

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

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GEOSTATIONARY OBSERVATION SPACE SURVEILLANCE SYSTEM (GO3S) – REAL TIME
VIDEO FROM SPACE

Abstract

In its quest towards the perfect Earth observation sensor, the user communities have been challenging the engineers and the laws of physics in order to achieve systems able to acquire panchromatic images of the Earth from space with a precision of a few tens of centimetres. After this race to on ground precision, requests for large acquisition capacities, extended observation duration and high reactivity are now emerging. It is this persistence and flexibility of observation that Astrium proposes to address with GO3S - the Geostationary Observation Space Surveillance System.

Operated from the geostationary orbit, the satellite provides on demand video and images of any point of the area of visibility in quasi real time, bringing the world of imagery from a static world into a dynamic dimension. This high resolution video capability combined with the persistent observation open the way to numerous new applications, bringing additional reliable and sustainable information to assist decision makers in their strategic planning and management of industrial, economic and natural resources.

The proposed paper:

- Provides an overview of the applications enabled by real time video, from real-time maritime surveillance, surveillance of natural disasters, as well as more efficient management of civil and military emergencies, crisis or major events.
- Presents the system concept. Based on 4m monolithic Silicon Carbide telescope, active Wave Front Error (WFE) control, wide CMOS detectors matrixes, advanced on-board image processing and an ultra stable platform, GO3S benefits from the last innovations in the space-borne optical observation domain.
- Details the main mission feature and performances including the system time and space characteristics as well as the description of the various video and imagery products.
- Describes the operational concept. The permanent ground/satellite link availability allows integrating the satellite in the operational “real time loop” which is a major breakthrough with respect to the current earth observation principles based on “offline” exploitation.