

IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)  
Application of space law to cyber activities (4)

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THE OUTER SPACE AND CYBER-ATTACKS: ATTRIBUTING RESPONSIBILITY UNDER  
INTERNATIONAL SPACE LAW

**Abstract**

The linkages between the two domains of outer space and cyberspace are deepening with the commercialization of outer space and the deployment of an increasing number of satellites delivering communications, navigation, and military services. However, the vulnerabilities stemming from this relationship are yet to be addressed in a comprehensive manner. The cyberspace perpetrators are targeting the space assets to wreak havoc on commerce and industry through cyber-attacks such as spoofing. While there is no policy that specifically addresses this interface, International Space Law can deal with the problems arising in this regard.

Article VI of the Outer Space Treaty specifies that the parties bear ‘international responsibility’ for activities conducted by governmental agencies or non-governmental entities. While the terminology ‘activities in outer space’ can include diverse categories of activities, the concept of ‘cyber-attack’ was, naturally, not conceived by the drafters of the treaty back in the 1960s. Cyber-attacks may affect the space assets by interfering with (a) ‘flight control’ and (b) ‘payload control’. While with regard to the former scenario, the launching state may be held responsible for activities that cause damage to the surface of the Earth, as regards the latter, the provisions of the Outer Space Treaty and the Liability Convention cannot really be invoked.

Further, the recognition of space assets as ‘critical infrastructure’ is still a very slow process and the complexity of the supply chains concerning the space assets makes it challenging to attribute responsibility. The life cycles of the space assets may rest with multiple parties such as the developers, the operators, the owners, and the users, making it extremely difficult to determine the operational and financial responsibility in those instances where cyber-attacks affect these assets. With the advancement of technology, the problems in this area are only going to compound and, therefore, it is imperative to focus on resolving these issues.

The aim of this research paper is essentially fourfold: (1) provide a background to the interface of the outer space and cyberspace, especially in view of the rise in commercialization; (2) discuss how cyber-attacks affecting space assets may be dealt with under the Outer Space Treaty and the Liability Convention; (3) explore the challenges as regards determination of responsibility in the context of life cycles of the space assets and multiple parties and finally, (4) provide the concluding remarks and suggestions.