Paper ID: 52226
student

32nd IAA SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS (E3)
Assuring a Safe, Secure and Sustainable Environment for Space Activities (4)

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THE CRITICAL ROLE OF NORM-BUILDING AND COLLABORATION IN "STANDARDIZED, SAFE, AND SUSTAINABLE" COMMERCIAL ON-ORBIT SATELLITE SERVICING (OOS)

Abstract

Modern space operational domains–economic, scientific, intelligence, and military–are regulated by a complex array of international treaties and principles, domestic legislation, governmental and corporate policies, customs and precedents, and the particulars of party-to-party contracts. Despite the wide diversification of commercial actors in space activities in the past two decades, space governance remains characterized by a relatively limited set of legally binding treaties under the Legal Subcommittee (LSC) of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), and these texts contain broad language to assure plausible unilateral consensus. For example, Article VI of the Outer Space Treaty (OST) empowers member States to pursue individual legal interpretations of their obligation to continually supervise and regulate developing commercial space capabilities within their borders. Consequently, commercial developers of innovative services, such as On-Orbit Satellite Servicing (OOS) technologies enabled by Rendezvous and Proximity Operations (RPO) capabilities, enter into an operational domain in which their activities are dominated by a combination of domestic regulatory oversight and any collaborative "norms" and "best practices" that constitute non-binding industry standards worldwide.

Furthermore, the 1972 Liability Convention provides both barriers and opportunities for commercial actors looking to develop RPO and OOS services and come to formal and informal consensuses on their standardized, safe, and sustainable use on-orbit. As OOS remains an emergent set of technologies heavily dependent on accurate Space Situational Awareness (SSA) data, commercial providers of OOS, regulators of such activities, and governmental and commercial providers of SSA capability all stand poised to act as key players contributing to and directly influencing both legal licensing structures and non-legal "best practice" standards of operation for OOS activities. Outside of traditional UN forums such as the Working Group on the Long-Term Sustainability (LTS) of Outer Space Activities, forums such as the Consortium for Execution of Rendezvous and Servicing Operations (CONFERS) serve as a venue for developers, operators, investors, customers, policymakers, and military, to engage in a norm-building process, fostering Transparency and Confidence-Building Measures (TCBMs) and work towards a collective set of industry standards that jointly protect commercial participants' business models without sacrificing strategic interests of national security space architectures. This paper will elaborate on the significance of recent successes in such norm-building institutions, discuss the function of non-binding norms of operation in national space strategic and military frameworks, and reflect heavily on the security implications of commercial OOS, active debris removal (ADR) activities, and other space sustainability efforts.