the occasion of the Summit of the Future"

2.5.5 Summary of Presentation: Multilateralism, where states cooperate giving due regard to each other's interests is contrasted with unilateralism where states act with regard to their own interests. Multilateralism in space may include ad hoc treaties like the Moon Treaty, or a comprehensive international space convention or establishment of an international intergovernmental organization like (ICAO, IMO or ITU). Space law legal principles are governed by the principle of abstention that prevents parties from gaining advantage over others. Multilateralism with an emphasis on international cooperation. There is growing unilateralism by some states exemplified by the Donald Trump Executive Order of 2020 that stated that outer space is not a global commons. There is a revival of cold-war rivalry with the Artemis Accords on the one hand with the US and its allies with 43 signatories and the China-Russia led International Lunar Research Station with 12 participating states. A key factor for most space activities: orbital traffic management, space situational awareness, space debris removal, planetary defense. If multilateralism is desirable in international relations, it is a necessity in outer space.

2.6 Speaker 6

2.6.1 Name: Dr. Ian Crawford

2.6.2 Organisation name: Birkbeck, University of London,

2.6.3 Type of Organization: University

2.6.4 Title of Presentation: "Preserving Sites of Special Scientific Interest on the Moon"

2.6.5 Summary of Presentation. Three categories of sites: 1) Permanently shadowed regions (PSRs); 2) Lunar far side – best location in Solar System for radio astronomy; 3) Unique geological sites (e.g., lava tubes). Some thoughts for a way forward: a) Stronger international agreements; e.g., Article 7(3) of the Moon Agreement; b) UNCOPUOS Action Team on Lunar Activities Consultation (ATLAC); c) Proposed 'Moon Summit'. Advocated for the guiding principle articulated by William Hartmann: "Space exploration must be carried out in a way so as to reduce, not aggravate, tensions in human society. Each decision, each policy, must be tested against this principle." This principle is treated more expansively in Dr. Crawford's book chapter "Brightening the Skies: Institutional Solutions to the Societal and Geopolitical Risks of Space

Expansionism*

2.7 Speaker 7

2.7.1 Name: Sibsankar Palit

2.7.2 Organization name: Life to and Beyond Foundation founder, ACES Worldwide Board member

2.7.3 Type of Organization: NGO

2.7.4: Title of Presentation: "Emerging Lunar Stakeholders – Perspective of the Global South on Lunar Resource Governance"

2.7.5: Summary of Presentation: The presentation explored the emergence of the Outer Space Treaty and the Moon Treaty as a framework for governance of activities on the Moon. Reference was made to the reemergence of a Cold-War alignment with advanced spacefaring states such as the US playing a dominant role with no successful lunar landings from the Global South. The declaration that the US does not view space as a global commons reasserts the dominant role of the US with the exception of China (10 missions) and India (2). Recommend inclusive policies that assure future access for countries from the Global South that presently lack the technology and economic resources for operations on the Moon.

2.7 Session Abstract (max. 500 words)

To advance the discussion on establishing a unified governance framework for activities on the Moon and the utilization of lunar resources, with an emphasis on inclusivity and sustainability, leading into the 2028 Moon Summit. Subsequent to agreement on the issues to be discussed by this panel we learned that UNGA had approved the Pact for the Future which included a recommendation for the UN to organize UNISPACE IV in 2027 to fully address the achievements and future prospects for outer space development and the role of the UN and its institutions and partners in that process. In principle this should include issues proposed for the Moon Summit in 2028. However, the UN may choose to focus UNISPACE IV on space capabilities serving to address sustainable development needs of people on Earth. To enable breakout to space settlement agreement is needed at the highest level on the framework for governance of activities on the Moon and in cislunar space particularly the governance of the extraction and use of space resources. Breakout to space settlement is not recognized as a priority by the international community.

