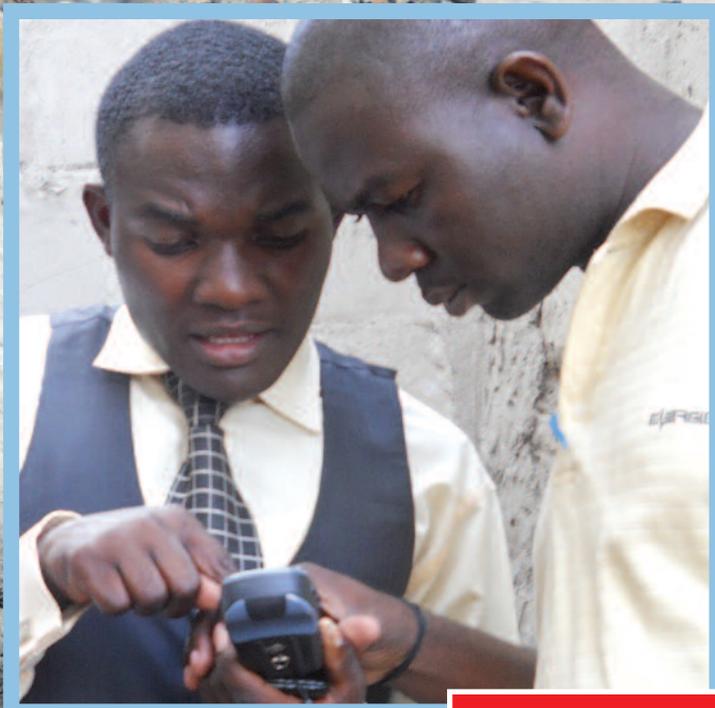


# GIS Professional

issue 43 : December 2011

...joining the geography jigsaw



No government 2.0? Crowd sourcing can help

GeoPlace happens in Nottingham

Open Data: what could possibly go wrong?

Crime mapping makes the difference

Time for space: G-STEP arrives

MasterMap: OS spells out the future

GI boosts Surrey Heath's recycling

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**Front cover:** With government 2.0, services are increasingly available online for those in the developed world. But how can developing nations benefit from internet technology? Mark Iliffe thinks crowd sourcing could be the answer. For more, turn to page 23.

Photo © Mark Iliffe.



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## Everything happened in Nottingham

The arrival of a single addressing organisation for Britain has brought dividends – GiSPro reports from GeoPlace’s gazetteer exemplar awards.



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## G-STEP – not just a helicopter!

GI and the space industries need each other! Robin Waters gives his impression of a recent meeting on space innovations in mapping.



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## Debating the new economy and open data!

Delegates and speakers alike spent the whole two days debating at AGI GeoCommunity’11 – read on to catch a snapshot of the hottest topics!



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## GiSPro Interview: OS spells out the future

The last issue traced MasterMap’s past, now questions on the future! David Henderson, senior product manager, gives some frank answers.



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## Mapping the developing world

What happens when government 2.0 doesn’t exist? Mark Iliffe argues that crowd sourcing can really benefit countries like Tanzania and Kenya.



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## Crime analysis – exploiting geospatial datasets

In this case study on domestic burglary in the UK, the authors explain how the GeoCrime Data Project is championing geospatial data.



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## Case study: GI boosts recycling rate!

A UK local authority is leading the charge to improve recycling rates by using GI to support a modernised waste collection service.

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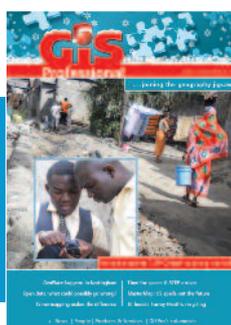
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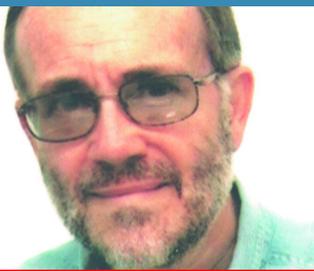
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welcome  
to the December issue of *GIS Professional* . . .

## Plenty of meat for readers. . . and consultants

During the course of a busy conference there is often not enough time to reflect and question statements and assertions made by speakers. Sometimes it is only weeks later, when you're going through your notes and have had a chance to read the papers, that something leaps out that yearns to be answered.

A paper at AGI GeoCommunity'11 on a new GIS for The Coal Authority, which was to cost £7 million, triggered our interest. How could it cost this much to provide a GIS to access what must surely be mainly previously captured legacy data together with that from Ordnance Survey freely available under the Public Sector Mapping Agreement?

The paper, *Can the implementation of a Central Government corporate GIS still be successful in a time of financial austerity?* provided little more insight. It argued that the previous system dating from 1998 was no longer supported and that GIS technology had "advanced significantly". The latter statement needs questioning. True there has been a massive migration from desktop to Internet based solutions and there is far more choice in data products, but none of that is particularly relevant to The Coal Authority. Advances in analytical tools have been less spectacular.

With so many government IT projects running - and overrunning - into billions of pounds The Coal Authority's is barely a flicker of an eyelid but it does need to be justified. Too often the public sector doesn't start by doing the simple math. This project, for an organisation that employs just 130 people, demands a capital spend of over £50,000 a head. How is that possible? The ratio of spend to headcount is roughly five times that of even the ill-fated £12 billion plus NHS IT project.

There is also the perennial question of consultants: do bosses in the public sector not trust their staff? Do they really not have the skills and experience? Over four decades into the digital age how is it that government, of all sectors, does not have the in-house skills? And why do we have to accept the rather specious argument that a system is no longer supported? Why wasn't it always on a constant upgrade path? No one who bought ArcGIS back in 1990 and kept a maintenance contract going would be arguing their system was out of date. *GiSPro* will dig a little more for readers and hopefully try to come up with some answers.

Meanwhile, please enjoy this issue. There's plenty of meat to get your teeth into during the holiday period. Whether it's our summing up of the many sessions at AGI GeoCommunity'11 and the excellent "Open Data - what could possibly go wrong?" debate; G-STEP; the first GeoPlace Awards for significant and novel uses of the address datasets; the future for MasterMap; how the GeoCrime data project is revealing new insight for analysts; or how crowd sourcing may just be the way ahead for developing nations to leapfrog into providing online services, this issue of *GiSPro* has something for everyone.

Finally, as we reach the end of what has been a very difficult and for many a disappointing year, can I appeal to readers that *GiSPro* can only survive through the support of hundreds and thousands of individual subscribers. A strong subscriber base funds independent reporting free of bias from big suppliers. If you're reading this copy because you picked it up at a show or an AGI or Esri event, please go to <http://www.GISProfessional.co.uk> and sign up today.

Enjoy the holiday break and see you in the New Year. Let's hope with the Olympics looming it brings better times.

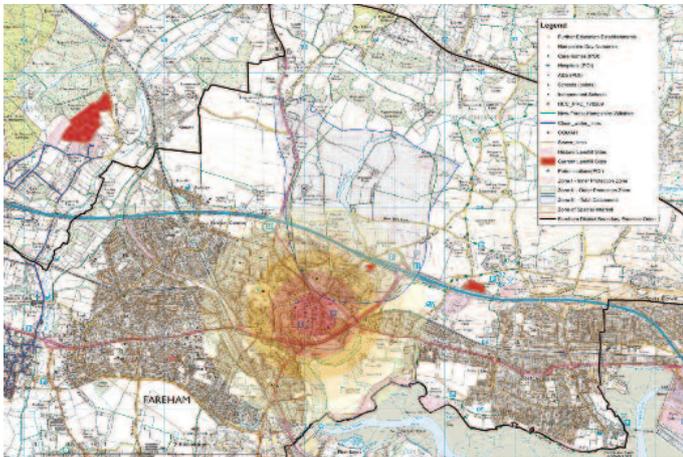
Stephen Booth, editor



**Over four decades into the digital age how is it that government, of all sectors, does not have the in-house skills?**



## Supporting contingency planning



A guide, published by the Cabinet Office in October 2011 ([www.cabinetoffice.gov.uk/infrastructure-resilience](http://www.cabinetoffice.gov.uk/infrastructure-resilience)), highlights the importance of accurate mapping data in improving the resilience of the UK's critical infrastructure to disruption from natural hazards. It follows the recent Cabinet Office consultation, *Keeping the Country Running: Natural Hazards and Infrastructure*, and encourages the "responder" community to adopt digital mapping and GIS mapping systems as a tool in contingency planning.

Recently, Ordnance Survey has supported various civil contingency planning exercises showing the importance of GI, including Exercise Watermark: a flood defence exercise held in the UK that involved over 10,000 people, ten government departments plus emergency services, utility companies and local authorities. Led by the Environment Agency and Defra, the exercise tested preparedness to respond to a severe flood and how emergency responders worked together across regional boundaries.

### Lyell collection via Geofacets

The contents of the Geological Society of London's (GSL) Lyell Collection is now accessible via publisher Elsevier's Geofacets geospatial database. Created in 2007 to mark the society's 200th anniversary, it is one of the largest integrated collections of online Earth science literature in the world.

The module was launched recently in London at an event where those

attending were generally very impressed, reports **Richard Groom**. The collaboration combines over 165,000 geological maps from Elsevier's Earth science journals and the Lyell collection, with approximately 75% of these maps georeferenced for seamless integration into geoscientists' workflows. Customers of the publisher's research tool for geoscientists can find, search and analyse georeferenced maps sourced from the collection.

The partnership aims to benefit companies focused on upstream oil & gas exploration, for whom relevant and timely insights are critical in informing multi-million dollar exploration strategies and decisions.

'This partnership will give our customers more opportunities to discover that one tiny gem of knowledge that can sway their business outcomes – especially as they assess potential plays, new frontiers and unconventional sources of oil,' says **Friso Veenstra**, director of market development, Elsevier.

'Technology is changing the face of research and oil and gas exploration alike, and by unlocking the insights hidden in volumes of scientific content for use in exploration, you can open up a whole new line of thinking'.

However, one academic tempered his praise with a word of warning. Making scientific data readily accessible is admirable but it will still need to be interpreted properly. He feared a greater risk that the data would be misinterpreted by poorly qualified researchers.

For more details, visit: [www.unlockthescience.com/](http://www.unlockthescience.com/).

### Licence ouverte for France

As part of the French Government's opening up of public sector information, the task force leading the country's open government data policy, Etalab, has released the "Licence Ouverte / Open Licence". France's online platform for free re-use of public sector information "data.gouv.fr" will be released in December 2011 [time of writing]. The licence is compatible with the standards of open data licences developed by other countries,

notably the British Government's "Open Government Licence", and other international open standards ("ODC-BY", "CC-BY 2.0").

**Minister supports GI** The finance minister for Northern Ireland, **Sammy Wilson**, has outlined the importance of developing geographic information to improve the lives of citizens. Speaking at the EuroGeographics General Assembly in October, the minister believes that precise data will help inform decisions on the location of public services, the targeting of grant and subsidy payments and the Executive's response to security and environmental issues. 'I fully recognise the need for politicians. . . to make our decisions in a cost effective and efficient manner,' said Wilson. 'Accurate and current geographic data is critical to these decisions and the analysis of geographic data plays an increasing role in decision making at all levels in government and the private sector'.

### Spreading open source globally

A memorandum of understanding aims to develop, on a global basis, collaboration opportunities for academia, industry and government in open source GIS software and data. The Open Source Geospatial Foundation (OSGeo) and the International Cartographic Association (ICA) will help establish open source geospatial laboratories and research centres. Initially, five laboratories will be established; one each in Asia, Europe, Africa, the Americas and Australasia.

Dr **Suchith Anand**, chair of the International Cartographic Association (ICA) Commission on Open Source Geospatial Technologies, welcomes the initiative: 'this will be landmark opportunity for both OSGeo and ICA in building up synergies and bringing opportunities for lots of people worldwide to learn and benefit from geospatial technologies especially in developing countries'.

**Crowd-sourcing vision for land tenure** Only 1.5 billion of the estimated six billion land parcels



### GeoPlace wins pan-European award

GeoPlace has been awarded in a European-wide programme by EUROGI (the European Umbrella Organisation for Geographic Information). The partnership between the Local Government Association and Ordnance Survey won in the "quantity and quality" category for the creation of the National Address Gazetteer Database. 'It is all about data, it is all about bottom up data flow, it is all about data integration,' says **Franco Vico**, a judge at the EUROGI conference in October. 'The GeoPlace entry demonstrated an excellent good practice model'. Image: Bruce McCormack, President of EUROGI (left) with Steve Brandwood, Head of Services and Engagement at GeoPlace.

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worldwide have land rights formally registered in land administration systems. Many of the 1.1 billion slum dwellers and further billions living under social tenure systems face eviction and are excluded from any form of security of tenure. A collaborative research project from Royal Institution of Chartered Surveyors (RICS) and Know Edge, authored by **Robin McLaren** MRICS, investigates the possibility of using crowd-sourcing to establish a partnership between land professionals and citizens to improve land tenure security in poor communities worldwide. The research considers how this might be implemented and investigates how the associated risks could be managed.

**Data for disaster response**

Emergency services working in the aftermath of disasters will benefit from access to pan-European mapping created from interoperable, geospatial data following an agreement between EuroGeographics and the European Environment Agency (EEA). The agreement will improve access to data from national mapping and cadastral agencies in Europe to help provide a common operational picture for those involved in crisis management. Civil protection agencies, national and local emergency services, humanitarian aid

organisations and European Union bodies can use the rush-mode mapping and damage assessment maps created as part of the Global Monitoring for Environment and Security (GMES) emergency management service. This service can be activated at any time and aims to provide reference maps just six hours after gaining access to earth observation data and within 24 hours for damage assessment maps.

**Investigating the pan-European market**

A market study into the pan-European geospatial information market is being undertaken by independent IT consultancy, ConsultingWhere. The consultancy was appointed by EuroGeographics to conduct the in-depth study in order to provide its members with marketing intelligence and to help shape the association's future strategy. The final report will be delivered by the end of February 2012.

**MapAction support UN**

A MapAction team was recently deployed in response to severe flooding in central America. Torrential rain from Tropical Depression 12-E caused extensive flooding across Guatemala, El Salvador, Honduras and Nicaragua. Damage to roads and infrastructure from landslides has left many communities cut off from help.

**3D model aids urban regeneration**



A 3D model is helping to assess the impact of urban building projects in North East England. Bluesky data was supplied to Virtual Newcastle Gateshead (VNG), a collaboration between Newcastle City Council, Gateshead Council and Northumbria University, to form an extension to an existing city model and will help realise time and cost savings in the urban planning process. Created from aerial photography, the model is hosted by Northumbria's school of the built and natural environment. 'Most architects and developers already model in 3D,' says Margaret Horne, managing director of VNG. 'We are therefore encouraging them to submit their 3D proposals to us so we can include them in our virtual city wide model providing a wider, real world context and the ability to create strategic views and other view analysis to support decision making throughout the planning process.'

A United Nations disaster assessment team was mobilised in October to assist in Nicaragua and the charity's team was requested to support the UN mission.

Meanwhile printer manufacturer Océ is contributing to the fundraising efforts of the charity. An amount from

each sale of the company's ColorWave 600 wide-format printer to map organisations in the UK will go towards humanitarian life-saving rescue work in disaster-struck countries. It is hoped that around £20,000 will be generated for the charity within the first 12 months.

