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DEVELOPMENT (D3)

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DISRUPTIVE R&D IN THE SPACE SECTOR

Abstract

The Space sector is entering into a new phase which is characterized by the digital revolution as well as by industry 4.0, while it is becoming increasingly relevant to address the global challenges associated with the United Nations Agenda 2030 for Sustainable Development [1]. In this new context it is essential that Space Agencies refocus their activities and programmes in such a way that they can properly innovate, inform, inspire and interact, while sustaining and improving development and economic growth in their member states [2], and offering new opportunities for cooperation with new private actors (e.g. Space X, Planet, etc. . .), which are entering into their traditional ecosystem, disrupting both the traditional technological and business models. A new framework is therefore arising with the goal to ensure a seamless chain of innovation, enabling more cooperation between academic institutions and research establishments together with industry and end-users, in order to allow for uninterrupted, rapid development from idea to product or service and sustain competitiveness in an efficient manner, also through new funding schemes and commercial partnerships for dedicated activities, that could inspire citizens while addressing challenging space projects for the decades to come. The paper provides concrete examples of innovative RD approaches in the space sector and intends to identify key methodologies, which can be applied to space related processes at large, such as co-creation, open innovation, design thinking, innovative manufacturing, digital organizations, open service innovation [3], [4], [5]. In its conclusion it summarizes a recent initiative which was launched by the European Space Policy Institute to engage with the most relevant stakeholders that could contribute to the definition of the synergies between the European Space 4.0 strategy and the United Nations Space2030 agenda [6], to address capacity building in four thematic areas: innovation and exploration, space for global health, climate change and resilient societies and capacity building in the XXI century.