



Promoting Cooperative Solutions for Space Sustainability

CIVIL SOCIETY PARTICIPATION IN SPACE EXPLORATION POLICY: AN NGO'S EXPERIENCE WITH THE HAGUE INTERNATIONAL SPACE RESOURCES GOVERNANCE WORKING GROUP

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United Nations / Jordan Workshop: Global Partnership in Space Exploration
and Innovation

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Secure World Foundation – Who We Are

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



The Foundation acts as a research body, convener and facilitator to examine key space policy topics often through partnership.

United Nations / Jordan Workshop: Global Partnership in Space
Exploration and Innovation
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“Non-traditional” Space Applications

Rapid expansion in the number & types of commercial space applications is challenging existing policy context for space activities



Image Source: NASA

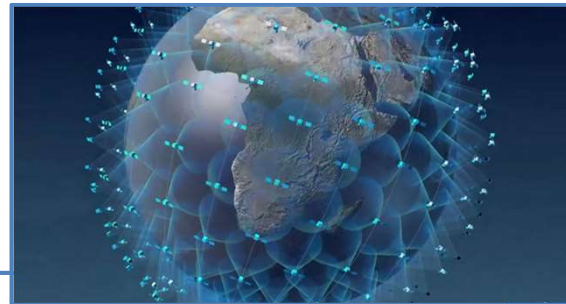


Image Source: Planetary Resources



Image Source: UNOOSA / Sierra Nevada Corp

Governmental policy and regulation must be developed to support these activities, in manner that is consistent with international obligations, and that provides for benefit.



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An Example – Track 1.5 Process



THE HAGUE
SPACERESOURCES
GOVERNANCE WORKING GROUP

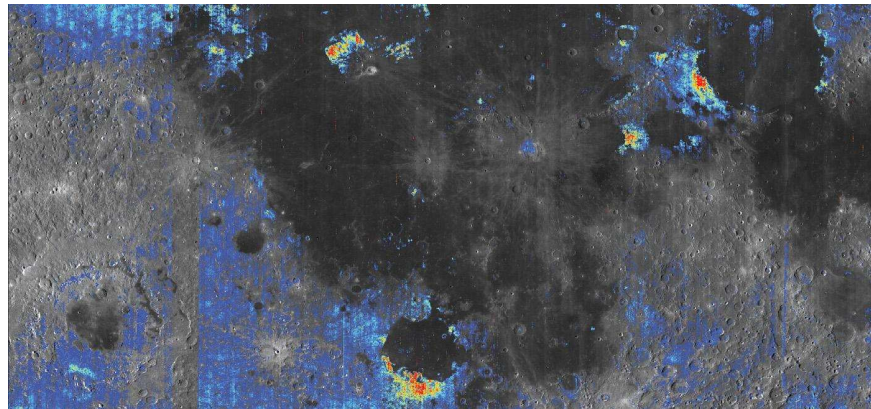
- The Hague Space Resources Governance Working Group aims to build consensus on regulatory “concepts needed to enable, support and co-ordinate the use of space resources and be acceptable for space-faring nations and other interested states”
- Industry, government, and civil society participation from across the globe
- Secure World Foundation is a sponsor of the Group



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

Space Resources – Opportunity and Need

- Living in space for long periods of time will require making use of available resources
- Both the Moon and asteroids contain useable deposits of water and other natural resources which can support exploration activities
- Water can be processed into rocket fuel while other resources can be used to support other infrastructure development
- Fuel sourced from in-space resources offers the potential to lower the cost of in-space applications and enable broader and more sustained exploration activities



Space resource utilization is a gateway capability for human space exploration and a sustained human presence beyond low Earth orbit



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Why Space Resources as an Example

- **National and international bodies are actively considering policy and legal approaches to space resources**
- **There is uncertainty in the treaty regime – Outer Space Treaty – regarding space resources utilization**
- **Both governments and private enterprise are facing a condition of uncertainty – risk – in defining resources activities**
- **There is interest in working jointly to reduce that uncertainty to define market conditions and respect international obligations**

