

Slovenian SMEs' Innovation for Space: Benefits and Challenges of the Cooperation in Space Missions through European Space Agency

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A space is the ultimate unknown, a source of imagination. Since the 4th October 1975 when Sputnik 1 was successfully launched by the Soviet Union, the space sector has also been the epitome of innovation. Innovation for space has certain distinctive characteristics, related to: a) stakeholders, b) regulation and c) competition aspects. Unlikely in other sectors, governments and their bodies, regional governmental bodies, militaries and state companies are among chief stakeholders of the space sector. Private, commercial entities became an important (and influential) part of this economy only a decade ago. By law, a responsibility of each space mission always falls to the (launching) state, never to a company. The sector is remarkably competitive, to the extent that literature refers to it as »space race«, which is very indistinctive for sectors, where states (not companies) have dominant position as biggest investors.

Space activities involve a sophisticated technology, which is creating extremely high operating costs, resulting in an on-going investment. IP rights in outer space may be tools to secure the return of such investment. Since the adoption of the Outer space treaty in 1967, which promotes freedom of exploration, use and non-appropriation of outer space, private investors are concerned for protection of their investment. The aim of space law is to secure benefits for all mankind, while IP law protects private property. The legal theory is still trying to find a best way to balance the public benefit and interests of private entities in space.

Since 2016, when Slovenia signed an association agreement with European Space Agency (ESA), Slovenian companies started to participate with their research and innovative products in ESA/EU space missions. The objective of the study was to explore a business model of such cooperation and define and analyse benefits and challenges of Slovenian SMEs, which are part of ESA cooperation. Findings indicate that Slovenian SMEs lack a joint and more structured approach towards ESA, possibly through a formation of a cluster of Slovenian "space companies". The use of intellectual property rights to secure the investment in space research is currently not widely practiced among these companies.

Keywords: space innovation, intellectual property, Slovenia, European Space Agency, cluster, SMEs