**EXPLOITING THE DMC SATELLITE CONSTELLATION FOR APPLICATIONS IN AGRICULTURE, FOREST MONITORNING AND DISASTER RESPONSE**

**KEY WORDS:** Remote Sensing, UK-DMC2, Earth Observation, JECAM, MRV, REDD+

David Hodgson, Gary Holmes, Dr. Elena Lobo, Yi Pingping, Prof. Sir Martin Sweeting

DMC International Imaging Ltd, Tycho House, Surrey Research Park, Guildford, Surrey GU2 7YE, United Kingdom. email: info@dmcii.com; website: www.dmcii.com

**Abstract**

For over 10 years The DMC satellite constellation has provided a unique data record for commercial, national and scientific projects throughout the globe. The constellation of small satellites, each carrying wide swath (650km) optical sensors with land vegetation focussed bands (R, G, NIR) provides a high frequency daily global imaging capability at 22m resolution for applications requiring large area coverage and rapid repeat.

The DMC has been used extensively in Europe, the USA and Japan for agriculture, in particular for precision farming and crop statistics. Commercial use of the imagery for variable rate fertiliser and farm management systems is a key use as is the US department of agriculture national crop layer. The DMC also provide a UK contribution to JECAM from the UK-DMC2 satellite. The JECAM initiative is developed in the framework of GEO Global Agricultural Monitoring (GEOSS Task AG0703 a) and Agricultural Risk Management (GEOSS Task AG0703 b).

DMC data has been used successfully for tropical forest monitoring and deforestation assessment and can provide an invaluable contribution in MRV (Monitoring, Reporting and Verification) for REDD+ countries, providing wall-to-wall, timely collected information. Since 2005, DMCii has delivered annual coverages of the Amazon Basin to the Brazilian Government for the national deforestation assessment and control activities.

In partnership with the UK Space Agency and the other DMC member nations (Algeria, China, Nigeria, Turkey and Spain), the DMC has worked with the International Charter ‘Space and Major Disasters’ to provide free satellite imagery for humanitarian use in the event of major international disasters such as tsunamis, hurricanes, fires and flooding.

This paper summarises the many ways the DMC data record has been exploited over the last 10 years and how it continues to provide benefits in the areas of agriculture, forest monitoring and disaster response.