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ENABLING A SUSTAINABLE LEO ENVIRONMENT THROUGH OPERATIONAL TRANSPARENCY

Abstract

The long term growth and sustainability of Low Earth Orbit (LEO) is contingent on keeping the problem of space debris under control. Key to this effort will be increased transparency that makes adherence to best operational practices for reducing debris verifiable to third parties, and that makes creation of new debris visible by all. LeoLabs is building a commercial worldwide space tracking network that will provide operational monitoring of the activities of all objects larger than 2 cm in LEO. Based on this data, LeoLabs now provides precision satellite tracking, Conjunction Data Messages (CDM's) for potential collisions, and notification of maneuvers. The archived data set provides a record of operational compliance with best practices. Armed with such information, spacecraft operators can more safely operate in LEO, spacecraft owners can more confidently understand and predict the orbital environment, regulators can enforce norms of behavior and monitor for best debris avoidance practices, investors can better understand and hedge risks, and insurance companies can properly price policies and can reward responsible behavior. All these pieces are needed to enable the future economic development of LEO.