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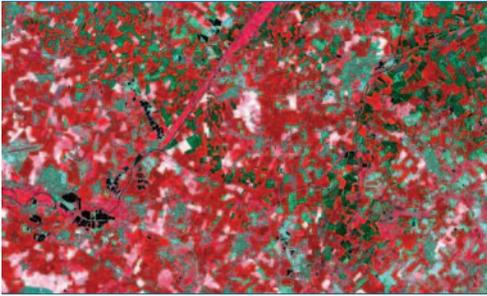
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## Satellites aid agriculture

Satellite views of the Earth's surface are proving to be valued tools for farmers. Acquired from DMCii's imaging satellites, UK-DMC2 and Deimos-1, data is used every season for precision agriculture in countries like the US, Canada, UK, France, Netherlands, Germany, Lithuania, Russia and Japan. The data can gather precise knowledge of a farmer's land, pinpointing variations in crop growth and condition.

*Image credit: UK-DMC2 Image (C) DMCii, 2010*

**Taking forward the DNF** The Chartered Institute for IT, BCS, has formed a specialist group to champion the integration of geospatial technology into IT systems and the visibility of that technology to businesses and the public. The Location Information Specialist Group (LISG), built on the foundations of the existing BCS Geospatial Specialist Group, is also taking over responsibility for the Digital National Framework (DNF). The DNF will be managed through a sub group of the LISG, which will combine it with areas such as linked data and the semantic web. The sub-group will meet approximately three times a year and will carry forward the outreach work of the DNF Expert Group, the volunteer group who previously managed the DNF.

## CONTRACTS & PROJECTS

### GIS cleans up Isle of Wight

Environmental services company Urbaser is using GIS to coordinate street cleaning services on the Isle of Wight. The local council identified the use of a GIS as an essential component for delivering the service. Urbaser will be using the GIS supplied by GGP Systems to map information such as bin locations, road sections and pavements to be cleansed as well as the planning work such as the clearing of fly tipping.

'Using GGP GIS we have an overview of the complete contract, in fact, the complete island,' commented **Dave Wallis**, Urbaser's contract manager. 'We can maintain detailed records of each and every asset, effectively manage our resources and compile accurate service delivery histories. As the

Council are also GGP users, sharing of information is easy and we can produce customised management reports as and when required'.

### Funding for green energy research

Bluesky has secured 2.4 million Euros to fund research into the development of a web-based renewable energy rating platform. Working with partners from across Europe, the company will investigate the use of geographic data to assess the suitability of individual properties for solar energy generation and create a web-based portal to deliver this data online. On completion of the research project, funded by the EC under Framework Programme 7, the company will retain the rights to the "engine" used to analyse the raw data, plus the web portal and back-end systems.

### Studying the Hoo Peninsula

An English Heritage project to increase understanding of the Thames Estuary's Hoo Peninsula's historic landscape has been completed on time. The 'Hoo Peninsula Historic Landscape and Historic Seascape Characterisation (HLC-HSC)' module focused on identifying the dominant historical processes that have shaped the present landscape and seascape. The module is now providing landscape/seascape contextual information for the wider project.

**Land & Property Services (LPS), an agency within the Department of Finance and Personnel for Northern Ireland, has announced a programme of improved mapping for Northern Ireland. The Positional Improvement Project will examine the accuracy of features of LPS Ordnance Survey (NI)**

**maps and deliver improvements to the quality of current mapping.**

Blom Romania S.R.L has been awarded two contracts with Valcea County Council and Iasi City Town to provide technical assistance for urban heating infrastructure projects. The subsidiary has also signed a contract with the Romanian national water authority to develop plans for the prevention, protection and flood mitigation effects in the Ialomita, Calmatui and Mostistea river basins in Romania.

**Remote sensing data provider, DMC International Imaging (DMCii), has signed a three-year agreement with Russia's ScanEx Research and Development Center to provide rapid 22m data reception from the UK-DMC2 satellite to ScanEx ground stations in Russia and CIS (Commonwealth of Independent States) countries.**

## BRIEFS

**Aerial photography from Bluesky dating back to the 1940s has provided evidence in a squabble for public access to a historic site on Dartmoor, England. A planning inquiry ruled in favour of the landowner, who bought the land around Vixen Tor, closing off access to the general public rather than the order to open two paths across the land made by Devon County Council.**

GeoPlace LLP has announced the 2011 National Gazetteers Exemplar Award winners at the "Everything Happens Somewhere" conference in November. The overall winner, voted

for by the audience, was West Midlands Fire and Rescue Service for "Chimp" – go to page 10 for more details!

**Surrey Heath Borough Council has been rewarded for boosting recycling in the borough at the National Recycling Awards 2011. The council used NLPG address data, managed with GGP's NGz gazetteer management software, in its ROAR (recycling organic and refuse) recycling scheme.**

Greater Manchester Fire and Rescue Service (GMFRS) has selected Cadcorp to provide a corporate GIS that will include both desktop and web applications, as well as links to existing systems.

**Mobile GIS Services is a newly formed company and is the UK dealer for the BAP Precision GPS S Series loggers as well as Digiterra Explorer software. The company offers quality sales, after sales and hire services. For more information, visit [www.mobilegisservices.co.uk](http://www.mobilegisservices.co.uk).**

A vehicle-based laser mapping system has completed a survey along the North West Coastal Highway in Western Australia. Travelling at normal traffic speeds, the StreetMapper system from 3D Laser Mapping achieved millimetre accurate measurements of the road surface and roadside features.

**The Pléiades 1 satellite, to be launched on 16 December, will be the first of two identical satellites that will image the Earth for more than ten years, delivering 50-cm imagery products. Imagery will be commercially available from March 2012. Pléiades 2 is expected to be launched next year.**

RapidEye has images of the Spanish submarine volcano eruption that occurred 1200 metres below sea level at 10.43 local time (09:43 UTC) on 10 October, 2011. These are true colour, high-resolution satellite images featuring a gigantic stain visible on the surface of Las Calmas Sea

resulting from the submarine eruption out of the coast of El Hierro, Spain.

**The GSDI World Conference, 14th GEOIDE Annual Scientific Conference, Canadian Geomatics Conference and the 7th 3D GeoInfo Conference will be jointly held as the Global Geospatial Conference 2012 in the Québec City Convention Center from 14-17 May, 2012.**

The conference programme has been announced for the 2012 International LiDAR Mapping Forum (ILMF), taking place on 23-25 January in Denver, USA. A highlight will be the first results of the US National Enhanced Elevation Assessment: a national programme to map the terrain, built environment and vegetation structure at high spatial detail and accuracy. More information at [www.lidarmap.org/ILMF.aspx](http://www.lidarmap.org/ILMF.aspx).

**The Open Geospatial Consortium (OGC) and the US Geospatial Intelligence Foundation (USGIF) have announced that WhereCon 2012 will be held on 10-12 April 2012 at the Walter E. Washington Convention Center in Washington, DC.**

EuroGeographics' members have approved its new status as an international not-for-profit organisation (INPO) under Belgian Law at the 2011 general assembly in October. The assembly also appointed six management board members and elected Ingrid Vanden Berghe, director general of the National Geographic Institute, Belgium as president.

**Digimap for Schools, an online application developed by EDINA for schools in Great Britain, is celebrating its first birthday with a free mystery map challenge, allowing pupils to identify hidden locations using geographic information. Teachers and pupils can post answers to the location of the mystery map on the blog and get the answers on Twitter.**

Having selected the latest Symphony Bluelight software from Aligned

Assets, Hampshire Fire and Rescue Service have started using AddressBase Premium: the most detailed of GeoPlace's products. See page 10 for more on the GeoPlace range.

**Two UK universities, University College London (UCL) and Aberdeen, have joined Intergraph's global education programme and have received registered research laboratory (RRL) grants, which provide access to desktop and web-based geospatial software at no cost.**

Two UK independent GIS consultancies have begun a collaborative training venture. The partnership between Forth Valley GIS and Salford GIS will offer a national GIS training service that will encompass courses on both commercial GIS products as well as OpenSource.

**Civica UK Ltd, a subsidiary of public sector IT systems specialist Civica Group, has acquired Bristol-based GIS software company, Innogistic.**

### STOP PRESS

The Chancellor of the Exchequer's autumn statement further confirmed moves towards a Public Data Corporation. Included are easier access to data for startups through free core reference datasets. Also announced is the creation of a Data Strategy Board and a Public Data Group to maximise the value of data that the public sector buys from the Met Office, Ordnance Survey, Land Registry and Companies House.

### PEOPLE

#### Gardels award winner

Josh Lieberman has received the Open Geospatial Consortium's 12th annual Kenneth D. Gardels award. He is a senior manager in the geospatial analytics team within the Federal Analytic and Forensic Technology group of Deloitte Financial Advisory Services LLP. The award recognises Lieberman's work to promote the importance of geospatial semantics within the OGC membership as well as throughout the larger semantic web community.

#### Gazetteer custodian appointed



Richard Duffield has been appointed as GeoPlace's National Address Gazetteer custodian. His role within the public sector limited liability partnership between the Local Government Association and Ordnance Survey, has been created to coordinate the on-going arrangements for the management of the National Address Gazetteer Database. Duffield will be responsible for ensuring that the requirements of all stakeholders are met as well as compliance to the INSPIRE directive and UK Location Strategy. Previously,

he was technical consultant at GeoPlace with responsibility for maximising the use and value of the NLPG within the user community.

#### Strategist for Bluesky board



Oliver Rothschild has joined the board of Bluesky as a non-executive director. He will bring a network of contacts, board experience and a successful track record of business development. Rothschild is a corporate strategist who is active in various industries and holds a diverse portfolio of business interests that are compatible with the company's green agenda.

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# GeoPlace: awards event



Held in Nottingham's prestigious Albert Hall, the awards attracted nearly 300 delegates.

address databases for Britain, now there are. . . still three but very different products and at least all available from the same source.

Attended by nearly 300 delegates, the event marks innovative and exemplary use of the National Land & Property Gazetteer (NLPG) and National Street Gazetteer (NSG) by local authority custodians.

The aforementioned marriage has involved 'a great deal of hard work', according to GeoPlace's **Steve Brandwood**. The address datasets are now available to local government and public sector users through the Public Sector Mapping Agreement (the same one that gives them OS MasterMap and other primary products from the national mapping agency). Some 35 million records have had to be matched and checked so that by this autumn 98.55% were in sync.

Brandwood used the delegates' digital voting devices to illustrate the variability of addresses,

## Everything happened in Nottingham

This year marked the arrival of one addressing organisation for Britain. Combining Ordnance Survey's address layer products, the Royal Mail's PAF file and the comprehensive records from local authorities across England and Wales has brought dividends, as *GiSPro* discovered at Nottingham.

HAVING THE "RIGHT ADDRESS" was once an essential part of one's place in society. Growing up in London's Maida Vale I was all too aware of this. The other side of the road was Paddington and we didn't mention it much. Back then Paddington was certainly more run down than today; it seemed to have come off worse than its neighbours during the ravages of the Luftwaffe. Rather we focused on the proximity of St John's Wood, a much more upmarket part of town back in the 1950s. However, as I grew up I learnt you could gain more street cred by mentioning the Paddington connection and even more amongst Irish friends by dropping into the conversation the closeness of Kilburn (known as "County Kilburn" back then).

Today the focus is not so much the "right address" in a social context but having the geospatially correct address so that those who need to reach you know exactly where you are. To do this, as readers of *GiSPro* know, requires more than a simple postcode and house number. Enter GeoPlace and their annual awards event to celebrate all things addressing.

Under the banner of "Everything happens somewhere" this year's awards at Nottingham's Albert Hall took place against a very different backdrop. Last year the awards were hosted by Intelligent Addressing; this year by GeoPlace, formed by a marriage with Ordnance Survey, the Local Government Association and the Royal Mail. Where once there were three

especially over time. Given four variations of the spelling of Nottingham few chose the correct one as the city's original title – Snottingham. One can perhaps see why.

He concluded with a more challenging brain teaser, apparently set by Google for its aspirant employees in its early days: How many times does the big hand of a clock pass over the little hand during a 24-hour period? I will leave you to ponder.

### Good news story

Introduced by GeoPlace MD **Richard Mason**, the first of four keynotes came from **Stuart Young**, director of local government partnerships at the LGA (Local Government Association). He stressed the importance of data in efficiency and delivery of services despite the parlous state of UK's public finances and the Localism Agenda pursued by the Government, including the prime minister's stated desire to focus on "120,000" troubled families, which risked raising yet greater expectation of local government to deliver. Nevertheless, some of the regulatory burden on councils has been lifted with the Audit Commission gone.

For its part, the LGA argues for pooling of public funding, localisation of council tax and business rates. Young believes the arrival of a single gazetteer for addresses will be 'highly beneficial' and lead to cost savings. 'It is a significant good news story' he concluded.



**Some 35 million records have had to be matched and checked so that by this autumn 98.55% were in sync.**



As director of data collection and management **Neil Ackroyd** looks after some 550 staff at Ordnance Survey. He finds it very inspiring to see how local government uses location data. He paid tribute to the professionalism in GeoPlace, which has blended OS, Intelligent Addressing and local government staff. He welcomed the PSMA, believing it 'encourages OS to collaborate driven by a sustainable model.' He assured us of the value that Ordnance Survey places on address data through his personal engagement with government ministers to help them understand how addressing can be a key economic driver.

**Glenn Dobson** of Kingston upon Hull City Council is chair of the LSG regional custodians. He is a philosophical sort of fellow and posed an interesting quote from Giuseppe di Lampedusa's *The Leopard*: "If you want things to stay the same, then things will have to change". And things did seem to be changing. Quality is up in the 1.247 million streets identified in the NSG in 2010 and now refined to 1.235 million although he was unsure where the 12,638 streets had gone! Nevertheless, errors are down and there is better 'synchronicity' he said, citing Jung's theory of synchronicity. I think we'll leave the philosophy there.

**Andrew Young**, chair of LLPG regional chairs, reviewed the new relationships forged through the creation of GeoPlace, wondering if it was inspired by Monty Python, Ant & Dec or the Bionic Man & Wonder Woman, before settling on a homely image from another age when two men could share a bed without a hint of innuendo or double entendre, especially when one was Eric Morecombe with his pipe.

An all too brief Q&A session found delegates asking, how do custodians make the case for resources in these cash-strapped times? Hone your arguments down to an 'elevator pitch' so if you run into the chief exec or leader of the council and you're stuck in the lift for 30 seconds or so, you have all the arguments distilled into simple English. What happens to the profits from GeoPlace? They're all ploughed back in. And what will be the relationship between the NSG and OS's Integrated Transport Layer? No decision yet on that one.

The awards cover a disparate range of activities, from naming new streets to the integration of new technology. The categories also include: Finance, Integration, Technology, the Citizens Award and the obligatory Green Award. Delegates are also able to choose an overall winner. Several of the winners really were stand out entries and we offer more insight on these below.

### Big bang approach

Barnsley MBC, winners of the CIPFA sponsored Finance Award to demonstrate real financial savings, adopted what they described as a "Big Bang" approach to rolling out their Local Land & Property



*Above: Delegates had plenty of time to network and visit the small exhibition.  
Left: LGA's Stuart Young believes a single gazetteer will be "highly beneficial".*

Gazetteer. In the words of custodian Riley Marsden it was 'nothing new, radical or clever'. But by developing a business case, in which a fixed-term investment in resources would yield cash and efficiency savings to the council, Marsden and his team were able to deliver £1 million expected savings over four years from waste collection route optimisation along with other benefits, including increased taxation income, of £20k per annum. Their work, which was achieved with two staff on 12-month fixed contracts, has also helped identify new opportunities from address integration like better call handling, electronic service delivery, GIS data analysis and enabling information to be made available to the public via a web-based property account. 'If we can do it anyone can' concluded Marsden.

