

Into Another Dimension: BARSC Forum

In This Edition

- BARSC Forum report
- New Chairman
- Two new member companies

BARSC Committee 2005-6

Chairman: Matthew Stuttard
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Past Chair: Richard Saull
Secretary: Gareth Davies
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Iain MacInnes
Tom Allan
Nigel Press
David Hodgson
Tony Sephton

Key Aims for 2005/6

- Strengthen combined efforts of UK companies in the scope of the Global Monitoring for Environment and Security programme (GMES)
- Enhance service offerings provided to users in UK government
- Further cooperation with the UK research base.



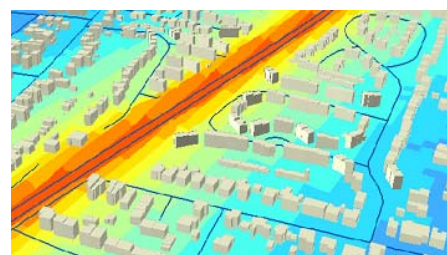
The latest BARSC Forum was convened as an open technical meeting “Sensing the Third and Fourth Dimensions for GIS Applications” on 12th April, 2005 at the DTI Conference Centre, London.

This well attended meeting was a successful follow-up to the BARSC technology briefing on VHR satellite data in 2004. Over sixty participants, largely associated with survey and monitoring operations and spanning government, industry and research, attended the meeting, which was complemented by a significant commercial exhibition.

GIS applications are beginning to break free from a static 2-dimensional view to include height and time. Remote sensing and photogrammetric techniques and sources have developed to a point where they can contribute a great deal to realising these applications.

The 2005 meeting was aimed at users interested in benefiting from 3D and 4D data, understanding where this information comes from and how it can be exploited effectively. Height is a key controlling influence in the environment; landscapes can now be captured remotely with accuracy not dreamed of ten years ago, and manipulated within standard computer systems.

GIS can also deal with multiple time-slices of information and track moving objects.



Road noise propagation model (using Lidar derived building height). *Image courtesy of Infoterra and Ordnance Survey.*

The morning sessions covered overviews of the sensing technology, height extraction tools and techniques and their usefulness in a wide range of applications in rural and urban contexts. The afternoon sessions comprised presentations on time series and change detection applications, which included land use planning, disaster mitigation and emergency response. The closing discussion was an open session that touched on accuracy specifications, accessibility, interoperability and costs.

The full programme and presentation slides can be downloaded from the BARSC website.

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Member News

RSI announces Image Access Solutions (IAS) version 2.0

Image Access Solutions dramatically improves the storage, access, management and delivery of image files by optimizing the wavelet compression capabilities of the JPEG 2000 standard. Using intelligent streaming technology, IAS delivers important information faster, and increases the accuracy of the decision-making process.



IAS 2.0 provides:

- ◆ Faster, more efficient dissemination of images
- ◆ Immediate, assured access and viewing of geospatial imagery

- ◆ Dramatically improved image storage efficiencies (up to 30% reduction in storage requirements over current JPEG compression)
- ◆ Enhanced streaming capability significantly reduces pixel-to-eye times. As soon as an image meets your quality and resolution requirements, transmission is terminated
- ◆ Increased productivity of image analysts
- ◆ Conversion of legacy imagery to the new JPEG 2000 format
- ◆ Dissemination of high resolution, large imagery files to bandwidth constrained users
- ◆ Access only portion of image needed - eliminates the need to “chip and ship” subsets of imagery

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Industrial Expansion with VEGA

The European downstream industrial sector has been very busy lately with current and planned tenders under GMES and FP6. ESA and the EC have been working hard behind the scenes to stimulate responses and involvement from the small & medium enterprise (SME) community.

The VEGA/Booz

Allen industry study published last year characterised the issues and working practices of the SME group. VEGA's Phil Curtis has been supporting the ESA and EC initiatives at conferences

and meetings in the UK, in Brussels and most recently as part of a delegation carrying these messages into the new accession states.



The conference, organised by Polspace at the Space Research Centre in Warsaw, was a fascinating insight into the technology sector in an emerging economy where many of the issues shown in the ESA study are present, but exaggerated by local commercial practices and even greater separation from potential users of GMES services.

New Chairman elected



At its annual Forum and AGM, held on 12th April, BARSC appointed Matthew Stuttard as its new Chairman. Matthew is Principal Consultant in Earth observation at LogicaCMG.