Key Issues for Panel Discussion

1. **Comprehensive Legal Framework**: Evaluation of current frameworks like the Moon Treaty and identifying needs for revision or new frameworks.
2. **Technological and Economic Equity**: Discussion on ensuring that technological advancements in space benefit all countries, particularly those from the Global South.
3. **Preservation vs. Utilization**: Balancing the need to protect scientific and cultural sites on the Moon with the potential economic benefits of resource extraction.
4. **Multilateral Cooperation**: Emphasizing the need for cooperative rather than competitive approaches to lunar exploration.

5. **Representation and Participation**: Ensuring that the perspectives and needs of developing countries are adequately represented and addressed in any new agreements.

2.8 Project Objectives

List the key objectives your session or project aimed to achieve.

2.8.1 Objective 1: High level agreement on the framework for activities on the Moon including extraction and use of lunar resources

2.8.2 Objective 2: Organization of a forum, a grand conference, involving world leaders and relevant experts to address the question of the legal framework for activities on the Moon and the extraction and use of lunar resources.

2.8.3 Objective 3: Creation of global funds and mechanisms to enable the countries of the Global South to participate as fully as possible in activities on the Moon particularly in the extraction and use of lunar resources. The Global South is characterized by growing populations of increasingly capable young people that can give impetus to space settlement.

2.9 Key Themes

Main themes and topics that were covered during the session. The same ones you selected when you submitted your original session proposal. Select from the following. Maximum three

- Space: Enable sustainable development into long term future through human expansion into space.
- Policy: Foster inclusion and role for developing countries that presently may not have the scientific and technological capabilities for activities on the Moon and in cislunar space.

Planned Impacts of the science and innovation presented in you session

2.10 Contribution to the SDGs

The SDGs provide a comprehensive framework for addressing the world's most pressing challenges and promoting sustainable development globally. Select the Goal/s that your project contributes to (max 3 SDGs)

1. **No Poverty**: End poverty in all its forms everywhere.

2. **Zero Hunger**: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

3. **Good Health and Well-Being**: Ensure healthy lives and promote well-being for all at all ages.

4. **Quality Education**: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

5. **Gender Equality**: Achieve gender equality and empower all women and girls.

6. **Clean Water and Sanitation**: Ensure availability and sustainable management of water and sanitation for all.

7. **Affordable and Clean Energy**: Ensure access to affordable, reliable, sustainable, and modern energy for all.

8. **Decent Work and Economic Growth**: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

9. **Industry, Innovation, and Infrastructure**: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

10. **Reduced Inequality**: Reduce inequality within and among countries.

11. **Sustainable Cities and Communities**: Make cities and human settlements inclusive, safe, resilient, and sustainable.

12. **Responsible Consumption and Production**: Ensure sustainable consumption and production patterns.

13**. Climate Action**: Take urgent action to combat climate change and its impacts.

14. **Life Below Water**: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

15. **Life on Land**: Protect, restore, and promote sustainable use of terrestrial ecosystems, manage forests sustainably, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

16. **Peace, Justice, and Strong Institutions**: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.

17. **Partnerships for the Goals**: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The Three Goal areas for our session are:

9. Industry, Innovation, and Infrastructure:

16. **Peace, Justice, and Strong Institutions; and**

17. **Partnerships for the Goals**

3 Contribution to the UN Summit of the Future

3.1 Main challenges

The Moon Treaty was approved by UNGA in December 1979 and came into force in 1984 yet now in 2024 there is no agreement on an international framework to govern activities on the Moon and even the forum to negotiate such a framework has not been agreed to by the international community. Now with numerous missions planned by an increasing number of states and private actors it is urgent to resolve this matter recognizing that the Moon and cislunar space are a global commons.

3.2 Additional goals

Build new global partnerships that engage both the current spacefaring states and developing countries presently without the capacity to reach and operate on the Moon and without the resources to build and maintain infrastructure in Earth orbits or cislunar space or on the Moon to advance the interests of their people.

3.3 Integration: economic, social and environmental

The steps being taken to integrate the three dimensions of sustainable development (economic, social, and environmental) and share best practices where available and how activities are being designed and implemented to reflect such integration.

