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BRINGING DOWN THE REGULATORY ENTRY BARRIERS TO THE SPACE SECTOR

Abstract

Commercial space has a track record of success of more than fifty years, dating back to the launch of the Early Bird satellite. Communications and remote sensing have historically been the two main activities of commercial space, along with the provision of services in support of national space programmes. The sector has experienced rapid growth during the past years and has welcomed the arrival of new ventures proposing to expand space services into realms such as high speed broadband connectivity, education or on-orbit research. In particular, one of the disruptive technologies with higher potential in commercial space is low-cost, short-duration small satellites. It is often asserted that the development of these industries is hindered by regulatory barriers, and that these can be overcome with appropriate government policy or industry initiatives. This is especially true for start-ups or small companies – which generally work to short mission life cycles and with very limited resources – where complex and time consuming regulatory requirements can become unmanageable. The purpose of this paper is then to understand the various regulatory entry barriers to the space sector, analyse their impact on incumbent and new players' operations and explore options to bring them down. In particular, the paper aims to identify ways of ensuring that regulatory barriers do not prevent entrepreneurship in the sector. Firstly, the insurance, licenses and spectrum and orbit rights required to launch a satellite, operate it and provide commercial services are identified, along with the cost and timescales associated. In particular, the study explores the regulatory affairs that an entrepreneur based in the UK – one of the world hubs for space start-ups – needs to handle to ensure the success of his or her space venture. The impacts of these barriers on commercial space initiatives are then quantified. For completeness, the impact analysis considers various types of services – such as space communications or on-orbit research. Results of the research and impact analysis are then used to identify the most restricting regulatory entry barriers to the various commercial activities of the space sector. In addition, suggestions for minimizing the effect of the existing barriers and for eliminating future barriers are provided. Updates to the UK policies and to the ITU procedures – in terms of spectrum and orbit access – in order to facilitate the development of new space ventures are suggested as well.