

GIS Professional

issue 37 : December 2010

... joining the geography jigsaw



Everything happens in Sheffield

Exploiting location information

AGI GeoCommunity'10: what they said

Inspired by Bentley

NLPG's exemplars rewarded

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Front cover: The magnificent Cutlers Hall in Sheffield was the venue for this year's NLPG and NSG Exemplar Awards. Full report on page 26.



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Exploiting location information

You will need allies, metrics and an elevator pitch if you're going to get your GI project accepted. Without that you could be toast!



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AGI GeoCommunity'10

Our team reports on the AGI's big event for opportunities in a changing world and how GI (and hats) can make a difference.



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Being inspired with BIMs and GIS

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From data to knowledge

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Ten years of EuroGeographics

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Wales addresses the issues

Sharing practice and experience through the NLPG and local gazetteers was the theme of "One Wales, one Voice" explains Carl Hancock.



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Everything happens in Sheffield

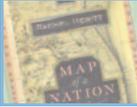
In the city of cutlery and Clegg, the NLPG and NSG annual Exemplar Awards marked good practice and value for money.



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Where will GIS lead local authorities?

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Book review: Map of a Nation

The editor reviews Rachel Hewitt's highly readable doctoral thesis on the early history of Ordnance Survey.

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

It's geography, stupid!

Geographers and GI specialists have long been familiar with the significance of location. It's what we're about; it's what we do. But does the rest of the world get it? Increasingly I think they do. Writing in the BBC's online magazine Professor **Ian Morris** of Stanford University made a cogent case for location being the driving force behind the rise and fall of civilizations over the millennia.

From the early husbandry of animals and rise of agriculture in the Middle East to a predicted future where we turn to North Africa and Australia for solar energy needs, geography is the driving force. But as climate changes or proud rulers fail to adapt to their peoples' needs, other civilizations arise and displace them. The world is currently pondering on whether India or China will replace the US as the driving motor in the world economy. Geography driven by climate change could be the decisive factor.

Mapping and recording these things in detail, whether at the macro or micro level – currently, historically or for the future – is what we're about. Location matters: providing the tools and data to help people decide where it should be is our profession.

ESRI's **Richard Waite** talks of that "light bulb moment" when he briefed former minister Lord **Digby Jones** about GIS (see page 14 and our report on GeoCommunity'10) and the latter's amazement that every business wasn't using GIS. Many unsung GIS heroes struggle day in, day out to make the case for the benefits of geoinformation in their organisations. We know that GI does not just make a difference to people's lives; it can save money too. But the coming year will surely demand even more intense efforts by GIS professionals to sustain and grow what they do amidst a climate of retrenching budget cuts, let alone make the case for new systems, upgrades and staff.



Fortunately there is a vibrant and active geocommunity at hand to help and support GIS professionals that need to argue the case.

Fortunately there is a vibrant and active geocommunity at hand to help and support GIS professionals that need to argue the case. We at *GiSPro* intend to play our part during the coming year by publishing a series of case studies that show the benefits, whether financial or social, of GIS. In the meantime, please read carefully our report of the AGI's recent seminar on exploiting location information (begins page 10). You will find plenty of useful hints there from elevator pitches, to making allies and the significance of understanding financial models.

The AGI awards dinner at the end of November confirmed the readiness of the geocommunity to step up. While corporate support for the event was down individual member support replaced it, reflecting the value that people place on membership of the association.

With this seasonal issue of *GiSPro*, you will find a yearplanner. I hope it will be useful in mapping the year ahead. There should be enough room to mark up the principle landmarks in the year. We have already put a few in for you! If you would like extra copies for colleagues please call this office and we should be able to help. Finally but importantly, a big "Thank You" to the companies who have sponsored both the yearplanner and this publication during 2010. Without their generosity and commitment to the industry there would be a poorer and less informed geocommunity.

It only remains for me to wish all readers a peaceful holiday season and happy new year, and in the words of the late Irish comic **Dave Allen**, 'May your god go with you'.

Stephen Booth, editor

Mapping service for schools



A new online mapping service aims to support the teaching of geography at all levels in schools across Great Britain. The "Digimap for Schools" service provides schools with easy access to Ordnance Survey's digital mapping for the whole of Great Britain. Baroness Joan Hanham CBE, parliamentary under secretary of state for Communities and Local Government (CLG) launched the service in November with Dr Vanessa Lawrence CB, director general and chief executive of Ordnance Survey.

Grow your own food

Two winners have emerged from Ordnance Survey's GeoVation Camp and will now have a chance to win a share of £25,000 to help make their ideas a reality. Challenged to answer "How can Britain feed itself?", the five shortlisted entrants pitched to judges **Liz Ratcliffe** of Ordnance Survey, **Eloise Dey** of Sustain, **James Cutler** from eMapsite, **Nick Snelgar** of Future Farms and were chaired by **Roland Harwood**, co-founder of the open innovation consultancy, 100%Open. The first winning idea is City Farms, the brainchild of **Peter Boyce** who wants to use shops selling local produce as hubs to teach people how to grow their own food. The second idea came from **Louise Campbell**; her Food Nation smartphone app uses OS OpenData and the Geomium social location platform to encourage a closer relationship between consumers and the people who grow their food. The winning ideas now go forward to a showcase in May.

The second challenge in the Innovation Awards programme "How can we improve transport in Britain?", is still open to submissions

and has recently received an additional £150,000 in funding to help winning entrants develop their ideas.

Licensing change welcome

Landmark Information Group has welcomed changes in the Ordnance Survey licensing agreement as a positive step forward towards a more competitive industry. In effect since 18 November, the licensing revisions will specifically impact the current OS density and price models so partners can sell large areas of mapping at competitive prices. According to emapsite, the overhaul in the way the mapping agency's data is distributed through partners has provided more flexibility in how it can deliver its added value data management tools. 'The restructuring means we can for the first time offer our licensing and project management tools while selling directly at Ordnance Survey prices,' says **James Cutler**, emapsite CEO.

Location underused?

Four in five (82 per cent) businesses think the ideal future manager has an equal understanding of both

business and technology, according to a survey by ESRI UK. The survey of 200 business leaders across the public and private sectors showed that despite most firms (95 per cent) saying that location is important to their success, only one in five (18 per cent) use key technologies like GIS across the whole business.

'Studying geography and learning how to utilise geographic information gives new employees many of the key skills that businesses are crying out for,' says **Richard Waite**, managing director. 'As an industry it's our job to encourage more people to take up a geography-based career so that businesses and society as a whole can benefit'.

1Spatial sold

Investment group IQ Holdings has acquired the entire issued share capital of 1Spatial Group Ltd. The name of the company has now been changed to 1Spatial Holdings plc but will continue to operate and trade as 1Spatial Group. Pursuant to the Alternative Investment Market (AIM) rules for companies, the acquisition constituted a reverse takeover and was subject to shareholder approval.

Cutting address problems

'Key systems, from council tax to the electoral register rely on the NLPG,' says Tony Black, operations director at Intelligent Addressing. 'You can be sure that if new houses are receiving council tax statements and refuse collections, they will be included in the NLPG'. So press reports that the information used by emergency services do not include new housing estates should soon be a thing of the past as police forces and fire and rescue services make greater use of the NLPG. For more on the NLPG and the Exemplar Awards, turn to page 26.

Value of GI revealed

Putting the National Land and Property Gazetteer (NLPG) at the heart of council service delivery in England and Wales can save between £15m and £24m, a recent

report has revealed. *The value of geospatial information to local public service delivery in England and Wales*, published by the Local Government Group, seeks to examine the economic impact of the use of geospatial information upon service delivery. The adoption of GI resulted in an increase in GDP of approximately £320m higher in 2008-9 than if geospatial information hadn't been adopted. The report suggests that this could rise to £560m by 2014-5. The full report can be accessed from www.consultingwhere.com/reports.html.

Call for papers

The British Cartographic Society Annual Symposium 2011 will be held at Shrigley Hall Hotel and Country Club, Macclesfield from 8-10 June 2011. The theme for the conference is "The power of the image" and will focus on how to deliver the correct message and enhance understanding of data. The event includes an educational conference stream and exhibition as well as hosting the annual awards ceremony. The call for papers is open to members and non-members of the BCS and the closing date for submissions is 14 January 2011. More at www.cartography.org.uk/events.

CONTRACTS & PROJECTS

Open source laboratory

The Open Source Geospatial Foundation (OSGeo) and the Centre for Geospatial Science (CGS), University of Nottingham have signed a memorandum of understanding for the establishment of an Open Source Geospatial Lab (OSGL) and to develop collaboration opportunities for academia, industry and government organisations in open source GIS software and data in the UK. The MOU provides for the establishment of a research laboratory for supporting development of open-source geospatial software technologies, training and expertise. It also provides provision of internship opportunities for high quality

students. The first phase of internships are now released at www.nottingham.ac.uk/cgs/news/internships.aspx.

Bucks goes for Response

Buckinghamshire Fire and Rescue Service has procured GGP Response software to facilitate the integration of the National Land & Property Gazetteer within the service's mobilisation software. Longer-term plans include accessing the gazetteer data from mobile data terminals on fire appliances and the integration of the NLPG to join up disparate departmental databases. Also included within the package from GGP is an OGC compliant GIS that provides tools for editing, plotting and maintaining the geographic locations of properties and streets.

Building "inspired" communities

1Spatial, RSW Geomatics and Rob Walker Consultancy have completed a project to provide technical guidance for anyone transforming data into the INSPIRE schemas. Sponsored by the EC Joint Research Council (JRC), the guidance includes comprehensive documentation, a prototype web service - demonstrated at last June's INSPIRE conference in Krakow - and a video in three languages. Current tools and standards were reviewed but found lacking. The conclusions are that implementations should be based on open standards; should be vendor neutral and interoperable; based on rigorous internationally proven standards; and capable of effective and automatic operation. Part of the prototype is now being incorporated into the Humboldt open source software - as an extension to the Alignment editor (HALE) to provide Rule Interchange Format (RIF) output. RIF has recently been accepted as a W3C standard.

Interoperability for blue light service

A team led by Lockheed Martin UK is close to completing the Common Geospatial Tool Set (CGTS) research project that will enable military, blue

light services and other public sector bodies to co-operate more effectively in times of emergency. Team SPARTA was awarded a 29-month contract in 2008 by the UK Ministry of Defence to consider ways of delivering a coherent geospatial enabling capability, improving interoperability between defence, security and emergency services by enabling them to create and share geospatially referenced information across a range of platforms and networks. The aim is to provide technical evidence and de-risk activity to support possible future developments in this area. The team also includes Esri UK, Envitia, Actica Consulting Ltd, Helyx SIS Ltd, Pitney Bowes Business Insight, ERDAS and Luciad.

Integrating data

Surrey Heath Borough Council aims to enhance the efficiency of local services with new software that simplifies access to council information. The GGP NGz gazetteer management software from GGP Systems will help the council integrate its centralised property database with front and back office systems such as council tax, the electoral register and CRM software.

