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ORBITING ODYSSEY: ANALYSING NATIONAL AND REGIONAL MEASURES FOR CLEANING
UP SPACE JUNK

Abstract

The ever-growing number of satellite launches has resulted in a congested orbital environment consisting of thousands of space objects, parts and pieces thereof. This increased orbital traffic, combined with the proliferation of space debris poses limitations to the freedom of access and use of Outer Space. This is a serious threat to the safety and sustainability of space operations. Indeed, the international community has adopted several soft law instruments to mitigate the problem, however, current and future developments necessitate a more proactive approach.

This paper will discuss the role of national and regional legislation in promoting a circular economy for space. The authors posit that the ‘due regard’ principle enshrined in Article IX of the Outer Space Treaty creates an active obligation on states to mitigate and remediate space debris. The notion of responsibility of states for authorisation and continuing supervision delineated in Article VI of the OST may be achieved through Active Debris Removal (ADR) and In-Orbit Servicing (IOS) operations through international cooperation. To better understand the legal trends towards ADR, this paper analyses national/regional legal frameworks.

The 2023 US Orbits Act provides for the establishment of a dedicated ADR programme, involving both NASA and private entities. This would involve the research, testing and launching of several prototypes and dedicated space objects to remove space debris that would be identified through publicly available data. Similarly, the European Space Agency has been studying methods for debris remediation, the Zero Debris Approach. Part of this approach includes the ESA Space Debris Mitigation Policy, which presents the basic goals of the ESA for debris reduction and creates a regulatory authority to observe the implementation of the policy and provide waivers for certain activities. Both policies have lofty ambitions, with the US considering work on ADR demonstration projects to begin within 180 days of the Act entering force, while ESA wishes to achieve a ‘zero debris’ approach for its activities by 2030. This paper will also examine initiatives taken by private companies towards creating ADR and IOS solutions, including ClearSpace in Japan, D-Orbit in Italy and Astroscale for the UK.

In conclusion, this paper seeks to highlight how national, regional and industry efforts can incentivize compliance and allow a bottom up approach i.e. from regional to global, towards space sustainability, while fostering a space regime where emerging practices such as ADR and IOS can thrive.