We, as ACES Worldwide, are seeking through our efforts and our alliance partners to advance greater international cooperation and the inclusion of all countries and all peoples in efforts to realize a sustainable future for humankind on Earth and beyond Earth to the limits of human capabilities..

3.4 Impact on the 2030 Agenda

A success metric for your project is primarily in how it delivers for all persons in our societies. Describe how other principles of the 2030 Agenda, for example, respect for all human rights, gender equality, the principle of Leaving No One Behind, non-discrimination, etc, have been mainstreamed in your science project.

In addition to the UN 17 SDGs for 2030 there is also the Space 2030 Agenda to be achieved. Our organization, the Alliance for Collaboration in the Exploration of Space (ACES Worldwide) is dedicated to its program to open the opportunities from use of space technologies and infrastructure as well as from expansion of humankind into outer space to benefit all people. We are seeking to engage the UN Office of Outer Space Affairs in the organization of the Moon Summit in 2028 to lead to agreement of a framework for governance of activities on the Moon and in cislunar space including the extraction and use of lunar resources. Our activities are relevant to all 17 Sustainable Development Goals.

While fully support the ultimate goals of the SDG18 movement we do not support current advocacy of the creation of an 18th Sustainable Development Goal for space. The 2024 Summit on the Future is itself a part of a larger process to set the UN development agenda for the post 2030 future. Insofar as there has been insufficient progress on many SDGs attention needs to be focussed on meeting those critically important goals rather than on advocating for an expansive goal in outer space that may be poorly understood by the people not involved in outer space development. The Space2030 Agenda with space compacts that include measurable goals agreed to by UNOOSA and the parties making the compact with the UN is sufficient at this time. UNISPACE IV planned in 2027 and the Moon Summit that we propose for 2028 can fully address the role of space in the UN development agenda at this time.

4 Forward-looking Statement

4.1 Financial aspects

A high level summit involving world leaders is likely to require $5 million or more financial and political support from major states and international organizations. A $1 million startup fund could assure sufficient resources to build the support to organze the Moon Summit.

4.2 To further advance your science project, you will need:

Please select an option and develop it further (50 words). Multiple selection is possible.

- **Access to Funding** $1 million in startup funding.
- **Skilled Personnel** Our organization, our global advisory committee, and our alliance members have a high level of skills in the areas we are addressing.
- **Open Access to Data:** We support fully open and free "dashboard displays" that allow all citizens of the world, and scientists and public officials to be aware of cosmic threats and protective systems that are available.
- **Access to Resources (**laboratory facilities, research tools, and technology). We believe the space agencies of the world need to create joint planetary protection programs in all of the prime threat areas addressed in our programs as outlined above.
- **Establish Partnerships and Collaborations**: This is the prime way in which we can make progress. We have a growing number of alliances, but we would like to achieve a more systematic way to link up with other organizations and to report to the UN OOSA and to the UN COPUOS.
- **Dissemination and Communication activities:** We are using social media and reporting of progress to a growing number of organizations. We are working closely with the "Geeks without Borders", the N50 Coalition, and over a dozen of organizations to address new safety standards, global funds to protect vital urban infrastructure, electrical power lines, satellite facilities and more, and would appreciate collaboration on how to communicate our activities more widely on a global scale.
- **Enhance the Regulatory Environment** that supports need research initiatives as presented in our session..
- **Access to Market**
- **Advanced Technology**

5 Conclusions (max. 300 words)

Space science, technology, and infrastructure are critical to planetary sustainability and enabling factors for human expansion into outer space for long term sustainable development to 2100 and beyond. Human operations on the Moon and in cislunar space may become economically feasible in the coming decade with huge implications for sustainable activities on Earth. It is vitally important that international agreement is reached on the framework to govern activities on the Moon. The approach inherent in the Trump administration's Executive Order of April 6, 2020 to authorize diplomatic pressure to oppose the Moon Treaty cannot lead to international agreement of

all states on this vitally important matter. A grand conference, a Moon Summit involving world leaders can lead to agreement on governing of activities on the Moon and the extraction and use of lunar resources.