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THE POLITICAL AND LEGAL LANDSCAPE OF SPACE DEBRIS MITIGATION IN EMERGING SPACE NATIONS

Abstract

The issue of space debris and its impact on space sustainability is a growing concern that requires collective action from all nations. Over the past decade, the number of spacefaring nations have increased, as evidenced by the number of satellites launched by emerging space nations and by an increase in the number of applications for COPUOS membership from emerging member states. More recently, there has been an uptick in emerging space nations stating their commitment to join the COPUOS LTS 2.0 Working Group, as well as nations who have opted to join as signatories to initiatives such as 'Net Zero Space' (e.g. Azercosmos, Egyptian Space Agency, GISTDA), and the Artemis Accords (e.g. Nigeria and Rwanda). These initiatives share a common goal of promoting the sustainable and responsible use of space to ensure the long-term sustainability of space activities, including: 1) the recognition of the need for sustainable practices; 2) the importance of promoting cooperation in long-term sustainability between all nations; 3) the support of international guidelines and best practices; and 4) the recognition of the increasing role and contribution of emerging space nations.

Given the rapid diversification of the space sector, and in accordance with Part C International Co-operation, Capacity-Building and Awareness of the COPUOS LTS guidelines, many emerging nations continue to face challenges in implementing space debris mitigation and removal measures. The aim of this paper is threefold: 1) showcase examples of emerging space nations who are actively supporting the support and sustained use of space at a national, regional, and international level, which includes complying with existing binding requirements concerning space debris within the national laws; 2) provide an analysis of political, legal and institutional challenges faced by emerging space nations in implementing space debris mitigation and removal measures including limited financial resources and incentives, and limited institutional capabilities; and 3) provide an analysis using the Space Sustainability Rating (SSR) for two mission types commonly launched by emerging space nations (university Cubesats and Earth observation missions). The study aims to identify potential challenges and opportunities in the adoption of the SSR by emerging space nations, and dispel the perception that sustainable design, operations and implementation of the LTS guidelines is a barrier for emerging space nations. The selection of nations chosen for the analysis of this paper will aim to ensure a representative sample of diverse space market sizes and maturity, with particular consideration given to geographic diversity.