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## Chapeau

The European Space Policy Institute (ESPI) is the European think tank for space, supported by a diverse membership base of 20 organisations, including major European space agencies and industry actors. ESPI provides decision-makers with an informed view on mid-to-long-term issues relevant to Europe's space activities. In this context, ESPI acts as an independent platform for developing positions and strategies.[1]

In particular, ESPI recognises how space can provide solutions to respond to the unprecedented challenges Europe and the world are facing and how space can be an inspiration and catalyst to tackle these challenges. Indeed, space represents a foundation for a prosperous and peaceful future for Europe and humankind at large, shaping the world for decades to come. It is the home of innovative solutions to overcome existential challenges, such as the climate crisis and the effective achievement of the SDGs, as well as a rich source of hope, inspiration and transboundary societal cohesion.

Notwithstanding, as recognised by the UN Secretary General's Our Common Agenda, while space assets have "transformed the way we live and outer space systems are vital for understanding and solving global problems", the outer space environment is confronted by new risks to security, safety and sustainability.

In the fulfilment of its mission, the ESPI contribution to the 0 Draft of the Pact of the Future focuses on "Chapter V. Transforming global governance", in particular "xxiv. Fostering peaceful and sustainable uses of Outer Space, recognizing the role of relevant intergovernmental bodies, including the Committee on the Peaceful Uses of Outer Space".[2]

## Chapter V. Transforming Global Governance

Confronting the escalating challenges of a peaceful and sustainable use of outer space, and mitigating and remediating the risks related to increasing physical and spectrum congestion, demands new approaches, concepts and governance frameworks.

[1] ESPI. 2023. "ESPI 2040: Space for Prosperity, Peace and Future Generations". (Link)
[2] UN. 2023. "Draft decision on scope of the Summit of the Future". (Link)

The challenge faced can only be addressed through strong international cooperation and a transformation of present and future outer space governance frameworks, maximising the opportunities of outer space and minimising the short and long-term risks.

This renovated governance scheme should be built on the work that has historically been done by different international organizations, including the International Telecommunication Union (ITU), multilateral bodies reporting to the General Assembly, committees such as the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS), and other informal bodies such as the Inter-Agency Space Debris Coordination Committee (IADC), whilst also acknowledging a degree of overlap between their work and impact. This view is confirmed by the UN Secretary-General Policy Brief N°7 commenting on the overlap between intergovernmental entities' missions relating to space security, safety, and sustainability.[3]

In this context, the following recommendations aim to provide a reflection on a suitable framework for meaningful collaboration, sustainable practices, and inclusive decision-making within the evolving landscape of global space governance, while taking into consideration the rapid evolution of the technological landscape.

## Recommendation One: Creation of a joint working group between ITU and UNOOSA

The increasing deployment of large non-geostationary orbit (NGSO) constellations and the development of new technologies (e.g., in-orbit servicing for space radiocommunication service spacecraft) present a unique set of challenges, particularly in the realms of space debris mitigation and satellite spectrum access.

An effective space sustainability international coordination scheme and an effective collaboration between different regulators should imply that while the United Nations Office for Outer Space Affairs (UNOOSA) and the International Telecommunication Union (ITU), (as well as other intergovernmental organizations) will continue to operate under different mandates and in different institutional setups, some best practices could be taken forward to enhance effectiveness of the two respective regimes, and more generally of the broader outer space governance.

When focusing on synergies between UNOOSA and ITU, the intertwined dynamics between effective spectrum management and the physical capacity of the space environment, as well as the level of exchange between space and spectrum entities, should be explored. For instance, ITU´s database has vast amounts of data on satellite network filings (e.g., orbital parameters) that could be a useful complementary element when discussing Space Situational Awareness (SSA), Space Traffic Management (STM) or collision avoidance, especially if fused with additional data sources - as previous attempts have already demonstrated.

Considering the risks highlighted by the UN Secretary General's Our Common Agenda,[4] as well as the recently released ITU-R RA23 Resolution on space sustainability,[5] a collaborative working group on NGSO management involving the ITU, and UNOOSA is crucial. The Working Group on NGSO management should be established under a five-year plan, with a proposal for terms of reference, methods of work and a dedicated work plan. The working group should further elaborate on a resource-sharing approach at the intergovernmental level under the auspices of the UN. Should the work of the working group prove to be effective, its transformation into a permanent body should be considered after the five-year plan.

