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INTERNATIONAL REGULATORY AND LICENSING SCHEMES FOR TELECOMMUNICATION SATELLITES IN LOW-EARTH ORBIT TO MITIGATE ANTI-COMPETITIVE BEHAVIOUR AND MANAGE NATURAL MONOPOLIES

Abstract

Previous work has been undertaken (Green, Neumann, Grey 2018) to consider the development of the Newspace Sector and its impact on space activities in Low Earth Orbit (LEO).

This previous work noted that although propertisation of space and celestial bodies is prohibited pursuant to the Outer Space Treaty 1967 (UN), orbits within space still remain rivalrous and commercially lucrative. For example, by operating in a LEO environment, a satellite; or, constellation of satellites would prevent other competitors from also operating and providing services within that same orbital plane or orbital shell.

A licensing scheme may be advantageous in mitigating anti-competitive conduct between private enterprises by allowing new entrants to market to bid on orbital planes or orbital shells in LEO for a specified period of time. However, a bidding process may also inadvertently preclude smaller entrants to market from establishing telecommunication or similar services to the general public as they may be 'out bid' by larger competitors, creating a smaller class of providers who may provide telecommunication or similar services from LEO.

Alternatively, a set amount of orbital planes or orbital shells may be equally divided and allocated to all nations to achieve equity and prevent larger competitors from outbidding smaller competitors. However, such a scheme may also prove undesirable as some nations may receive a allocation of orbital planes or orbital shells at a lower altitude, and therefore be more susceptible to orbital drag. Alternatively, nations with a higher altitude orbital plane or orbital shell may be more exposed to electro-magnetic radiation and latency issues with ground stations and end users.

Finally, prioritisation of LEO orbital planes or orbital shells may be given to operators on a merits review basis by an international regulatory body. However, such a merits review process may provide insufficient scope for appeal or third party oversight for those actors denied permission to occupy LEO orbital planes or orbital shells.

This paper will consider these issues and explore what a regulatory or licensing scheme would look like for private enterprises operating in LEO and how UNOOSA and the ITU may act as arbiters in these instances. This paper will also offer solutions to facilitate a regulatory or licensing scheme that prevents anti-competitive conduct.