He joined LogicaCMG in 2001 after working for Earth Observation Sciences for 6 years and Remote Sensing Applications Consultants for 3 years. Prior to that he worked for a software vendor as a GIS applications specialist. He moved into commercial remote sensing/GIS in 1989 from Cranfield University where he taught on the applied remote sensing MSc course from 1985.

ESA's PECS programme (Programme for European Co-operating States) will assist, but will take some years to get established. In the meantime, the challenge is the same across the now extended European arena, communication, alignment of objectives and integration of effort will all make the SME community a more valuable asset as GMES evolves.

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BAE Systems signs contract with Ordnance Survey Great Britain to extend data collection capabilities

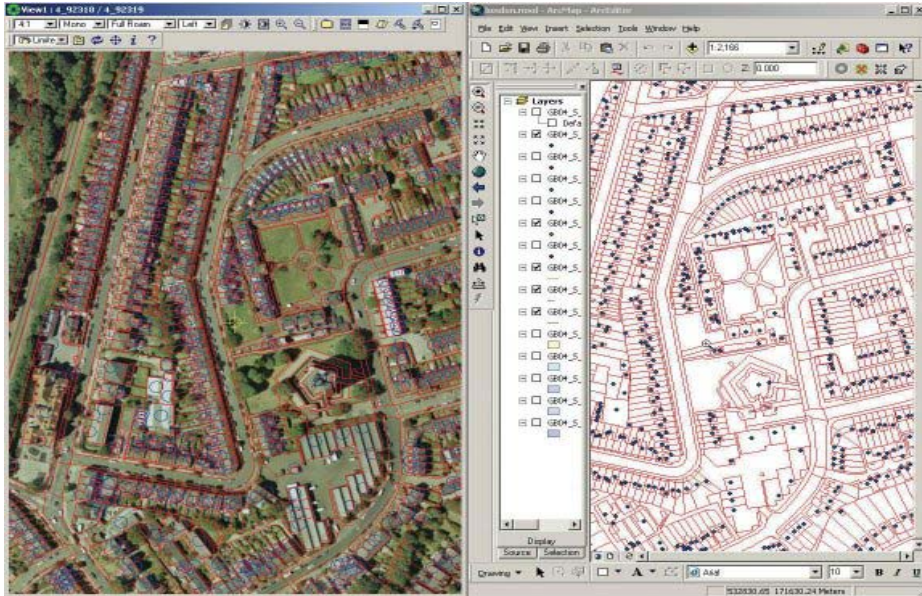


Image courtesy of Ordnance Survey

The Ordnance Survey® (OS), the national mapping agency, has ordered multiple copies of BAE Systems' SOCET for ArcGIS® product.

The decision follows intensive testing of a number of systems by the OS to find a 3D data editing and capture tool that works directly with ESRI's Geodatabase and supports versioning and attribution. The SOCET for ArcGIS solution has enabled the OS to maintain their high-level photogrammetric production workflows with SOCET SET while allowing them to capture and edit 3D national map data in stereo directly in their enterprise Geodatabase.

Mark Tabor, Technical Advisor of Photogrammetry for the OS states, "As part of a major investment program, which will result in new processes and systems for the collection, storage and maintenance of OS data, the OS has chosen SOCET for ArcGIS to be its key photogrammetric capture tool. It is

critical that we have the capability to maintain and update the National Geospatial Database in an Arc environment."

The OS's decision to modernize their system was based on increased demand for their digital and printed GIS products. The move to adopt a full-scale ESRI® Geodatabase gives users throughout the organization, from field surveyors to photogrammetrists, equal access to a single, efficient data repository. Since SOCET SET is already used extensively at the OS, new users will be integrated easily as SOCET SET becomes the cornerstone for future photogrammetric data collection.

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Image-centric geomatics software from PCI Geomatics

PCI Geomatics announces the upcoming release of Geomatica 10, a suite of image-centric geomatics software for remote sensing, GIS, cartography and photo-grammetry.

New features include semi-automated vector extraction from imagery, and 3D vector extraction without the need for 3D hardware. In addition, the orthomosaic process is now available in components, allowing the scripting and batch-processing of workflows previously only available through step-by-step GUI input.

Also new to Geomatica 10 is an Extract, Transform, Load and Modeling tool for populating Oracle 10g Spatial GeoRaster databases. GeoRaster, a powerful feature of Oracle Spatial, lets the user store, index, query, analyze, and deliver image and gridded raster data, and associated metadata.