Running the Olympic network

The National Street Gazetteer (NSG) is being used in the planning for the Olympic Route Network (ORN) and Paralympic Route Network (PRN). The ORN/PRN is the definitive list of designated transport routes for the running of the London 2012 Olympic and Paralympic Games. The ORN/PRN has been incorporated into the NSG in order to minimise any disruption to the network in the lead up to, during and after the games.

...in brief

Tunbridge Wells Borough Council has deployed the Contractor Portal data sharing system from Dotted Eyes to provide automated data access to contractors, partners and internal planning staff.

Imagery for emergencies



Leicestershire Fire and Rescue Service will be using OS MasterMap Imagery Layer in its command support vehicles to support major incidents, enabling the FRS team to have up-to-date imagery in emergency situations. 'We had considered other ways of accessing imagery for the county, but it is more reliable for the emergency services to have the data stored on board our command support vehicles,' says Jenny Kirby, ICT project coordinator. 'The currency and the coverage of the Leicestershire area were the key factors for us choosing Ordnance Survey – OS MasterMap Imagery Layer will play a key role in supporting our activities'.

The Open Geospatial Consortium and the Integrated Justice Information Systems (IJIS) Institute have signed a memorandum of understanding to work together on information sharing and interoperability for public safety, justice and homeland security.

Housing association, Newport City Homes, has selected Cadcorp's SIS Map Editor, SIS Map Modeller and GeognoSIS software for its corporate GIS.

The GeoConcept GIS from MapMechanics has been used by Hutchison Ports UK, the developer of the PARIS container transport planning system, to streamline the system's ability to calculate journey times and distances in real-time.

A new corporate system has gone live at the Northern Ireland Water authority, which is based on Innogistic's Cartology.NET web GIS software. The new system will provide real-time intranet access to the corporate asset register and the authority's geospatial warehouse based on Oracle 10g. The National Aeronautics and Space Administration (NASA) has signed

an enterprise licence agreement with Esri, making ArcGIS software tools available for unlimited use by authorised NASA employees and contractors.

Software developers, Shoothill, have created a Windows Azure-based interactive site for the UN High Commission for Refugees to highlight the plight of refugees. A coloured "heatmap" allows users to see the locations of each camp, internally displaced people, returnees and asylum seekers, plus UNHCR office locations.

Esri has announced a partnership with Ushahidi, a non-profit organisation, to improve the collection and use of crowd-sourced information during large-scale emergencies. The organisation allows local observers to submit reports to its web platform using mobile phones or the Internet during a crisis. The GIS company is providing software, services and training to support the platform.

BRIEFS

With the approach of the London 2012 Olympics, Ordnance Survey is tasked by the Olympic Delivery

Authority to provide a definitive source of site conditions. Vanessa Lawrence, director general and chief executive of OS, will be giving a strategic update on the Olympic 2012 project at Defence Geospatial Intelligence 2011 on 25 January.

Placr, a location-based services company and spin out from City University, has announced the public beta release of tube-radar: a London Underground monitoring site (<http://placr.mobi/>). The service shows how the trains have run in recent history, allowing you to compare current running with the norm. It also shows the service pattern and frequency from the last 24 hours in a radar diagram. More at: <http://placr.co.uk/blog/2010/11/introducing-tube-radar/>.

Could you find the fastest route for Santa's Christmas deliveries? That's the challenge being issued by

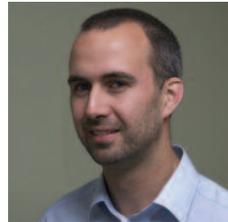
Postcode Anywhere, with £250 of Amazon vouchers for whoever can plan the quickest real-world route. Take up the challenge at www.postcodeanywhere.com/santa. The competition closes at midnight on 17 December.

The programme committee for the GeoComputation conference (20–22 July, 2011 at University College London, UK) has opened the call for short papers. More at: <http://standard.cege.ucl.ac.uk/workshops/Geocomputation/> The submission deadline is 28 Jan 2011.

Under an agreement between Bluesky and Getmapping, the original Millennium Map images will now be available from www.oldaerialphotos.com Dating from 1999-01, 120,000 images cover England & Wales, and parts of Scotland at a resolution of 25cm with some cities at up to 10cm.

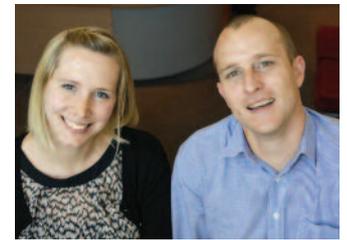
PEOPLE

Walker joins Astun



Matt Walker has joined Astun Technology as a geospatial technologist and will be responsible for enterprise deployment of the company's web-based GIS, data integration and publishing products to local authorities. Walker has spent most of his career to date working for Dotted Eyes where he became technical director.

Promotions and recruits! Ralph Coleman has joined Bluesky's board of directors as sales director.



Debbie Smith and Ralph Coleman

He joined the company in 2000 after graduating from Sheffield Hallam University with a degree in urban and regional geography. **Simon Tidmarsh** also joins the board as operations director and will be responsible for the day-to-day running of the organisation. In addition, **Ashley Gordon** has been promoted internally to the position of research and development analyst and **Debbie Smith**, who graduated from Cardiff University with a degree in marine geography, joins as sales executive from Navteq.

Help Santa and Win £250

Santa is in trouble. Twenty parcels fell off his sleigh in Slough... and all the reindeer have left for a stag party.

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"What used to take 2-3 hours a day now takes 2-3 minutes"

Harvey Baines

Communications handover

Andy Bray has now completed the handover of his communications manager role on the UK Location Programme to **David Buck**. Buck moves into the role full-time from within Defra. Bray's role on UKLP was as a part time assignment to Defra and he now aims to fill his time with projects spanning both private and public sector – some big some small – at any given time. One such public sector role is as chair of the communications group for the Digital National Framework (DNF) – an initiative led by Ordnance Survey.

Gardels award

Ingo Simonis is the 12th winner of the OGC's Gardels' medal. Co-founder and principal of the International Geospatial Services Institute (IGSI), Simonis has been an active participant in the OGC technical committee since 2001 and has been a key player in the design, development and promotion

of the OGC's sensor web enablement (SWE) standards. He also co-founded 52°North, an open source software company which has developed the primary open source software for SWE services.

Promotion for Roberts



Pitney Bowes Business Insight has announced the promotion of **Gary Roberts** to executive vice president, Europe, Middle East and Africa (EMEA). Having been with PBBi for just under three years, Roberts was previously managing director, UK & Ireland and regional director of Northern Europe.

this a step further by providing a rapid application development environment. Launched just over a year ago at AGI GeoCommunity'09 and linked to initiatives like OS's GeoVation awards and Microsoft's Bing Mashup challenge, there is now a community of over 4,500 registered developers in the UK and is already the biggest hit on ESRI UK's website.

As the name suggests, the DeveloperHub is an online resource for ArcGIS developers, providing access to key development tools, information and news to help them get the most out of the ArcGIS Developer Platform, which is standards-based, well documented, includes a wealth of online resources and is supported by a large worldwide community of active developers.

The aim is therefore to engage with users and to better respond to their needs by providing a website where they can get the latest GIS developer information. ESRI sees this

as providing users with benefits such as making available some of their own developers' tools that help reduce the amount of coding needed to solve particular geospatial problems as well as offering their open architecture that already allows for a high degree of customization. Also available to developers is support for a variety of deployment methods for ArcGIS including desktop, server, mobile and web. There are sample applications too and "Site Starters" to help with more rapid implementation.

Many developers attended the ESR UK annual conference earlier this year and experienced "ignite" sessions where they could share experience and knowledge of ArcGIS apps and APIs.

- The next ESRI UK user conference will be in London, 16-17 May 2011. For more go to <http://www.esriuk.com/developerhub/>

Hubs, developers and ArcGIS10



The latest initiative from ESRI UK to engage with its end users has proved highly popular. The key to unlocking content has been the latest version of ArcGIS.

BACK IN THE SUMMER *GiSPro* visited ESRI UK's Aylesbury base to talk about recent developments from the GIS giant. We had a close-up demo of ArcGIS10, which ESRI regards as "revolutionary rather than evolutionary". Why? Because through ArcGIS.com (check it out), it marks a first step towards a "software as a service" model – a cloud hosted solution. It also offers improved sharing and interconnection between

users through field apps including one for the iPhone. 'A pleasure to market it' was how ESRI UK's **Natalie Jenkins** summed up.

But perhaps the most interesting aspect ESRI briefed us about was the rapid growth of their DeveloperHub. Now ArcGIS has for some while provided a good application development environment for delivering users' own solutions. ArcGIS10 and the DeveloperHub takes

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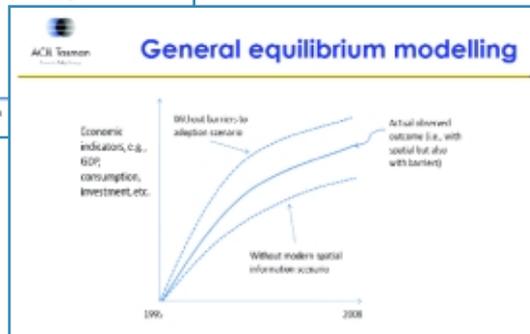
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location economics exploiting information



Alan Smart showed how value grows as adoption increases (above) but use general equilibrium modelling.



THERE IS LITTLE DOUBT that within only a year or so we will be looking at a very different public sector landscape. The cuts precipitated by the Comprehensive Spending Review will have begun to work their way through both local and central government. These are

delivery. There is also a policy to encourage rapid change at OSGB through support for initiatives like OpenSpace, GeoVation and the Public Sector Mapping Agreement.

The move now is towards a more evolutionary model, Villar explained, where the boundaries will not change. The benefits of GI are being widely promoted; now you have to work out how to use it to get maximum benefit. 'We should build on the OSM model by opening public sector information and services that will facilitate projects like the rolling census.

How do you value geospatial information? How do you evaluate the economic benefits? What effect does GIS have on the bottom line? These are challenging questions that several contributors have tried to answer in recent issues of GiSPro.

A day without GI? Some aspects of the benefits of geospatial are easy to point to. In the US, NASA has been getting people to think about "a day without space". Earth observation satellites, navigation and positioning are obvious but less so are high accuracy, timing and synchronisation.

Exploiting location information With the hunt on for more savings in the public sector, GI can help. But the case has to be made carefully. You may need allies, metrics and without an elevator you could be toast. But whatever you say, don't mention GI, explains editor **Stephen Booth**.

worrying times for those promoting GI technologies. Worse perhaps for those specialist teams and departments that may face redundancy or closure. They will need to fight their corners with cast iron facts to prove the economic benefits of GI. The AGI's recent seminar on Location Economics at the Royal Geographical Society was therefore timely. It was a day of useful insights, best practice case studies and sharing experiences and learning.

