

EARTH OBSERVATION SYMPOSIUM (B1)  
International Cooperation in Earth Observation Missions (1)

Author: Prof. Tony Milne  
Cooperative Research Centre for Satellite Systems (CRCSS), Australia, T.Milne@unsw.edu.au

PARTNERSHIPS IN EARTH OBSERVATION: COLLABORATIVE SAR SOLUTIONS - UK AND AUSTRALIA

**Abstract**

**Introduction** From September 2015 until June 2016, the Cooperative Research Centre for Spatial Information, together with Geosciences Australia and the CSIRO, partnered the United Kingdom Catapult Satellite Applications Centre in the first stage of a research and development program designed to promote the greater use and application of synthetic aperture (SAR) satellite data globally. A major objective of this pilot study was to derive near market ready SAR products for use in environmental and economic planning by bringing together both UK and Australian researchers and industry partners. The study also sought to set up an ongoing longer-term financially sustainable collaborative framework for UK and Australia for research and development focussed on creating new business opportunities for companies and organisations to provide SAR-based applications, products and services within the Australasian region.

**Outcomes** The wrap-up meeting of this first stage of the Program was held in Harwell UK, May 26-27, 2016, where the following significant outcomes were reported; • The first ever Sentinel-1 SAR mosaic of Australia (40m pixel resolution) was created using 1915 individual satellite scenes acquired over Australia between 2104-2015. • The design and testing of a proto type SAR Datacube for image storage and analysis ready data (ARD) was completed. • A number of showcase SAR products were demonstrated for forestry, agricultural and water resource applications achieved through the efforts of both Australian and UK partners. • Thirty-one companies (19 in Australia and 12 in the UK) were interviewed as to their interest, likely support and possible financial commitment to an ongoing program realising intellectual property and commercial opportunity for products and service provision. • A high level of SAR technology and an enhanced market intelligence report for geospatial services that neither country could have achieved independently was produced. • A suitable structure and CONOPS for an ongoing programme of collaboration was developed and validated. **Conclusions** Given the success of the pilot study, all partners were keen to continue working together to capitalise on emerging business opportunities and technical infrastructure developments and to test the viability of establishing an ongoing longer-term financially sustainable framework for commercial applications. One of the major limitations to collaborations and partnerships initiatives in Earth Observation in Australia however, is the lack of an established Australian Government Agency invested with the mandate to develop Australia's Earth Observation capabilities; to fast-forward its own national space program and to support participation in the international space industry .