PCI Geomatics is now building custom solutions for its production and enterprise customers. With geo-spatial workflows designed for easy scripting and systems integration, plus an extensible, Python-driven software development kit, they can create flexible solutions to meet specific business problems.

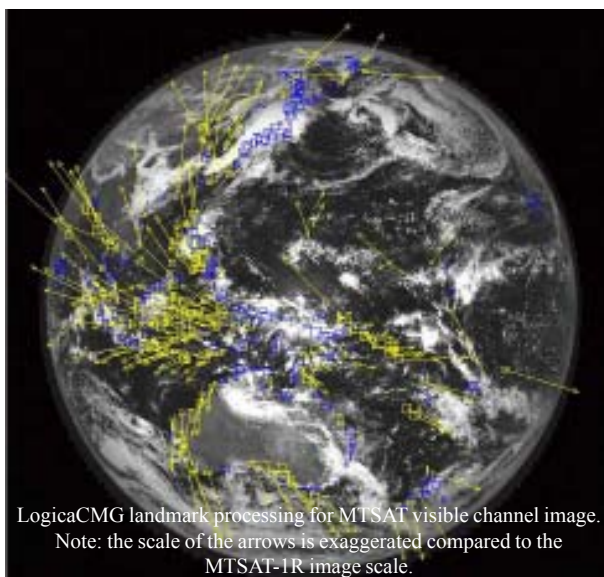
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**BARSC celebrates its
20th Anniversary this year**

LogicaCMG contributes to success of Japan's new weather satellite MTSAT-1R

The first image from Japan's new weather satellite, MTSAT-1R, has now been successfully received and processed by the new ground facilities at the Japan Meteorological Agency (JMA)'s Hatoyama centre, 100km north of Tokyo.

MTSAT-1R was launched on 26 February 2005 to provide regular weather images and data over the East Asia region. The facilities to process data and correct them for dissemination to the user community were supplied by LogicaCMG under contract to NEC Toshiba Space Systems, Ltd. (NTSpace).



LogicaCMG landmark processing for MTSAT visible channel image.
Note: the scale of the arrows is exaggerated compared to the MTSAT-1R image scale.

removing minor distortions by automatically analysing landmark features in the image, and then disseminating the corrected images to users within a few minutes.

Mr Takashi Ohshima, Head, Office of Meteorological Satellite Planning, of JMA said "This successful processing of images is an important milestone in the MTSAT programme to replace the Geostationary Meteorological Satellite (GMS) series covering the East Asia and the Western Pacific regions."

The payload data ground segment processes the MTSAT-1R images in real-time, applying radiometric calibration,

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New Member Companies



Z/I Imaging

Intergraph's Z/I Imaging offers solutions for the commercial remote sensing and photogrammetry industry, providing end-to-end photogrammetric production capabilities for commercial photogrammetry, surveying, and civil engineering and mapping firms around the world.

From acquisition to exploitation to digital distribution, the company brings customers best-in-class, open Windows-based imaging solutions, including aerial cameras, photogrammetric scanners and workstations, stereo softcopy, and image management, processing, and distribution software.

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DMCII

DMC International Imaging Ltd. (DMCII) is a UK supplier of remote sensing data products and services for international Earth Observation (EO) markets. DMCII supplies programmed and archived optical satellite imagery provided by the multi-satellite Disaster Monitoring Constellation (DMC). DMC data is now used in a wide variety of commercial and government applications including agriculture, forestry and environmental mapping.

The small satellites of the DMC provide daily revisit in combination with an unmatched 600km imaging swath width at 32 meter Ground Sample Distance (GSD) for frequent broad area coverage. DMC data products are calibrated and processed to a variety of levels according to customer requirements.

In partnership with the British National Space Centre (BNSC) and the DMC member nations (Algeria, China, Nigeria, Turkey) DMCII uses the commercial exploitation of the DMC small satellite constellation to fund co-ordination of the DMC for humanitarian use in the event of major international disasters. DMCII works with the UN, the European Space Agency and The International Charter "Space and Major Disasters" during disasters such as Tsunami, Fire and Flooding.

DMCII was formed in October 2004 and is a wholly owned subsidiary of Surrey Satellite Technology Ltd, the world leader in small satellite technology.

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