

54th IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Knowledge management in the digital transformation (2)

Author: Dr. Christina Giannopapa

Ministry of Digital Governance of Greece, Greece, christina.giannopapa@esa.int

SPACE AS AN ENABLER FOR SUSTAINABLE DIGITAL TRANSFORMATION: THE NEW SPACE
RACE AND BENEFITS FOR NEWCOMERS

Abstract

Disruptive events are the ones that have historically transformed our world. COVID-19 has forced governments and companies to seek transformation in particular in the field of digital. Space has been an enabler for a number of sectorial policies e.g. agriculture, defence, maritime. Digital transformation requires connectivity providing “anything”, “anytime”, “anywhere”. Space as an enabler for digital transformation has become a centerpiece for socioeconomic sustainability and growth. Mega constellations provide telecom services globally and will directly compete with the terrestrial telecom operators, in the next years while the telecom operators should concentrate on the investment of 5G infrastructure. The most promising mega constellation is the one planned by Starlink, which will consist of more than 40,000 satellites in Low Earth Orbit (LEO), with service coverage of the whole surface of Earth. It is to be highlighted that there is no European project of this scale. The strong point of the Starlink mega constellation is the complete vertical integration: satellite design, manufacturing, launching, control, operation and telecom service provision by a single group of companies. The economies of scale which would be achieved could lower the retail prices of the telecom service to levels which will not be viable for the terrestrial telecom operators. Thus a strong dependency of European telecommunications with the non-European mega constellation like Starlink is expected. The European Union is to develop the next flagship programme in the field of connectivity, following the announcement of Commissioner Breton on 15 July. The Commissioner stated that “... we already need to look beyond 5G. I am talking about starting to prepare for 6G of course, but not only. The next paradigm shift is about linking connectivity with space to provide high-speed connectivity everywhere in Europe”. This has been confirmed by the 22 March Action Plan placing it as the next European flagship after Galileo and Copernicus. It will build on Govsatcom, European Quantum Communications Infrastructures. Small countries like Greece have been taking a step by step approach in ensuring the digital transformation of the country. These steps have been at the level of policy, governance, programmatic and financial instruments. The much higher data rates available would change the transmission of data to and from locations. An opportunity arises for new architectures where satellites can provide internet connectivity blend with terrestrial wireless or wired networks. The service to the user will be seamless and unaware of switching between the different infrastructures. This paper will provide an overview how Europe and small member states have been preparing its space related activities in combination with non-space activities for the digital transformation of the country.