### Major challenge

The Integration Award is meant to show how the National Gazetteers are linked to all council services or local partnerships and the benefits of this brings. Sponsored by SOCITM, the winner must have had a major integration challenge before they did any real work. It involved Bristol City, South Gloucestershire, Bath & North East Somerset, North Somerset Councils, Police, Fire & Ambulance Emergency Services, Primary Care Trusts & the NHS in the greater Bristol Area. The project, "Total Place Asset Mapping", was sponsored by the South West Regional Improvement and Efficiency Partnership. South Gloucestershire Council acted as overall project manager with Bristol City Council's Corporate



*... how do custodians make the case for resources in these cash-strapped times?*



# GeoPlace: awards event

## The role of GeoPlace



Correct and geospatially positioned addressing has the potential to deliver significant cost savings across the public sector. A single definitive database will assist with the streamlining of services, reducing duplication and facilitating partnership working with private and third sector delivery bodies. By synchronising data and processes nationally, significant cost savings can be achieved by eliminating the need for users to undertake data matching of different datasets.

Following the creation of the joint venture earlier this year between Ordnance Survey and the Local Government Group, GeoPlace has announced three new addressing products, which will be available to the public sector under the Public Sector Mapping Agreement (PSMA).

- **AddressBase Premium** a detailed view of an address and its lifecycle by providing information relating to an address or property from creation to retirement. It contains local authority, Ordnance Survey and Royal Mail addresses structured in a relational database model based around the Unique Property Reference Number (UPRN), current (approved) addresses, and alternatives for current addresses (reflecting the changes in addresses), provisional addresses (proposed planning developments) and historic information for addresses (including historic alternatives) where available. Objects without a postal address (OWPAs) and cross references to the OS MasterMap topographic identifiers (TOIDs) are also included.
- **AddressBase Plus** contains current properties and addresses sourced from local authorities, Ordnance Survey and Royal Mail matched to the UPRN and structured in a flat file model. It includes OWPAs, such as subdivided properties, places of worship and community centres. It also enables location an address or property on a map by cross referencing with OS MasterMap Topography and Integrated Transport Network Layers' TOID references.
- **AddressBase** contains Royal Mail PAF addresses (25.2 million for England and Wales), both commercial and residential, matched to the local authority UPRN and structured in a flat file model. This allows users to link additional information about a property to a single address. It also provides an enhancement to PAF data by assigning an X and Y coordinate to every address.

All three products are maintained from the best parts of local government's National Land and Property Gazetteer (NLPG), Ordnance Survey's OS MasterMap Address Layer 2 products and the Royal Mail Postcode Address File (PAF).

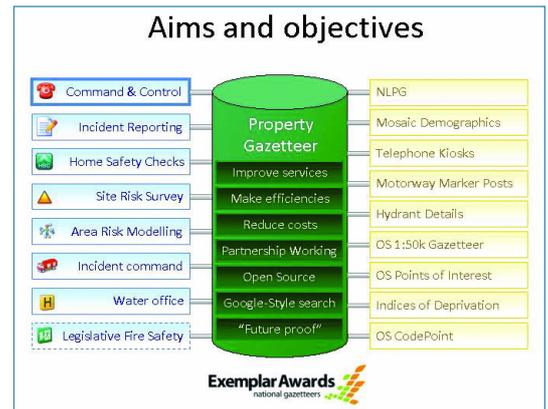
GIS team commissioned to undertake the mapping and asset matching.

The work required the various participants' major property assets to be plotted on a single layer and made available through a web-based GIS and thereby achieve better and more flexible use of public sector assets across the sub-region. Potential savings of £1.5 million per annum are expected from this work over the next ten years.

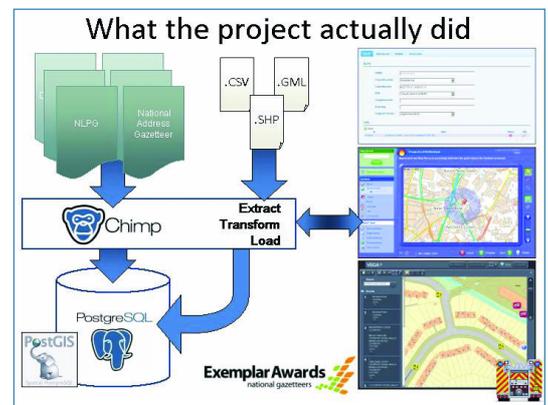
### Open source win

The Technology Award sponsored by UK Location looks for innovative examples of the application of technology using the National Gazetteers. This is a hotly contested section but the winners were not just the judges' choice but the delegates' overall choice of winners too. Quite an achievement.

Chimp is a dynamic gazetteer-generator with an integrated extract, transform and load tool. It was developed exclusively using web-based open source software by West Midlands Fire Service. It can



Above: Chimp was developed entirely inhouse using open source technology.



Chimp has significantly reduced software costs, avoided vendor lock-in and enabled a collaborative approach to software development.

coalesce traditionally disjointed data products by generating bespoke and feature-rich gazetteer software. So how did they do it?

Several objectives were set for the in-house development team:

- Localities must reflect names likely to be reported during an emergency call, and not ward names or similar
- Coordinates must be validated and repaired as necessary
- Spelling anomalies must be resolved
- Missing organisation names needed specifying
- A detailed model of the motorway system (defined using NLPG records) needed positioning in-sympathy of ITN routing nodes
- Over 112,000 pieces of location-specific data needed linking to NLPG BLPUs and streets, including emergency rendezvous points, asbestos presence, police arrangements, pre-arranged vehicle attendance and other critical risks

Meeting these objectives resulted in the creation or modification of over one million pieces of data.

Developed both under time and budget to replace a command and control system, Chimp has already been adopted by two other fire services and

others are pending. The design of Chimp allows for freedom of choice in relation to base gazetteer format, a benefit which is wholly attuned to the approach of the Public Sector Mapping Agreement.

By using open source technology, Chimp has significantly reduced software costs, avoided vendor lock-in and enabled a collaborative approach to software development, bringing benefits in cost sharing and pooled talents.

There is a full list of entries on the GeoPlace website (<http://www.geoplace.co.uk/>) but below are some of the key winners:

**Citizen Award:** Merseyside Fire & Rescue

**Green Award:** Northumberland County Council

**Naming Award:** Colchester Borough Council

**Exemplar Award:** West Midlands Fire & Rescue

**Peer Award:** Shaun Powell

**NLPG Most Improved:** Barnsley Metropolitan Council

**NSG Most Improved:** Staffordshire County Council

In addition, 20 Best in Region Awards mark the most improved councils with a further 66 Gold awards to councils who have achieved GeoPlace's Gold Standard of LLPG.



**Meeting these objectives resulted in the creation or modification of over one million pieces of data.**



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# conference: G-STEP



**Above: A coffee break under the Blue Streak – under the weight of history?**

**Above: Dr David Williams, Chief Executive, UK Space Agency, emphasised the need for more care about data quality.**

YOU MIGHT THINK G-STEP is an aircraft registration. You would be right. It is a Schweizer 269C two-seat helicopter based in South Wales. But G-STEP is also another one of those acronyms beloved by the EU. In fact it is a nested acronym! The G is for GMES (Global Monitoring for the Environment and Security) while the STEP stands for Space Technology Exchange Partnership. So this G-STEP flies a lot higher than the helicopter although its ground base is very firmly in Leicester in the centre of England.

the world for nearly 40 years. More recently the plethora of different satellites and sensors have provided data useful for predicting earthquakes as well as for recovering from them; for assessing water resources as well as recording floods; for monitoring agricultural production; for topographic mapping with accurate terrain models; etc etc. If we add in the use of satellite navigation and positioning as well as satellite communications, we can see that there are few areas of government or business that do not

**G-STEP is not just a helicopter!** There are growing opportunities and benefits from space-based technologies, reports **Robin Waters**. From disaster monitoring to geology the field is wide open but geospatial analysis remains essential.

Leicester is the home of the British National Space Centre where G-STEP organised a meeting on 1st November entitled 'Global to Local: Space Innovations in Mapping'. Over 100 attendees listened to speakers from the UK and European Space Agencies; Google; Ordnance Survey, Defra, the British Geological Survey; Esri UK and even a few academics!

Although there were some back row mutterings about reinventing wheels and 'here we go again', I found the meeting both useful and stimulating. Useful because some of the speakers imparted new (at least to me) information and also touched on both funding issues as well as my particular interest – data quality and responsibility. It was stimulating because of the obvious enthusiasm of most of the speakers and the broad reach of potentially useful applications being discussed – from health telematics (see below!) to alternative energy, de-mining and malaria eradication.

#### 40 years of useful data

There is no doubt that satellite remote sensing for civilian purposes was oversold in its early years – though there is also no doubt that the Landsat programme, for example, has been able to provide reasonably consistent and useful data across most of

benefit from what its proponents still like to call the 'space industry'.

G-STEP should be pushing at an open door. Its strapline is 'Innovating / Training / Collaborating' and its aim is to 'support business and public sector organisations in the use of state-of-the-art earth observation information technology (EOIT)'. G-STEP is co-funded by the European Regional Development Fund (ERDF) through EMDA (East Midlands Development Agency), the Leicestershire Economic Partnership (now Prospect Leicestershire) and the University of Leicester. G-STEP's interpretation of EOIT includes GIS and the use of conventional datasets collected on the ground or from aircraft – satellites do not have to be explicitly involved to gain their support.

Professor **Paul Monks**, G-STEP Director, set the scene and ran through a frightening number of acronyms. **Liz Tucker** (née Fox) from Defra presented 'GMES for Dummies'. She explained that the EU GMES programme was putting up the Sentinel family of satellites from 2013 and that the programme has four sets of high level services: GEOland, myOcean, MACC (mapping atmospheric composition and climate), and SAFER for response to natural or man-made disasters. The current intention seems to be that the data will be available free of charge and for any purpose.



**... few areas of government or business that do not benefit from what its proponents still like to call the 'space industry'.**



**Apps and GIS**

Dr **Eric Goodyer**, from the other university in Leicester (De Montfort), talked about several different applications with which he had been involved including *Autotxt* for tracking stolen cars; *iCare* for tracking patients with mild dementia so that they could be helped if they deviated from their normal routines; *itraq* for monitoring the traffic and air quality in towns and various other health telematics projects using satellite positioning and/or communications to help the chronic sick and enable them to stay longer in their own homes. **Graham Wallace** from Esri explained GIS for those that were not familiar with the technology.

Ordnance Survey was represented by **Ian Holt** talking primarily about OS OpenData and its take-up since being launched in 2010. Unsurprisingly the familiar *Streetview* and 50k raster products are the most popular but OS actually has no automatic feedback on what they are being used for or how many end users are out there. His characterisation of OS moving from being an industrial warehouse to a plush hotel lobby was a little incongruous!

Much more up-beat was Prof **Stuart March** from the British Geological Survey who did a really good selling job on BGS' journey from 2D paper maps to 3D immersive models and their use of digital technology – while dealing with their own conservative surveyors and overcoming the loss of field knowledge as more of the work moves into the office.

**Ed Parsons** from Google stated that *Google Earth* now has a billion users – more than *Facebook* and *Twitter* put together! He implied that Google had taken a lead in 'getting the tools out of the way' so that we could actually just get on and use the data to its full advantage. He cited *Google Mapmaker* as a good example at the citizen level and suggested that professionals were also now able to use geospatial data for their own disciplines without having to worry about the underlying complexities of GIS or remote sensing. No longer do they have to worry about formats, grids and graticules – they can just start adding their own information and analysing it. Of course the back row politely suggested that some knowledge of spatial analysis and presentation would also be required.

**90% of space is back on Earth**

Just before lunch under the exhibits of rocket engines we had Dr **David Williams**, chief executive of the UK Space Agency remind us that the space industry has a high profile with the current government and that it was internationally competitive. He mentioned the recent sale of several EO satellites to China. He also noted that 90% of the 'space' market was downstream – back on earth – and that the industry provided an 'invisible infrastructure' that we would neglect at our peril. He emphasised the need for much more care about the quality of data and the need for

providers to take responsibility so that it becomes more trusted and is seen to be fit for purpose. He also suggested that there was a large international market for 'basic mapping' – topographic, geological, and for other themes in many parts of the world. The Space Agency has money to invest in suitable projects – up to £25 million!

And more money after lunch. **Alan Brunstrom** from the European Space Agency (but based at Harwell) encouraged projects to apply for funding for feasibility studies or demonstration projects providing there was co-funding available and active participation. The percentage of 'space' content is immaterial as long as it is a vital input to the project as a whole. Two practical projects that are now being demonstrated are VECMAP for identifying likely malaria hotspots and SADA – Space Assets for Demining Activities. The latter is attempting to reduce the current 100+ year estimated timescale for world wide clearance of land mines. He was followed by **Robert Lawson** who is the national contact point for 'FP7 Space' – the seventh EU framework programme for science and technology. He too had advice on finding project funding through the Technology Strategy Board and various other channels.

**Mapping back in fashion**

So what overall impressions did I get from this meeting? There certainly ought to be more synergy between the GI and 'space' industries – we need each other. The word 'mapping' in the sense that we used it before GIS and geospatial data came along is coming back into fashion – not least because it is a simple word that is familiar to everyone. We still see a map on a screen – how it gets there (or on to paper) is not as important as the information that it is presenting. And there is Money in Space. G-STEP is a programme that the GI industry should get into even if you are not in the East Midlands. G-STEP is not a helicopter – but its sponsors hope it will take off like more like a rocket. We do not need space suits to get on board!

*Above: A slide from Dr Erik Goodyer, De Montfort University, space applications. He talked about several different applications with which he has been involved.*

**“He also noted that 90% of the 'space' market was. . . back on earth – and that the industry provided an 'invisible infrastructure' that we would neglect at our peril.”**

# GeoCommunity'11 debate



**What could possibly go wrong with panelists as good as this? From left to right: Gesche Schmid, Trevor Adams, Bob Barr, Bill Oates and Steven Feldman.**

IT MAY SEEM A BIT ODD that large numbers of events like crimes can have uncertain locations. But for the British Transport Police two thirds of all crimes take place on moving trains so they can often be no more specific than  $\pm 49$  kms! However, some crimes can be pinned down much more accurately like theft of copper cable, which can cost millions in consequential losses to passengers. One recent theft caused a loss of £34million alone. BTP are not only active where theft is concerned. During the London riots in August a team of 40 BTP analysts interrogated Twitter feeds and traced the movement of gangs of rioters and looters around the transport network in support of the Metropolitan Police force.

There seems to be something of a belief amongst

public capital projects let over £10m must use the technology. Simply defined as the process of generating and managing data of a building during its life cycle, for Dr **Anne Kemp** BIM is about information management and that will mean forcing the CAD and GIS communities to come together. Her thoughtful presentation won best paper award of the conference and I commend readers to download it from the AGI's website.

After the topic of addressing I have to confess that INSPIRE is a perfect trigger for my narcolepsy. However, I discovered an antidote in the form of **Bill Oates** from the Welsh Assembly Government. His "134 Days Later – an INSPIRE survivor's story" hit the right buttons as to what this EU initiative is all about. 'It's not about compliance. It's about getting information out there and used' is Oates' verdict. In other words, 'it's in organisations' own best interests'.

## What could possibly go wrong?

"Open Data – what could possibly go wrong" was one of the best sessions of GeoCommunity'11. It brought together five GI luminaries under the watchful chairmanship of **Andrew Trigg**, who reminded us that prime minister Jim Callaghan had

## Debating the new economy and open data

If the subtext to AGI GeoCommunity'11 was "Placing ourselves in the new economy" then much of the two-day event was about debating it. Crime, the Census, BIM, Open Source, the Cloud. . . read on to catch a snapshot of the topics and go to the AGI's website for more.

not just policemen but operators too that you don't really need a georeferenced GIS where railways are concerned. While BTP only adopted a GIS quite recently, Tubelines is only just beginning. The company is responsible for the Jubilee, Northern and Piccadilly lines on London's Underground. With 207 miles of track, 251 trains, 100 stations and 227 escalators they have hitherto relied on diagrammatic linear data. GIS consultant **Steve Eglinton** has spent a lot of his time getting the language right. He's found that it's much better to talk about 'visual planning' or 'geo-enabling asset management' than GIS.

