

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

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NEW CONCEPT FOR FUTURE EARTH OBSERVATION SYSTEMS

Abstract

In the last decade the market is going to definitively change and is more oriented to provide the required information to the Client, instead of traditional approach to supply products and services. This trend has been influenced also from the new technology and increased computing power. Nowadays, the scope of these space systems is to extend as much as possible the exploitation of space asset by providing the information needed and reaching a critical mass of users. The aim of this paper is to focus the attention on new, emerging and enabling technologies together with system solutions in order to fulfill modern user needs in a complex environment. The number of satellite-based Earth Observation (EO) Systems is growing and new actors are coming on the market thanks to the evolution of space technologies (on board and ground). 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 new context the answer is no more to provide worldwide images, but to focus on the specific interest and applications of the final User. For example, in case of high revisit time it is important to understand for what and how to provide the adequate solution at system level. The capability of EO satellites to pass over a given Region or Area of Interest several times a day depends from System dimensioning and can drastically reduce the timeframe between successive imagery acquisitions, by offering at the same time high resolution performances and adequate image quality, strictly associated to the capability to detect and identify objects on ground. Thales Alenia Space has defined own product policy for SAR-based Earth Observation Systems suitable to meet such demanding requirements based on distributed systems, integration of heterogeneous sources, complementarity of small and large space infrastructures, together with remarkable enabling technologies in the field of image acquisition modes.