A time traveller from the 18th century, familiar with the Board of Longitude, might think that by now we had managed to achieve invisibility. Alas, for the new Government's Transparency Board is only about open data standards. Chaired by a cabinet minister, it numbers amongst its members several of the great and the good from our digital age. Explaining its work and the Government's agenda, **Charlie Villar**, took the theme of "more for less". There will certainly be less in the future. The Government has an £81bn deficit and the coalition partners are determined to eliminate it by 2015.

Villar is director of the Shareholder Executive, the body that oversees 28 businesses owned by HMG like the Post Office or Ordnance Survey (OSGB). He told us the Government is keen to 'rebalance UK's digital knowledge economy'. The challenge is to give people access to information when the track record of IT projects has been one of overspend and under

Alan Smart is an economics consultant from Australia where his work has focused on trying to find answers to these questions through using techniques such as "general equilibrium modelling". Taking as his theme, 'Never waste a good crisis', he argues strongly that you can quantify the benefits of geospatial but it requires a systematic approach.

GIS is an enabling technology with a wide footprint and the business case may vary depending on the industry. With government you have to look beyond the department to the wider economic, social and environmental benefits as well as perhaps higher tax returns for the state.

Alan showed a graph where value grows at each stage from data capture through to business integration. He argues that increasing productivity doesn't necessarily lead to redundancies but where it does it can lead to better jobs. The Internet has certainly increased productivity for government but then it has no competition.

Alan's company, ACIL Tasman, has analysed the affect of geospatial on improving productivity over a range of industry sectors in Australia and New Zealand. Some of the figures are startling. A 5% increase in productivity for the New Zealand forestry industry. In the UK, he estimates GDP was £323m higher in England & Wales in 2009 as a result of geospatial. He reckons the average annualised cost-to-benefit ratio

“

Taking as his theme, 'Never waste a good crisis'...

”

location economics: exploiting information

(Note: bean counters will be impressed with phrases like this) for geospatial in local government is that for every £1 spent there are savings of £2.50. He has even recorded measurable improvements for the retail sector.

Getting your business case accepted however is another matter. **Andrew Coote** argues that it doesn't have to be difficult but you must prove the link to the bottom line. For help in doing this for the public sector, he referred us to the Treasury's Green Book, a guide for appraising proposals.

Getting the right people on your side is important too. 'Find out a few facts about CEOs' was Coote's advice. 'What are their red flags?' Remember too that most CEOs last only three years on average so long projects can often fail. Focus what you're saying in the CEO's language by intercepting the agenda. Where there is a channel shift or change in process, such as moving people to using the web, the business case can be made through showing the savings, for example, in phone calls.

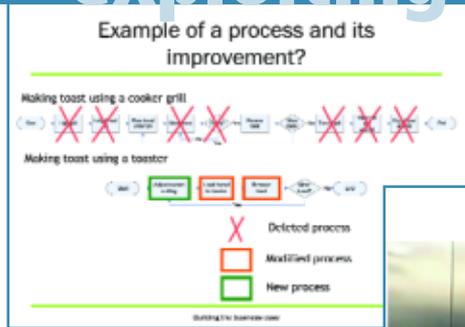
Infraction is not a word in common use amongst the geospatial community.

But if you're trying to make the business case for that new GIS in the public sector, it is worth understanding. Literally it means a violation or infringement of a law. Defra for instance is charged with delivering the EC's INSPIRE directive because failure will mean financial penalties. Money spent now may save a fine later.

A novel example of a business case from Coote was based on a colleague's dispute with his wife over the best way of making toast: grill versus the toaster. If you put a value on stress-free living with your partner or perhaps are willing to pay a premium for quality, then you can make a perfectly valid business case. For me however, it's still the grill every time!

He concluded by stating the measurement principles for a business case: decompose the problem; plagiarise; compile; minimise; and use standard techniques. He also reminded us of developing that famed elevator pitch, where you have just a couple of minutes to make the case to the CEO on his way up to the top floor.

What are they looking for? Further advice on how to grab the attention of the decision makers came from Jonathan Marshall, GIS manager at British Waterways. 'It is important to identify what they're looking for. Is it regulatory compliance, efficiencies, improved cost or profit?' Having done that, 'Find an ally' was his advice.



Get the elevator pitch right or you could be toast!

Two key elements:
 1. Pain statement – what problem are you trying to solve
 2. Value proposition – how will your venture solve the problem
 Four tests:
 1. Succinct
 2. Easy to understand
 3. Greed inducing (Efficiency Producing)
 4. Irrefutable

You need a sponsor, someone who doesn't need convincing and is on your side. 'You must be clear about risks and show how they can be managed', he advised, 'but include those that come from not proceeding with a project'. Marshall also recommends you use whatever financial method your organisation uses to evaluate the project and, of course, give a clear recommendation that your board can back.

With some organisations and individuals there

remains a myth that geospatial can't be measured because of the intangibles. ESRI's Dr **Keith Wishart** disagrees. His view is that measuring intangibles is not so much a problem to be overcome as an opportunity to be seized. He commends *How to Measure Anything: Finding the Value of Intangibles in Business* by Douglas W Hubbard.

Measurement is about reducing uncertainty, yet intangibles remain – relationships, human capital, structural capital, even cash. Cash an intangible? He

borrowed a £20 note from a (gullible?) member of the audience. The paper note is intrinsically just a promise he explained; it is worth next to nothing. Whilst he'd been holding it, it had probably declined further in value. He returned it to a relieved **Chris Holcroft** who hastily stuffed it back in his wallet.

A recent case study undertaken by Wishart found £4m savings per annum through geographic analysis and resident profiling for the London Borough of Hammersmith & Fulham to deliver new services more precisely. The Birmingham Total Place pilot focuses on a 'whole area' approach to provide better public services at less cost through measuring outcomes. So far savings of £100m have been identified across the NHS, Criminal Justice system and in social security benefits. The system allows evaluation of scenarios like closing a community centre that may bring increased police and social services costs. 'So, show

If anyone doubts the need for well researched and argued business cases for IT projects, pause and reflect on what the leaders are saying:

"IT decision makers do not have much trust in the vendor supplied metrics. They need to see customized & detailed metrics for the specific solution offered" observes **Ernst & Young**. Business analysts **Gartner** say, *"Increasing pressure is on technology directors to prove the link between IT investment & the company's bottom line"*. Even the big technology sellers like **HP** get it: *"It is no longer the glamour of technology but the return on it that is driving customers."*

“
**...cost-to-benefit ratio...
 for geospatial in local government is that for every £1 spent there are savings of £2.50.**
 ”

location economics exploiting information

Simple DCF

	Year 0	Year 1	Year 2	Year 3	Year 4	Total
Project Cost	£900	£700	£0	£0	£0	£1,600
Contingency(10%)	£90	£70	£0	£0	£0	£160
Support Costs	£0	£110	£110	£110	£110	£440
Total Benefits	£0	£400	£800	£800	£800	£2,800
Net Cost	£990	£480	£890	£890	£890	£500

Discount Rate (2%) 1.000 0.952 0.907 0.864 0.823
 NPV -£990 -£457 £628 £596 £568 £343
 Cumulative NPV -£990 -£1,447 -£821 -£225 £343

Cumulative Net Present Value (NPV) = £343
 Internal Rate of Return = 14% (increase discount rate until NPV = £0)

Building the business case



You may need to learn about Discounted Cash Flow.

me your intangibles', Wishart concluded

That's how you do it Introducing a series of cost-saving case studies, **Gesche Schmid** of the Local Government Group said the focus had shifted from showing what GI can do to how it can improve services through greater efficiencies and by opening up data. Typical examples are: East Sussex's online fault reporting service that ensures faults go to the right agency; a highway inventory system in Islington relying on Google maps and StreetView that has increased productivity by 200%; in Newport, savings of £57k per annum have been found by using the NLPG. If the NLPG's gazetteer addressing system were applied to the whole of Wales the savings could be £3m a year. Clearly a fan of the NLPG, Schmid told us that number could be £60m if all of the UK's public sector used the system.

Professor **Paul Foley** is director of Tech4i2, which does "evidence based policy making and decision making". He is an advocate of local information systems as a way of providing performance monitoring of local councils. So far only 19% of Britain's 388 local authorities have such systems, yet together with GI they form the basis for presenting information for activities as diverse as lottery grants. Foley's message was, 'ask people what they're using it for and how could it be better'.

An excellent example of how local councils can partner with each other to set up otherwise expensive systems and reach tangible benefits was presented by **Mark Mohun** of the North East Efficiency and Improvement Partnership. He explained how RouteSmart was being used by ten authorities, covering three million households, to better schedule refuse collection services and resources. He was quick to add that it was about 'making bin men work more efficiently – not more quickly'.

RouteSmart is an extension of ArcGIS that tracks vehicles and provides useful analytics. It uses OS TIN layer mapping and the NLPG to manage 270 vehicles spread over the ten authorities. It takes in data about roads and streets, bins and the weight of rubbish to be collected and has saved fuel and reduced vehicle numbers.

'We've got all the maps we need!' Each sector has its own particular challenges. **Donald McGarrie** of Sigma Seven says the utilities sector is driven by the Regulator; they are technophobes; offer a low-tech service; and their notion of location is

universally misunderstood. Decisions are hard to come by too. The challenges are surmounting a culture and mindset where location projects are a hard sell and funding even harder.

McGarrie showed a case study around mobile mapping for Scottish Power where initial responses were 'we've got all the maps we need, thank you!' The trick was to show how the project could add revenue, such as extending the network to new locations. This is chargeable and the Regulator requires that quotes are delivered within five days. The advice from the IT department was, 'you need a mobile map'. The solution is based around a tablet PC which the estimator can take into the field and record the key information pricing it up immediately. Result? Happier customers (complaints dropped from 200/month to 10), productivity up by over 50% (5 estimates a day against 2 a day before), satisfied employees, improved safety and reduced auditing.

Concluding, McGarrie emphasised that the business case must be clear and unambiguous, benefits must be understandable and only have ones that change something.

The police have been big users of GI for a while now and it's not difficult to see why. Nevertheless, to get maximum benefit you need an intranet system with accurate mapping, constantly updated crime plotting and the ability to incorporate as much information and data from other sources as possible. DI **Garry Williams** from the South Yorkshire & Humberside force told us about their latest system, which includes an algorithm enabling them to predict with 99% accuracy the time of day a crime took place.

The system includes lots of information about local areas from the census, CCTV and other sources, thus enabling analysts to write reports in a few minutes that previously could take hours. The system has the potential to incorporate many more datasets in the future. There are many benefits such as reducing the number of briefings necessary for officers, or being able to quickly see whether a CCTV camera has captured a crime. But with a typical burglary costing £1000 to investigate, for DI Williams the "intangibles" are crime reduction due to better and quicker policing.

Conclusions Throughout this intense day, speakers emphasised, in making a business case for GI, you must focus on the difference it will make rather than the technical case – don't mention GI unless the CEO has a geography degree. In the public sector it is to link your case to a current policy theme.

