Developing the Netherlands Geospatial Community

Introduction
The Dutch government established the Netherlands Space Office (NSO) to develop the space program of the Netherlands, to act as the face of the Dutch space community for international space organizations, and to function as the central point of contact for the space community within the Netherlands. The NSO represents Dutch interests within both the European Space Agency (ESA) and the European Union.

As a function of this mandate, the NSO works to develop and support the geospatial community in the Netherlands by providing access to resources and funding. The NSO has collaborated with MDA to provide access to large volumes of RADARSAT-2 data of the Netherlands through their Satellietdataportaal (Satellite Data Portal) initiative.

The NSO, ESA, and the Sentinel Program
As the most ambitious Earth observation program to date, Copernicus provides accurate, timely, and easily accessible information to improve the management of the environment, understand and mitigate the effects of climate change, and ensure civil security. The European Commission, in partnership with the ESA and the European Environment Agency, oversees this program.

The Copernicus program includes the development of five families of Sentinel missions, the first of which, Sentinel-1, will enter service in late 2013. The Sentinels will provide a unique set of observations for Copernicus, starting with the all-weather, day and night radar images from Sentinel-1 for land and ocean services.

The launch of the Sentinel-1 C-band Synthetic Aperture Radar (SAR) satellite will enable ESA to provide access to a wealth of SAR data for all users for a range of services. Those services include, but are not limited to, monitoring of Arctic sea-ice extents, routine sea-ice mapping, surveillance of the marine environment including oil-spill monitoring and ship detection for maritime security, monitoring land surface for motion risks, mapping of forests, water and soil management, and mapping to support humanitarian aid and crisis situations. Expectations are that the free availability of this data will spur development of major innovations in Earth observation.

One of NSO’s major programs, the Satellietdataportaal, provides no-cost access to raw, unprocessed satellite data from a number of optical and SAR sensors. The NSO believes that access to a broad range of data in the Satellietdataportaal will encourage geospatial application development by Dutch government, educational and commercial users. RADARSAT-2 is the sole SAR sensor in the Satellietdataportaal, and by providing RADARSAT-2 data the NSO gives its users access to a source of SAR imagery that closely simulates the data that can be expected from Sentinel-1 once it begins operation.
The MDA-NSO Partnership
RADARSAT-2, built and operated by MDA, is the world’s most advanced C-band commercial SAR satellite orbiting the Earth today. RADARSAT-2 collects global geospatial imagery through cloud cover and darkness, with 17 imaging modes, multiple polarimetric options, and massive data collection capabilities, making it a leading data source for global monitoring.

In 2012, the NSO entered into a three-year agreement with MDA to license RADARSAT-2 data with coverage over the Netherlands. The Standard mode, dual polarized data is processed and delivered to the Satellietdataportaal where Dutch users can access the data. During the contract term the NSO expects to acquire close to 600 Standard, dual-polarized RADARSAT-2 images of the Netherlands and its surrounding waterways. The focus of the work by the NSO and the Dutch geospatial community is on agricultural and InSAR applications.

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By populating the Satellietdataportaal with RADARSAT-2 imagery, the NSO is helping the Dutch geospatial community gain a competitive advantage. By familiarizing themselves with this new data, Dutch users can develop geospatial services and applications that will be ready for commercial use as soon as Sentinel-1 launches. This advanced lead-time on application development gives Dutch users an excellent opportunity to position themselves as leaders in the market.

The Satellietdataportaal has generated significant interest from the Dutch geospatial community. To date, over 225 commercial, government and educational organizations have registered for the portal and have access to the imagery provided.

In the past year, the Satellietdataportaal has led to a number of interesting developments. In addition to providing companies with free input data for existing operational services and applications, it has triggered current businesses to define new business models based on the data provided via the Satellietdataportaal and a number of new businesses have been set-up to explore the data for new opportunities. Further, a partnership has been set up for precision farming in which research institutes, commercial organizations and the Dutch government act together in advancing the use of remote sensing in agriculture. It acts as a catalyst, creating awareness and interest from new commercial and governmental organizations that are not currently using satellite data, but might benefit from using it in their operations and duties.

MDA has a long and successful history of working with organizations across Europe and around the world. By providing access to reliable and accurate SAR data, MDA helps the NSO provide Dutch organizations with the resources they need to develop leading-edge geospatial solutions, which will maximize the NSO’s investment in the Sentinel program.

The success of this venture over the past year has resulted in an extension of the data set to all-year data for specific areas in the Netherlands, which are of interest for agricultural purposes. Both MDA and NSO will work together to strengthen the existing partnership, and look for possibilities for further cooperation beyond 2015.

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