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ITU CONTRIBUTIONS TO THE COLLECTIVE EFFORTS ON SPACE SUSTAINABILITY, FROM RESPONSIBLE USE OF SPECTRUM TO LOW EARTH ORBITS.

Abstract

The growing number of satellite systems being submitted to ITU for coordination, notification and operation in a near future, together with the continued and expanded launch and operation of non-geostationary satellites being observed in Low Earth Orbit are an indication of the current need to take action and instrument globally harmonized guidelines compatible with the technological trends in individual scientific missions as well as large constellations of communications satellites being deployed.

Since 1963, governments, private sectors and ITU have crafted and implemented Space Radio Regulations that enabled citizens and devices to be interconnected all over the world by thousands of satellite systems currently operating, representing more than 6 THz of spectrum coordinated and being used by different types of space services and applications with a level of harmful interference reported to the Radiocommunications Bureau below 0.05

This responsible use of spectrum through over 60 years requires a similar approach in terms of using orbits in space, noting that the spectrum component cannot be disassociated from objects or spacecrafts.

In this space-dependent society and infrastructure, with a promising future derived from this new space era with multiple actors, it results evident that collective efforts are the only answer to achieve success at long term.

The paper will explore and provide an overview of currently available guidelines and policies put in place by governments, space agencies and satellite operators, and focus, in particular, in the contributions from recent decisions taken by ITU Member States at its Radiocommunications Assembly, World Radiocommunication Conference 2023 and subsequent actions that will contribute to a harmonized deployment of spacecrafts in Low Earth Orbit, as well as post mission disposal or deorbit, as a way to assure the continuous access and efficient use of spectrum orbit resources.