Rounding up the day, key contributors were asked to name their number one priority. For Alan Smart it was to get serious policy makers to realise the importance of GI. Professor Foley called for each local authority to develop an intelligence strategy ('Don't salami slice intelligence!'). Andy Coote urged us to create those elevator pitches with no mention of GI, while Gesche Schmid urged data transparency through free data.



... which includes an algorithm enabling them to predict with 99% accuracy the time of day a crime took place.



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THERE IS CURRENTLY AN EXPLOSION of tools to collect and share geo-tagged data. For many people the salient example is of individuals capturing photos to share with friends. There are programs where citizens share photos and more with city infrastructure departments so graffiti and other issues can be resolved. Online news sites now offer maps that document the extent of fires, or floods or oil spills with data supplied by individuals unlucky enough to be at the "right" place with a cell phone or other device. Those into mapping for mapping's sake may know of, or even contribute to use data from OpenStreetMap, where interested typically amateur mappers document their local streets and points of interest, alone or in "parties," and share it via the Web.

This model for sharing, which I like to call

Nokia) have had formal partnerships with public and private organisations to share data updates for some time. The US federal government championed The National Map, with a similar vision. Google and Microsoft have offered hosting and merging opportunities in recent years and while some organisations have signed on (imagery hosting in particular was popular based on my anecdotal recollections) the response doesn't seem as energetic as the one to Esri's offering.

There are many possible reasons for the difference in response: the nature of the companies, details of contracts and perhaps even more importantly, timing. Is it possible that the Tele Atlas and NAVTEQ solutions were too complex? Were Google and Microsoft a bit too early in the evolution of data sharing?

Crowd-sourcing geospatial content

Two Models are currently evolving, argues **Adena Schutzberg**. For them to work, both aggregators and contributors need to feel valued. But how these relationships are developing has yet to be defined.

"individual to aggregator," seems to work well. The individual data collectors hopefully do good by making their city cleaner and safer or by helping to create a worldwide shareable map. The data recipients (the city or data licensee) use the contributions to better achieve their mission.

There's another model of collecting and sharing geodata, one that's not about individuals sharing data with aggregators, but rather organisations sharing data with aggregators. I call this model, "organisation to aggregator." This idea has been getting a lot of attention within the geospatial community since the launch of Esri's Community Maps programme in 2009. The idea is simple: Esri wants to tap providers of authoritative data (its users, other GIS users, private companies, municipalities, counties, states, countries...) to collect that data into a series of basemaps for streets, imagery and topography. The provider organisations put their data into defined templates, sign a contract and share it with Esri. Esri stitches the datasets together and publishes them out as services useable with its software and APIs. It's been a big hit; sessions on the topic at the Esri International User Conference were standing room only even at 8:30 am! A webinar on the topic sponsored by Esri drew record crowds.

Esri may be the best known geospatial company to put the idea forward, but the concept is not new. Tele Atlas (now TomTom) and NAVTEQ (now part of

Several other "open" crowd-sourcing efforts have launched to join OpenStreetMap, including OpenAerialMap and OpenAddresses.org, which collect and publish aerial imagery and address points, respectively, with open licences. These efforts take contributions from individuals, but seem to me better suited to those same organisations with authoritative data that Esri hopes to tap.

There are some important relationships required for these models to work. Individual or municipal contributors need to feel their contributions are valuable and valued by the recipients. The recipient aggregator organisation needs to feel the data is valuable, authoritative and/or shareable, as appropriate, to be integrated and published out. The method of creating, nurturing and maintaining these relationships are currently being defined and redefined.

It feels like, for the first time, models are forming, and the belief in data sharing is strong enough to test the practicality of creating and depending on these data and services. It's interesting to note that most of the existing infrastructures have popped up without money changing hands, with some relatively simple licences and without government intervention. Which solutions will "win" and "get the best data" and be "the most used" is yet to be determined. The variety of options available, I hope, will mean that one or more are successful in the longterm.



... belief in data sharing is strong enough to test the practicality of creating and depending on these data and services.



AGI GeoCommunity'10



Above: AGI Director Chris Holcroft welcomes delegates. Above right: Panel session, from left to right: Richard Waite, Robert MacFarlane and Dr Andre Hudson-Smith.

OPENING PROCEEDINGS under the mantra 'Innovate, Connect, Succeed', conference chair **Simon Doyle** backtracked us to that May day when the previous secretary to the treasury left his ominous note "Sorry, there's no money left". In this tough economic climate Doyle challenged delegates to think hard about whether our data is fit for purpose and to consider whether a problem we face is that we're not good at selling what we offer, before introducing the first of three keynotes.

Dr **Andrew Hudson-Smith** works at CASA, University College London's Centre for Advanced Spatial Analysis and has a job, which in his words, 'allows me to do whatever I want'. He freely admits to ignoring most advice and still gets a grant of £6m a year to 'push,

authority! Today there is "3D London" backed by the mayor, free to all but still not adopted.

Friction and failure at the boundaries We are becoming all too familiar with emergency and security issues. Dr **Robert MacFarlane** works at the heart of government in the Cabinet Office where he is an assistant director with responsibility for the National Security Strategy of the UK. As we know, complex and systemic risks usually have geography and dealing with them requires joined-up government that understands the need for interoperability and what MacFarlane calls 'the predictability of effect'. As he observes, 'there are many teams but one playing field'.

The age of austerity will force better working together amongst agencies and departments (well it brought the Tories and Lib-Dems together) but it is at the boundaries between organisations where the friction and failure is, said MacFarlane. He talked of the 'interoperability low fat layer cake' and the 'terminology of doctrine'.

The Common Operating Picture will be familiar to those with knowledge of the emergency services. But is it a concept, a product or an environment? He leans towards the latter, although sometimes the problem comes down to 'picnic' he says. Picnic? PICNIC? – Problem In Chair Not In Computer!

To help solve these problems MacFarlane

AGI GeoCommunity'10 *Opportunities in a Changing World* was the theme for this year's AGI annual conference. It proved a timely opportunity to review how GI can make a difference. Reporting by **Stephen Booth, Hayley Tear and Robin Waters.**

question and fail', although payback is expected. Luckily for his backers Hudson-Smith takes as his lodestar the maxim 'wouldn't it be great if. . .' In the 15 years he's been at the centre the lab's work has moved from "hardcore GIS" running on Sun workstations (recently put in a skip) to an entirely online effort for PCs and iPhones ('Google completely changed our lab').

His latest research is around applying the Internet to objects, i.e. geolocating just about everything with a RFID tag. He wants to encourage people to record their feelings and history of things they own or dispose of. He envisioned a jumper donated to an Oxfam shop that was able to tell the tale of broken love the previous owner tagged to it (a bit too much information for this scribe).

Hudson-Smith says that GI is now part of computer science and made some predictions: HTML5 will wipe out Flash; Chrome will take desktop GIS and Web 2.0 is just words.

CASA has worked on a 3D city model for the capital (see the first issue of GiSPro, October 2004) beginning ten years ago when he captured panoramic data in Camden but was sued by the local

candidly gave out his email for those with ideas, robert.macfarlane@cabinet-office.x.gsi.gov.uk but 'beware solutions looking for a problem'.

Looking for that light bulb moment ESRI UK's **Richard Waite** took a somewhat predictable theme of "Britain needs GIS but it doesn't know it". He argues that GI and GIS are reaching a tipping point where they could be used as strategic tools rather than just operationally. Waite believes this area is as yet untapped and cites 'the geography of demand' for NHS services by the elderly.

'GIS can deliver more for less' Waite argues, but we still need to get through to the boardroom. He recently showed GIS to the former CBI chief and government minister Digby Jones. 'Wow, what an amazing tool' was his response. 'Why if it's been around for 30 years isn't everybody using it?' A good question says Waite, and it's because we've not communicated it. We need to show more people that 'light bulb moment'.

Waite is also surprised that the "Total Place" initiative – the whole area approach to public

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...GI and GIS are reaching a tipping point where they could be used as strategic tools...

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services – disappointingly makes no mention of maps. ‘Maps are intuitive’ he argues, ‘People get it. GIS can offer efficiency improvement, collaboration and transparency. Politicians will listen if you tell them it will change society but don’t tell them about features and technology’. His final plea to the audience of largely committed GIS professionals was to join him in tipping GI/GIS into the new world.

All tweet and no substance? A lively debate followed the keynotes, moderated by conference chair Simon Doyle. ‘Was it all tweet and no substance’, he asked provocatively. Waite said we need a very coherent argument with short presentations although Hudson-Smith reported that it was a ‘lot of hard work getting the support of London Mayor Ken Livingstone’ to back CASA’s 3D London. ‘How do we explain the big opportunity in 140 characters?’ asked tweeter **Steve Feldman**.

With no clear answers on that one, discussion moved to data.gov.uk with Hudson-Smith horrified at the technology level needed to get the information. His advice was ‘think about the public and walk away from solutions’. Waite added that we certainly needed to unplug it but we must treat government data with caution. Feldman asked, ‘What’s the simple quick win?’ ‘Bring your GIS spec to the meeting’, argued MacFarlane while Waite urged us to ‘scan the news and ask is there a geo solution to this?’ He cited a recent proposed cut by the coalition government to reduce taxi fares for children with special needs, which currently costs £1bn. Surely GIS could help. His final thought was ‘create a hubbub, while Hudson-Smith urged ‘stop using the word GIS’.

CBI’s sober view For those evangelists convinced that GI is the solution rather than the problem, some very cold water was coming their way from **Lai Wah Co**, the CBI’s head of economic analysis. She opened the second day’s keynotes by explaining the “fiscal retrenchment” we are about to experience. With growth for the current year forecast at 1.6% and 2% next year, we are building from a 5% drop last year. It may take awhile to get back to the high of 2008 when GDP topped £330bn.

It all began, according to the CBI, when the public sector grew rapidly from 5.2m people in 1998 to reach a peak of nearly 6m today. ‘The prediction at the moment’ she said, ‘is a fall of 100,000 a year for 2011 and 2012 then higher up to 2015’.

We’re needed. . . for twinning **Vanessa Lawrence** is a regular at AGI conferences. She examined the ‘interference between professionals, citizens and business markets’. In an era when oil supplies were waning, education was still not universal and some populations were aging there is anxiety over food security, insurgency and natural disasters Lawrence concluded, ‘they all need us but they often don’t realise it’. She also reminded us that information and clarity of

message is something our industry still struggles with.

For Ordnance Survey, of which she is the director general, these are times of “cultural change”. Initiatives like GeoVation and Opendata.gov (for which she was somewhat ill prepared being on the other side of the world when Gordon Brown made his surprise announcement) are being pushed by the mapping agency. More interestingly, Lawrence told us about an odd twinning experiment between OS and the Royal Household; both organisations with entrenched cultures but needing to adapt more rapidly to the modern world. It should make for a great pub quiz question: “What have a liveried footman and a photogrammetrist got in common?”

