



Promoting Cooperative Solutions for Space Sustainability

# Space Resources: International Legal Frameworks

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*Policy Building Blocks for Space Resources Development*

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Terrestrial Mining Sciences Symposium      Golden, CO      June 12, 2018



Promoting Cooperative Solutions for Space Sustainability

# Secure World Foundation

Secure World Foundation is a **private operating foundation** that promotes cooperative solutions for space sustainability

- Why **space sustainability**? Increasing reliance on space assets coupled with potentially destabilizing trends
- **Our mission:** To work with governments, industry, international organizations, and civil society to develop and promote ideas and actions to achieve the secure, sustainable, and peaceful uses of outer space benefiting Earth and all its peoples

- Overarching legal context: the Outer Space Treaty (1967) – but a gap in the law relative to space resources
  - What is the meaning of “appropriation?” Of “use?”
  - How are benefits realized and shared?
  - What does “due regard for the interests of all states” mean?
- Emerging consensus that space resources utilization is not prohibited
- Domestic laws in place in US and Luxembourg.
  - Other countries (Japan, UAE?)
  - Are these laws sufficient and complete?
- What balance between domestic law and international law?
- UN Committee on Peaceful Uses of Outer Space (COPUOS) Legal Subcommittee likely to consider establishing a formal working group on the topic during it’s 2019 session.

## Outer Space Treaty of 1967

(105 State Parties)

- ARTICLE I: “Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States...”
- ARTICLE II: “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”
- ARTICLE VI: “The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.”

**International law provides a framework under which all space activities are conducted but does not address space resources with any specificity**

# Policy Discussions – National Level



ECONOMY NATIONAL SECURITY BUDGET IMMIGRATION THE OPIOID CRISIS

PRESIDENTIAL MEMORANDA

## Space Policy Directive-2, Streamlining Regulations on Commercial Use of Space

## Luxembourg and the United Arab Emirates to Cooperate on Space Activities with Particular Focus on the Exploration and Utilization of Space Resources



THE GOVERNMENT  
OF THE GRAND DUCHY OF LUXEMBOURG  
Ministry of the Economy

### Luxembourg to Launch a Fund Offering Financial Support for the Space Resources Industry

Luxembourg, April 13, 2017 – To promote Luxembourg as a European hub for the exploration and commercial use of space resources, the Ministry of the Economy conducted from April 9<sup>th</sup> to April 13<sup>th</sup> an economic mission headed by Luxembourg's Crown Prince to the U.S. West Coast. The mission aimed to identify and develop new business opportunities and to promote the governmental SpaceResources.lu initiative that offers an attractive overall framework for space resource utilization related activities, including but not limited

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## Japan Joins Race for Space Resources

Resources extracted from the moon could be used as fuel, allowing space missions to cut launch costs

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## Luxembourg adopts space resources law

by Jeff Foust — July 17, 2017

**The need for regulation – to provide industry certainty and implement international obligations.**  
**The role of policy – to provide a context for development.**

# Law and Policy – Coordination?



- The Hague International Space Resources Governance Working Group aims to build consensus on regulatory “concepts needed to enable, support and co-ordinate the use of space resources and be acceptable for space-faring nations and other interested states”
- Industry, government, and civil society participation from across the globe
- Based on the principle of **adaptive governance**

**Coordination of principles at national and international level will help States establish the conditions under which socio-economic benefit might result from space resources development**

## Terms of Reference - Objectives

- Assess the need for a framework for space resource activities
- In case of need, to lay the groundwork for the definition of such a framework based on the UN Space Treaties
- The groundwork required will include the identification and formulation of building blocks for the governance of space resources with possible implementation of a relevant forum for the negotiations
- Following its conclusions the Working Group would like to encourage States to start negotiating a framework

# Platform

The WG is hosted by a Consortium of organizations located in all continents:



International Institute of Air and Space  
Law (Leiden University, The  
Netherlands)



Secure World Foundation (USA)

**NISHIMURA  
& ASAHI**

Nishimura Institute for Advanced  
Legal Studies (Japan)



University of Luxembourg  
(Luxembourg)



University of Cape Town (South Africa)



Catholic University of Santos (Brazil)



Centre for Resources, Energy  
and Environmental Law  
(University of Melbourne,  
Australia)



Indonesian Centre for Air and Space Law  
(Padjajaran University, Indonesia)

Ten to the Ninth Plus  
Foundation (USA)



## **Members**

- Important stakeholders from government, industry, academia, research centres, space agencies, international organisations, and civil society.

## **Observers**

- Professionals & academics directly involved in space resources issues

## **Technical Panel**

- Purpose: identify technical challenges related to the use of space resources; advise the WG about current developments; assess the feasibility of the implementation of the building blocks

## **SocioEconomic Panel**

- In the process of being established; to be similar in function to the technical panel

# Draft Building Blocks for the Development of an International Framework on Space Resource Activities

*As released in September 2017*

1. Objective
2. Definition of key terms
3. Scope
4. Principles
5. International responsibility for space resource activities and jurisdiction over space products
6. Access to space resources



## Draft Building Blocks (cont'd)

7. Utilization of space resources
8. Due regard for interests of all countries and humankind
9. Avoidance of harmful impacts resulting from space resource activities
10. Technical standards for prior review of, and safety zones around space resource activities
11. Monitoring and redressing harmful impacts resulting from space resource activities
12. Sharing of benefits arising out of the utilization of space resources

## Draft Building Blocks (cont'd)

13.Registration and sharing of information

14.Provision of assistance in case of distress

15.Liability in case of damage resulting from space resource activities

16.Visits relating to space resource activities

17.Institutional arrangements

18.Settlement of disputes

19.Monitoring and review

## Invitation to submit comments on the Draft Building Blocks

The preliminary result of the work of The Hague Space Resources Governance Working Group can be found at: <https://www.universiteitleiden.nl/en/law/institute-of-public-law/institute-for-air-space-law/the-hague-space-resources-governance-working-group>

The Working Group invites any interested organisation or individual to submit comments and remarks on the text of the Building Blocks by **15 October 2018** to [spaceresources@law.leidenuniv.nl](mailto:spaceresources@law.leidenuniv.nl) or via this [questionnaire](#).