Developing Countries &
Benefits from Space Resources

Impact on Space Environment

Timing of Legal Regime Relative
to Knowledge of Industry

Meanings of Exploration,
Exploitation & Use

Role of Private Sector Capabilities
in Gov't Exploration Plans

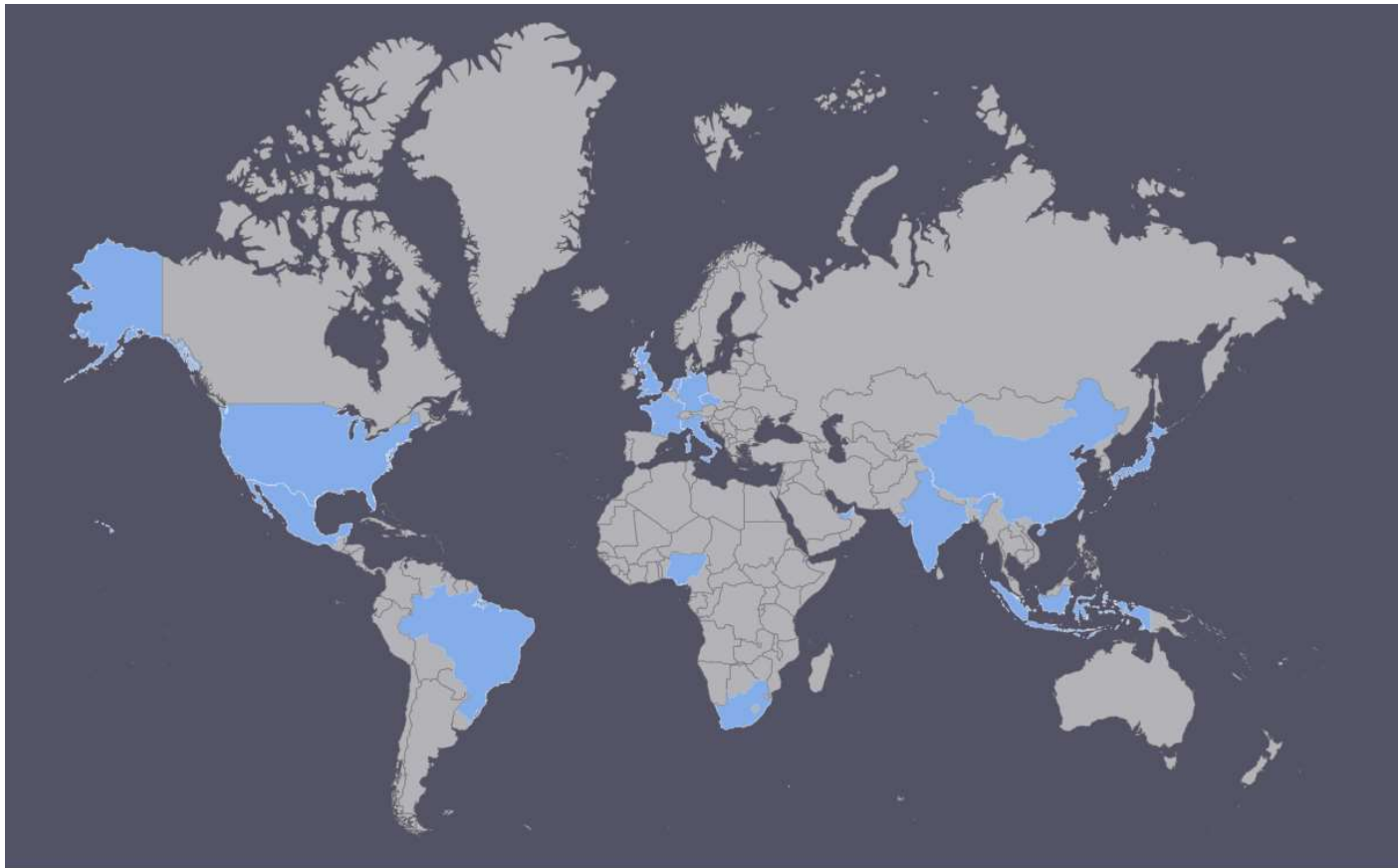
Safety of Space Resources
Activities

Hague Working Group - Features

Multidisciplinary

Multisectoral

Multinational



Countries with members of the Hague Working Group



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Hague Working Group - Structure

The Hague International Space Resources Governance Working Group

Legal, policy, and diplomatic expertise
Geographic and sector diversity

Technical Panel

Engineering, scientific, business expertise – both from space sector and outside it

