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Cyber-based security threats to space missions: establishing the legal, institutional and collaborative framework to counteract them (2)

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FROM SPACE TO CYBER-SPACE; TOWARDS A CYBER-SECURITY REGIME FOR SPACE OPERATIONS IN THE ERA OF THE FREE FLOW OF BIG DATA

Abstract

In recent decades the cyber and space domains have received a vast growth in significance with space now regarded as the fourth domain of warfare and cyber as the fifth. Initially conceived for research collaboration between governmental and other public or private actors in the 1960s before undergoing explosive growth for mainstream commerce from the 1990s onwards, Information and Communication Technologies (ICTs) and most importantly, the Internet of Things (IoT), has come to pervade nearly all aspects of modern society. This has made it an increasingly attractive target for cyber-attacks, with more than a dozen states thought to possess advanced cyber-capabilities at present. In this regard, this paper will examine at first how (big) personal data and private information enter into great risks in the era of the free flow of information, with respect to International and European legal instruments, such as the European Convention on Human Rights (ECHR). Indicatively, non-state actors, such as cyber-hackers, may possess the necessary capabilities to provoke harm while evading the legal system. Furthermore, since there is no legal regime governing cyber-crime and cyber-attacks both on Earth-based and space-based operations, except from various technical instruments, it becomes apparent that an area from which to draw law has to be defined; the borderless nature of cyberspace dictates that traditional rules could only be applied to a limited extent. Departing from the obligations set forth in the Outer Space Treaty and the Liability Convention, this paper will examine what kind of threats at the junction of space and cyber security can take place and how could they be envisaged. At this point this paper will argue that even though the drafting of a new treaty, similar to the Outer Space Treaty, regulating inter alia cyber-responsibility and liability will not be fertile, however, concrete rules of law should be drafted to provide a minimum of guidance for space operations. Specifically, pertaining to liability, claims under the existing legal regime are based on the premise that there is an identified space object. In this connection, this paper will argue that the cyber-security law is not a law focused solely on regulations but on ensuring that an evidentiary body has been created that protects the space operator from potential claims resulting from a cyber-security incident.