

Long-term sustainability of outer space activities

Madam Chair and Distinguished delegates,

Long-Term Sustainability of outer space activities remains a matter of utmost priority to India, and will play a meaningful role in the international efforts in addressing challenges to the sustainable use of outer space. The voluntary implementation of the adopted LTS guidelines, and sharing of implementation experiences, practices and lessons learned are crucial in this respect. The challenges posed by rapidly evolving space scenario also needs to be addressed. In this regard, we are encouraged by the progress made by the Working Group on LTS, and congratulate the Chair of the Working Group Mr. Umamaheswaran Raman for his efforts in effectively steering the work of the Working Group, and UNOOSA secretariat for the excellent support extended to the efficient functioning for the Working Group.

Madam Chair,

India has been taking voluntary and proactive measures towards meeting and improving the internationally accepted guidelines on space debris mitigation.

India carried out the controlled re-entry of the decommissioned Indo-French earth observation satellite Megha-Tropiques MT-1 in March 2023 by a series of maneuvers and spending about 120 kg of fuel. The re-entry exercise was carried out with utmost care to avoid any close approaches with other space objects, especially the crewed space stations.

The GSAT-12 communication satellite before decommissioning was subjected to a detailed post-mission disposal measures with meticulously planned passivation /removal of all energy sources, relocation to graveyard orbit and RF interference analysis.

Another significant effort taken by ISRO towards sustainable space operations is the rapid reduction of lifetime of rocket bodies in the orbit. The final stage of PSLV-C56 rocket after injection of the primary satellite and co-passengers was de-orbited from 536km to 300km circular orbit that reduced its lifetime in orbit significantly below the recommended 25 years to less than 1 month.

As part of capacity building and awareness raising exercise nationally in the domain of space sustainability, ISRO organized a workshop on Space Situational Awareness and Space

Traffic Management for the target audience consisting of academic community engaged in space technology, students and researchers in the field.

Madam Chair,

The outcome of the Working Group on LTS will be crucial in maintaining the central role of COPUOS in promoting peaceful and sustainable use of outer space. The Working Group having studied the implementation of LTS guidelines and challenges to space sustainability, should bring out additional guidelines and revisions to the existing guidelines as necessary, addressing the needs of the current and expected outer space scenario.

India has been actively participating and contributing to the efforts of Working Group on LTS. India through its submission to the Working Group had shared its experiences, practices and lessons learned from the voluntary national implementation of the adopted LTS guidelines. We had also provided inputs on the challenges to the long-term sustainability of outer space activities that arise in the context of the safety of spaceflight, especially while operating in the presence of large constellations and small satellites.

The orbital region in the neighborhood of 400km altitude is most suitable for the conduct of human space missions. India has proposed a new guideline to preserve this orbital region for human space flight missions by making additional provisions for the space operations in the vicinity of this region. We encourage delegations to consider the proposal and offer your contributions in support of the proposal.

The workshop being organized by the Working Group on LTS during the current session would be a major capacity building and awareness raising exercise particularly benefiting emerging space fairing nations and developing countries. India is contributing to the workshop by offering the experiences it has gained as a major space fairing nation.

Madam Chair,

India continues to be proactive in ensuring sustainability of its space activities. ISRO System for Safe and Sustainable Space Operations Management (IS⁴OM) has been established to ensure that Indian outer space activities are conducted in a safe and sustainable manner. The framework being established for authorizing and monitoring of the space activities from Indian soil, among others, incorporate the recommendations of the LTS guidelines.

Space weather has been receiving increasing attention in India considering the potential harm from extreme space weather events for space systems and ground infrastructure. The Aditya-L1 mission of ISRO will provide a major thrust for the space weather studies in the country, and will also offer many collaborative opportunities for the global community.

Madam Chair,

In conclusion, India places highest importance to long-term sustainability of outer space and is committed to play a responsible role in the international efforts towards preserving benefits of outer space for the future generations.

Thank you, Madam Chair and distinguished delegates.