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SPECTRUM POLICY FOR SPACE RADIOCOMMUNICATION SYSTEMS

Abstract

Commercialization of the space environment includes, among other things, a focus on providing broadband communications capabilities from satellite networks that would complement terrestrial broadband services, such as 5G, and provision of other space-based services such as environmental monitoring and space-based radionavigation. However, regulating space radiocommunication systems to fully realize the benefits of these space-based services depends on achieving a balanced approach to spectrum regulation that recognizes the inherent differences between satellite and terrestrial radio services and strives to create a regulatory environment in which both can thrive. Two aspects of an enabling regulatory environment in which the full benefits of space-based radiocommunication services can be realized are: 1) sustaining the radiofrequency environment for space-based systems, and 2) maintaining a globally harmonized and stable spectrum regulatory environment for provision of space-based radiocommunication services. The first of these two aspects is reflected in the National Space Policy from June 28, 2010 and, more recently, the Presidential Memorandum on "Developing a Sustainable Spectrum Strategy for America's Future" of October 25, 2018. The second aspect is evident in decades of international spectrum regulatory decisions reflected in the International Telecommunication Union (ITU) Radio Regulations as well as corresponding domestic regulatory decisions and precedents. This paper will explore these two necessary conditions of an enabling regulatory environment for space radiocommunication services, the need for a balanced national and international approach to enable these and other services that rely on radio spectrum, and the consequences of imprudent spectrum policy decisions that can bias outcomes and have the effect of picking technology winners and losers.