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THE CONTRIBUTION OF SPACE OBJECTS INSURANCE REGULATIONS TO SPACE TRAFFIC
MANAGEMENT

Abstract

In this article, I argue that properly defined insurance regulations for the operation of space objects can become a building block of a sustainable space traffic management (STM) system. I look at Third-Party Liability (TPL) insurance requirements asked by regulators at the time of licensing the operators of a space object and consider their impact on STM.

The Liability Convention (1972) has States liable for damages dealt to third parties by operators they have licensed. A collision might result in potentially high financial costs, and States now take into consideration potential future financial liabilities when licensing spacecrafts.

This has led to an increase in the number of States requiring the subscription, by operators of a space object, of a TPL insurance prior to authorizing the licensing of a space activity. We currently observe a variety of applicable regimes with regards to TPL insurance requirements: some states mandate it for all space objects, like the UAE, while others have requirements that can be waived in specific cases like the UK for smallsats. Others, like the USA don't mandate any TPL insurance and make them a voluntary-based subscription.

TPL insurance typically varies based on risk exposure created by the licensed spacecrafts, the reliability of its operator, and risk mitigation measures put in place ex-ante and ex-post the spacecraft's launch. As such, underlying mechanics share common ground with STM metrics.

Requiring the subscription of a TPL insurance has pros and cons. Requiring TPL insurance might reduce attractiveness by creating financial and administrative burdens on operators registering activities in a given country. On the other side, I believe such an obligation creates positive outcomes that directly contribute to a better STM regime.

Firstly, it is expected that TPL insurance requirement regimes will induce operators in being more vigilant when conceiving systems and assuming operations of spacecrafts in order to provide guarantees that will reduce the TPL insurance paid to insurers. Secondly, imposing requirements forces regulators to improve their understanding of STM fundamentals and therefore contributes to bringing STM issues in the daily operations of licensing authorities. Thirdly, it will force markets to include a financial metric into STM by creating insurance products.

I conclude the article by assessing the necessity of generalizing TPL insurance requirements across space nations, looking at the balance of pros and cons from all players' standpoint, and possible means of doing so in or out of an STM framework.