



THE HAGUE  
**INTERNATIONAL  
 SPACERESOURCES**  
 GOVERNANCE WORKING GROUP

Governance of space mining activities  
 and The Hague Working Group

Tanja Masson-Zwaan, Leiden University

University of Tokyo, Japan, 4 March 2018

# Mining space resources

- Freedom of Use? Exploitation?
- ‘Gold rush’ for asteroids, moon resources
- Can bring benefits for mankind, and/or lead to conflict, destabilize
- In absence of clear international hard law, states start to adopt national legislation
- It would be desirable to reach international agreement on governance of space resources

# Current international legal regime

- Outer Space Treaty 1967 – 105 parties
- (Moon Agreement 1979) – 17 parties (excl. US/LUX!)
- Relevant points regarding space resources
  - Moon/celestial bodies:
    - Non-appropriation (no sovereignty)
  - Space resources:
    - Status extracted resources unclear; Freedom of use?
  - Private commercial activities:
    - Authorization/supervision by state!

# Outer Space Treaty

- Art. I: freedom of use & exploration, province of mankind
- Art. II: non-appropriation
- Art. III: in accordance with international law
- Art. IV: peaceful purposes, military use
- Art. VI: authorization / continuous supervision (!)
- Art IX: due regard, no harmful interference, harmful contamination
- Art. XII: stations open on basis of reciprocity, safety precautions

# Moon Agreement (MA)

- Only treaty to address commercial use!
- Right to collect & remove samples, use for support missions in appropriate quantities (art. 6)
  - Make a portion available to scientific community
- Right to establish stations (art. 9)
  - Use only area that is required, not impede free access
- Obligation to safeguard/protect life & health of persons on moon; offer shelter (art. 10)
- **Problem:** Art. 11(5): Moon & resources are CHM; finds expression in MA / esp. para. 5:
  - International regime & procedures to be set up ‘as exploitation is about to become feasible’

# Purposes of regime, meaning of CHM

- Art. 11(7)
  - Orderly / safe development of resources
  - Rational management of resources
  - Expand opportunities in use of resources
  - Equitable sharing in benefits derived from resources, with special consideration for
    - Interests/needs of developing countries
    - Efforts of states that contributed (in-)directly
  - = International management of use of resources

# Ownership of resources



Ownership of celestial bodies =  
appropriation (OST/MA)



Ownership of resources in situ (MA)



Ownership of extracted resources

- MA: Not allowed as long as there is no int'l regime



Ownership of extracted resources

- OST: Not explicitly prohibited; freedom of use?

# Steps to solve legal uncertainty

- New agenda item COPUOS LSC 2017, repeated in 2018
- Adoption of national laws (US, LUX, UAE?)
- Examples of NGO activities
  - An IISL Position Paper was issued in 2015
  - An International Working Group was created in 2015, supported by The Netherlands (The Hague WG)



# IISL Position Paper 2015



- <http://www.iislweb.org/docs/SpaceResourceMining.pdf>
- Specifically focused on the new US law
  - It is **uncontested** under international law that any appropriation of “territory” even in outer space (e.g. orbital slots) or on celestial bodies is prohibited by Art. II OST
  - It is **less clear** whether it also prohibits the taking of resources, i.e. whether “free use” includes the right to take and consume non-renewable natural resources, including minerals and water on celestial bodies
  - Moon Agreement requires setting up a regime, but is not binding on US

# IISL Position Paper - cont'd



- In view of the absence of a clear prohibition of the taking of resources in OST, one can conclude that the **use of space resources is permitted**
- The **US law is a possible interpretation of the OST**; whether and to what extent this interpretation is shared by other States remains to be seen
- It can be a **starting point** for development of international rules to coordinate the free exploration and use of outer space, including resource extraction, for the benefit and in the interests of all countries

# Hague WG: 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)



# Management

- Secretariat (Executive Secretary and Assistant Secretary) embedded in the International Institute of Air and Space Law, Leiden
- Chair, Vice Chairs, Members, Observers

# Members

- Important stakeholders from government, industry, academia, research centres, space agencies, international organisations, and civil society.
- Form the operative body of the group
- Number is limited to 35
- The confirmed members are 28 with the following nationalities: Brazil, Australia, Indonesia, South Africa, The Netherlands, Japan, Italy, Nigeria, UK, USA, India, France, Mexico, China, Luxembourg, Ireland

# Observers

- Professionals & academics directly involved in space resources issues
- Numbers not limited, confirmed observers are 42
- The following other nationalities are present: Germany, Canada, Russia, Austria, Belgium, Serbia, Poland

# Technical Panel

- Industrial stakeholders, universities, space agencies
- 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

# Deliverables

- Identification and formulation of building blocks for the governance of space resources activities as a basis for negotiations on an international framework
- Recommendations on the implementation strategy and forum for negotiations

# Schedule

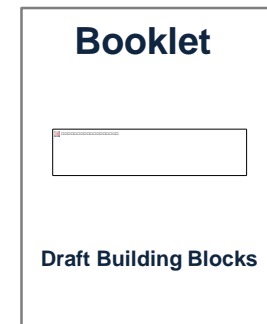
- The Working Group started its activities in October 2015 and completed its first phase at the end 2017
- The Working Group continues during the second phase in 2018-2019
- First face-to-face Meeting: 18-19 April 2016, Leiden
- Second face-to-face Meeting: 7-8 November 2016, Leiden
- Third face-to-face Meeting: 10-12 April 2017, Leiden
- Fourth face-to-face Meeting: 11-13 September 2017, Leiden





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

(status at 13 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

# Discussions about Draft Building Blocks

- It is important to obtain broad feedback about the draft Building Blocks from various parties around the world
- Events can be held, focusing on certain subsets of Building Blocks, and/or providing specific regional viewpoints
- This can be done in the form of workshops, student sessions etc.
- Appointing a rapporteur is advised, so that feedback can be sent to the Working group
- The next panel is a good opportunity!

# Questions for discussion

- Is an international governance framework for the use of space resources needed, what should be its objective and scope?
  - Applicable to all celestial bodies, incl. solar energy, frequencies/orbit spectrum? For use of resources in space or also if brought back to earth?
- How to realise 'sharing of benefits', relevance of capacity building?
  - What does equitable sharing mean? Are technology transfer or job outsourcing acceptable methods?
- How can the interests of pioneer investors be protected?
  - Can exclusive rights /safety zones be envisaged? Art. I OST? Will industry prefer governance under national law or international regime?

# 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:

<http://law.leiden.edu/organisation/publiclaw/iiasl/working-group/the-hague-space-resources-governance-working-group.html>.

The Working Group invites any interested organisation or individual to submit comments and remarks on the text of the Building Blocks by 1 July 2018 to [spaceresources@law.leidenuniv.nl](mailto:spaceresources@law.leidenuniv.nl)



# Outreach

The Working Group operates in a transparent and inclusive way

Public events to explain the status of its activities and its findings:

- Symposium on Legal Aspects of Space Resource Utilisation, April 2016
- Progress reports, IAC 2016 and IAC 2017
- IISL/ECSL Symposium, March 2017
- Statements at COPUOS, e.g. A/AC.105/C.2/2016/CRP.17
- 10th IAA Symposium on the Future of Space Exploration, June 2017
- Press conference - NewSpace Europe, November 2017
- Events organised by consortium partners

# Contact details

Website: <http://law.leiden.edu/organisation/publiclaw/iasl/working-group/the-hague-space-resources-governance-working-group.html>



Email: [spaceresources@law.leidenuniv.nl](mailto:spaceresources@law.leidenuniv.nl)





NISHIMURA  
& ASAHI



# Questions?

