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Is Space R&D Truly Fostering A Better World For Our Future? (2)

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UNDERSTANDING THE POTENTIAL ECONOMIC AND SOCIETAL IMPACT, OF PATENTING SPACE TECHNOLOGY AS A TOOL FOR TECHNOLOGY TRANSFER.

Abstract

Technology Information is vital for all sectors involved in RD activities, such as government, corporations, startups and academia. The main sources for technology information are professional and scientific literature, congress proceedings and patents of invention. Patents of invention fulfill legal mechanism of protection of the research effort by granting exclusive rights to the owner in exchange for disclosure which in turn benefits society. Patents of invention are scarce in the space sector, as data form the European Patent Organization shows for the spacecraft subcategory (B64G) in 2017 around 200 patents were filled. A query from the US patent office open data sets, for the same period shows 134 records of patent fillings under B64G category. The reasons why the space sector patent filling is so low compared to the produced research, quantifiable in academic papers and overall investment, are still debated. Patents represent a tool for protections of the exclusive use of new technology while giving access to society to the knowledge of that technology. This study seeks to take advantage of open access data bases and big data tools to analyze space patent fillings compared to other industries with similar economic size and impact. Additionally, using patent quality indicators developed by the Organisation for Economic Co-operation and Development (OECD), inventive level and capacity for technology transfer will be characterized from the numerical analysis of the diversity of the different space patent fillings. Space is hard meaning space research is a resource intensive activity, a possible explanation of why researchers see patents as non-affordable activity. However, in a time of limited funding availability, the capacity of technology transfer can represent not only an asset for society but the key to secure investment. The prospect of licensing or commercialization of the earthbound applications of a new space technology can represent a real possibility for regaining the investment even after the most ambitious startup runs out of resources, as is constantly seen in the new space ecosystem. By analyzing data and understanding the possibility for growth of the patent fillings and the potential technology transfers capacity of the sector, not only a case for societal benefit can be made but also for increased funding for space research both in the public and in the private sector.