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Legal Challenges Represented by Large Satellite Infrastructures and Constellations (4)

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EVOLVING OPERATOR “DUTY OF CARE” FOR LARGE SATELLITE CONSTELLATIONS

**Abstract**

Historically, fewer than 200 satellites have been deployed annually. That rate has change in recent years. In 2015, more than 200 CubeSats were deployed. Now, well-resourced investors have announced plans to place several large constellations consisting of hundreds of satellites in low-Earth orbit. The amount of debris produced by deploying these systems will grow and the risk of on-orbit collision will increase, posing threats that will last for decades, centuries, or longer. Even if constellations are designed to mitigate debris, the orbital environment will deteriorate unless operators plan and collaborate in order to operate systems more responsibly in order to protect and sustain the space domain. Initial statements of these obligations are embodied in 1967 Outer Space Treaty to which all spacefaring States have acceded. Three key principles in Article IX of that treaty—Cooperation, Mutual Assistance and Due Regard—and its Affirmative Duty to Consult serve as important starting points to assure spacecraft safety and preserve the outer space environment. With nearly 60 years of experience, generational technological improvements, and evolved operator best practices, this paper examines how space operator ”duty of care” obligations have evolved response to increasing risks faced in the space domain, including those posed by large constellations.