Outputs from the 2011 Census will not begin to appear until next year and continue until 2013. **Andy Tait** of the Office of National Statistics (ONS) explained that they tried several new methods and checks to ensure that the data was accurate. Alas it didn't always work. Amongst the census returns sent in by people were a driving licence application, a credit card, cash and a drawing of The Queen! Despite these hiccups ONS believes 99.5% of addresses were covered even though they found that 60,000 houses were missing from address registers.

Building Information Modelling is becoming a buzz word in the construction community, driven by Government which is demanding that by 2016 all

advocated a form of open data through transparency of government information in 1976. For **Steven Feldman**, open data is also about transparency of information to make democracy work: 'the case was clear cut and unarguable'. Nevertheless, Feldman believes there is a myth about cost recovery and the information economy. 'It will not cover cost' was his verdict. **Bill Oates** 'couldn't disagree more!'

'Open data helps us as civil servants do our job better – it means cheaper, cost effective publication of information'. Oates also liked the ease with which [opendata.gov.uk](http://opendata.gov.uk) enabled him to answer those pesky freedom of information requests; 'Kerching!' was his succinct verdict on that one. He also thanked the *BBC* and *The Guardian* for their assiduous work on projects like maps of deprivation.

**Bob Barr** highlighted the 'tsunami of content' that is now available. The 'ecosystem' of data has changed radically in the last five years. But there remain copyright issues. Today, young people do not expect what they find via Google to have any restrictions on use.

But open data has hit some hard. **Trevor Adams** of the Metropolitan Police's GIS Services pointed out that information given to the police is often traumatic and embarrassing but is given in privacy. Names and salaries of

“

**...it's much better to talk about 'visual planning' or 'geo-enabling asset management' than GIS.**

”

senior staff have been revealed. He also argued that there is a growing reluctance to report crime lest it appear on a crime map and contribute to lowering property values.

Opening data is perhaps the easy thing; turning it into meaningful data is where the skill is. Who should do it, the government before it is released or leave it to the market? If the state does it, how will it be funded? These are important issues for **Gesche Schmid** of the Local Government Association. 'People have different ideas on how to interpret data,' she argued, citing a Staffordshire website (<http://www.ratemyplace.org.uk/>) where the public can see ratings for food outlets like restaurants. But what we really need is an argument about the business model behind open data. The private sector too has a role to play. 'They should release data as part of their corporate responsibility,' she says.

The debate quickened as the audience joined in. A questioner suggested data should just be treated as 'rubbish' on the basis that one man's rubbish is useful to another. Steven Feldman was convinced it was essential to keep down the cost of open data, 'don't spend time cleaning it up'. But the issue of personal data loomed over the debate. Trevor Adams cautioned that once you go down to smaller areas 'it gets personal' and Gesche Schmid said that for some data there must be procedures for filtering out personal data. Bob Barr conceded that 'it does mean re-engineering the way local government works'. But overall, the presumption should be in favour of putting the data out: 'stop being a data hugger – data is the fuel on which analysis can be done', said Steven Feldman, while Bill Oates concluded, 'open data is a state of mind'.

### Making the business case for your next project

According to **Keith Broadhead**, ICT Team Leader (GIS), NE Lincolnshire Council, 80% of all local authority work has a GIS element. After every AGI conference he writes a GIS strategy of where he thinks the market is going and what to look out for. In 2009 his team of two realised they were 'in a hole' with out-of-date technology and weren't moving forward. They also had a new ICT manager but given 15 minutes to make a pitch, there was only polite disinterest. But in the last five minutes of his allotted time, Broadhead pitched the savings the council wasn't making when compared to neighbouring councils. He calls it 'the envy tactic!' 'Hit 'em in the wallet!' was his advice. This moved discussions forward to hiring a consultant, who said that the problem is 'you're talking GIS speak, you need to speak business language and understand money'. The crucial phrase was 'and we're losing lots of money'.

### When to use Open Source

There has been a shift in thinking where open source is concerned says **Louis Quaintance** of Dotted Eyes. It is no longer a taboo and is being used in the mainstream. Key questions are:

**Risk** – how complex is the task, do you have the

necessary skills? Consider how homogeneous is your current IT set-up, does it have dependant systems for example. Is cost of migration going to outweigh the benefits?

**Price** – will it cost more to use in the long term? If you want a small set of features to be available then open source might be good. If you need a lot and they are not immediately available through open source then staying with a vendor might be easier.

**Support** – who will you choose as your support provider? Consider how large is the software's community: is the supplier an active contributor to the community? Are they familiar with their source code? Have they built extensions? Can they recommend particular versions?

**Maintenance** – how will you manage upgrades?

A big advantage of open source mentioned by users, is not the cost but less reliance on vendors who may not be around in, say, ten-years' time. But consider performance over functionality says Quaintance – 'it's better to have a programme with fewer features that is quick, than one with lots of features but is dog slow', was his advice.

### Making do with what you've got

Calderdale Metropolitan Borough Council has to reduce spending by £15m in 2011/12, rising to £28m by 2013/14 and is already struggling to meet these targets as 'costs are coming out of the woodwork' according to **Craig Chew-Moulding**. It means inevitable cuts in staff, rearrangement of teams and a need to innovate and maximise resources. 'Desktop GIS may be a bit old fashioned but it does what we want' asserts Chew-Moulding.

Maximise your software investment – 'can we analyse and deliver data better?' You should go for the data-centric approach to GI management – the "hold once, use many times" mantra. Next, maximise skillsets – harness new GIS team skillsets with existing skills – 'knowledge transfer for resilience is key'. If someone is hit by a bus, someone else is still around who has knowledge. 'Spatial isn't special any more, it's mainstream'.

Finally, Communication: understand your needs through data scoping and project management. Skills are key to building internal software solutions. Collaborate and explore what is available to you but "Data is king". By doing this Calderdale is continuing to improve by reducing reliance on GIS support, developing simple and effective solutions, and so vastly improving speed of data analysis and delivery.

### How authoritative can the crowd be?

Contrasting *Wikipedia* and the *Encyclopedia Britannica*, **Steven Feldman** thought the margin of error between the two was actually smaller than claimed. Wikipedia just corrects mistakes. The message is that crowd sourcing can be updated quickly.

So what makes geodata accurate? Complete data,



**Andrew Trigg reminded us it had all been heard before back in 1976.**



**... advantage of open source... is not the cost but less reliance on vendors who may not be around in, say, ten-years' time.**



accurately referenced and correctly attributed. However, authority doesn't necessarily equal accuracy. Therefore a challenge for crowd sourcing is that authority tends to suggest processes that people can see. What gives Ordnance Survey authority? There is no statutory instrument that gives authority to OS although they are mentioned in one for land survey. OS doesn't capture a lot of data to great detail and not all of it you might want. And even OS is not perfect; changes happen in between times of updates and mistakes can still be made. The issue of "no one to blame" for wrong data is often a concern raised with crowd-sourced OpenStreetMap. But Feldman argues that most data providers including Ordnance Survey don't accept liability for errors. On the question of maps being authoritative Feldman believes that any map that has specifications and processes to ensure specifics, can be authoritative, a point agreed by Ordnance Survey.

For OpenStreetMap, the way to fill areas not fully covered is through more volunteers. He thinks it can be 'a pretty geeky middleclass thing' to update OSM and there is a pretty clear correlation between more deprived areas and lack of coverage. But is it really middle class and geeky everywhere? This was vigorously challenged by the next speaker and Feldman withdrew the comment.

**Mark Iliffe** is a PhD student at University of Nottingham working on the Ground Truth Initiative. Subtitled "When Gov 2.0 doesn't exist: mapping services in the developing world", for more on this paper, which was winner of the conference delegates' choice for best paper, turn to page 23.

### How open is public data?

**Gesche Schmid** of the Local Government Association described public data. It has to be objective, factual, and non-personal data upon which public services can run. It relies on the principles that it will be published in reusable, machine-readable form; it is released under the same open licence; and is available on one simple access point – data.gov.uk.

So why open data? According to Schmid it will improve local accountability; greater, more informed data will power economic growth; give users more power to self serve and improve productivity through better consistency and comparable data, i.e. in the public sector. She argues that to be open, data needs to have no terms or restrictions, be readable on computers, fully disaggregated, quickly accessed and easy to find. She has reservations however on just putting out data – some could be damaging, so there is a need for care. Government is opening data but it is the start of a long journey. Data, she concludes, is not 'costless'. An important message.

### Cloud GIS for conservation

Amigos de Iracambi is a Brazilian non-profit organisation to research sustainable forest management and conservation. **Charlie Poate**

volunteered as GIS coordinator carrying out land use surveys and data management. The role of GIS at the centre is for land cover mapping, community land use, demographics, environmental protection areas, etc.

Iracambi's has no full-time GIS manager and relies on volunteers with GIS experience to go out for as long as possible. Poate also had first to learn what had been set-up by the volunteer before him. He had one computer and had to turn the electricity off every time there was a thunderstorm or 'things get fried'!

The future is a cloud-based platform like **ArcGIS.com** which provides a stable, resilient system with no need to back-up data all the time on different hard drives. It also makes collaboration easier around the world.

### Warren's tips for better on-screen maps

Billed as a practical session with advice based on his experience of improving on-screen cartography and their service viaEuropa, **Warren Vick** says that in Great Britain we are 'geo-data rich' so it is 'a great shame to belittle high quality data with poor mapping'. Better maps mean better communication. His tips are:

**Tip 1** - Know your target device – on-screen and print are very different – consider environment of display e.g. intensity of light and how it gets to your eye, for example by a projector. Compromise styling only if necessary. If rasterising vector data, consider variance in display pixel density – legible on one screen, illegible on another.

**Tip 2** - Learn to love RGB – 'I suggest that colour is the most important style variable on a map'. Humans have trichromatic vision close to RGB. Also sensation of colour is heavily dependant on the background – a subtle difference can make a big difference to the viewer.

**Tip 3** – Careful use of white – if very bright it can overwhelm as a background colour, consider off-white.

**Tip 4** – Careful use of black – can look severe as a foreground colour. Try charcoal grey for labels.

**Tip 5** – Use opacity – this controls the amount of colour that comes through. Useful for combining raster labels and tinting – i.e. tinted overlay for comparison. With opacity, labels can overlap other features like roads.

**Tip 6** – Consider colour vision deficiency – CVD affects 1 in 12 males. Is it necessary to create separate maps? No, you can create hybrid maps for both.

**Tip 7** – Anti-aliasing, "softening" edges by using transitional colours gives map a softer appearance.

**Tip 8** – Compound styles can give sophisticated cartographic effect.

**Tip 9** – Invest in fonts – it often dictates how formal something looks. Serif v. san-serif. Many people don't like italics. Choose font with a range of weights for subtle differences in labels.

**Tip 10** – Study and associate – study techniques used by others, online and print. Associate and learn from trade bodies and special events like the British Cartographical Society's annual symposium.



... in Great Britain we are 'geo-data rich' so it is 'a great shame to belittle high quality data with poor mapping'.





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I READ YET ANOTHER RANT on a GIS professional's blog about the horrid user interface of an online interactive map. The key argument in this post was that the best way forward was to exorcise GIS from the application. **Skip Cody** argued in his *On Web Mapping Blog*, "Consumers could not care less about GIS period! They don't want to hear it, see it or have anything to do with it."

<http://onwebmapping.blogspot.com/2011/10/map-usability-fail-series-5-take-gis.html>

I agree. Consumers fishing around the Web are looking for answers. If they find themselves on a local government site they might be asking: When is the trash picked up? Why are my streets not yet plowed? Where do I vote? All of those are likely to have a geographic component and the answer may well be powered by GIS, somewhere back behind a webpage. But, as Cody suggests, that's really not important to the seeker. What is? The answers:

**Layers:** Even GIS professionals get overwhelmed with long lists of layers in their work. They group them and merge them to simplify things. Why not do the same for a visitor? A simple query hidden in a link could automatically create a trash pickup map or a snow plow route map or a voting locations map by revealing just one or two layers. And, the visitor would never need to know what's going on in the background.

**Widgets:** Fancy tools hidden behind icons are part of the definition of complex interfaces aimed at specialists. We recognise ArcGIS and AutoCAD as applications that fall into this category. Visitors to a town website are not typically specialists and thus deserve clearly identified tools. If more than one step is required for a task, a wizard can help immensely.

**Generic Functionality:** While there are now a set of

## Redefining the interactive map user interface

Consumers may not be interested in GIS but most will understand that maps are a stepping stone to an answer. They also understand the basic pan and zoom toolset. But complexity is growing. It's time to revisit best practices for local government websites, says

**Adena Schutzberg.**

"Monday morning," "because we route to the main streets first" and "at the local school."

That does not mean a local government should not consider using a map to convey that answer. In fact, it may make good sense to tie the map into the regularly updated backend GIS, so long as the app is geared to easily answer the questions that might be posed.

Cody addresses four areas for improvement:

- **A link to the map that says GIS Map**
- **A big box of layers**
- **GIS widgets on small buttons**
- **Generic functionality**

I want to explore each in turn from the perspective of a consumer/citizen looking for an answer to the questions above.

**GIS Map:** A naive visitor (someone with little or no GIS experience) might ponder the difference between a GIS map and a "regular" map. The visitor may not realise the map is the stepping stone to an answer. Taking out the term "GIS" would be fine, but so might a different phrase, for example: "Answer your question with our town's map!"

"standard" tools that are expected on an interactive map (pan, zoom in, zoom out, to name three), a whole fleet of them can not do the job of the right data and a single query box asking for an address. Visitors to local government websites are looking for the direct route to the answer. Give them a direct route!

Cody's discussion highlights a few trends that are continuing unabated on too many websites as we head into the middle of the second decade of online interactive local government maps:

- online map interfaces are skewing toward the complex; that is, they are skewing toward serving expert users
- online maps are trying to be all things to all people; that is, a single map intends to answers a dozen different kinds of questions
- online map interfaces are considered separate and distinct from the cartography of the map itself

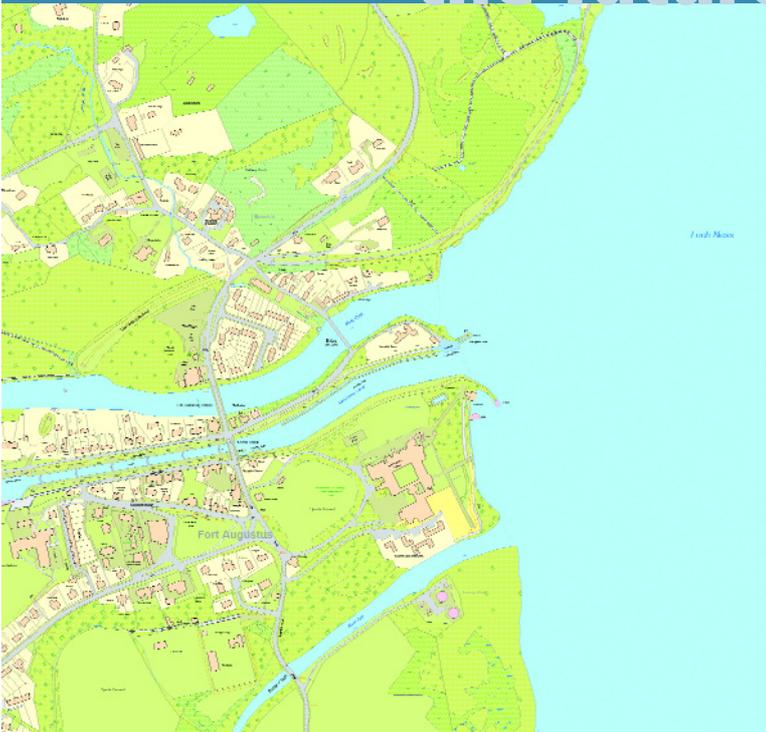
As we finish out 2011, it's a good time to revisit best practices for local government mapping websites. The key to success: acting like a visitor, who is not a GIS professional, but who is seeking an answer.



