

Canada
Agenda Item 6 – Space Debris
Delivered by: Sarah Pacey-Parker, Canadian Space Agency

Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
Sixty-First session, Vienna, 29 January – 09 February, 2024

Chair, Distinguished delegates,

Addressing space debris is becoming increasingly urgent as it is crucial to the long-term sustainability of space operations as well as future deep-space exploration. However, debris mitigation and remediation activities cannot take place in isolation. A coordinated international effort is required for these efforts to be most effective.

In the last four years alone, the Canadian Space Agency (CSA)'s Conjunction Risk Assessment and Mitigation System has observed the evolution of an increasingly congested Low Earth Orbit (LEO) environment. The number of conjunction alerts received and processed by the system has greatly increased year after year. The general trend is that conjunction risks from large rocket bodies is trending down – potentially highlighting improved practices for the return of rocket bodies and an increase in the number of payloads per launch. However, the number of conjunction warnings with large constellations is trending upwards and is made more complex with new propulsion technologies being introduced. Space Situational Awareness (SSA) continues to be a priority for Canada. Canada continues to contribute operational data to the US Space Surveillance Network through the SAPPHIRE satellite and perform advance SSA research through the NEOSSat satellite. Both SAPPHIRE and NEOSSat are optical space telescopes operating in low-Earth orbit since 2013 and follow-up satellite projects have been initiated to ensure continuity of these capabilities for years to come.

Canada works across international forums to address the pressing issue of space debris and is proud to be an active member of the Inter-Agency Debris Coordination Committee (IADC) for over a decade. The IADC is currently examining more aggressive mission disposal recommendations for improvements to the probability of success of mission of disposal. Also important is need for propulsion capability is to ensure satellites can perform an avoidance maneuver to prevent collisions in space. We consider these elements as important steps to

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consider how to adapt to a rapidly evolving debris environment, in particular in LEO. In this vein, we commend the European Space Agency’s ‘net zero’ space debris objective to improve end-of-life management of space objects, and release of the ‘Zero Debris Charter.’ Advancements such as these are positive developments in this field. However, we must continue to work together as an international community of space-faring nations to ensure that efforts are coordinated across UN forums.

Chair,

Over the past year alone, we have witnessed a significant increase in public attention to the issue of space debris outside of the space community. This type of awareness-raising is crucial to bringing greater focus on the importance of responsibly and sustainably operating in the space environment. We have also witnessed increased interest in debris mitigation across several forums, for instance with the World Economic Forum releasing Space Industry Debris Mitigation Guidelines and the launch of the *Astra Carta* initiative. While it is evident that momentum on space sustainability, including debris mitigation initiatives, is growing, to be effective it should not work at cross-purposes or dilute the central role of multilateral governance.

We welcome the inclusion of discussion on space debris removal and space traffic management in the Policy Brief - *For All Humanity – the Future of Outer Space Governance*. We recognize that at the multilateral level there are increasing calls for a more integrated approach to SSA and a comprehensive approach to space traffic management as one element of addressing the space debris challenge. We are pleased to be actively engaged in the support the United Nations/Portugal-led discussions on the Management and Sustainability of Space Activities to enable dialogue that will support inclusion of space in the Summit of the Future.

Chair,

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Canada was pleased to submit A/AC.105/2023/CRP.17 during the 60th session of the STSC to draw attention to the fact that it is impossible to separate out discussions of space debris from discussions on the long-term sustainability of outer space activities. On-orbit congestion from the continued increase in activity in outer space increases the risk of debris-generating collisions. One area identified through implementation of the existing guidelines in Canada that the LTS Working Group could consider for future discussion is active debris removal. This could include the development of recommended procedures for effective communication and notification of active debris removal activities; means to conduct these activities in a transparent manner, and techniques for these operations that promote spaceflight safety.

Chair, Distinguished delegates,

Space debris threatens the long-term sustainability of space activities of all nations and Canada remains convinced of the importance of the international community's work in the coordination of space debris research and mitigation activities. Canada believes that a more comprehensive overview of space debris mitigation measures adopted by States and International Organizations will encourage the adoption of national mechanisms to mitigate the creation of space debris. To keep pace with evolving best practices in debris mitigation, we urge all nations to routinely review and update the compendium of space debris mitigation standards as necessary to help promote transparency and spaceflight safety.

Thank you for your kind attention.