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Norms and Standards for Safe and Responsible Behaviour in Space (3)

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THE SAFETY AND SUSTAINABILITY OF SPACE OPERATIONS: EUROPEAN PERSPECTIVES

Abstract

The increasing number of satellites being launched and deployed in Low Earth Orbit (LEO) is triggering discussions and policy actions, at national and international level on the issue of space safety and sustainability. Another reason is the diversity of players accessing space, both governmental and non-governmental, in an environment where there is a lack of agreed international norms of behavior for satellite operations. Therefore, with the increasing satellites in and the diversified set of actors operating them, there are more challenges for the sustainability and safety of operations in space, including an increased risk of creation of space debris resulted from in-orbit collisions. While many of the systems for space situational awareness (SSA) are still under development, including in Europe, it may be reasonable to assess if the number of risks of collisions which can be managed efficiently is limited. This leaves us with many unknowns in how to efficiently manage a growing space traffic at international level. These uncertainties underline the importance of the discussions at international level to maintain the long-term sustainability of space activities, while developing the potential of the space economy.

For this reason, the key question for Europe related to space activities may be how to maintain an independent access to outer space, how to contribute to space sustainability to avoid collisions on the long term, while growing its space industry, technologies and services in orbit. The potential congestion of the commercial orbits, is therefore challenging the traditional norms and policies, and can raise the question, what if a collision will generate so much debris that access to space will be limited? Or what if an intentional/non-intentional collision will trigger a conflict in outer space? What could be the pricing models of deorbiting space debris? How trustworthy are SSA data? All these questions put the European space activities within a position of self-reflection about the independent access to space, militarization and commercialization of space activities.

This paper aims to analyze what does a safe and responsible behaviour in space would imply from a policy perspective, presenting the latest European initiatives in the domain, including Space Traffic Management and present potential gaps.