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Assuring a Safe, Secure and Sustainable Space Environment for Space Activities (4)

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LEGAL CHALLENGES OF ACTIVE SPACE DEBRIS REMOVAL AND POSSIBILITIES FOR
INDUSTRY INVOLVEMENT

Abstract

The continuous increase in space activities entails a constant rise in the amount of debris in outer space. This poses a heightened risk of in-orbit collisions and is progressively becoming a threat to space activities. Space debris mitigation guidelines have been developed at the international level in order to limit the generation of debris. However, a tipping point seems to be reached where the amount of space debris will augment even without further launches, due to collisions between the objects already in space. Therefore, the active removal of space debris (ADR) appears to be a necessary step to guarantee the sustainability and safety of space activities in the long term. This article therefore analyses some of the legal and political issues related to space debris removal, such as the identification and selection of objects for removal, issues of sovereign jurisdiction and ownership, the dual-use characteristics of ADR technologies, intellectual property concerns, liability issues as well as questions with regard to the financing of ADR operations. When tackling these challenges attention should also be paid to the involvement of industry. Private enterprises play an increasing role in space activities and can make an important contribution to the development of ADR technologies and the performance of ADR operations. It therefore seems crucial to create incentives for industry investment in the field of ADR. This could include a variety of measures, such as the creation of funds to finance ADR operations, the development of private public partnerships or the exemption from liability for removal operations. At the same time, it is necessary to ensure that these measures are in conformity with rules of international law. It is argued that an internationally agreed framework for the removal of space debris could help to address the legal challenges related to ADR and at the same time provide a basis for industry investment as it would establish the transparency and certainties necessary to attract public and private involvement. The framework could include criteria and procedures for the selection of objects for removal, information sharing mechanisms to facilitate the identification of objects, rules regarding liability for ADR operations, the establishment of financing mechanisms as well as a verification system. In this context, past and current discussions on ADR within the UN Committee on the Peaceful Uses of Outer Space will be analysed and possibilities to enhance this topic in the Committee and its Subcommittees will be examined.