

IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)

Application of space law to cyber activities (4)

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CYBERSECURITY IN OUTER SPACE: COMBATING PERILS OF THE FINAL FRONTIER

Abstract

Over the last several decades, evolution of space technologies has led the world to be heavily dependent on space assets so much so that government policies and development plans are often dependant on the data collections by satellites. The strategic and civilian space applications have become an integral part of the current world dynamics. Today, satellites are instrumental in vital civil functions ranging from disaster predictions, remote sensing applications, navigation assistance, communication, broadcasting among others. Space ecosystem is often said to be the new frontier of warfare. Some experts go further to claim that a robust space ecosystem will be the determining factor in modern warfare. However, the present legal system governing outer space may be said to be lacking far behind the technological advancements. The international order still lack consensus and also fail to address various pertinent legal issues in outer space. Among other issues, the issue of security laws for space assets has not garnered required attention. Outer space security becomes all the more vital considering the importance of space applications not only in our day to day lives but also in civilian and defence applications.

The technological prowess has also increased the capabilities to offensively target and destroy space based assets of sovereign as well as the non-state actors by various direct and indirect means. The most prominent and convenient threat comes in form of a cyber offensive against space based assets. Cyber offensive attacks may have varying impacts ranging from causing loss of communications to ground stations, making irreversible changes to the programming of satellites, changing the intended course of the satellites to causing collisions with other space objects. Evidently, space cyber-attacks give rise to civil as well criminal liabilities and have the potential to change the geo-political order for ever. However, considering these extenuating circumstances, the present legal regime governing cyber security in the outer space is grossly insufficient which needs to be addressed urgently to preserve the geo-political balance in the world.

Firstly, the author aims to study the role of outer space in national and international defense arena. *Secondly*, the author will evaluate the efficacy and adequacy of the international legal regime to address the challenges posed by cyber-attacks on space based assets. *Finally*, the author will recommend changes in the existing legal regime to ensure the efficacy in the international legal order for combating challenges to cyber security in outer space.