**Visitors to a town website are not typically specialists and thus deserve clearly identified tools.**



# OS MasterMap: the future



*Inferred links provide a transparent way of subdividing very large area features such as Loch Ness and allow greater representation of how the land is used.*

remains important to many end-users. For several years, our licensed partner community has been able to offer services to those who only wanted access to a fixed 'view' or indeed 'plot' of our large-scale topographic data. More recently, with the growth of web map services (WMS), we are seeing many organisations host and deliver OS MasterMap Topography Layer online as a WMS; indeed Ordnance Survey's own OS OnDemand platform does just this. What is particularly pleasing in this context is the introduction of new cartographic styles for OS MasterMap Topography Layer, something which has not been particularly well developed until recently.

**In the early 'noughties' there was a lot of effort put into the positional accuracy improvement (PAI) programme. Has this programme now been wound up (in the sense of helping users cope with the changes)?**

The formal PAI programme that delivered retrospective improvement of positional accuracy in our rural areas completed in spring 2006. It's certainly true that since then many users have continued to work through the effects of PAI on their own local data – many of whom have been supported by both us and our partners. We still

## MasterMap: OS spells out the future

Last month we traced the first ten years of MasterMap, Ordnance Survey's large scale geo-referenced map product, now available through the Public Sector Mapping Agreement to all government departments and agencies. Here we look at the future by posing a series of questions to **David Henderson**, MasterMap's senior product manager.



**... the TOID is used to cross-reference information and unambiguously share location-based data between organisations and applications.**



**The vast majority of OS MasterMap Topography Layer uses are as a background image, which would be easily provided by a raster product. We understand that some 'value-added' suppliers offer such a product but only to full OS MasterMap licence holders. Is this true? Why has Ordnance Survey never offered a raster product at the largest scale (given that it is a virtually zero-cost option)?**

The majority of our customers today value the rich and detailed database of maintained topographic features that enable very efficient data capture and provide an effective framework against which their own business information may be referenced. Each feature is attributed with descriptive information on its type, its date of capture or modification and, of course, its unique reference ID – the TOID and version number. Today, the TOID is used to both cross-reference information and unambiguously share location-based data between organisations and applications.

The detailed cartography that has been preserved within OS MasterMap Topography Layer nonetheless

maintain a wide range of supporting information on our website. Whilst the collective effort across our industry to manage the effects of the PAI programme has been significant, it is also true to observe that subsequent improvements to local data holdings have been transformational in more than one sense of the word, with opportunities being taken by many to improve several aspects of data quality – not just positional accuracy.

More generally, positional accuracy improvement is something that remains an everyday consideration for Ordnance Survey as we record real-world changes to our most detailed topographic content. With the advent and deployment of Real Time Kinematic (RTK) GPS and airborne digital sensor technologies, alongside a general desire by our customers to ensure compatibility with an ever-increasing number of GPS-enabled devices, we are committed to preserving the improved accuracy that modern positioning technologies deliver. We clearly recognise that customers want any change to existing feature geometry to be, as far as possible, related to real-world change. Whilst we 'lock-in' capture accuracies

that are typically higher than the surrounding legacy data, we have no intention to implement retrospective improvements to accuracy without very clear customer demand.

**One of OS MasterMap Topography Layer's feature types is the 'inferred' link – typically added to open-plan housing estates. There was often confusion with some users displaying them as normal surveyed features. They also sometimes led to wrong coding of polygons. Is this a significant problem and/or has it been resolved?**

Inferred links were introduced into OS MasterMap Topography Layer in order to address a number of issues. Firstly, they provide a transparent way of subdividing very large area features, thus making them easier to supply and manage – a good example of this was the division of Loch Ness, which caused several data management issues when OS MasterMap was first launched! Inferred links do, however, add more practical value to the structure of our topographic data. Although they are 'inferred' as opposed to being 'physical' in nature, inferred links allow us to provide a good indication of occupational extent of properties (there is absolutely no attempt to infer ownership or legal extent). Moreover, the links enable the subdivision of features that are topographically-identical whilst comprising several different functions. A good example is an area of car parking alongside a public road, where the insertion of an inferred link allows the representation of two distinct uses of an otherwise consistently-surfaced area.

**What is the specific value of OS MasterMap change-only update (COU) and how is it used today?**

The continuous maintenance of OS MasterMap and publication of updates via COU files allows users to easily track and manage the impact of real-world change on their own local data holdings and business processes. With the advent of new data-capture tools and a new underpinning data model – both introduced during 2011 – we are committed to publishing clearer metadata about why we have made changes to features in our database. This may simply confirm that a feature is 'new' or that it has been 'deleted' (i.e. it no longer exists in the real world); however, it also provides the opportunity to confirm changes or 'modifications' to the real world – either physical (i.e. changes to the geometry) or changes to the function of a feature (usually recorded as a change in attribution).

Today, many of our large infrastructure and asset-management customers use the change information delivered as OS MasterMap COU to target their own efficient analysis of changes in the

real world and to understand the impact these have on their own operation. Indeed, the continual maintenance and update of OS MasterMap Topography Layer, published to end-users as COU, is a fundamental component of its value, and one that distinguishes it from 'snapshot' datasets, which generally lack the persistence of unique feature identification and the ability to manage the impact of local change.

**Is there any obligation on users of OS MasterMap (and particularly those that use it as a background for web applications) to display a meaningful date for the data within a particular window?**

There is no 'obligation'; however, the rich metadata provided with OS MasterMap allows users to confirm when a feature was captured and the date of any subsequent updates. In the case of OS MasterMap Imagery Layer we make quite clear the date of capture so that this can be made transparently available to end-users when they are reviewing the image. Over the next year we expect to provide the same level of metadata for OS MasterMap Topography Layer so that users can determine when an area was last 'swept' for minor change. This is in direct response to customer feedback about the increased value they place on knowing that Ordnance Survey has validated the content in an area and the confirmation that the real world remains unchanged.

**Are there any plans for the use of crowd-sourced data within the OS MasterMap portfolio?**

The advent of social networking, Web 2.0 and, more specifically, the growth and availability of location-enabled devices all offer huge potential for much greater innovation amongst like-minded communities. This will undoubtedly lead to much greater volumes of geographic information being collected and shared by 'the crowd'.

In the case of OS MasterMap in particular, our customers expect us to capture and maintain content to a published specification that meets their requirements and to ensure that it remains consistent to that specification. Assured consistency and provenance to a specification are essential to give our professional users the reliability that they need for decision-making. That said, there is a growing expectation for ever-greater levels of currency in our content and the opportunities for 'the crowd' to provide an alternative source of change intelligence or error notification is something that we are actively looking at, particularly in relation to sourcing data from trusted organisations that can be regarded as authoritative.

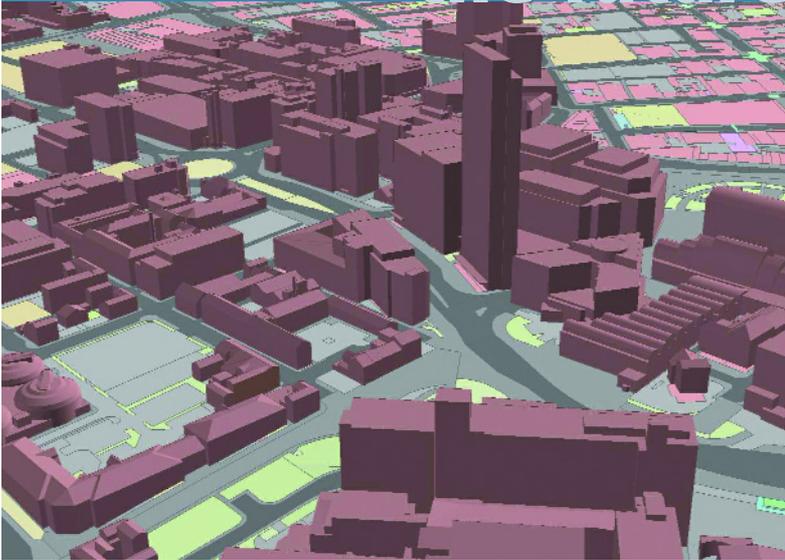
**What is the current minimum level of accuracy and are there any plans to improve this?**



**Whenever real-world change is collected in the field we aim to preserve the capture accuracy in our data without dilution.**



# OS MasterMap: the future



*With customers taking it much more seriously these days, 3D has been a major area of research for Ordnance Survey. '3D-enabling the product portfolio is our clear intention, says Henderson'.*

Our mountain and moorland geography has a legacy positional accuracy of 4.1 m root mean square error (RMSE). However, it is important to note that our capture methods today deliver much-improved levels of positional accuracy across all geographies – in mountain and moorland geography we typically capture new content to a positional accuracy of around 1 m when using remote sensing and indeed much better than that when RTK GPS is used by surveyors in the field. Whenever real-world change is collected we aim to preserve the capture accuracy in our data without dilution.

## How has the advent of greater availability of aerial photography impacted on OS MasterMap Topography Layer?

For many, aerial imagery has come to be regarded as an essential complement to OS MasterMap Topography Layer. Customers expect them to fit perfectly together and there are two notable impacts of this. The first is that a greater value is now placed on synchronicity of product, and since 2006 we have integrated our production methods so that OS MasterMap Imagery and Topography Layers are now fully concurrent. The second is that customers are asking for improved consistency and currency of mapped features, particularly in urban areas. Thanks to considerable improvements in digital sensor technology, we have been able to respond to this by increasing the role of remotely-sensed revision into urban areas to complement existing ground-based survey methods. This benefits, in particular, the real-world changes for which change intelligence is elusive, including urban tracks and paths, property boundaries and minor road changes.

## OS MasterMap is ten years old: what will it look like in another ten years?

A key principle of our product strategy and overriding philosophy for OS MasterMap is to increasingly structure and model our geospatial content so as to model the 'function' of those features that we capture in addition to their 'geometric form'. On one hand this may sound like a grandiose way of stating our intent to better attribute features in future, but it is much more. Our data will become richer and allow users to understand how the real world functions or behaves in addition to simply portraying how it looks.

Of course, probably the most visual development to OS MasterMap Topography Layer will be the advent of 3D. It is absolutely evident that our customers expect Ordnance Survey products to become 3D-enabled and it is clear that 3D is being taken much more seriously than was the case only two or three years ago. In many cases we are seeing an interest in, and expectation for, 3D running well ahead of customer clarity about how they will use 3D products – but we are certainly clear that we will be '3D-enabling' much of our product portfolio during the next decade.

3D has been a major area of research and development activity for us for many years, not just in terms of topographic data, but across many aspects of our portfolio, including terrain modelling, networks and cartography. In the short-term we are focusing very clearly on improving the representation of 'obscured detail' in OS MasterMap Topography Layer – this includes buildings that are currently 'obscured' by overhead features such as road flyovers and other ground-level features that are 'obscured' by overhead structures such as shop frontages. These are significant developments for our data – by improving the consistency and completeness of obscured geometry, we are paving the way for true modelling of physical levels – such as representing one polygon feature above or below another. In the medium term we fully expect these developments to evolve OS MasterMap Topography Layer into a fully 3D enabled model of the real world.

*Mr Henderson, thank you for answering our questions with such clarity and frankness.*



*David Henderson is the Senior Product Manager at Ordnance Survey with responsibility for the management and development of the flagship OS MasterMap portfolio.*

“  
**Our data will become richer and allow users to understand how the real world functions or behaves in addition to simply portraying how it looks**  
”



THE IDEA OF GOVERNMENT 2.0 is one that has become prevalent in recent years. Accelerated by recent economic conditions, more services are being delivered online. However, within developing nations this has not occurred on the same scale due to technology and budget. We present a case study of projects in Kenya and Tanzania, where services, along themes of sanitation, waste management and water are being mapped using open source GIS technologies through citizen engagement. This then feeds back to NGOs and government

this citizens can have a greater understanding of the processes of government and suggest improvements or make something that helps the government provide a better service.

Within the developing world this process is happening, but not on the same level as developed nations. Kenya has become the first nation in Africa whose government has opened their data to the world. Through [opendata.go.ke](http://opendata.go.ke), the Kenyan government is making datasets available on education, energy, health, population, poverty, water and sanitation along with public expenditure. Events like AppsForAfrica spark the creativity and usage of this data by the country's technologically literate community using the data.

Though the problem of data and access to data is resolving itself, the issues of granularity of data remain. Data collection within the developing world has many barriers, from the quality and knowledge of the surveyors to the equipment. Within the slums of the developing world, like Tandale in Dar Es Salaam and Kibera in Nairobi, Kenya the influx of people into slums causes a rapidly growing and changing urban environment and demographic. This causes any survey conducted to be rapidly out of date.

Because we wish to improve the provision of

## When government 2.0 doesn't exist: mapping services in the developing world

With services increasingly being delivered online in the developed world how can countries like Tanzania and Kenya benefit from internet technology?

Crowd sourcing could just be the answer, argues **Mark Iliffe**, PhD candidate, University of Nottingham and Project Director Ground Truth Initiative.

• This paper was first presented at the AGI GeoCommunity '11 conference in September 2011

sources, raising awareness of the problems faced daily by people living in the slums of Kenya and Tanzania.

### The problem

Because of the socio-economic problems faced by governments in the developing world, it is unrealistic for service provision to be on the same level as that in the developed world. In our context we take services to be along the lines of water, education, transport infrastructure and health and sanitation. Ordinarily in the developed world such public services would be, in part or wholly, subsidised by the state. This is not the case within the developing world. Though these services exist, they are usually run as wholly private enterprises with basic, if any, government regulation and intervention.

The problem of services within developing nations is further compounded by the lack of reliable and up-to-date data. Open data is a potential solution; mooted and implemented within the developed world with [data.gov](http://data.gov) and [data.gov.uk](http://data.gov.uk) being examples from the USA and UK respectively. By opening up data repositories it makes the processes of government transparent (and by extension service provision by the government). From

services in these areas the need to understand the current situation is important. Our solution to this has been to create a framework using community members as surveyors, with open source technologies and platforms like OpenStreetMap and Ushahidi interfacing between the community and the data they collect.

### Community Involvement

Including the community in the mapping process allows for three things to be considered. Firstly it allows the community themselves to take ownership of the project; the intention is that any mapping project becomes sustainable, the community are the key driver in this regard. Secondly it allows the community to understand the limitations of the government. Because of past issues like corruption and broken promises, citizens, in general, are wary of government initiatives. Governments in developing countries suffer from fuel shortages, budgetary deficits and lack of infrastructure. With the support of the government, driven by community members, the processes of the government become transparent. This enables their citizens to understand the functions of government, in a fair and measured



... it allows the community to understand the functions of the government.