“Oi - Sir Tim. . . With a choice of 50 sessions running concurrently through five streams, some hard choices were necessary, so apologies in advance to speakers whose presentations we missed.

Of all papers at the conference “Oi - Sir Tim hands off my spreadsheet” was probably the most eye-catching! And **Ian Painter**, managing director of Snowflake, did not disappoint. His starting point was the problem of data being locked up in inconsistent formats with a lack of sharing making decisions more difficult - all compounded by a ‘silo’ mentality for both data and the services provided.

These are exactly the issues addressed by the government’s open data campaign led by Sir **Tim Berners Lee**. Ideally data needs to be legally open - accessible without restriction on use or re-use; socially open - within a community that believes in an open environment; and technically open - delivered in a format that hinders neither humans nor machines.

Painter showed a pyramid starting with the typical exposure of existing documents, spreadsheets and databases. Easily achievable but with very many different formats making it very difficult even for humans, let alone machines, to interpret or mash-up the datasets. This can be improved - at the cost of some effort - by the data providers producing open standards-based data using XML, GML, KML, etc. If this data is then given Unique Resource Identifiers (URIs) it becomes ‘linkable data’ - and any sensible dataset almost certainly has linkable internal records. But the final step to Sir Tim’s nirvana of ‘Linked Data’ requires that each URI can be linked definitively with other datasets. This is much more costly and is generally outwith the remit of data managers within organisations unless they are already using nationally recognised identifiers from other sources. So the progression down the pyramid is of increasing usefulness but also increasing cost - the former to the user but the latter to the provider.

Painter believes that we need to think ‘big’ in terms



The Linked Data Pyramid - ideally “delivered in a format that hinders neither humans nor machines.”

“

... the largest experiment in anarchy we’ve ever had.

”

AGI GeoCommunity'10



Above: the Icebreaker party kick-starts the AGI annual conference with AGI's chief operating officer Alan Wilks' tough "Geo" quiz stretching the geo community.

of SDIs aimed at B2B or G2G applications as well as think 'small' when considering lightweight applications for business to consumer or government to citizen. But most importantly we have to think out what is happening and how we can become more efficient behind the 'portal'. There are many opportunities for sharing facilities both within and between organisations that do not involve loss of control of the data itself but which make the publishing of the data that much easier and more efficient. At present only 24 out of 434 local authorities provide open data of any sort - and only 16 of those are truly open (and none are providing true Linked Data).

So his message is that making data open should not only be good for the user but should also make the publishing of data more efficient if thought through from the beginning! If only we can overcome the cultural barriers. Any manager in the public sector who considers that the data they provide is 'their own' had better change their tune pretty quickly. Win Win or what?

Matthew Perrin of Envia spoke on Technology Trends in the Geospatial Foresight stream. He highlighted the pace and scope of change, which is faster than ever before as data on the Web doubles every two years. He quoted Google founder Eric Schmidt, "The Internet is the first thing humanity has built that humanity doesn't understand – the largest experiment in anarchy we've ever had." The role therefore of open standards, argued Perrin, was of the highest importance. He cited NASA's findings that by using open standards they could save as much as 26%. Discussion amongst the rather sparse audience for this session ranged around whether the development of standards was going in the right direction and how, under some circumstances, standards can be a barrier to change.

Under the sci-fi title, "When worlds collide", **Suchith Anand** discussed the advantages of combining Ordnance Survey and Open Street Map data as well as the effects of crowd sourcing on mapping. He believes that those who follow more formal approaches ignoring crowd sourcing will miss an opportunity. 'The advantage comes by combining the enriched tagged data of OSM' he argued. The community approach to mapping can provide mapping where there's no functioning mapping agency such as during the Haiti earthquake earlier this year. His conclusion was that

these techniques have come to stay.

"Practical open standards to connect geo-business" is something many of us can relate to. **John Fannon** has already demonstrated in these pages how users with a little savvy can use their coding diy skills to create useful apps and routines (*GISPro* June, August, October & December issues 2009). He argues that by using open standards the benefits for apps such as requests and response are obvious. Through greater separation of each layer of software architecture and not depending on proprietary APIs or vendor specific connection methods, open source can be beneficially exploited.

Switching to the green stream (environment) the enticingly captioned "The choreography of a 100 year restoration programme" was nothing to do with fine works of art but buildings. Not just any buildings but ones that house some of the nastiest stuff known to man. **Mike Cottrill** is senior technical adviser GIS at Sellafield, the world's most complex licensed nuclear site. Spread over 4 sq kms with a staff of 8000, it is in reality a small town with its own police force, fire service and much else. It costs us taxpayers some £1.5bn a year.

Surprisingly, GIS is fairly new technology for Sellafield. The challenge has been to convert all the site drawings from CAD into GIS. 'There's still a long way to go for all data to be brought in' explained Cottrill, 'but the benefits to the site will be delivery of new or improved products and services; a data depository; improved business performance and enhance customer services.' The challenge he said was 'dealing with a blue-collar workforce reluctant to change, security issues, consultants and developing a business case'.

Nessun Dorma

Delivering your first presentation at a conference is always a bit nerve-wracking. At the party, **Lisa Thomas** of The Coal Authority, told us she was down to deliver "Data in the public domain: is anyone ready?" the next day. Lisa was distinctly nervous and doubtless didn't sleep that well. She needn't have worried. She won not only the prize for best paper awarded by the panel but was also the delegates' choice!

Sparkling finale More than two days of intense conferencing came to a close with a sparkling final plenary addressed by Prof **Nigel Shadbolt**, who along with Sir Tim Berners-Lee, advised Gordon Brown to release all that data. The good news is that the coalition government is keen to continue the process and he continues his involvement through chairing CLG's Local Public Data Panel as well as sitting on the Public Sector Transparency Board. His day job is in the School of Electronics and Computer Science at Southampton University .

Shadbolt says that open data is creating waves as central and local government released their datasets. But he would not be happy until there was five-star

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The intention is that the availability of datasets will be built into the public task of public bodies...
 ”

rating for authorities: one star for putting it on the web all the way through to five for those who linked their data to that of others. He gave two examples of how freeing data in the past had helped people. The obvious one for us GI folk is Dr John Snow and his mapping of cholera to a water pump in the 1850s. More recently however (yet before the current explosion of mapping and free data) a civil servant had carefully tracked the incidence of bicycle accidents in central London, following the death of a friend and thus helped others to avoid the blackspots.

Shadbolt believes the initiative that Gordon Brown launched last year can be traced to President Obama's directive of 21 May 2009 that called for openness as a way of strengthening democracy. Today more than 4000 datasets in the UK are in the public domain, despite www.data.gov.uk looking like 'something a couple of PhD students knocked up... Yes!' The intention is that the availability of datasets will be built into the public task of public bodies so that it is freely available for use in any lawful way. The challenge is to make it 'timely and finely grained' argues Shadbolt. He is firmly of the view that public bodies should encourage reuse of their data even if it meant that the top free iPhone download for a week was the Asborometer, an app that enabled you to geographically locate Asbos handed out in your area.

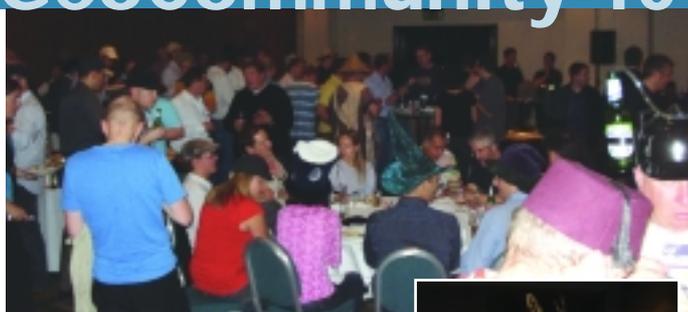
Fiendish questions Alan Wilks again delivered a masterful and fiendishly difficult quiz for the first night icebreaker, all based on some aspect of geography. If you thought you generally knew how the world fitted together and had learnt something from either stamp collecting or just reading the daily papers, Alan has news for you. Try this one: "What have the Sahara Desert, Lake Chad and the River Avon all got in common?"

It's the real thing, or is it? W3G – the 'unconference' prior to AGI GeoCommunity, was a bit disappointing – not because of the content, but because it really didn't feel much different from the 'real' conference on the succeeding days. Same rooms, same audiovisuals, but no chairpersons and some very interesting presentations or, in some cases, rants. So if you weren't there imagine something between one of the normal conference break-out sessions and the soapbox and you will have some idea of the feeling. I gather the idea is to tweet while you listen – but being a simple male I find it difficult to do two things at once.

Steven Feldman was playing the grumpy old man and ranting about the inadequacy – or even the deliberate falsification – of maps based on newly released 'open' data. All the old vices of thematic cartography come to mind – only now everyone can play.

Charles Kenelly from Esri (yes they are allowed to attend unconferences) alluded to Ben Goldacre who writes the 'Bad Science' column in *The Guardian* and his

The AGI party is always a fun evening and not to be missed.



A theme of "Hats" for the party saw some notable examples worthy of Ascot.

debunking of the simplistic as well as the downright fraudulent purveyors of statistics – whether geo- or otherwise. 'Metadata is sh...'. He pointed out that most useful metadata is lost between data capture – where it should be automatically captured (and used to aid subsequent processing) – and the final "product" which is then given its own metadata that is more likely to be wishful thinking than objective reality. He made a plea for metadata to be captured at the record level and maintained throughout the production processes. Very laudable but it needs a cultural somersault!

Peter Batty is into usability testing. Every product should be put in front of its intended customers, at which point the developer should shut up and watch. We all know how intuitive interfaces are best – we need the Google maps of this world to sweep away the huge menus that used to face us on screen and we can only make those breakthroughs by being humble enough to realise that the customer is king.

Up North Snowflake's **Eddie Curtis** explored the open data and linked data confusion, putting across a simple message: open data is good (but see above!) whereas Linked Data still has a lot to prove. Only two people in an audience of 40/50 had actually used Linked Data.

The unconference ended with a panel session with **Gary Gale** from Nokia, **Nick Bicami**, Peter Batty, **Ed Parsons** and **Chris Osborne**. Steve Feldman chaired, which to me gave the impression that the neogeography boom has peaked. There is a realisation that there is only so much advertising out there to support 'free' services; that the real money and the really interesting applications are in the business-to-business market place – even if this may often be delivery of 'public' services. Furthermore – as shown in many of the previous examples – neogeography is very citycentric. Many applications need continuous 3G broadband and many users will be wary unless this comes at a flat rate bundled with their devices.

Finally the panel were asked what was dead or dying. Candidates included SDIs in general and INSPIRE in particular (but the suggestion that Google Earth was in effect an SDI did not find favour with Ed Parsons). Others were OGC/ISO standards (on the basis that the Web will always favour its own standards) and location conferences!!

