2007 Cambridge Conference

Date

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Title of session

Workshop 2 - Spatial – The Final Frontier?

Name of presenter/chair

Chair: Neil Ackroyd, Director of Data Collection and Management, Ordnance Survey

Presenter: Owen Hawkins, Business Development Manager, DMC International Imaging

Rapporteurs

Colin Henderson, Ordnance Survey and Selena Patton, Defence Geographic Centre

Presentation title: DMCii Imagery - Now and the Next Generation

The Disaster Mapping Constellation (DMC) is a constellation of five satellites that provides a rapid re-visit for any location on the Earth's surface within twenty four hours. The system was created by Surrey Satellite Technology Ltd (SSTL), a turn-key solutions provider for low cost satellite design, build, launch and management. DMC Imaging International (DMCii) is a subsidiary company of SSTL set up to manage the onward licensing of output from the DMC.

SSTL could be considered the creators of disruptive technology; they effectively have created a 'PC in space'. The satellites built by SSTL are cheaper and smaller than other satellites as they are based on components in use in consumer technology, such as PCs and digital cameras. As an example of the difference the SSTL SNAP-1 satellite weighs 6.5kg and costs $1m compared to ESA's Envisat which weighs 8000kg and costs $3000m.

The DMC acts as both a valid commercial operation as well as a proof of concept to the viability of low cost satellites in Earth imaging. The key advantages of the DMC are that it provides continent scale imagery and rapid re-visit capability. An example of this capability was demonstrated in the aftermath of hurricane Katrina. Other high resolution platforms could only provide localised images of specific areas; with a disaster covering a large area it is important to be able to get regular area-wide views of the devastation. The DMC was able to provide daily images of the whole area affected by Katrina which provided valuable intelligence to the disaster response organisations. Another example of the capability of the DMC was its use in Afghanistan to monitor the creation and spread of illicit crops.

The next generation of DMC satellites will see an increase in resolution with X-band downlink capabilities. There are currently two new satellites in development; UK DMC2 and Deimos-1 due to launch in 2008, and Nigeriasat-2 which is due to launch in 2009.

TOPSAT is another sophisticated satellite platform that can perform a number of different types of imaging; it can do area-wide imaging as well as spot imaging. These capabilities are possible because the satellite is able to capture imagery in two modes. Standard vertical image capture takes two seconds; pitching image acquisition takes sixteen seconds. The increased exposure time means that higher quality images can be captured in marginal conditions and it can effectively 'focus' on a single spot on the Earth's surface.

Questions	Answers
How can other countries gain access to the imagery captured from DMC?	Simply approach DMCii directly and they will talk to you about licensing the imagery.