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MAKING A CASE FOR ACCELERATING ACTIVE DEBRIS REMOVAL OPERATIONS

**Abstract**

The accumulation of massive derelict objects in low Earth orbit (LEO) continues unabated; 28% of the current long-lived massive derelicts were left in orbit since the turn of the century. Clusters of uncontrollable mass in concentrated locations across LEO pose the greatest debris-generating potential to the thousands of newly deployed satellites that are fueling the global space economy. The framework of identifying the top 50 statistically-most-concerning objects has evolved into discussions of orbital capacity and “stress points” in LEO where potential massive debris-generating collisions are most likely to occur. Recognizing persistent economic, contracting, legal, and policy challenges that are still hindering the development and deployment of solutions focused on the removal of these massive objects, an Orbital Debris Remediation Summit was convened, to move from ADR discussions to ADR action. This paper reviews the high-level takeaways across those four disciplines and suggests actions for the community to advance the maturity of the ADR operations. In doing so, we provide an actionable basis for overcoming those existing challenges and helping enable ADR of massive derelicts to become reality.

Removal of massive derelicts is a global problem that will require international resolve, that is why this group believes it is important to accelerate activities in this domain. Fact-based recommendations are proposed derived from the two-day international, cross-domain caucus to identify “the right next step” in each of the four functional areas plus renewed risk communications as the catalyst for action.