# mapping the developing world

Tandale, Dar Es Salaam,  
Tanzania

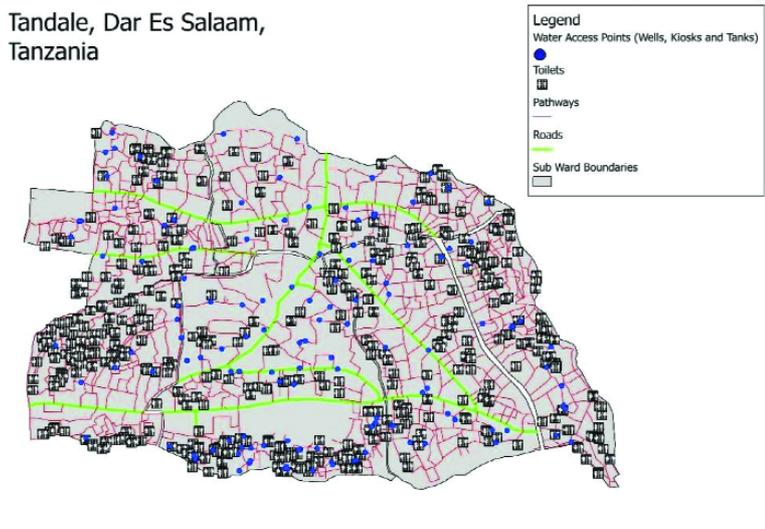


Figure 1: Tandale

way while understanding its abilities. Thirdly, it can be assumed that community members are familiar with the problems faced by their own community and are familiar with the geography of their environment. Therefore, once competent with the collection and processing of spatial data they will, in effect, know what they're looking for.

Crowd sourcing using community members allows for more than geospatial data to be collected. While collecting information about the location and capabilities of services within their locale they also can report on issues. Within the Tandale project the issues reported ranged from community meetings, dumping of rubbish to drug taking. These would be missed in one sweep by an outside survey. However, for the community members on the inside they can provide this information when given the appropriate training and equipment.

The costs of supporting a project once started are quite small. Within Tandale, 18 community members were selected alongside 25 urban planning students from Ardhi University. The students were completing compulsory vocational training and received a small stipend along with community members. When the first phase of the project was complete the project has the ability to continue with a small investment for community stipends. This keeps the data collected up to date and creates employment for those community members who continue to interact with the project. This in turn allows for the project to be sustainable. This model (without) students was piloted in Kibera and refined in Mathare, Kenya.

## Opening Data

OpenStreetMap (OSM) is used as the repository for the geospatial data collected by community members. OSM is essentially a 'wiki' for maps with the aim of producing a free and open map of the world. During the Haiti Earthquake of 2010 a humanitarian effort, involving OSM contributors from around the world aided in surveying on the ground and tracing satellite imagery to produce a map of Haiti, especially Port-Au-Prince [1].

OSM has a flexible and thorough tagging ontology. Because of OSM's open nature it is also possible to suggest tags which currently do not appear within the tagging system. Using this ontology it is possible to classify different types of land use (residential, industrial and wasteland etc.) and points of interest (POIs such as pharmacies, schools, water points etc.). This is well documented online in Wiki. Other forms of support exist, through mailing lists and forums.

Figure 1 shows the community efforts of the Tandale mapping project. Identified here are water access points, toilets and drainage points. From this data we (or anyone) can conduct further analysis. For example many of the water points are open wells, situated near dumping grounds and sewage drainage.

Also open defecation areas, dumping grounds and general landuse. The data now exists for anyone to understand where those issues are, not just that they exist. Identifying these areas allows for outside organisations like World Bank and NGOs, aided by the government, to conduct improvement works.

Combining the map with Ushahidi allows the reporting of problems at the community level. Using SMS messages and a web form, community residents can submit problems along previously discussed themes.

## Conclusion

In this paper we have presented a case study and the framework of the community mapping projects within Kenya, focusing on recent efforts in Tanzania.

Because of the ubiquitous nature of mobile phones in the developing world [2], we feel that the barriers of participation rests not with the community, but with the apparatus of the state. Governments in developing countries have a difficult task, generally they have large budget deficits combined with large health and poverty concerns, of which slum dwelling is a small part. By instigating mapping projects at ground level, using relatively cheap devices and an open platform, we feel that a potential exists for this methodology to be 'franchised' to other areas. In doing so we can bring the ideas of 'government 2.0' to the developing world.

We have also shown how the data collected can help with understanding the baseline of service provision in deprived environments, where government data is either unavailable or unreliable. We have also illuminated the benefits of using open source technologies in facilitating the sharing of this information. This is an on-going project



• Mark Iliffe is supported by the Horizon Doctoral Training Centre at the University of Nottingham (RCUK Grant No. EP/G037574/1). This work was also supported by Ground Truth Initiative, the World Bank and Twaweza.

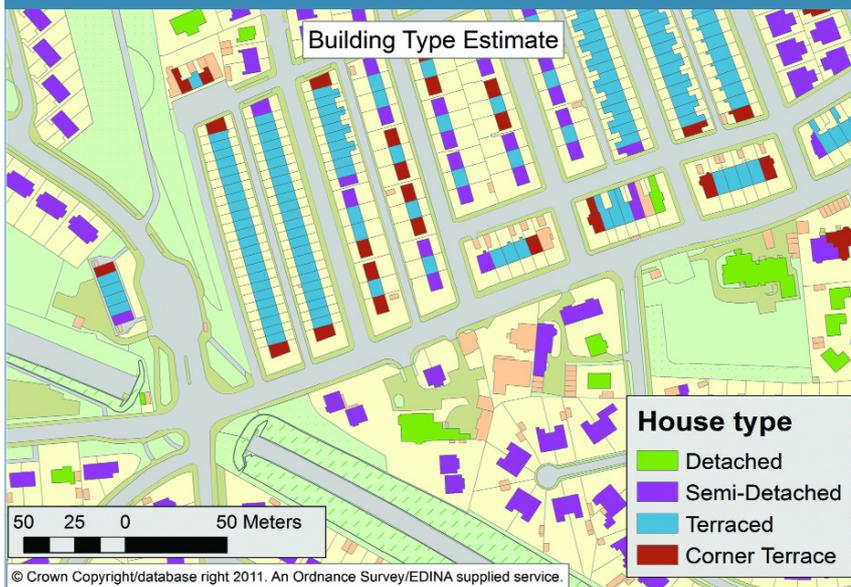
## Acknowledgements

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Map Data and Map Images © OpenStreetMap contributors, CC-BY-SA.

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**Above:** Illustrates estimates of building type, generated from OS MasterMap Topographic data. It is particularly useful to be able to identify 'corner terraces' as these have different crime risks than other types of terraced houses. It should be noted that the algorithm is not perfect yet - a small number of buildings have been incorrectly classified.

spatial datasets in conjunction with crime data, enables us to begin to see what's happening on the ground and the links between crime patterns and what may shape them.

The four distinct phases were: a review of current geo-spatial data sources; an analysis of user needs and requirements; the creation of new geo-spatial data products; and a case study of the added value of the geo-spatial data for crime analysis.

**Keys to understanding burglary** The first and second stages of this project examined a range of potential geo-spatial data sources and how they could be used for crime analysis – focusing on domestic burglary. An online survey was completed by 33 academics and practitioners who currently use geo-spatial data. They identified a number of factors that were considered key to understanding burglary but were not regularly analysed. These included: neighbourhood type; street accessibility; street layout and design; characteristics of bordering neighbourhoods; and the type of property (e.g. flat, bedsit, terrace, semi, detached, etc.). Following this online survey, a

## Exploiting geo-spatial datasets: – a case study of domestic burglary in the UK

Crime is not random and is strongly influenced by geography and environment. The authors explain how The GeoCrime Data Project has demonstrated that using geo-spatial datasets can enhance crime analysis.

CRIME IS NOT DISTRIBUTED randomly and patterns of residential burglary are no exception. Burglary occurs in specific places at certain times of the day, and is influenced by geographical context – what we might call the 'crime environment'. Therefore, any attempt to understand and explain the manifestation of burglary requires more than just an examination of the patterns of police records. A number of relevant geo-spatial datasets already exist, yet are rarely used in the field of crime analysis. This is due in part to the technical expertise required to obtain and process the available data and then to analyse them spatially using complex geographical routines.

**What's happening on the ground** The GeoCrime Data Project is a six-month project funded by JISC – information and digital technology champion for education and research once known as the Joint Information Systems Committee – which has recently been completed by the Universities of Leeds (Department of Geography) and Huddersfield (the Applied Criminology Centre; ACC). The project has sought to examine the use and applicability of geo-spatial data for analysing and explaining crime using residential burglary as a specific example.

The project demonstrates how using these geo-

stakeholder workshop built on the results by further exploring what crime analysts might find useful in analysing and understanding domestic burglary and how the technical or administrative barriers to using such data can be overcome. At this workshop, a wide range of potential users, uses, obstacles and solutions were identified (Table 1).

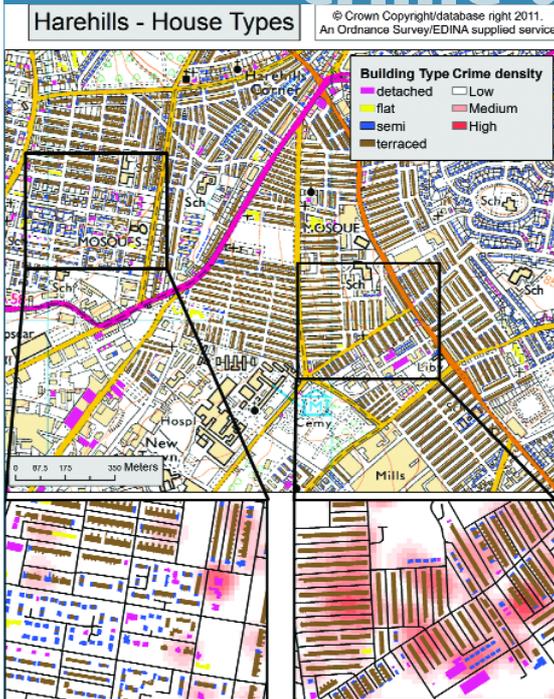
Based on the data review and user needs analysis, two OS MasterMap products were utilised - ITN (Integrated Transport Network) and the 'Topography Layer' (with land and building features). OpenStreetMap was examined as an alternative resource for road network data as it is available with less restrictions on use than OS MasterMap. A measure of road integration was developed using these datasets. This objectively estimates how 'well connected' each road is, which – for crime analysis – can be used to estimate street accessibility. Building data was used to classify types of houses (detached, semi-detached, terraced or corner-terrace) and the distance to the nearest road or footpath, which may all influence the risk of crime for a particular property. The results are available for download from project repositories although access to the OS MasterMap based datasets requires appropriate Ordnance Survey licences.



**They identified a number of factors that were considered key to understanding burglary but were not regularly analysed.**



# casestudy: crime analysis



**Left:** This is actually an earlier version of our house type data, the image shows the difference in crime rate in areas that are very homogeneous (lots of identical terraces) to those that have different types of house in them.

**Demonstrating added value** The final stage of the project was to demonstrate the added value of these new data products for crime analysis. The estimates of property type were intersected with a freely available geodemographic classification (the Output Area Classification) to examine burglary patterns. This found a considerable variation in burglary risk for each type of property by neighbourhood type. There were, for example, lower rates of burglary in terraced properties in 'Blue-Collar Communities' and 'Prospering Suburbs' than in other neighbourhood types. This finding would have been masked using conventional analysis techniques. An examination of the road integration data found a positive relationship between the increasing accessibility of streets and burglary rates in detached properties. Indeed, detached houses were three times more likely to be burgled in census output areas in the top 10% of average street accessibility, compared to those in the bottom 10%. Again, this analysis and finding could not have occurred without the new data products and without bringing together these different geo-spatial datasets.

The project has begun to explore the possibilities of using geo-spatial datasets that are not conventionally available to crime analysts; to develop new data products using geographical routines; and to demonstrate how bringing together a range of datasets can offer added value and new insights for explaining and understanding crime patterns. For further information and more detail about the project, visit the project blog at <http://geocrimedata.blogspot.com/>. This includes freely available links to more detailed documentation on each phase of the project, and links to the repositories that contain these new data products.

## About the Authors

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<http://www.hud.ac.uk/acc/staff/drandrewnewton.php>
- Professor Alex Hirschfield (BA, PhD, FFPH) is Professor of Criminology and directs the ACC at the University of Huddersfield.
- Dr Nick Malleson (BSc Computer Science, MSc Geo-Informatics, PhD Geography) is a research fellow in the School of Geography at the University of Leeds.
- Mark Birkin is Professor of Spatial Analysis and Policy in the School of Geography at the University of Leeds.

**Table 1: Potential uses and users of geospatial data, and potential obstacles and solutions to more widespread usage.**

Potential "Users"	Potential Uses	Potential Obstacles	Potential Solutions
<ul style="list-style-type: none"> <li>• Police</li> <li>• Community Safety Partners</li> <li>• Government (central and local)</li> <li>• Academics/Students</li> <li>• Public</li> <li>• Potential Residents</li> <li>• Potential Inward Investors</li> <li>• Voluntary sector</li> <li>• House developers/ builders</li> <li>• Estate agents</li> <li>• Insurance companies</li> <li>• Technical (software) developers (proof of concept) – new apps etc</li> <li>• Not for profit organisations (community interest companies)</li> <li>• Politicians</li> <li>• Elected Police Commissioners</li> <li>• Housing associations / Registered Social Landlords</li> <li>• Investigation / forensics – post crime analysis</li> <li>• House buyers</li> <li>• System abusers/unethical uses</li> <li>• Security firms (targeting customers)</li> <li>• Media/Journalists</li> <li>• Regeneration Partnerships</li> <li>• Neighbourhood Watch Coordinators</li> <li>• Tourists</li> <li>• Policy Evaluators</li> </ul>	<ul style="list-style-type: none"> <li>• Identify hotspots</li> <li>• Sampling – identification of comparison areas</li> <li>• Promotion of data sharing</li> <li>• Crime detection (analysis of offender behaviour)</li> <li>• Communication and engagement of communities</li> <li>• Public reassurance</li> <li>• Evidence for funding applications</li> <li>• Target resources</li> <li>• Inform operations</li> <li>• Evaluate crime prevention</li> <li>• Justify / manage risks and spending (diminishing resources)</li> <li>• Predictive crime mapping, building evidence, targeting areas</li> <li>• Various Applications</li> <li>• Selling security products (e.g. security firms)</li> <li>• Reassurance police (targeted)</li> <li>• Media stories / blogs (potentially negative) – side effect of freely available data</li> <li>• Abuse by offenders (organising meetings)</li> <li>• Highlighting vulnerable properties, incentivise landlords towards security – advocacy / lobbying</li> <li>• To develop standards for social landlords</li> </ul>	<ul style="list-style-type: none"> <li>• Cost – purchase / produce, time to analyse / maintain / update</li> <li>• Technical - interoperability / sustainability</li> <li>• Local / national differences</li> <li>• Time series of data</li> <li>• Geo-coding</li> <li>• Crime record updating, free text field problems</li> <li>• Cost misconceptions</li> <li>• Data protection</li> <li>• Lack of awareness of data</li> <li>• Investment – worth investing time to learn? Learning curve. Sustainable?</li> <li>• Metadata – timeliness of data, relevance, sustainability etc</li> <li>• Understand strengths / weaknesses so data isn't misused. Only so many variables that can be encapsulated in data fields.</li> <li>• Historical data availability</li> <li>• Lots of specific, local factors can't be captured</li> <li>• Timeliness – how long will data be relevant</li> </ul>	<ul style="list-style-type: none"> <li>• Data sharing agreements – one agreement for multi agencies, one secure login</li> <li>• Learning lessons</li> <li>• Making meta data clear.</li> <li>• "Information sharing" not "data protection"</li> <li>• Testing interventions</li> <li>• Student interns to CSPs – two-way feedback</li> <li>• Help group / documents. Constructive user community / forum. Moderated to extract key issues.</li> <li>• Repositories for data – linking (small) studies. Plus metadata, experiences, expertise</li> <li>• Ability to search.</li> <li>• Developed with users</li> <li>• Clear about costs / security issues</li> <li>• User rating system, suggestions for improvements</li> <li>• Sustainability</li> <li>• Raising awareness</li> <li>• Organised user community to get data ('data wishes')</li> <li>• Security – attach security system to data itself, one less obstacle to using data</li> </ul>



**Robin Waters is an independent consultant who has worked extensively in several European countries and who has a keen interest in the EU's INSPIRE Directive and its implementation.**

IN MY LAST COLUMN I recounted getting lost in Arnhem in broad daylight. This time it was in Cyprus in the middle of the night! In both cases the drivers had local knowledge but failed for rather different reasons. In the Netherlands I think we were too busy discussing business to find the station. But on the island of Aphrodite anyone looking for an individual villa in Protaras has to follow turn by turn instructions: there are no road names or house numbers!

