IAF SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
Integrated Applications End-to-End Solutions (2)

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SPACE2030 AND SPACE 4.0: SYNERGIES FOR CAPACITY BUILDING IN THE XXI CENTURY

Abstract

New innovation models are increasingly spread across sectors and disciplines, including Space, which is becoming an integral part of many societal activities (e.g. telecoms, weather, climate change and environmental monitoring, civil protection, infrastructures, transportation and navigation, healthcare and education). Space 4.0 ambitions are to place space at the heart of the successful evolution of Europe and the full implementation of the United Nations Agenda 2030 worldwide. The outcomes of the conference "Space2030 and Space 4.0: synergies for capacity building in the XXI century", recently co-organized by the European Space Policy Institute (ESPI) and the United Nations Office for Outer Space Affairs (UNOOSA), with the support of the European Space Agency (ESA), point to the timeliness of a fresh look at the wider perspectives and strategies to be implemented in future space programmes. The paper summarizes these findings and recommendations involving stakeholders and representatives of civil society, mapping out available options and identifying the ideal conditions for their successful implementation. Innovative frameworks, partnerships and collaborations in this ecosystem are explored, posing special attention to improving the dialogue with civil society and other sectors, to make them aware of the potential of space, and to the creation of new mechanisms to identify, collect and process user needs, in order to design, implement and fully exploit future space programmes. In this context, potential synergies between the UN agenda Space2030 and the ESA Space 4.0 strategy are identified, focusing on four thematic priorities of UNISPACE+50: Global partnership in space exploration and innovation; Strengthened space cooperation for global health; International cooperation towards low emission and resilient societies; Capacity building for the twenty first century. Through these themes, the interplay and dependencies amongst key actors are identified, and a special emphasis is placed on future approaches of the diverse groups of stakeholders involved, leveraging the existing space infrastructure, institutions and networks while reinforcing and expanding their scope and effectiveness in ensuring that space becomes an important driver for sustainable development. For example, future integrated services will capture new citizen needs and target sustainable development goals, creating unprecedented opportunities for Europe worldwide. This will be enabled by Copernicus, Galileo and by the emergence of new satcom infrastructures for 5G, serving new markets by providing broadband connectivity to rural areas. Space is therefore increasingly becoming the link among systems of systems, and its enabling function may represent a key element actively contributing to a sustainable future on Earth.