

**Scientific and Technical Subcommittee  
Fifty-eighth session  
Vienna, 19-30 April 2021**

**Statement of Italy  
Item 7. Space debris**

Madame Chair, Distinguished Delegates,

In 2018 COPUOS defined long-term space sustainability as “the ability to maintain the conduct of space activities indefinitely into the future in a manner that realizes the objectives of equitable access to the benefits of the exploration and use of outer space for peaceful purposes, in order to meet the needs of the present generations while preserving the outer space environment for future generations.”

We are aware that the use of Earth’s orbits is increasing and that low-earth orbits, in particular, are becoming ever more crowded due to the growth in the population of functional satellites, mainly for commercial activities. Debris have been accumulating in space since the launch of the first satellite, resulting from routine space operations, accidents and explosions. The amount of orbital debris has increased significantly in the last years.

Italy has been paying for 20 years a strong attention to the study of the long-term sustainability of space activities and, in particular, to the debris mitigation issue. This tradition starts from the early participation in the Interagency Space Debris Coordination Committee (IADC). Let me recall that Italy is a founder of the IADC and has participated in the pioneering phase of activity of this Committee devoted to the growing dimension of the space debris issue as well as to mitigation and remediation practices. These IADC ideal practices have subsequently evolved and contributed to the actual LTS guidelines endorsed by COPUOS in 2019, some of which are already applied by Italy.

Madame Chair,

The Italian community studying the debris population in space grew in the 80s at the Information Science and technology Institute, ISTI (Istituto di Scienza e Tecnologia dell'Informazione) in Pisa, Italy. Activity was already polarized on the study of the characteristics of the population and its increasing collision rate, the reentry of large objects and the fragmentation of objects in space.

Other Italian academic institutes joined this endeavor and this made it possible to establish a network of sensors for debris measurement and characterization. Italy is currently using radars of the National Institute of Astrophysics as sensors for LEO orbital regimes and also optical telescopes for higher orbital regimes.

Italy supported and approved the European Commission initiative of 2014 establishing a Space Surveillance and Tracking framework in Europe with the goal of networking national sensors dedicated to the monitoring of space debris and sharing national data for providing common alert services to European users. This framework is now evolving to become a component of the next European Space Program, which will span from 2021 to 2027. Italy is participating in the related work plan with the Italian National Operation Center (ISOC), its academic and research institutions, as well as with its radars, telescopes and a laser station, federating its sensor network with the consortium network and providing data processing for service provision (mainly detection of fragmentation events and reentry alerts).

In the framework of ESA, Italy is financing the ongoing ESA initiatives in the debris domain including the "Flyeye" telescope for Near Earth Objects, which will be hosted in Sicily (Italy). The telescope splits the image into 16 smaller sub-images to expand the field of view, similar to the technique exploited by a fly's compound eye

Madame Chair,

allow me to conclude by underlining the engagement of Italy in providing an active contribution to the international activities addressing the debris issue, joining operative frameworks for debris mitigation and alerts. At the same time Italy is aligning his space activities to the UN LTS guidelines. Scientists, experts and technicians from the Italian Space Agency, the academic institutions are

regularly participating in the worldwide research agenda on this subject as well in standardization entities, with the goal of facilitating data sharing and the latest technological advances.

Thank you for your kind attention.