• AGI GeoCommunity '11 will be held September 20th to 22nd 2011 at the East Midlands Conference Centre, Nottingham.

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...his debunking of the simplistic as well as the downright fraudulent purveyors of statistics...

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city modelling BIMs to GIS



Left: Greg Bentley welcomes delegates.

BIMs are really 3D geographic information systems, in which every element of the building is described using attributes and can also have parametric behaviour attached to them. The latter features are used as an aid to design and in the world of Bentley are known as generative components. The equivalent in Autocad is the parametric block. Extend this train of thought a little further and you can take out quantities of building materials from the attributes and simulate how the building will be constructed in detail. There are software routines that can develop a construction schedule and even a visualisation package to simulate how the building will be constructed. It is an excellent tool for planning and enables the developer to

Bentley V8i rolls into the 3D City

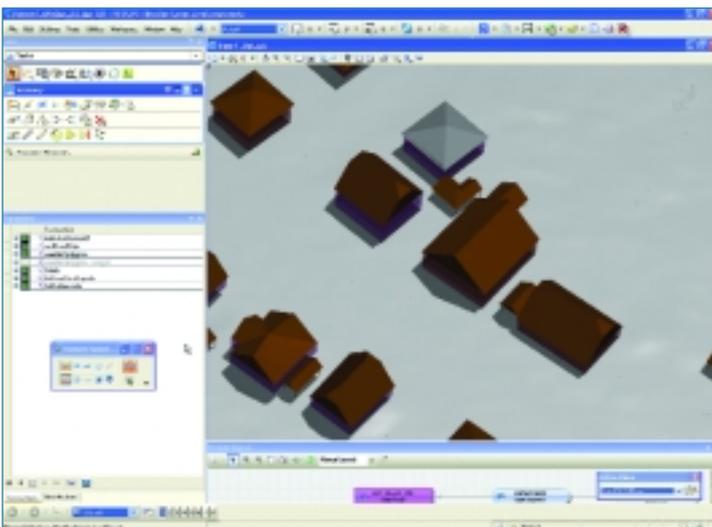
Richard Groom reports from Bentley Systems' annual conference and "Be Inspired Awards". Four hundred users from all over the world attended this year's event in Amsterdam.

BENTLEY SOFTWARE is best known as a CAD platform and the main competitor to Autodesk. It is perhaps surprising that in terms of revenue Bentley is not that far behind Autodesk. Both companies offer GIS functionality.

Infrastructure is the watchword for Bentley and seems to be interpreted (conveniently) as almost anything in the environment that is man-made. A vice president of the company even treated diners to a couple of songs composed around the subject during the awards dinner. A high-risk strategy, you might think, but no-one left the room and he was a lot better than most X-Factor contenders!

Information modelling Version V8i was launched in November 2008 as a number of modules that have since been added-to, revised and updated. The release introduced interoperability between software within the Bentley stable and interoperability with other suppliers' packages, so that customers can mix and match. The major innovation in V8i was building information modelling (BIM).

Below: Using Generative Components to build the Odense City Model.



demonstrate that their plan works and helps to build confidence with everyone involved in the project.

Use of BIM is not just confined to the planning, design and construction phases of a project; it can be used to support maintenance of the building, refurbishments and even its eventual demolition.

Generative components for city models All this may seem to have only the vaguest relevance to GIS as we know it, but the three projects submitted for the 'Innovation in Government' Be Inspired award were all GIS projects and one of them made use of generative components to update city models. Odense Kommune from Denmark submitted a project "On-the-fly 3D City and Urban Modelling". Unfortunately, although they won the award, they were unable to present at the conference.

In the same category, GeoSite.dk presented a paper "GIS4Mobile Connect Online Mobile Device". Using a spatial web service, municipal work crews use mobile phones to capture and submit photos and attributes from the field whilst managers in the office can transmit data to site indicating locations for inspection.

The final submission in this category was for "Mapping Using Web Feature Services" presented by **Rune Tvilium** of Tvilium Landinspekterfirma A/S. In this project Tvilium devised a means of importing current geospatial data from several servers using a program called WFS Booster where previously the work had to be done by hand.

The word from Charlotte Returning to city models, a round table discussion was held on "3D models for intelligent cities". Bentley have their own GIS application – Bentley Map V8i. This package is based around Microstation and Oracle Spatial and includes the capability to produce 3D city models. The company has hired **Patrick McCrory**, former mayor of Charlotte, North Carolina to sit on the Bentley

Infrastructure Ambassadors Council. The ambassadors are employed to "engage with the global communities of practitioners, constituents, and organisations interested in the key challenges of and opportunities resulting from sustaining infrastructure". He urged the audience to embrace their role of educating a public that does not understand complexity. To promote city models, we have to speak the language of the people who make the decisions.

Participants seemed to think 3D city modelling is a useful tool for planning, noise studies, shadow analysis and disaster mitigation but one has to ask whether these benefits justify the cost and what level of detail is necessary. 3D cities have to be complete and maintained and so most participants thought they should, like national map series, be the responsibility of government. It was suggested that developers should be obliged to submit their BIMs for inclusion in the model. But there was plenty of resistance from those who reckoned it was unreasonable to make developers pay to produce a BIM only to eventually give it away for free, for the public good. A delegate from the City of Rotterdam said that they already have a model. They had effectively converted their conventional 2D mapping into 3D, thus maintaining compatibility. They also include utilities in the dataset.

City models: where GIS and CAD meet It is interesting to note that due to the cost of surveying large-scale data, the concept of 3D cities started at small scale (Level 1) and that, as costs have decreased, has moved towards detailed large scale data (Levels 3 and 4). The discussion exposed some conflicting thought between the disciplines represented on just how intelligent the cities should be. Mobile laser scanning technology has already evolved to the stage where point cloud data accuracies comparable with precise ground survey are being achieved in street corridor surveys. So, the base data for 3D modelling in cities is rapidly becoming cheaper and more accurate at levels of detail 3 and 4. This will bring with it applications for detailed engineering design in streets as well as buildings. This is where GIS and CAD meet. City models have, up to now, been the preserve of GIS but, to be successful, standards at this scale and level of detail must also involve surveyors and the disciplines that will start to benefit from accurate city-wide 3D data.

The terms GIS and CAD were not mentioned often during the conference: the emphasis was on modelling – building information modelling. This used to be confined to the inside of the structure; it now encompasses the surrounding streets and is going city-wide.

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He urged the audience to embrace their role of educating a public that does not understand complexity.

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data - knowledge - transparency



"Information is not knowledge"
– Albert Einstein

I am privileged, through a combination of my past membership of the Government Statistical Service, my present membership of the Royal Statistical Society and the AGI and my current work with consultants Informed Solutions, to have a close involvement with two worlds. The 'new' world of geographic information, which is being driven by the

of GI, how prepared the UK is in terms of INSPIRE compliance etc etc. and with, in particular, a major emphasis on the impact of data.gov.uk together with the availability of Ordnance Survey data. However, there seems little concern for the underlying data quality. More importantly, there seems little concern for the extent to which all this data will lead to the holy grail of intelligent understanding.

Does this matter? I believe it does and that the full potential value from a combination of the best of both worlds will not be achieved while some key factors in the current debate continue to be overlooked as a result of this separateness. At the same time I believe that the question is not as straightforward as might at first appear and I am very tempted to respond, for example, to 'Is Data.gov.uk the answer?' by firstly asking 'What was the question?' and then by qualifying this by doffing my cap to the infamous Professor Joad by the statement 'It depends what you mean by data'.

I do think that the answer to the latter statement is key to establishing some clarity of thought on these issues and also in explaining the emergence of two different cultural approaches. With or without the 'geographic' tag, there is a fundamental distinction to be drawn between the meaning of 'data', in the sense that The Office for National

From Data to Knowledge: delivering true transparency

There appears to be too much of a bipolar approach to the development of geographic data, argues **Peter Capell**. We need to understand the relationship between data, information and real knowledge.

open data movement and the opportunities offered by the semantic web and within government by the Transparency agenda and data.gov.uk, and the more traditional 'old' world of geographical national statistics. Over the last year or so I have been struck by the very different sets of issues and approaches, which appear to be uppermost in these two 'worlds'.

This reflects the very separate domains occupied by these worlds. I have sat through excellent sessions, at which very experienced and knowledgeable analysts from central and local government have discussed their issues of common interest – census and other socio demographic data etc – where the whole emphasis is on quality issues, with no mention at all of data.gov or of the rapidly growing opportunities offered by imaginative use of web technology.

On the other hand I have also sat through equally excellent sessions, as exemplified by many of the presentations at the AGI conference this September, which have dwelt in great depth on such issues of current concern to the GI world as the pros and cons of free data, whether it is really free or not, how cloud computing will affect the use and availability

Statistics generally understands it as opposed to a loosely structured set of individual observations of local significance. The former is where either administrative records or sample survey data are collected, cleansed, aggregated and then possibly adjusted, at some aggregate level deemed appropriate, for example to make allowance for seasonal or other regularly occurring factors, so as to produce a meaningful and reliable estimate relating to an issue of economic or social significance.

One new house. . . Taking for arguments sake the example of housing, the fact that a new house has been completed this morning in Sheffield is self evidently of no relevance whatsoever as an item of data whether in terms of an assessment of the trend in house building or of the extent to which the residents of Sheffield are suffering from an imbalance between supply and demand for housing relative to similar areas or to the nation as a whole.

On the other hand, viewed from a local perspective, and one which is much more in tune with the data.gov.uk world, the world of crowd sourcing and open data and so familiar to members

“

... there seems little concern for the extent to which all this data will lead to the holy grail of intelligent understanding.

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of the AGI community, the completion of this house may be a highly relevant item of data. This may be from the point of view of the relief it might bring to local housing needs or conversely to local community concerns with over development of land.

Another example might be the distinction between the importance locally, as data items, of the number and location of potholes in my street, as opposed to the importance of data collected in order to enable a reliable judgement about the national and regional standard of road maintenance.

These two very different concepts of 'data', are I would argue, behind the very different approaches to the use of technology to facilitate the extraction by users of the potential intelligence and understanding which can be created from an examination of this data.

Continuing with my example of new house building, those responsible for compiling and publishing regional statistics on housing continue, as they have traditionally done, to focus their attention on producing such aggregate estimates, in accordance with all the principles and practices set out in the latest Code of Practice for Official Statistics. This includes, in addition to highly professional preparation of the statistics themselves, equally professional preparation of very carefully worded formulations of the messages implied by the figures, including clear warnings about the limitations of these interpretations. The late Sir John Boreham, Head of the Government Statistical Service in the early 1890s once memorably commented 'Our output is words not numbers'.

Are we satisfied with the statistics? It is this approach to the production of statistical information that is behind most data-related items, which hit the headlines on a frequent, almost daily basis. For example, the shocking fact published today as I write, that in Liverpool, Nottingham and Glasgow nearly a third of households, containing at least one person of working age, had no one in work last year. Or the recent headline-hitting news resulting from the first inclusion in the Integrated Household Survey of questions on sexual orientation, the results of which were presented in map form by the Guardian's Data Store.