Supporting and contextual analysis

Socioeconomic Panel

Economics, environment, anthropology, development expertise – both from space sector and outside it

Supporting and contextual analysis



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Hague Working Group Process – Lessons

Lessons from Hague Group Process

- Builds relationships and develops understanding
- Interdisciplinary discussions lead to more informed outcomes
- Adaptive governance

Case example – topics under the Working Group’s Socioeconomic Panel to enhance benefit-sharing from space resources development

- Relevance of the Concept of “Social License to Operate”
- Cooperation Models
- Approaches for Data Sharing
- Capacity Building Models
- Relevance of Principles for Responsible Investment (PRI)

A Stable, Predictable, and Sustainable Operating Environment in Space

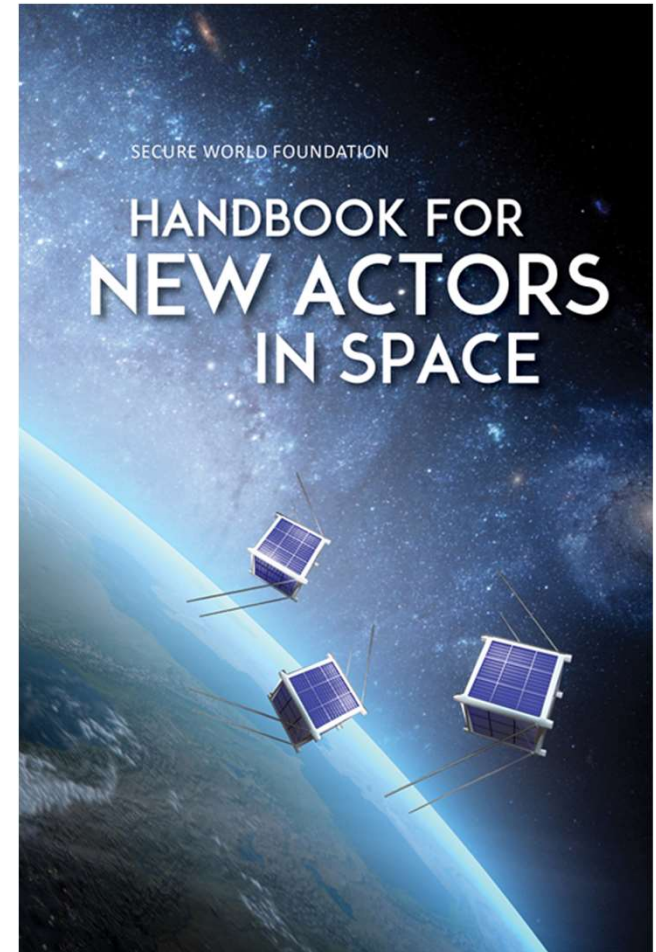
How can governments and the private sector work together to ensure sustainability of the domain?

Issues/Topics

- Policy context for identifying and obtaining benefit
- Regulatory authority, structure & process
- Space traffic management
- Norms of behavior
- New actors & best practices
- Government role as both customer & operator

Example Efforts

- Action Team on Exploration and Innovation
- Agenda-setting for future multilateral discussions
- The Hague Space Resources Governance Working Group
- Multilateral, multi-sectoral effort to define policy and legal “building blocks”
- SWF Handbook for New Actors in Space
- Overview of fundamental principles, norms, and best practices for safe, predictable, and responsible activities in space





Conclusions

- **Broadening and diversifying set of private sector space activities.**
- **Developing effective legal and policy regimes for these activities requires the coordination of multiple different stakeholder groups and the identification of enhanced mechanisms for improving understanding between the private sector and the multilateral space governance fora.**
- **As space becomes an increasingly commercial domain, national governments are using policy and financial tools to competitively position their emerging space sectors (including space resources) for growth.**
- **Coordination of basic legal and policy principles, such as those represented by the Hague Group's Building Blocks, can serve to reduce instability and uncertainties related to regulatory fragmentation across different jurisdictions.**
- **Also provides a better link between private sector activities and governmental exploration programs.**

The Hague Working Group process represents an example model for open and inclusive partnerships in support of legal and regulatory development for exploration capabilities