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THE ITU RADIO REGULATIONS - CHALLENGES FOR SMALL SATELLITES

Abstract

This paper reviews outcome of the last World Radiocommunication Conference (WRC-12) and the ITU international radio regulatory framework and challenges for the small non-geostationary-satellites (non-GSO). There is no regulatory definition for small satellites. The ITU Radio Regulations (RR) recognizing only geostationary (GSO) and non-GSO satellites. This paper will explain allocation of frequency bands to non-GSO satellites and to specific radiocommunication service is described in the Article 5 of the RR. Sharing and protection and criteria for different non-GSO satellite services are contained in various ITU-R recommendations. These recommendations are results of studies by the ITU-R Study Groups (SG) related to interference and sharing between different radiocommunication systems and services. With regards to small satellites (in particular for nano and picosatellites), WRC-12 has recognized that the need to review existing regulatory framework, and has requested the ITU-R Study Group to carry out a study for reporting to WRC-15. During WRC-12, the conference considered that that nanosatellites and picosatellites may require regulatory procedures which take account of the short development cycle, the short lifetimes and the typical missions of such satellites. Through a WRC-12 Resolution 757 "Regulatory aspects for nanosatellites and picosatellites", the conference requested the ITU-R to examine the procedures for notifying space networks and consider possible modifications to enable the deployment and operation of nanosatellites and picosatellites, taking into account the short development time, short mission time and unique orbital characteristics, and instructed the Director of the Radiocommunication Bureau to report to WRC-15 on the results of these studies. All stakeholders involve in the small satellite industry is invited to participate in these ITU-R studies. It is expected that WRC-18 will take up the matter to consider whether modifications to the regulatory procedures for notifying satellite networks are needed to facilitate the deployment and operation of nanosatellites and picosatellites. This paper will inform about the progress of studies related to regulatory aspects of small satellites and its impact on different satellite services.