However, a recent report from the National Statistics Authority on 'Strengthening User Engagement' clearly identified widespread dissatisfaction with the way that official statistics are made available and recommended major improvements in the exploitation of web-based technology.

This approach, emphasising the reliability and authority of the carefully managed outputs but with little flexibility of access to the source information, is in marked contrast to the recent development of data.gov.uk and to the approach being taken forward by the Transparency Board. The key

emphasis here is on the benefits of easier access to data and to the possibilities that the semantic web opens up for developers to create innovative approaches to using this data. The example which is most often quoted being the creation virtually overnight of a site giving cycle routes avoiding accident blackspots.

This is seen as a way of 'unlocking' the potential intelligence, which can be gained from a very 'free' approach to access to data. For those of us in the GI world it has been very encouraging to see the importance for this process that the government have attached to the role of mapping.

However, there are concerns with this approach over the risk of inappropriate analysis due to a lack of awareness of quality related issues. It is also unclear the extent to which this approach will lead to a step change in the creation of real intelligence, rather than just creating a sea of data. There is a danger that all too often users, whether members of the public, policy makers, government ministers, councillors etc. are merely being ever increasingly swamped with data without gaining any more clear understanding or real intelligence.

Seeking real enlightenment My argument therefore is that real enlightenment needs a more concerted approach; one that combines the best of the two strands of public sector inputs described above together with working in partnership with the private sector. We need to bring together both the 'big picture' from the national scale with professionally designed and conducted surveys and interpretations of administrative records, with the small, but 'real' world of local, even single point, data including crowd-sourced data.

This need has been made all the more urgent by the new announcement by the coalition government of the Transparency website. The success of this in creating real transparency will need an intelligent approach to providing the user with the most appropriate range and balance of access to information together with analytic and 'visualisation' tools, which is of course where the role of geographic information is paramount.

The delivery from data of enlightenment, insight and good judgement requires solutions which draw on all the skills, traditional and new, statistical and technological. The public sector and the private 'solutions' sector need to work in creative and collaborative partnerships to create real value. The values of national scale sources, with thorough preparation and balanced interpretation and commentary, and of the 'rawness' of local sourcing and immediacy, can be complementary and do not need to be contradictory. Transparency and usability requires openness and a willingness to share and join up, which are the features of the new semantic web world.



... a recent report from the National Statistics Authority. . . clearly identified widespread dissatisfaction with the way that official statistics are made available...



EuroGeographics' first ten years



Above: members during the General Assembly in Brussels. Inset: Herman Van Rompuy, President of the European Council, addresses EuroGeographics.

EUROGEOGRAPHICS WAS FORMED IN 2000 when sat nav was in its infancy, few mobile phones offered location-based services and many governments and businesses were only beginning to realise the benefits of geographic information. Today this data is routinely used to make decisions about policy, business or leisure by a spatially-enabled society, which brings opportunities and challenges for national mapping, land registry and cadastral agencies.

environment and the strength of our economy.”

To maintain their position in the modern geospatial market place, EuroGeographics' members know that they must continue to demonstrate their expertise in providing the authoritative, definitive and high quality data needed to make the European Spatial Data Infrastructure (ESDI) a reality. Eurogeographics' activities come together in a number of spatial data infrastructure (SDI) projects providing services to access information from different data providers across Europe. The Association is keen therefore to offer its wealth of experience to play a prominent part in realising the ESDI. SDIs have a crucial role to play now that technology has driven geographical information into the mainstream with people using services underpinned by an SDI to access information about places and spaces.

Creating high quality, authoritative, interoperable data just once to be used many times demonstrates how EuroGeographics' members add value. This not only avoids duplication of effort and costs in both the collection and management of geospatial information, but also ensures compliance with existing legislation, such as INSPIRE, and compatibility with EU member

Strength in numbers

EuroGeographics is marking ten years of pan-European collaboration for mapping, land and cadastral agencies. **Dave Lovell** and **Patricia Sokacova** explain the work of the Brussels based organisation.



Dave Lovell, OBE, FRGS CGeog, EuroGeographics Executive Director.

Our membership has almost doubled and as it has grown so too has our knowledge and ambition. Members' expertise is now sought across the world and, as a result, we are becoming an international non-profit organisation to ensure we can continue to meet the needs of our stakeholders. This move recognises both our increasingly international status and the need to represent our members in a wider policy environment. Our head office has already relocated to Brussels so that we can continue to provide objective and constructive support to the European Commission, Parliament and institutions of Europe more quickly, efficiently and effectively.

A reputation for available, reliable data

EuroGeographics members' 'invaluable' commitment to making geospatial data more accessible and readily available across the European Union was recognised recently by **Herman Van Rompuy**, President of the European Council, when he opened the Association's annual General Assembly. He said: "Effective policy depends on good information, and in such a geographically diverse Union it is vital that we understand not just what is happening, but where it is happening. This information needs to be readily available to policymakers at all levels so that the European Union, and the countries within it, can use geospatial data to improve the lives of citizens, the

state policies.

Despite the changes of the last decade, the Association's mission – *to further the development of the ESDI through collaboration in the area of geographical information* – and vision to achieve interoperability of our members' national land and geographic information remain entirely relevant, with members now focused on delivering the European Location Framework to meet the challenges of geospatial data use in the 21st century. Initiatives such as the European Spatial Data Infrastructure Network (ESDIN) are making excellent progress in the development of services to integrate existing national spatial datasets and provide INSPIRE compliant data and services. The project, which is coordinated by EuroGeographics, has already delivered a world first in quality evaluation web services.

Maximising public sector information for growth

With its aim to remove barriers to the sharing of digital content across borders, the ESDI being developed by EuroGeographics' members is a significant contribution to the Digital Agenda for Europe and the creation of a Digital Single Market, which is vital to ensure Europe's competitiveness in the global economy. Opening up access to content and ensuring that it can be readily exchanged throughout the European Union (EU) is one of the four



Zeljko Bacic and Patricia Sokacova.

action areas of the Digital Single Market, and one that is fundamental to stimulating the cycle of demand.

This offers great opportunities for EuroGeographics' members in their role as official providers of geographical information in Europe and the Association recognises that it has a key role to play in ensuring this data is used and re-used to maximum effect.

Members are playing an active and constructive role in the review of the Directive on Re-Use of Public Sector Information (PSI), and are particularly interested in ensuring increased use and sustainability of their data. The Directive, in force since 2005, sets out a minimum set of rules governing the commercial and non-commercial exploitation of existing information, including geographic data, held by the public sector.

Strength in numbers Close co-operation between national mapping, land registry and cadastral agencies is vital to the success of their activities. EuroGeographics' four Knowledge Exchange Networks, their webinars and regional conferences, provide an important benefit for members. Members' willingness to share knowledge and best practice has already delivered four pan-European products – EuroRegionalMap, EuroGlobalMap, EuroBoundaryMap and EuroDEM; the EuroGeoNames web service; and a number of important projects that bring together the expertise of its members and make maximum use of their information.

EuroGeographics membership gives us the opportunity to serve the geoinformation community, to enhance our professional development and last but not least to be recognised by our colleagues," says **Mihai Busuioc**, Director General, National Agency for Cadastre and Land Registration of Romania. "In this way, we can benefit from the expertise, knowledge, proficiency and experience of more than 50 national institutions throughout Europe who share professional and scientific interests in this particular field of activity. As a result of our participation in joint projects developed by EuroGeographics, we have adjusted our databases to European standards, which has increased public and private sector access to public information."

"We also had the honour of organising the 2008 General Assembly" continues Busuioc. "This event offered us not only the opportunity to connect to the scientific progress in mapping and cadastre but also to integrate into the international community in the field."

A global community The principles of the INSPIRE Directive can be applied to the wider geospatial community to deliver worldwide benefits and EuroGeographics is committed to establishing mutually-beneficial relationships with like-minded organisations wherever they may be. The aim of these activities is to avoid duplication of effort and

the pooling of expertise, knowledge and resources.

The Association has a pioneering strategic collaboration with PSMA Australia, an organisation with whom it shares similar business attributes, values, challenges and strategies to deliver continental datasets and SDIs. Both aspire to deliver benefits to the wider spatial and non-spatial communities through their support of spatial community development.

EuroGeographics has strategic memorandums of understanding with a number of other organisations in the fields of research, cadastral, geographic information, surveying and standards. Through its engagement activities, it works closely with the European Parliament and EC institutions such as EUROSTAT and the European Environment Agency (EEA).

With global purse strings pulled tight, interoperability and the development and implementation of standards are vital to prevent unnecessary and costly multiplicity in the geographic information market. Our members are committed to providing a framework which will form a foundation for a wide range of services to benefit governments, businesses and citizens by enabling a wealth of information such as social or economic data to be linked and referenced to a geographical location or feature.

A number of them have already developed National Location Frameworks. A European Location Framework is the logical next step. It will enable and promote the integration and sharing of location-based information from multiple sources through a set of principles, concepts and methods evolved through best practice and with the intention of improving data integrity, promoting greater reuse and faster, easier sharing of application information.

Together we are stronger The rapid growth in information and communication technology shows no sign of slowing down as users demand ever more sophisticated products and services but, as the financial crisis continues to take its toll on national economies, how does the sector continue to maintain standards and meet these expectations with greatly reduced budgets?

We need to combine our efforts in a worldwide alliance of geospatial associations to create a common policy, strategy and action plan to deliver a global location framework. It is an ambitious vision but, by working together, we can achieve so much more than working apart. Together we are stronger and so is the future of the global geospatial community and those we serve.



EuroGeographics provides a single point of contact for communicating with the national mapping, land registry and cadastral agencies of Europe and is committed to representing their interests; enabling them to benefit from networking opportunities and its high profile in the European and international geospatial information arena; and to access funding for research and development projects.

Director General, State Geodetic Administration Republic of Croatia, **Zeljko Bacic** explains: "Being part of EuroGeographics brings us a number of advantages and benefits. These result from the intensive cooperation established among members through the execution of various projects relevant to Europe and participation in a number of working and interest groups dealing with issues that affect each individual organisation, for example the European Spatial Data Infrastructure (ESDI). We are proud, therefore, to have been one of the organisations which established EuroGeographics ten years ago."



...we can benefit from the expertise, knowledge, proficiency and experience of more than 50 national institutions throughout Europe. . .





Robin Waters is an independent consultant. He is also chair of the AGI's INSPIRE Action Working Group and secretary of the BSI IST36 Standards Committee for Geographic Information.

G'day coppers. This column is being composed in Australia where the weather is brilliant and the flora and fauna are of course markedly different to anywhere in Europe. My golf is no better for being played upside down but the greenery of the course, the noise and colour of the birdlife – not least the kookaburras laughing at my mistakes – and the complete disdain shown by the kangaroos, is seriously engaging and uplifting!

