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Assuring a Safe, Secure and Sustainable Environment for Space Activities (4)

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ROLE OF EMERGING NATIONS IN ENSURING LONG-TERM SPACE SUSTAINABILITY

Abstract

Over the past decade, the number of member states at the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) has risen by 40

This paper addresses the role of emerging space nations in updating and refining current policies and norms of behavior related to the long-term sustainability (LTS) of the space environment. The paper provides examples of recent implementation of LTS in the national space strategies of several emerging space nations, highlighting the importance given by nations to the development of legal mechanisms to regulate the peaceful use of the space environment. Examples include Thailand's 2021 Draft National Space Act, aimed at creating a national legal regime and establishing a governmental agency dedicated to developing space policies for the registration of objects launched into outer space and space debris mitigation measures], and the National Space Law Initiative (NSLI) study group consisting of Australia, Indonesia, India, Japan, Malaysia, Philippines, Republic of Korea, Thailand and Viet Nam to create a framework that aims to promote information sharing and mutual learning in relation to the participant's respective national regulatory frameworks for LTS.

More recently, new initiatives have been developed that celebrate the efforts of satellite mission operators who work to reduce the likelihood of space debris and collisions among space objects. The Space Sustainability Rating (SSR) was created by the World Economic Forum, the European Space Agency, the University of Texas at Austin, BryceTech and the Massachusetts Institute of Technology, and is now hosted by the EPFL Space Centre. The SSR is a rating system to assess and recognize missions that are designed to be compatible with sustainable and responsible operations that reduce the potential harm to the orbital environment and the impact on other operators. The paper provides an exploratory multi-case study approach to assess the SSR scores for two mission-types (University Cubesats and Earth Observation missions) launched by emerging space nations. Based on the outcome of the analyses, the paper identifies barriers and unique challenges emerging space nations might face in developing missions that can achieve a high SSR. These barriers may include the experience of operator organizations, launch options, financial constraints, or available technical options, among other possible factors.