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ITU'S EVOLVING REGULATORY REGIME FOR SATELLITE REGISTRATION: THE CASE OF LARGE LEO CONSTELLATIONS

Abstract

The International Telecommunication Union's (ITU) Radio Regulations were established in the early days of the twentieth century for the purpose of forging an international regime under which states would protect the operations of other countries' radio stations from harmful interference from their own radio operations. This concept, which was then urgently needed for maritime radio communications, particularly for safety, led to the creation of a global registration system, the Master International Frequency Register (MIFR), to record countries' radio assignments entitled to international recognition (i.e., protection from harmful interference) under the terms of the Radio Regulations.

With the advent of space systems, and the need to ensure international protection of associated radio operations from their positions in space, new chapters of the ITU's Radio Regulations, including processes for coordination, recording, and registration in the MIFR, were developed and added over successive treaty conferences. Indeed, this process has never ceased and will continue later this year at the 2023 World Radiocommunication Conference (WRC-23). As new space services and applications are being designed and implemented at an increasing pace, they drive ongoing updates and expansion of the Radio Regulations to facilitate and protect these new operations. One area of recent focus by ITU and recent WRCs is treatment of the growing number of filings for new large Low Earth Orbit (LEO) satellite constellations. The challenges include not only ensuring spectrum availability and coordination of these new systems so that spectrum and orbital resources will be utilized efficiently and equitably, without causing harmful interference to other operations registered in the MIFR, but in deciding how to preserve the integrity of the MIFR itself.

This paper will describe the role of the ITU's MIFR for satellite and other space systems with focus on the recent activities in response to the unprecedented rise of large LEO constellations, including related preparations for WRC-23 in Dubai 20 November-15 December. The paper will further compare and contrast key elements of the ITU and its MIFR with United Nations Committee on Peaceful Uses of Outer Space and the Registration Convention. Finally, in light of this emerging era of commercial space activity coinciding with new leadership at both of these UN organizations, this paper will briefly explore opportunities for increased collaboration between them to address these shared challenges.