

IAF SPACE OPERATIONS SYMPOSIUM (B6)  
Ground Operations - Systems and Solutions (1)

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THE EO GROUND SEGMENT: RE-IMAGINING SPACE IMAGING FOR SPACEFARING NATIONS  
IN THE LIGHT OF EVOLVING OPERATORS'NEEDS, NEW SATELLITE MISSIONS AND  
INNOVATIVE TECHNOLOGIES.**Abstract**

Behind every satellite mission there is a ground segment. The ground segment has become a crucial element for space nations who own a satellite or a constellation to ensure their mission's success. It is a key enabler for public institutions or space agencies to meet with the effective benefits of the Earth Observation satellites they operate. Airbus' mission has always been to support our customers to make the most of their space assets, to get imagery on time and on quality, to deliver actionable insights to solve their country's challenges and to understand their ever changing environment. Airbus has co-designed ground systems with the most demanding organizations in satellite operations that establish standards and our GS solutions are constantly evolving thanks to experience gathered from our customers throughout the world. All nations have a unique vision for an EO programme to support their country's their country's challenges and opportunities in terms of development, security and sustainability. For example, newcomers, emerging space nations or space leaders are differentiated in terms of experience, capability, skills, ambitions and nature of organizations and all have influenced both the space and ground segment. As such, the starting point of designing a ground segment offer is to take into account the diversity of space faring nations in their quest for imaging in time and in context. From a pure technological perspective, the ground segment has undergone a foundational technology shift poised between the IT ecosystem and the new space paradigm: big data, cloud infrastructure, open standards, use of COTS, XaaS, algorithm, AI, automation, security, modularity, UX on the one hand and constellations, multi-mission, multi-sensors, seamless satellite operations on the other hand. All these advances are now becoming mainstream and are plebiscited by decision makers and operators. This paper describes how Airbus is embracing both the evolution of usages and the technology revolution driving the EO ground segment market. The paper presents a new offer with three product lines integrating historic and new satellite missions'needs in all functional blocks: programming, telemetry, image processing and dissemination, mission operation, system architecture, security and end-to-end ground segment services. Airbus re-imagined space imaging and developed a new ground segment offer with this mindset, integrating customer voice, modularity, time-to-market innovations and technology drivers to create cohesive and global Earth imaging experiences to achieve a country's Space vision.