Our minibus driver had no problem in getting to the town but took at least three wrong turnings into cul-de-sacs while being guided by a voice on his mobile phone. We later discovered that, in resorts like this, the normal mode of navigation is by reference to the named hotels. Taxi drivers only recognise these hotels or other prominent landmarks. Presumably the mail or parcel deliveries also have to rely on mobile phone instructions. Quite how Cyprus will meet the INSPIRE address standards remains to be seen.

instead of needing to venture beyond the city walls. But further progress seems further away than ever and the local papers are now reporting the possibility of oil being found offshore, which could spark several dormant disputes at once.

Cyprus is the southernmost and easternmost 'mainland' of the EU. As such it is on the edge of what used to be called the Middle East, which is probably why the British bases are still there. Now American, Israeli, and Turkish exploration companies are apparently close to finding oil or gas fields in this part of the Mediterranean. Note that Cyprus has an Exclusive Economic Zone (up to 200 miles from the coast) that meets those of Turkey (notwithstanding the ongoing dispute on land), Syria, Lebanon, Israel and Egypt. Can one imagine a more highly volatile combination of political, economic, and 'security' interests anywhere in the world? Oil on troubled waters may have a calming effect; oil under troubled waters may not!

## On the edge of Europe in Aphrodite's isle

A little R&R in what was once regarded as the Middle East but is now split between old protagonists has our columnist pondering boundaries and the effects of oil & gas finds before drifting into space and a final plunge into main stream Euro matters.

### Oil, gas and sparks could make for troubled waters

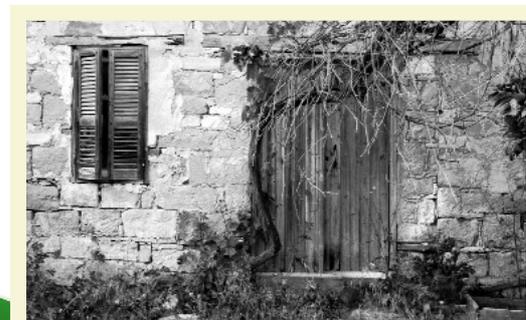
After the trauma of finding the villa we had a great holiday. We explored the Roman mosaics of Paphos; the well named and numbered roads in the British Sovereign Base Areas; and had the surreal experience of crossing the green line in Lefkosia (Nicosia to old colonials) into the Turkish occupied north of the island. There has been progress of a sort since my last visit several years ago – we can now cross the green line at the end of the main street in the capital

### Boundary of tensions

Exactly where you are – and what you are doing there – is rather important. The exact position, relative to various boundaries, of a warship, an oil well, or perhaps just a fishing boat can be a matter of life or death. Our daytrip on a pleasure boat was apparently forshortened near the green line on the east coast because of heightened tension in the previous week. It was difficult to reconcile the ghosts of hotels in the no-man's-land south of Famagusta with the thriving bars and restaurants in Protaras. It was also quite surreal to be invited to a christening in the monastery in the middle of Agia Napa surrounded by the clubbing capital of the eastern Mediterranean! Fortunately it was a rather wet Sunday morning!

### One small step for UK

Elsewhere in this issue you will find my report on the G-STEP programme to encourage the use of 'space' technology – including remote sensing, positioning systems and satellite communications. There is a lot of European money in 'space' and, whatever we think of where it comes from or how much it is costing our economies in the long term, it is surely incumbent on us to use this largesse for our industry as best we can. How does our 'industry' interact with the politicians and bureaucrats in Europe? For national mapping agencies there is EuroGeographics with an effective



**Cyprus remains a beautiful island divided by four decades of an unresolved dispute that has left homes as well as hotels abandoned.**



*EUROGI can claim some of the credit for thinking behind many of the pan European GI projects of the last 15 years culminating in the INSPIRE Directive.*

lobbying operation in Brussels and the national geological surveys have their equivalent EuroGeoSurveys. As far as non-governmental organisations are concerned we note that many commercial operations have set up European oriented offices (e.g. Esri and Intergraph) that not only keep tabs on what legislation may affect them or what funding may be available, but also sell direct to EC organisations (such as the European Environment Agency), and lobby on their own account.

In the UK we have the AGI that represents the GI industry to government and in the early 90s, together with similar organisations in other member states, it led to the formation of EUROGI, the European Umbrella Organisation for Geographic Information, to watch and lobby Brussels.

I think EUROGI can claim some of the credit for thinking behind many of the pan European GI projects of the last 15 years culminating in the INSPIRE Directive. EUROGI encompasses end users, software and service providers and both public and private sector data providers. Arguably this is a better platform for a more coherent lobby than just commercial interests or public sector organisations alone. It should also be a good platform for promoting the more down to earth uses of space technology that has been so well funded by the European Space Agency. In fact, EUROGI has submitted representations to the EC regarding the funding of GMES and has recently met with a director in DG Enterprise to present these views in person.

#### Join up: Europe needs you

The AGI provided the first two presidents of EUROGI - **Mike Brand** from Northern Ireland ('94-'99) and Prof. **Ian Masser** ('99-'03). Right now we understand that the current EUROGI President **Bruce McCormack** and colleagues are having a series of meetings with Commission officials on various EC programmes (including those mentioned in the G-STEP article, see page 14) and have been consulted on several potential programmes and issues of policy at an early stage, including the proposed EU Location Framework. The EUROGI feedback will be made at a meeting early next year. Meetings with three other

Directorates General, which relate to GI in varying ways, are being planned for the new year. In each case EUROGI will be clarifying and presenting its views on the relevant issues.

EUROGI continues to expand and has recently approved an application from the Estonian National GI Association. Applications are also expected from Polish and some other national organisations. The French affiliate (AFIGEO) has offered to support initiatives from other EUROGI members marketing themselves beyond Europe with the aim of securing contracts for their commercial members.

Perhaps it is time for AGI to consider re-engaging with EUROGI to contribute to overall GI policy in Europe and to benefit its members by gaining more inside information? In our paper at the AGI conference this year, Ian Masser and I showed that there is a positive correlation between active company participation in INSPIRE and bottom line benefits derived from associated business. I believe that the same is true for non-profit organisations such as AGI.

Readers might also like to know that the Royal Institution of Chartered Surveyors (with more than a passing interest in geographic information) has a Brussels office and takes a keen interest in all EU policies relating to land, property and the environment. We understand that the UK Location Programme has recently been sharing its expertise with sister organisations in other Member States. As you might expect, Eurofile is all in favour of this increased European cooperation.

Remotely sensed information – particularly when made easily available to all – is surely a resource that can bring some consistency and objectivity to continental scale observations. Of course individuals and organisations – with or without political intent – can interpret the raw data in different ways in different places. But the raw data itself is, or should be, a common resource that is 'open'. The EU's GMES project is currently intended to provide such an open resource. However, many satellites and most aerial platforms, certainly for higher resolution earth observation, are now commercial. We have yet to resolve the issues associated with the funding of 'open' data – especially in the current economic climate. 'Ground sourced' data at local and national levels or 'space based' data at an international level need to be funded sustainably if they are going to contribute to economic growth and/or to environmental concerns. Sharing of datasets must be one of the keys to unlocking their potential; this should be even more desirable where budgets are limited. And prices do not have to be zero for sharing to make sense. If every user adds another unit to the denominator the fraction of the costs charged to all users can go down. That is simple, objective, mathematics. Would that politics had some of that simplicity!



**... the possibility oil being found offshore, which could spark several dormant disputes at once.**





collected on alternate weeks. Wherever possible, changes were to result in minimum disruption (e.g. avoiding collection day changes).

### The solution

Oblique aerial photographs were used to look at building frontages to make initial assessments regarding wheelie bin suitability (without officers having to make costly and numerous site inspections). An initial 'waste collection points' dataset was generated from the council's Local Land and Property Gazetteer (LLPG) and mapped against Ordnance Survey data (in their Cadcorp geographical information system) in order to provide an excellent visual image of the current contract areas. This dataset contains some 35,600 waste collection points and is used widely across the authority.

A completely new fleet of collection vehicles was provided by the contractor to support the move to

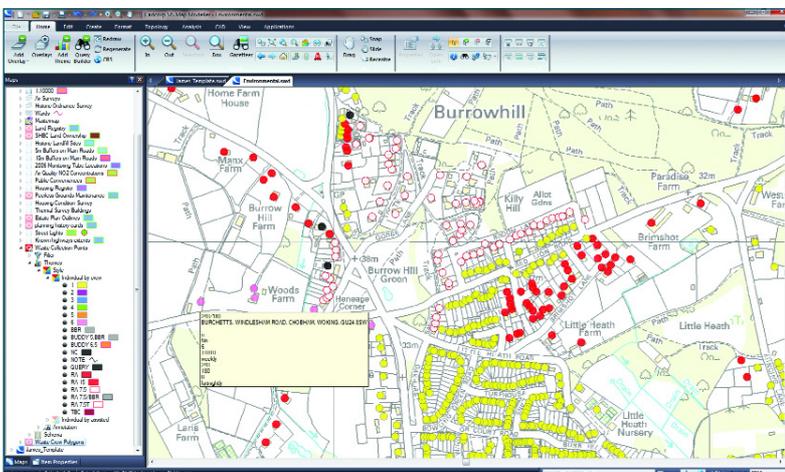
## GI boosts recycling rate to 65%

Many organisations are already aware of the savings and benefits that can come from applying geographical information (GI). One local authority has become one of the country's top recyclers by using GI to support the delivery of a modernised and efficient waste collection service. In just a year Surrey Heath Borough Council managed to more than double its recycling rate.

IN 2009, SURREY HEATH Borough Council needed to renew and modernise its waste collection contract: moving from weekly black sack collection to fortnightly alternating wheelie bin collection. The majority of residents were to receive a grey waste wheelie bin, a green recycling wheelie bin and an indoor and outdoor food caddy. Food waste was to be collected weekly and waste and recycling

bins from bags and the GIS and mapping system was used extensively to calculate the new crew allocation routes.

There is general agreement that, due to current low level of resource available, the contract build-up and switch to wheelie bins (and the subsequent huge increase in recycling collection rates) could not have been done without the aid of GIS and Ordnance Survey mapping data.



Above: Different waste collection crews seen over 1:10 000 scale Ordnance Survey mapping.

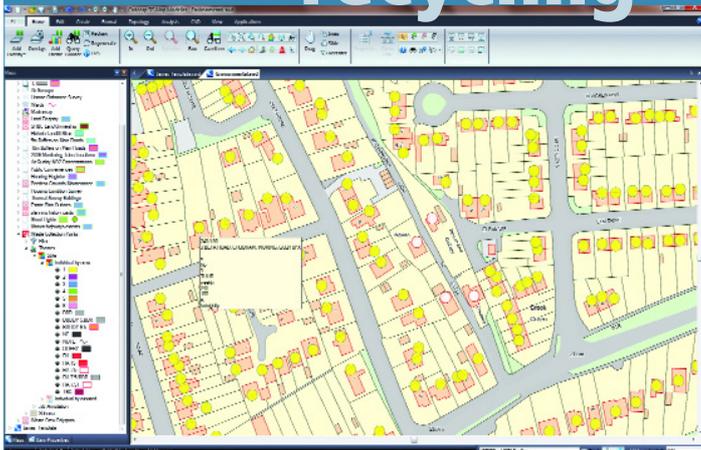
### The benefits

- Recycling collection rate has moved from 30% to 65% in just one year.
- New collection vehicles provided by the contractor.
- Improved crew allocations/increased efficiency of service.
- Contact centre staff able to answer enquiries using waste collection points data.
- Data supports 'My Surrey Heath' – allowing citizens to self-serve waste collection information from the Internet without having to contact the authority.
- Authority shortlisted for an award at the National Recycling Awards event (in the 'Local Authority Target Success' category).

### Return on investment

'Our new waste collection and recycling system

# case study recycling



**Detailed property level waste collection data over OS MasterMap.**



**Heathmap intranet mapping provides waste collection data to the Council's contact centre.**

involved the whole organisation working together towards a common goal' explains **Chas Bradfield**, deputy chief executive, Surrey Heath Borough Council. 'The GIS component of the project was critical to us being able to both plan for and implement new collection systems and also to field customer enquires during the initial stages of implementation. It enabled a very efficient use of staff time and we were able to target our effort effectively as a result. The outcome speaks for itself' concludes Bradfield. 'We are one of the top recyclers in the country and our councillors and community are very happy with the scheme!'

**Data products used:**

- OS MasterMap® Topography Layer
- OS Street View®
- OS VectorMap® Local
- Oblique aerial photography
- Surrey Heath's Local Land and Property Gazetteer and the Unique Property Reference Number (UPRN)
- 1:250 000 Scale Colour Raster

**Acknowledgements to Surrey Heath Borough Council for all images.**

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Issue No 43 December 2011 **case study recycling**



collected an alternate week. Wherever possible, changes were to result in minimum disruption to its existing collection day changes.

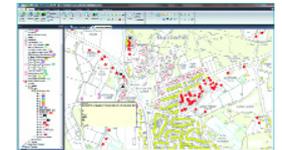
**The solution**  
Oblique aerial photographs were used to look at existing refuse bin suitability (without officers having to make costly and numerous site inspections). An initial 'waste collection points' dataset was generated from the council's Local Land and Property Gazetteer (LLPG) and mapped against Ordnance Survey (OS) data. It was then used as geographical information system in order to provide an overview view (map) of the current collection sites. This dataset contains over 15,000 collection points and is used widely across the authority.

A completely new fleet of collection vehicles was provided by the contractor to support the move to

**GI boosts recycling rate to 65%** Many organisations are already aware of the savings and benefits that can come from applying geographical information (GI). One local authority has become one of the country's top recyclers by using GI to support the delivery of a modernised and efficient waste collection service. In just a year Surrey Heath Borough Council managed to more than double its recycling rate.

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There is general agreement that, due to current low levels of resources available, the contract build-up and waste to incineration has led to the subsequent high increase in recycling collection rates could not have been done without the aid of GIS and Ordnance Survey mapping data.



- The benefits**
- Recycling collection rate has moved from 26% to 65% in just one year.
  - New collection routes provided by the contractor improved cost effectiveness/efficiency of routes.
  - Contact centre staff able to answer enquiries using waste collection points data.
  - Data supports 'big bang' route - allowing officers to visit waste waste collection information from the internet without having to contact the authority.
  - Authority identified for an award in the National Recycling Awards won by the Local Authority Target Setting category.

**Return on investment**  
'Our new waste collection and mapping system



*Chris Holcroft is Director and CEO of the AGI.*

AT THE TIME OF WRITING we are ending the year financially – and in terms of our objectives delivered – pretty much to plan. A lot of this couldn't have happened without the excellent commitment and support of this year's AGI Council chaired by **Andrew Trigg**, the AGI 'Regional' Groups, the Working Groups, Special Interest Groups and, of course, my team in London. Let me share some of this with you.

### Membership

The AGI is dependent on discretionary spend and in a poor overall economic climate, member's budgets are being squeezed.

As we anticipated, 2011 has been a challenging year. This is our first year of deficit (a planned one) since 2005; fortunately we are funding this from financial reserves cumulatively replenished since 2006. Predictably and disappointingly new memberships have not offset our member losses and the category where most difficulty has been seen has been in the

the Cabinet Office and ShEx earlier in the year.

