

Space Debris

Madam Chair and Distinguished Delegates,

With an ever-widening scope of space-based activities, the present era is witnessing an unprecedented growth in the number of objects in outer space, including space debris. The growing congestion in near-Earth space seriously endangers the vital space assets and requires proactive measures to tackle the threats posed by space debris.

India upholds its commitment to preserve the long-term sustainability of outer space activities through the implementation of necessary mitigation guidelines recommended by UN-COPOUS and the Inter-Agency Space Debris Coordination Committee (IADC).

Madam Chair,

ISRO System for Safe and Sustainable Space Operations Management (IS⁴OM) has been functioning as the nodal entity to coordinate all activities to address the growing challenges of operating safely and sustainably in the presence of space debris.

India continues to demonstrate its commitment towards mitigation of space debris.

Regular COLLision Avoidance (COLA) assessments are carried out to ensure safe, collision-free lift-off times within the designated launch windows for all its launch vehicle missions.

Any collision risk among the injected satellites immediately after the separation from launch vehicle is avoided by properly designing the separation sequence.

Continual close-approach analyses are performed for all operational spacecraft to mitigate any collision risk with catalogued space objects. In the year 2023 alone, Indian satellites have been manoeuvred 21 times to avoid potential collisions

Mr Chair,

I would like to highlight a few important operational demonstrations made in 2023.

Meghatropiques-1 satellite was made to re-enter the atmosphere in a controlled manner over an uninhabited area in the deep Pacific Ocean.

The upper stage of PSLV-C56 was de-orbited a very low altitude of 300 km which subsequently re-entered the atmosphere within a month, re-affirming India's commitment to improve compliance with the post mission disposal guidelines.

After injection of the payloads, the upper stages of all Indian satellite launch vehicles are passivated to minimise any potential risk of accidental explosions. The upper stages of the recently launched PSLV C55, PSLV C56, PSLV C57, and LVM3 M4 Mission underwent such passivation.

Mr Chair,

As part of space situational awareness capacity building, NEtwork for space object TRacking and Analysis or NETRA project is making steady progress by establishing dedicated radar and optical telescope facilities within India.

Regular analyses are carried out for atmospheric re-entry prediction of large objects to hone the analytical skills. Predictions are also submitted by ISRO to the annual IADC re-entry prediction campaign.

India engages actively in the activities of the IAA Space Debris Working Group, the IAF Space Traffic Management Technical Committee and the ISO Working Group 7 through space debris related technical contributions.

The practice of registering all Indian objects is followed with regular submission to UN.

Madam Chair,

Recognising the importance of awareness raising, a three-day student workshop on "SSA & STM " was organised by ISRO in October, 2023 at Bangalore. It was highly successful in inspiring the participants to pursue studies in the fields of space debris.

With steadily growing dependence of space-based applications, the current space situation calls for all member states to collectively address the concerns of space debris to ensure the sustainability of outer space activities for the continued utilisation and exploration by our future generations.

Thank you, Madam Chair and distinguished Delegates.