

IAF EARTH OBSERVATION SYMPOSIUM (B1)  
Future Earth Observation Systems (2)

Author: Dr. Annamaria Nassisi

Thales Alenia Space Italia, Italy, annamaria.nassisi@thalesaleniaspace.com

Dr. Carlo Ciancarelli

Thales Alenia Space Italia, Italy, carlo.ciancarelli@thalesaleniaspace.com

Dr. Luca Soli

Thales Alenia Space Italia, Italy, luca.soli@thalesaleniaspace.com

Mr. Julian Canettieri

Thales Alenia Space Italia, Italy, julian.canettieri@hotmail.it

Ms. Alba Iovane

Thales Alenia Space Italia, Italy, alba.iovane@gmail.com

Mr. Pietro Santoriello

Thales Alenia Space Italia, Italy, pietrosantoriello@gmail.com

Ms. Isabella Patatti

Thales Alenia Space, Italy, isabellapatatti@outlook.com

Dr. Vanessa Mastroddi

Thales Alenia Space Italia (TAS-I), Italy, vanessa.mastroddi@thalesaleniaspace.com

Mr. Andrea Rampa

Thales Alenia Space Italia (TAS-I), Italy, andrea.rampa@thalesaleniaspace.com

NEW CONCEPT AND TECHNOLOGIES FOR FUTURE EARTH OBSERVATION SYSTEMS IN  
CONSTELLATION AND DISTRIBUTED**Abstract**

In the last decade, the space economy landscape has been changed versus a more oriented towards providing information to the Client instead of the traditional approach, namely, to supply products and services. The new technology and computing power also influence this trend. Nowadays, the space systems' scope is to extend as much as possible the use of space application until they reach a critical mass of users. The number of Satellite-based Earth Observation (EO) Systems is growing, and new actors break into the market due to space technologies' evolution (onboard and ground). And the key user needs are driving the design roadmaps of the future EO Missions and LEO satellite Systems Infrastructures for both high revisit and high resolution. In this context, the answer is not to provide worldwide images but instead to focus on the final user's specific interest. For example, it is crucial to understand what and how to provide an adequate solution at the system level in case of high revisit time. The EO satellites' capability to pass over a given Region or Area of Interest several times a day depending on System dimensioning. They can drastically reduce the timeframe between successive imagery acquisitions by offering at the same time high-resolution performances and acceptable image quality strictly associated with the capability to detect objects on the ground. This paper focuses on new, emerging, or enabling technologies and system solutions to fulfil modern user needs in a complex environment.