

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

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SPOT 6 AND SPOT 7 : OFFERING SPOT DATA CONTINUITY

Abstract

Astrium's AstroTerra programme, encompassing the Spot 6 and Spot 7 satellites, ensures continuity of the services provided since 1986 by the Spot family in the areas of maritime surveillance, agriculture, mapping, defence and environmental conservation, with improved agility, reactivity, spatial resolution and geolocation performances. It also complements Pleiades Very High Resolution data services, being operated by Astrium on the same orbit. This self-funded system is owned by Astrium, who is also the satellite commercial operator. This is the first time in the remote-sensing industry that satellite development is entirely privately funded. The entire development has taken place in just a little more than three years after programme decision. The space segment is comprised of two identical satellites, Spot 6 and Spot 7, forming a constellation of Earth-imaging satellites providing high-resolution, wide-swath data over the next 10 years. Each satellite acquires worldwide data, with one panchromatic and four multispectral bands. The high agility of the satellites, combined with their demonstrated data collection capability of more than 3 million km of daily images and a reaction time as low as half a day between image request and image availability, offers customers a powerful tool for generation of 1.5 m image products. Both satellites draw on technological and operational innovations designed for Astrium's product lines, but also inherited from the Pléiades constellation. The satellites are in particular based on Astrosat 250 new generation avionics, together with an optical instrument based on the NAOMI product line. The satellite launch mass is 720 kg, with an orbital lifetime of 10 years for each satellite. The ground segment is comprised of the Control Ground Segment, and of an Exploitation Ground Segment in charge of user's request management, daily mission planning elaboration and image data reception, products processing, archiving and dissemination. In continuity of the Spot programme, Direct Reception Stations (DRS) are proposed to customers wishing to benefit from local reception and production services. This network of stations is starting to develop, with the objective to reach a total of 25 stations. The first satellite, Spot 6, has been launched on 9th September 2012. Formal acceptance has been pronounced on 14th December 2012: the satellite is now fully operational and commercial service is now being deployed. The second satellite, Spot 7, is planned for launch in December 2013. The article will further present examples of image products, highlighting their high quality.