

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

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GLOBAL MONITORING FOR ENVIRONMENT AND SECURITY SYSTEM (GMES): SENTINEL-1
MISSION**Abstract**

The Sentinel-1 mission is part of the Global Monitoring for Environment and Security System (GMES), which is designed to provide an independent and operational information capacity to the European Union to warrant environment and security policies and to support sustainable economic growth. In the frame of the GMES Space Component program, the European Space Agency (ESA) undertook the development of a European Radar Observatory, Sentinel-1, a polar orbiting two-satellite constellation for the continuation and improvement of C-band Synthetic Aperture Radar (SAR) operational services and applications. Satellite and payload provide routine, day-and-night, all-weather medium (typically 10 m) resolution observation capability. Ground infrastructure is provided for planning, mission control, data processing, dissemination and archiving. Free and open data access is provided. The unique data availability performance of the Sentinel-1 routine operations makes the mission particularly suitable for emergency response support, marine surveillance, ice monitoring and interferometric applications such as detection of subsidence and landslides. This paper provides an overview of the Sentinel-1 mission objectives and performance as well as a description of the spacecraft and payload characteristics. The Sentinel-1 mission is in an advanced phase of development and the launch of the first of the two satellites is planned for the second half of 2013.