[3] UN. 2023. "Our Common Agenda Policy Brief 7: For All Humanity – The Future of Outer Space Governance". (Link)
[4] ibid
[5] ITU. 2023. "Resolution ITU-R RA23. New ITU-R Resolution on space sustainability". (Link)

## Recommendation Two: A platform to broaden operational stakeholder inclusion into UN COPUOS.

The substantial growth of satellite launches in recent years is predominantly attributed to private entities. In the period spanning 2020-2022, two non-governmental actors collectively accounted for 72% of all satellites launched globally.[6] To keep pace with technological advancements and the definition of operational requirements, the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS) should strive to facilitate the active contribution from a diversified plethora of stakeholders more effectively. In particular, in line with the directives outlined in Secretary-General's Policy Brief No. 7, the growing involvement of non-state actors in space activities requires to foster the inclusion of industry and civil society within the decision-making processes of the UN COPUOS.

While maintaining the centrality of Member States and their leadership in the intergovernmental process, an agile, broad and multistakeholder space governance response should be pursued. This will imply actively engaging stakeholders from various sectors, including industry, academia, and civil society, within UN COPUOS discussions.

The work should build on the recently established UNOOSA Space Bridge initiative.[7] However, operational stakeholder inclusion should be further enhanced by investigating the adoption of dedicated governance mechanisms within UN COPUOS to oversee the participation of sector members. This may involve the formation of committees, working groups, or other structures to manage sector-specific concerns and contributions. Procedures such as the Arria formula used at the Security Council should be further explored.

Finally, a sector membership model, akin to the one implemented by the ITU – which represents a strategic approach to ensure enhanced inclusivity and integrate industry into ongoing discussions – should be investigated. Such a step should ensure that the integration enhances the decision-making process without compromising the core values and objectives of UN COPUOS.

## Recommendation Three: A Global Approach to Space Traffic Management (STM)

The proliferation of space objects, their cumulative mass and combined area, has been consistently escalating since the beginning of the space age, resulting in more space debris orbiting Earth than operational satellites (with more than 15 000 space debris larger than 10cm orbiting in the Low-Earth orbit). The increase in launch activity, coupled with the persistent occurrence of space debris events in LEO, poses a significant risk of conjunction in the most congested Earth orbit.[8]At present, national and regional entities coordinate space traffic with different sets of standards, practices and levels of interoperability. While an interest in reaching an agreement on the topic is in principle present, many difficulties beset the international convergence on shared norms and rules for managing – or at least coordinating – the exponential growth of space traffic.

In order to reach an agreement on space traffic coordination at a global level, Member States should consider UN COPUOS as the primary forum. Despite its limitations, negotiations at UN COPUOS are unavoidable, and keeping alive its involvement is essential to reach a global agreement on STM rules.

It is recommended to pursue an incremental approach. Specifically, Member States should, in the short term, call for the negotiation and adoption of a set of "Guidelines for the Safety of Space Assets" by UN COPUOS. The subsequent step and ultimate objective is the negotiation of a legally binding agreement.

[6] ESPI. 2023. "ESPI Yearbook 2022 – Space Policies, Issues and Trends". (Link)
[7] UNOOSA. 2023. "UN Office for Outer Space Affairs launches `UNOOSA Space Bridge´". (Link)
[8] ESA. 2023. "ESA´s Annual Space Environment Report". (Link)

However, the adoption of an all-encompassing legally-binding document within UN COPUOS is unlikely. In this regard, under the Registration Convention, Member States should consider the establishment of a conference of the parties composed of representatives of the member states of the convention and accredited observers. In line with the UN COPUOS Guidelines for the Safety of Space Assets previously adopted, the conference should lead to a new international agreement. In order to facilitate the adoption of concrete measures at international level in a timely manner, the scope of STM rules should be kept minimal at the onset, with a focus on basic rules for preventing collision (right-of-way rules, i.e. safety). In the short term, debris mitigation and RPO should be kept out of the dedicated negotiations on STM, and addressed with their dedicated agenda item within the pertinent forum. The regime will be incrementally enriched with additional elements such as (technical standards for) debris mitigation requirements.

## Conclusion

The risks of over-exploitation, free riding and ultimate destruction/depletion in many common pool resources (CPR), led the UN Secretary General to call for "better management of critical global commons, and global public goods that deliver equitably and sustainably for all".[9] A new governance framework for various areas of space sustainability should be explored in a cooperative format between bodies of the UN system, considering the UN space treaties and any other means of international cooperation, whilst also including a platform to broaden operational stakeholder inclusion.

UNOOSA and ITU, as well as bodies outside the UN-system deal with space sustainability, will continue to operate under respective mandates and in different institutional setups. However, an effective space sustainability international coordination scheme and collaboration between different regulators will ensure some best practices are taken forward to enhance and reinforce the effectiveness of the respective regimes, and, more generally, the broader outer space governance. This is especially needed when dealing with the above-described related challenges and to ensure the continued viability and sustainability of space activities.

[9] UN. 2023. "Secretary-General´s Report "Our Common Agenda". (Link)