

Japan Item 6 – “Space Debris”

Chair, Distinguished Delegates,

The proliferation of space debris poses a serious risk to the safety, security, sustainability, and stability of outer space activities. It is vital to protect the outer space environment, especially as our society becomes increasingly dependent on space systems. Japan calls upon all relevant stakeholders to carry out their space activities in a responsible manner in order to prevent a new generation and diffusion of long-lived space debris.

In particular, the destruction of a satellite that generates a large amount of space debris indiscriminately increases the risk of collisions with on-orbit space objects. Supporting the UNGA resolution 77/41, Japan reiterates its commitment not to conduct destructive direct-ascent anti-satellite missile testing and encourages others to follow suit. In order to further develop this initiative, Japan will continue working with like-minded countries to ensure the safety, security, sustainability and stability of outer space.

Chair,

The formulation of international rules, national policies and regulatory frameworks for space activities offer key solutions to limiting future generations of space debris. In this regard, Japan supports the work of COPUOS and the Working Group on the Long-Term Sustainability (LTS) of Outer Space Activities. We also welcome national efforts in each country to develop further solutions for space debris mitigation and remediation as well as further research and development of orbital debris mitigation and remediation technologies and encourage all states to continue to implement the LTS guidelines and the Space Debris Mitigation Guidelines to the fullest extent possible.

In the area of national regulation, Japan established the Space Activities Act in 2018 to efficiently authorize and supervise the space activities of non-governmental entities. Under the Act, the Government of Japan licenses the activities of non-governmental entities to launch or control spacecraft within Japanese jurisdiction. All activities are required to satisfy specific criteria such as prevention of on-orbit break-up, collision avoidance and post-mission disposal, thereby preventing generations of space debris. Furthermore, JAXA

has its own space debris mitigation standard, which provides in-depth technical procedures for multiple debris mitigation areas involving reentry risks and specifies detailed requirements.

Moreover, in 2021, Japan established national guidelines for on-orbit servicing. In order to properly perform on-orbit servicing tasks including Active Debris Removal, these Guidelines stipulate that the operator of on-orbit servicing must conclude a contract with or obtain the consent from the entity having authority to the client object. In addition, in order to ensure transparency and avoid unnecessary concerns and the risk of approaches or collisions with third-party spacecraft passing nearby the area of on-orbit servicing, these Guidelines stipulate that the operator-licensee of on-orbit servicing must provide an operations and management plan to Government of Japan. Based on this, with a view to ensuring transparency, Government of Japan makes an in-advance announcement of information on on-orbit servicing, such as the operator, the client object, the period, basic orbital parameters, SSA organizations to be informed of servicer's ephemeris, the information disclosure policy in the event of emergency. We believe that these guidelines will facilitate "end-of-life service" and active debris removal provided by Japanese companies.

Chair,

Another way to address the issue of space debris is through research and development of related technology. As a good example of this, JAXA has developed a "Risk Avoidance assist tool based on debris collision proBaBliTY" (RABBIT) to facilitate debris avoidance operations by satellite operators. JAXA also developed a tool to support Debris Avoidance Maneuver (DAM) planning upon receiving Conjunction Data Messages (CDM) from CSpOC. Since March 2021, JAXA has made the tool available, at no cost, to all satellite operators via its website.

In recent years, it has become increasingly important to improve the visibility of orbiting objects. To meet this need, JAXA has developed an affordable and compact satellite laser ranging reflector named Mt. FUJI that can be used universally in low Earth orbit. JAXA is promoting its application internationally to improve the trackability of on-orbit objects, thereby making a meaningful

contribution to the sustainable utilization of outer space.

Moreover, Japan has been investigating ways to remove large space debris in crowded orbits for space environmental remediation and is collaborating with the private sector on a project named Commercial Removal of Debris Demonstration, CRD2, in the area of Active Debris Removal (ADR). The first phase of this project to demonstrate the key technology of ADR is currently underway and the satellite is expected to be launched very soon. Japan will publish mission information of this project on the website of National Space Policy Secretariat Cabinet Office of Japan for transparency in advance of the implementation of the service.

Chair,

Space Situational Awareness (SSA) remains a priority for Japan. Japan has developed an SSA system, which has been fully operational since March 2023. This SSA system will deepen our understanding of areas where many satellites are operating, so that we can promote the idea of “making space visible.”

Japan remains committed to tackling the issue of space debris for the sustainable use in outer space.

Thank you for your attention.