

Cleaning Up the Final Frontier: Exploring the Legal Issues relating to Space Debris

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The second decade of the 21st Century has seen on-going international developments in space exploration activities. This has seen a resulting expansion in the academic community of studies relating not just to the technical aspect of space travel but also to the organisational and legal aspects of space exploration. Whilst the focus of these studies has tended towards the burgeoning role of commercial space activity, there has also been something of a renaissance within the public sector. The continued desire on behalf of both commercial and public sector actors to engage in space activity has led to the ongoing difficulty of objects in orbit of the Earth known as Space Debris.

The definition of space debris, adopted by the Inter-Agency Debris Coordination Committee (IADC), refers to all man-made objects, including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non-functional. This definition covers man-made objects that are either satellites that have ended their operational life, satellites that do not function correctly and are no longer functioning or objects that are detritus from other launches. This paper will examine the legal and policy issues surrounding the issue of space debris, specifically *space debris mitigation* (the efforts to minimize the generation of space debris) and *space debris environment remediation* (the attempts to manage the existing space debris).

The discussion will commence with an explanation of the scale of the problem, together with an appraisal of the barriers to finding a solution. This will encompass consideration of the political dimension of space exploration and the current regime of ownership of space objects. The paper will then go on to identify the current attempts at debris mitigation, with a focus on the attempts by national and international space agencies such as the aforementioned IADC, the European Space Agency (ESA) and NASA to secure a consensus on the management of debris removal, together with the current position of the United Nations Office for Outer Space Affairs (UNOOSA). Such a discussion will inevitably encompass some of the legal and political problems associated with the technological advancements in this area. Finally, the paper will explore the synergies and similarities between the debates in this area and also in respect of Internet governance and climate change. These discussions will be used to suggest optimal solutions to the ever increasing and manifold threats posed should the increase in orbital debris go unchecked.