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Author: Mr. Stefan A. Kaiser
Germany

LEGAL APPROACHES TO NETWORK DRIVEN SPACE APPLICATIONS

Abstract

New investors foresee large satellite constellations for establishing privately owned space based global networks. This involves diverse new technical approaches, not only the space hardware of the constellations, but also new information technology that has not yet been used in space. It will include also information storage and computing on space based platforms. Once the new hardware is in space, in addition we will see a dynamic growth of new (space based) applications through software. The full range of capabilities of the future 5th generation mobile networks standard will unfold in space. As a result, the traditional technologies used for space based communication, navigation and remote sensing will be re-shaped and merge. Key will be the network structure of direct communication links among satellites in Earth orbits, rather than the traditional "bent-pipes" which relay communication flows among terrestrial stations. Consumers will be able to directly access these space based networks.

The legal implications of multifunctional networks detached from national territories are manifold. At the center are issues of jurisdiction and legal and factual control. When new investors make use of the freedom of use of and access to outer space to establish new space based networks, they bring new global networks under the control of a single entity. When end-users are promised to get direct access to high-speed internet all over the internet, who takes care that network providers will not misuse their dominant market position? Who takes care of the end-users' privacy rights and their protection as consumers? Who ensures that the new network operators do not by-pass national regulations? Which international regime applies for networks detached from the Earth and who has regulatory control and oversight? This paper will explore approaches to these questions in light of the principles of State responsibility and jurisdiction.