The AGI, following engagement with members, provided responses to both PDC consultations requiring public submissions in 2011 and also provided a response to the Cabinet Offices recent Open Data consultation. All AGI consultation responses are available for download from the AGI website.

The AGI INSPIRE Working Group, chaired by **Robin Waters**, has remained active and has widely engaged UK stakeholders across the piece. AGI is recognised as an INSPIRE Spatial Data Interest Community (SDIC) and has played a key part in the UK inputs into the INSPIRE implementation process.

The AGI has maintained multiple roles in relation to the ongoing UK Location Programme; this includes membership of the UK Location User Group, the UK Location Interoperability Board and the UK Location Council. The AGI remains committed to playing its role as a vital conduit between the programme and the broader GeoCommunity.

**AGI rides "challenging year"** Despite the tough economic climate, it has been a busy, successful year with many achievements, says AGI director general **Chris Holcroft**.

hard pressed local government sector. Significantly however, our sponsor membership has largely held up along with commercial memberships and those of central government. All this provides vital, if reduced support, for the AGI mission.

We know that times are hard for all organisations and that the AGI is not atypical of other membership bodies with the challenges it faces. That said, the AGI needs your continued support to exist. So at this point in the year I would again thank all AGI members who have retained their membership and I hope your highly valued support will continue next year.

The AGI has continued to provide the secretariat to the British Standards Institutes Geographic Standards Committee (IST/36). Not only is this the body that brings you things like BS7666 for address geography, it is the official link between UK geographic standards activity and those at the European (CEN) and International (ISO) level.

As well as formalised engagement with Government, the AGI has proven a port of call for informal and behind-the-scenes discussions in areas affecting geographic information policy. This is evident in the devolved administrations where our 'regional' committees play an important part, as well as between the AGI secretariat and Whitehall departments.

### Special Interest Groups (SIGS)

Impressively, the many AGI SIGS have remained active. The Environment SIG, for example, not only had a good number of productive meetings, but once again delivered a conference, plus a series of site visits, including one to the Olympic Park. The Suppliers' SIG has had a number of meetings in London this year and has in particular been an excellent vehicle for connecting the UK Location Programme to the Supplier community.

As I write, an I-BIM (Infrastructure-Building Information Modelling) SIG is forming, driven by the emergence of this concept and the drivers by UK government to see all major construction projects use BIM to achieve 20% savings by 2016. This is an exciting area of CAD/GIS convergence.

Following off the back of an informal gathering

*Chair Andrew Trigg reports on a challenging year.*

### Public Policy

It has been put to me that the AGI has become "a trusted voice in Government". Our year has been an active one in the public policy arena and inevitably a lot of this focus has surrounded Open Data and the Public Data Corporation (PDC).

To this end AGI has run and facilitated three round-table discussions for the Shareholder Executive (ShEx) on Open Data and the PDC. Additionally, the AGI Director was a facilitator for two events dealing with the PDC at Admiralty House hosted by



# AGI column



**The annual Awards Dinner was a chance to celebrate achievements during the year by members.**

at AGI GeoCommunity '11, the Tech-SIG has now been 'rebooted' following the lead of **Mike Saunt** of Astun Technology.

The Local Public Service Providers SIG, the Maritime and Coastal Zone SIG and Address SIG continued to provide focus to their interest communities amongst the AGI membership.

## Events

We have delivered a busy events programme in a tough climate. In terms of 'outreach' events, another successful Better Mapping event with the British Cartographic Society was held in London, this was part of the London Mapping Festival which AGI is a participant. Earlier in the year AGI also took part in a well-regarded CGeog and CPD evening with the Royal Geographic Society at their historic headquarters.

A successful AGI Northern Group evening networking programme has been run at venues all over northern England on a near monthly basis and has attracted up to 60 delegates per event.

Local conferences run in NI, Scotland, Wales and York have been excellent in content and consistent in bringing in around 80 or more delegates to discuss topics of local interest and focus.

By the end of the year four evening networking events would have been held in central London pubs attracting over 30 AGI members to each. In December, the AGI will once again run an AGI Annual Lecture in close partnership with CASA at University College London. Finally, in November, the AGI held its annual Awards Dinner to celebrate and mark innovation and best practice in the GeoCommunity. This year's award recipients are as follows:

- 1) Best AGI GeoCommunity Paper Award, sponsored by Informed Solutions  
*Winner: Anne Kemp, Atkins*
- 2) Local Public Services Best Practice & Innovation Award, sponsored by Pitney Bowes Business Insight  
*Winner: Barrow Borough Council*  
Highly commended: **GeoPlace**
- 3) Private Sector Award Best Practice & Innovation Award, sponsored by Esri UK  
*Winner: Manchester Geomatics*
- 4) Central Government Award Best Practice & Innovation Award, sponsored by GIS247  
*Winner: Welsh Government*  
Highly Commended: **Land & Property Services**  
Commended: **Implementation of the Public Sector Mapping Agreement**
- 5) Business Case and ROI Award, sponsored by ConsultingWhere  
*Winner: Rushmoor Borough Council*
- 6) Student Award, sponsored by Ordnance Survey  
*Winner: Yuki Geali, UCL*

Highly Commended: **Lynette Akong**, University of Leeds

- 7) AGI Volunteer of the Year Award, sponsored by Ordnance Survey  
*Winner: Hugh Barron, BGS*
- 8) AGI Director's Award  
*Winner: Graham Morgan, Spatial Consultants*
- 9) AGI Past Chair's Award  
*Winner: Chris Holcroft, AGI*
- 10) Special Mention for Long Service to AGI Council  
**Peter Capell**, Informed Solutions

## AGI GeoCommunity '11

After four great years in Stratford-upon-Avon, AGI GeoCommunity moved to a new home – East Midlands Conference Centre Nottingham. In total 450 delegates made the trip and we were treated to over two days of diverse and rich content. *GIS Professional* has provided a comprehensive and welcome overview of the content of AGI GeoCommunity '11 and so I don't need to dwell upon it further. But what I can share is feedback drawn from a poll answered by 26% of delegates:

- 97% of delegates polled said venue was 'good' or 'excellent'.
- 89% polled said it fully matched expectations.
- 97% said it provided value for money.
- 10 of the 11 sponsors providing feedback stated their sponsorship was "value for money" or "very much so".

A full report of delegate feedback is available on the AGI website.

## The future

The AGI has a defined operating plan for next year and will welcome a new Chair – **Jonathan Marshall**. AGI Council will be joined by new members: **Chris Ewing** of Aon Benfield, **Gary Gale** from Nokia and **David Henderson** of Ordnance Survey. With no general economic upturn in sight, the AGI is prudently planning a further year in financial deficit – one that can be afforded – but is not sustainable in the longer term.

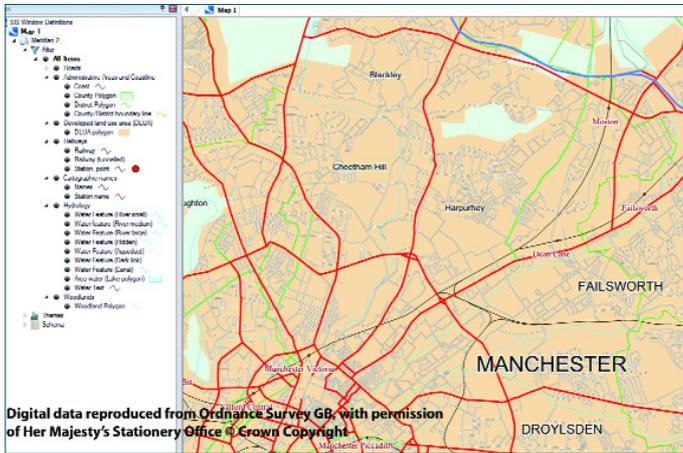
When considering the future of the AGI, I always ask the question of myself and others: "is the UK geocommunity better with or without the AGI?" This question is even more germane when I deal with those nations that don't have an AGI type body or possess a fragmented or partial GI membership set-up. They look at the UK experience positively. It is perhaps ourselves in the UK who take what we've had for 22 years for granted. It is also easy and understandable in the current climate to pull back and save on professional memberships, to avoid networking and steer shy of potential intangibles like sponsorship. That said, taking an active role in it or not, the geospatial world will move on. Individual practitioner or corporate entity; do you want to be a part of this world as we move forward? I really hope so and if that's the case, the AGI is here for you and here to help.



*The AGI exists to "maximise the use of geographic information (GI) for the benefit of the citizen, good governance and commerce". Membership details are available from [info@agi.org.uk](mailto:info@agi.org.uk) or by calling: +44 (0)20 7036 0430*

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## Simplifying data access



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Above: Meridian 2 data featuring in Cadcorp SIS.

A plug-in for Cadcorp's SIS web mapping and GIS software allows users to get more from Ordnance Survey Meridian 2 mapping data for Great Britain. Users can view roads as a backdrop to their mapping applications and also navigate those roads as part of a topologically structured transport network. The company is providing this enhanced capability free of charge.

Also, the company has released Address Loader: an application for loading address data from the National Address Gazetteer (NAG) into industry standard spatial databases. It aims to simplify access to UK address data by automating many of the processes involved in accessing it. National Address Gazetteer data is supplied by Ordnance Survey but the data products typically have to be loaded into a database before they can be used. The loader uses a wizard-driven interface to simplify the task of implementing and populating the databases for users. It reads all three AddressBase data products as zipped CSV files and is able to load the data into predefined schema in the following database products: Office Access, SQL Server, PostGIS and Oracle.

### LocalView from the cloud

Local authorities can now engage citizens with interactive maps and location-driven information via the cloud-based service, LocalView Fusion. The GIS web publishing tool from Esri UK includes pre-designed "GeoTemplates" for common tasks that can be implemented by non-GIS specialists. With no software to buy, install or maintain, GeoTemplates offer users a scalable way to develop and embed easy-to-use, customised, citizen-centric maps. Users can include intuitive maps and pop-up information windows as well as Geo RSS feeds that enable citizens to subscribe to alerts about events in their area.

### Download service for forestry data

The Forestry Commission has launched its "DataDownload" service to enable GIS users to access spatial datasets directly from its website. Sixty-two datasets are now available from the service ([www.forestry.gov.uk/datadownload](http://www.forestry.gov.uk/datadownload)), many of which had not previously been publicly available. The service will provide faster access to GIS data without having to ask commission staff as well as improving the currency of the data as all datasets are updated to agreed timetables.

**AddressBase overlay** Europa Technologies has announced an

extension of its viaEuropa hosted map service to support the AddressBase data products for England and Wales launched by Ordnance Survey. The data combines local government's NLPG, OS's MasterMap Address Layer 2, data from the Valuation Office Agency and Royal Mail's Postcode Address File (PAF). Users of the map service can activate the AddressBase overlay to complement large-scale OS mapping such as VectorMap Local and MasterMap.

## BRIEFS

**South Survey's GstarCAD MC 1.1 software is now available for the iPod Touch and iPhone. The CAD software features full-screen display and the user interface can be customised, plus the settings can be saved and recalled without repetitive work.**

SeaZone is expanding the geographical coverage and data features in its product range. New themes being added to the HydroSpatial digital marine map product include: environment and heritage; tourism and recreation; meteorology, climate and oceanography; fisheries and aquaculture; and transport routes. The coverage of the TruDepth product range for seabed elevation is being increased too.

**LizardTech has released version 8.5 of its GeoExpress software, which allows geospatial professionals to compress and manipulate satellite and aerial imagery. New features include per-band compression ratios to allow users to choose different ratios for different bands in their images.**

GeoSpatial Experts has introduced enterprise and floating licences in the latest release of GPS-Photo Link

photo mapping software. In addition, version 5.1 offers improved large project management capabilities and enhanced reporting functionality.

**Tri-Global Technologies LLC, a developer of underground utility infrastructure mapping products, has introduced UtiliDroid for Android smartphones, which allows field technicians equipped with the portable devices to document utility mark-outs. Integrated spatial technologies enable Bluetooth connectivity with third-party electromagnetic utility locators so the user can record utility-locate information documenting the depth of the asset, its geographic location and time/date of the mapping.**

*Hydraulic Modeling and GIS* specifies the steps necessary to effectively integrate hydraulic models with a GIS. Written by water industry professionals, the book from Esri Press (ISBN: 978-1-58948-301-9, 82 pages, US\$11.95) offers best practices and explains how to navigate challenges.

***Virtual Geographic Environments*, from Esri Press, is a collection of papers written by members of the geospatial community. The book (ISBN: 978-1-58948-318-7, 364 pages, US\$49.95) examines the relationship between GIS and virtual geographic environments (VGE).**

*London in Maps: a changing perspective*, published for the London Mapping Festival (ISBN: 978-0-9545270-2-0, 200 pp, RRP £34.99), is a collection of maps illustrating the diverse ways in which the capital has been mapped and portrayed both today and in the past. The book is available at [www.londonmappingfestival.org/london-in-maps](http://www.londonmappingfestival.org/london-in-maps) and contributions on all sales will go to the charity, MapAction.

**| seminars | conferences | exhibitions | courses | events | workshops | symposiums |**

We welcome advance details of conferences, seminars, exhibitions and other events which are likely to be of interest to the GIS community. Please mention the name of the event, venue, date and point of contact for further information and send to Hayley Tear, *GISPro*, 2B North Road, Stevenage, Herts SG1 4AT Fax: +44 (0)1438 351989, e-mail: hayley@pvpubs.demon.co.uk

**2012**

**Location Intelligence for Enterprise Europe 2012**

16-17 January, Regents Park Marriott, London, UK. More information: [www.thewherebusiness.com/locationintelligenceeurope/index.shtml](http://www.thewherebusiness.com/locationintelligenceeurope/index.shtml)

**International LiDAR Mapping Forum 2012**

23-25 January, Denver, USA. More information: [www.lidarmap.org/ILMF.aspx](http://www.lidarmap.org/ILMF.aspx)

**Defence Geospatial Intelligence 2012**

23-26 January, QEII Conference Centre, Westminster, London, UK. More information: [www.wbresearch.com/dgieurope/](http://www.wbresearch.com/dgieurope/)

**GEO-12: The GEO Event**

21-22 March, Holiday Inn, London-Elstree, UK. More information: [www.pvpubs.com/events.php](http://www.pvpubs.com/events.php)

**GIS Research UK (GISRUK) Conference 2012**

11-13 April, Lancaster University, UK. More information: [www.lancs.ac.uk/gisruk2012/](http://www.lancs.ac.uk/gisruk2012/)

**SPAR International 2012**

15-18 April, The Woodlands, Houston, Texas, USA. More information: [www.sparpointgroup.com/International/](http://www.sparpointgroup.com/International/)

**32nd EARSeL Symposium – “Advances in Geosciences”**

21 - 24 May, Mykonos Island, Greece. More information: [www.earsel.org/symposia/2012-symposium-Mykonos/index.php](http://www.earsel.org/symposia/2012-symposium-Mykonos/index.php)

**4th International Workshop of the EARSeL Special Interest Group**

24 - 25 May, Mykonos Island, Greece. More information: [www.earsel.org/SIG/Geology/workshop.php](http://www.earsel.org/SIG/Geology/workshop.php)

**SPAR Japan**

5-6 June, Kawasaki Industry Promotion Hall, Kawasaki, Japan. More information: [www.sparpointgroup.com/Japan/](http://www.sparpointgroup.com/Japan/)

**12d Model International User Conference 2012**

29-31 July, Brisbane Convention & Exhibition Centre, QLD, Australia. More information: [www.12d.com/aus/community/12d-model-international-user-conference-2012/](http://www.12d.com/aus/community/12d-model-international-user-conference-2012/)



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