

FORUM: The General Assembly I

QUESTION OF: Developing frameworks for the safe and sustainable utilization of space resources for socioeconomic benefit by private and national space programs

MAIN SUBMITTER: The United States of America

CO-SUBMITTERS: Mexico, Belgium, United Arab Emirates, Kuwait, Colombia

THE GENERAL ASSEMBLY I,

Recognizing the rapid growth of the space economy, which is projected to exceed \$1 trillion by 2040 due to private sector investment and technological advancements,

Recalling the Outer Space Treaty (1967), which established the foundational principles of peaceful space exploration, non-militarization, and the use of outer space for the benefit of all humankind,

Noting with Concern the lack of international frameworks for equitable and sustainable space resource utilization, coupled with the failure of agreements,

Acknowledging the success of initiatives in promoting international cooperation and transparency yet limited adoption and the exclusion of major space-faring nations,

Expressing Concern over the risks posed by the unregulated exploitation of space resources, including environmental degradation, monopolization by technologically advanced countries, and potential geopolitical conflicts,

Recognizing Further the role of In-Situ Resource Utilization (ISRU) technologies in enabling sustainable exploration by reducing reliance on Earth-based resources and facilitating long-term human presence in space,

Highlighting the issue of space debris, which threatens operational satellites, future missions, and the sustainability of space activities,

1. Calls for the establishment of the United Nations Sustainable Outer Space Resource Utilization Organization (SOSRUO), under the oversight of the United Nations Office for Outer Space Affairs (UNOOSA), to:
 - a. develop formally written covenants among stake-holding nations that are legally binding under the international law under the collaboration of the IISL with SOSRUO to:
 - i. regulate the extraction, transportation, and utilization of space resources ensuring they align with sustainability and equitable access principles
 - ii. create protocols for the preservation of scientifically significant celestial sites, such as lunar poles and regions of astro-biological importance

- iii. define clear ownership and benefit-sharing mechanisms to prevent monopolization by any single state or private entity
 - b. require all resource extraction missions operated private or governmental affiliations to register with UNOOSA where all submissions must be filed at least six months before the intended mission launch, allowing time for independent review and audit by:
 - i. submitting detailed mission plans, including extraction methods, expected yields, and timelines
 - ii. conducting comprehensive environmental impact assessments, outlining risks and mitigation strategies
 - iii. allowing independent audits by an UN-appointed oversight committee to ensure transparency and compliance
 - c. establish enforcement mechanisms such as sanctions, which acts as methods to encourage collective improvement on utilization of space resources, including:
 - i. suspension of space licenses for non-compliant space program entities within the private sector found in violation of regulations within the covenant established above, with suspension time dependent on the severity of the violation
 - ii. public disclosure of violations on a centralized database accessible to all to promote transparency and accountability and deter misconduct;

2. Affirms the promotion and development of In-Situ Resource Utilization (ISRU) technologies to:

- a. support sustainable and efficient space missions that aim to investigate celestial bodies, find sustainable and alternative resources etc. by:
 - i. extracting water ice from the Moon and Mars for use in life support systems and as a source of hydrogen fuel
 - ii. processing lunar regolith into oxygen and metals for the construction of habitats, infrastructure, and other mission-critical materials
 - iii. reducing reliance on Earth-based resource supply chains by enabling self-sufficiency in space operations
- b. minimize environmental and economic costs otherwise by exploiting existing earthly resources and mechanisms through:
 - i. investments in reusable launch systems to reduce waste and operational expenses
 - ii. circular economies in space missions that recycle materials and reduce resource consumption
 - iii. collaborative research efforts to advance ISRU technology and make it accessible to developing nations

- c. ensure equitable access to ISRU technologies among members in the SOSRUO community by:
 - i. establishing international research partnerships to share knowledge and best practices through which the IISL will provide guidance to ensure that partnerships respect international space law, particularly in balancing intellectual property rights with equitable knowledge sharing
 - ii. offering training programs and funding opportunities for scientists and engineers from developing countries
 - iii. facilitating technology transfer agreements to build global capacity for sustainable space exploration;
3. Recommends the creation of the "Space Equity Fund," administered by UNOOSA, to:
- a. support any private and public enterprises who suffer from a deficient financial status to partake in United Nation SOSRUO by providing monetary subsidies allocated from the "Space Equity Fund" for:
 - i. establishing national space programs and research facilities
 - ii. participating in joint space missions and resource-sharing initiatives
 - iii. training personnel in space sciences, engineering, and policy
 - b. fund enterprises that have the strong inclination to participate in United Nation SOSRUO collaborative space exploration projects that:
 - i. prioritize equitable sharing of resources extracted from celestial bodies
 - ii. promote the involvement of underrepresented nations in the global space economy
 - iii. support capacity-building efforts in regions with limited access to space technologies
 - c. subcategorize the monthly fundraising metric into:
 - i. government donations from developed countries
 - ii. the percentage of revenues generated from commercial space mining activities
 - iii. dividends of stock of the corresponding enterprises;
4. Encourages active members of the UNOOSA to abide by the principles of the Artemis Accords and foster transparency in information sharing sessions by:
- a. requiring the sharing of mission objectives, data, and results with the UNOOSA members to build trust and cooperation via mediums such as but not limited to:

- i. the establishment of a virtual wireless private network that encrypts the data transmission process through designated protocols and data packets
 - ii. a centralized agency department that offers clear, overarching visions with the establishment of interagency coordination and performance metrics, serving as a separate body under UNOOSA
 - b. establishing joint databases for collective governance in the interagency mechanism for:
 - i. tracking space activities
 - ii. resource yields
 - iii. measurement metrics for environmental degradation
 - c. supporting joint missions to reduce costs, share risks, and foster collaboration between space-faring and non-space-faring nations;

- 5. Requests members of SOSRUO to address the growing threat of space debris that may pose risks to operational satellites and future missions by:
 - a. mandating that spacecraft include debris-remediation systems, such as:
 - i. autonomous mechanisms for deorbiting dysfunctional satellites
 - ii. collecting and recycling debris including non-functional spacecraft components especially then converting their material into propellant for sustainable fueling or future projects
 - iii. laser or rocket destruction for just-in-time collision avoidance (JCA), especially large debris threats that are imminent and in high proximity to the spacecraft
 - iv. requests space administration's such as NASA to draft scientific proposals to address issues of space debris
 - b. encouraging investments in the development of sustainable launch technologies from private and public companies by:
 - i. transitioning to green propulsion systems that utilize renewable energy sources
 - ii. designing compact, lightweight satellites to minimize resource consumption and collision risks
 - iii. clustering satellite deployments to maximize orbital coverage while reducing space congestion
 - c. constituting and enacting international covenants, protocols etc. among SOSRUO members engaging in the utilization of space resources in respective space programs that:
 - i. establish shared tracking systems for debris monitoring
 - ii. develop joint cleanup missions for high-risk orbital regions

- iii. offer financial incentives for private companies contributing to debris removal;
6. Prioritizes the convention of the biannual United Nations SOSRUO summits onto the agenda, welcoming all affairs in the UN community to:
- a. assess the implementation of the SOSRUO and address emerging challenges in space governance, where the IISL will provide expert recommendations on the legal implications of new technologies and activities, such as mega-constellations and asteroid mining
 - b. update policies to reflect advancements in technology and the evolving geopolitical landscape
 - c. encourage dialogue and collaboration among governments, private entities, and research institutions to ensure the equitable and sustainable use of space resources.