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Policy, Legal, Institutional and Economic Aspects of Space Debris Detection, Mitigation and Removal
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AUTHORIZATION AND CONTINUOUS SUPERVISION OF ASTROSCALE'S DE-ORBIT
ACTIVITIES: A REVIEW OF THE REGULATORY ENVIRONMENT FOR END OF LIFE (EOL)
AND ACTIVE DEBRIS REMOVAL (ADR) SERVICES

Abstract

Astroscale is one of the few companies in the world proposing an end-to-end solution for the removal of orbital debris through the provision of End of Life (EOL) and Active Debris Removal (ADR) services. The company is working on the difficult technical aspects of the space and ground segments of the mission at offices in Japan and the UK. However, a sustainable business case requires much more than just technical success. A regulatory framework is required by the licensing State to support the authorization and continuous supervision of de-orbiting activities as outlined in Article VI of the Outer Space Treaty; insurance is needed for the launch, on-orbit activities and third-party liability; and universally accepted norms, standards and policies are necessary in order to sustain a business.

Regarding regulatory aspects, Astroscale's first technology demonstration mission, ELSA-d (End-of-Life Services by Astroscale Demonstration), will get authorization and oversight from two States: spectrum licensing is being sought through Japan, while mission authorization is through the United Kingdom. Spectrum licensing is a common activity with a predictable outcome but obtaining a mission license for a debris removal mission is unique and will open a path for future end-of-life services that will support the long-term sustainability of space. In addition to obtaining licenses, Astroscale is pursuing insurance, again something that has rarely been done for a mission of such complexity as ELSA-d. Finally, Astroscale is working with multiple national policy makers and international organizations to help establish the standards that will contribute to future sustainability of space.

This paper will outline the pathway Astroscale is taking to prepare for authorization, acquiring insurance and work with industry and government representatives to ensure missions are conducted with safety, transparency, and the public interest in mind.