Imagine my surprise to open the *Sydney Morning Herald* to find columnist **Elizabeth Farrelly** writing about "Britain having the wonderful Ordnance Survey maps with every mediaeval barrow and bridle path which gives them the thrill and power of genuine created art." In her essay entitled "Road to nowhere" she compares and contrasts modern roadmaps of the outback (apparently often with conflicting positions for drivable tracks) with aboriginal song lines (aural maps?) and British maps from the time of Saxton. "Accuracy matters, as much for charting a dirt track along the dingo fence as for pinpointing a mediaeval English landmark," she remarks, struggling to find the way to Kilcowera.

She is bang up to date with the use of the term

mapping that was originally published at a certain scale or it may be a scanned image of such a map. However, that data can be displayed on a screen, combined with other data or printed as hard copy at any scale that the computer (or a user) wishes!

Why do I mention this? Because, in early November 2010 – one month before metadata (including scale) becomes mandatory for Inspire reference data – there is a debate on the Inspire interest group on LinkedIn about the meaning of scale in metadata. Purists would have banned the concept of scale from geodata or geo-metadata long ago. They would have insisted on using accuracy (absolute or relative) and/or resolution and would have suggested that scale could only be converted to accuracy or resolution by using an intimate knowledge of the surveying, production and printing techniques for any particular map series. Datasets collected digitally simply don't have scale. Features captured by multiple GPS positions don't have scale. Satellite images are never described as having a scale – only a certain resolution. Should we really be having a discussion about the scale of geo-data in 2010? Surely this just shows how old fashioned and map-centric the GIS world remains!

Do we need scale in geodata? Our columnist discovers respect for the Ordnance Survey down under whilst he ponders the value of scale in Inspire reference data.

"geo-data" as well as pointing out that many early explorers died while making maps and wrong directions in the outback can still lead to death from dehydration. This is serious stuff. She asks the questions: Isn't it illegal to produce or sell maps that are not 100% accurate? What about the duty of care? Do mapmakers carry liability? Or is it simply that the dead don't sue? Whether (or which) satnav would have given her directions to Kilcowera we don't discover!

She goes on to suggest that European mapping traditions – much like aboriginal paintings – depicted a world view as much as the world. Long before Australia was mapped by Europeans there are many mediaeval maps with very distorted images of the British Isles – at the edge of the Roman Empire or Christendom – that simply reflect their cartographers' (or patrons') beliefs or even politics. Aboriginal paintings and song lines were contemporaneous and, to their authors, just as important and informative.

Now I am not sure how the concept of scale is handled by song lines – though one suspects that time and walking speed might be factors – but in Europe this month we have the INSPIRE directive mandating metadata for reference information with one of its mandatory fields being scale. We all know that scale is the ratio of distances depicted on a map to the real distance on the ground. Geodata does not (and cannot) have a unique scale. It may be derived from

And, Inspire rolls on regardless. If you visit the Inspire website <http://Inspire.jrc.ec.europa.eu/index.cfm/pageid/182/list/indicators> you will see a table of the status of Inspire in each country of the EU (and EFTA) with links to appropriate national reports, websites and the standard indicators mandated by Inspire. The indicator spreadsheets make dull reading (anyone able to make them interesting should apply to *GIS Professional* immediately - we can use people like you!). But it is interesting to note that of the 27 EU member states three (Cyprus, Lithuania and Malta) have produced nothing – no website, no indicators, no national report. Italy produced a report (no website and no indicators) while the French, Irish and Italians still have no acknowledged national Inspire website. Several countries appear to have only produced English language reports despite being perfectly entitled to produce only native language versions.

At the risk of assault from Aussie mappers I will end by quoting Elizabeth Farrelly again. Her essay concludes: "...our casual approach to mapping the continent suggests a thin and perfunctory sense of ownership. Perhaps a deep connection with this country will continue to elude us while 'she'll be right, mate' remains our anthem." Personally I have found the maps pretty good – though I confess to sticking to the Pacific coast and not needing to find organic cattle stations a thousand miles away from Sydney! G'day.



Geodata does not (and cannot) have a unique scale.



Wales addressing



All eyes focused on addressing the issues at Aligned Assets' Welsh event.

THE PRINCIPALITY OF WALES has a unique place in the political landscape of Great Britain – it is a region that is defined by much more than a dictate from central government. Though linked through culture, history and a sense of national identity, there remain large disparities within the principality from the urban to the rural and across the north-south divide in relation to the Welsh language.

Trying to bring all these voices together, at least in the world of gazetteer management, was the latest in the series of Aligned Assets' sponsored gazetteer best practice days. Titled 'One Wales – One Voice', it saw over 60 delegates from 35 different organisations come together in Llandrindod, Powys in November to discuss and debate a wide range of issues affecting gazetteer management.

Eighteen of the 22 Welsh local authorities, half the

NBRs (no building record), which are records lacking sufficient data to actually find them on the ground. He explained that the need to constantly validate the data to overcome these issues was hugely time-consuming, pointing out that joint working towards the full integration of the NLPG was the solution.

Sue Beetlestone of Powys County Council and former chair of AGI Cymru followed with an exploration of how land and property gazetteers, and the Location Wales programme have a mutually beneficial role to play in improving the quality and use of location. One element she emphasised was how the greater use of the UPRNs (unique property reference numbers), which are held against each record in the NLPG, can be used as a common reference in keeping with the UK Location Strategy's definitions of geographic names, addresses and streets. As Sue pointed out, by doing this, 'we know we are talking about the same place'.

The Welsh Assembly Government was represented by **Shaun Powell**, their NLPG project manager, who gave a well-received presentation on efficiency savings and how to attain them. Sean emphasised how wider use of the NLPG across Wales could lead to less duplication of work, greater access to definitive and up-to-date location information and more linkage between local authority systems and the wider public sector.

One Wales – One Voice: Addressing the Issues

Sharing practice and experience through the NLPG and local gazetteers, over 60 delegates from across Wales gathered in Llandrindod, Powys reports **Carl Hancock**.

Welsh emergency services, plus a number of other public and private sector organisations heard presentations ranging from the management of an urban gazetteer by Cardiff Council, through to the issues surrounding bilingualism in address management.

An underlying principle to the day was the unifying factor of the NLPG (National Land and Property Gazetteer), which is created by local government, with its use available to the emergency services. Now widely regarded as the most definitive source of address data across England and Wales, it formed the basis of much of the discussion during the day.

Phil Hall and **Matthew Seymour** from Cardiff Council talked about how they work closely with other council departments such as non-domestic rates in order to maintain the accuracy of their LLPG (Local Land and Property Gazetteer). This level of precision has enabled them to place their LLPG at the heart of the Council's work. Capturing of individual rooms in university halls of residence has made their LLPG central to the work of other departments such as electoral services.

From South Wales Fire & Rescue Service, **Dave Bennett** demonstrated very clearly to delegates the problems of poor quality address data, with several slides showing examples of supposed deleted records that still existed and a number of what are called

Shaun explained that the Welsh Assembly Government recognises that Welsh public services hold and maintain property and location information in different ways, leading to inefficiency, poor customer service, duplication and error. He went on to say that it acknowledges that public services must develop a 'create once and use many times' approach, cementing this with the assertion that £3 million of benefits was the target to be achieved through wider use of the NLPG.

The day concluded with **Pete Roberts** from the Ordnance Survey explaining the PSMA (Public Sector Mapping Agreement) and how this would provide geographic information from the mapping agency, free at the point of use for public sector bodies, and subject to no limits on re-use when used internally within the public sector for public sector activities.

The event generated very positive feedback and some excellent debate, with one delegate remarking that it was 'about time that some of the issues raised were brought into the open'. Despite its differences, Wales will always benefit from a sense of unity that naturally allows for better joined-up working and joined-up thinking, which is ultimately what the best practice day was striving to achieve. **Owain Glyndwr**, revered ancient Prince of Wales would be proud.

“

...public services must develop a 'create once and use many times' approach. . .

”

NLPG: exemplar awards



THE CUTLERS' HALL IN SHEFFIELD (above) is a really magnificent building representing a famous industry and a famous city. The Company of Cutlers in Hallamshire still have the right to defend the use of "Sheffield" as a Certification Mark and back a "Made in Sheffield" campaign. The main hall of their Victorian headquarters was a suitably imposing venue for Everything Happens Somewhere 2010.

On 20th October over 250 delegates came from all over England and Wales to celebrate best practice in gazetteer use and maintenance and to learn how gazetteers may be one of the best tools for

It's the money stupid! Backing up these statements with a concrete business case were **Gesche Schmid** and **Andy Coote**, who presented the "value for money" study carried out for the Local Government Association by ConsultingWhere. This was covered in our last issue, which was distributed to all delegates in their conference information pack (Location economics: valuing GI for local public service delivery – *GiSPro*, October 2010). Gesche also used real-time push-button voting to see how delegates' perceptions compared with the findings of the LGA study. Perhaps unsurprisingly there was a large measure of agreement – most of the audience was probably involved in answering the questionnaires! Gesche's final message was for everyone to go out and shout about the success of the gazetteers – the study has finally given everyone some well researched quantifiable benefits, which should be promoted whenever possible.

However, Andy was horrified to discover – on a show of hands – that only 5% of the audience had any knowledge of Discounted Cash Flow. He suggested that some knowledge of DCF might be essential for any gazetteer manager to stay in their job! He has a range of techniques on offer for those that had to make these cases but reminded us that

Everything Happens in Sheffield Value for money is now the guiding light for the public sector, as **Robin Waters** discovered when he attended the NLPG & NSG Exemplar Awards in the city of cutlery and Clegg.

increasing efficiency and saving taxpayers' money.

Rejuvenation Sheffield is an exemplar of a rejuvenated industrial city; the NLPG and NSG Exemplar Awards are given to authorities rejuvenating their services with innovative thinking and up-to-date technology. By the time you read this article there may have been an announcement about a National Address Gazetteer (who's been NAG-ing who?) and everyone at the conference was awaiting the outcome. Clearly the National Land & Property Gazetteer and the National Street Gazetteer have shown how useful national gazetteers are – and how difficult it has been to reach national agreement on standards and processes for keeping them up to date. But even more important are the local authorities, which update these national gazetteers. Local council land and property gazetteers and local street gazetteers from highway authorities are absolutely vital to many of the services that local authorities provide. Without them council tax is not all collected; planning applications cannot be made; emergency services cannot reach life threatening incidents; potholes don't get filled; and the electoral roll becomes out of date and more expensive.

'it was all about people'. The best systems could be destroyed by incompetent people; the worst systems could be made to function by the best people. The ability to communicate to the decision makers in a language that they understand is also vital.

Exemplar Awards **Michael Nicholson** – CEO of Intelligent Addressing (IA) – introduced the awards, jointly sponsored by IA and the Improvement and Development Agency. The winners in each category were presented with their awards by Councillor **Shaffaq Mohammed**, a Cabinet Member of Sheffield City Council. Each of the winners was then given six minutes to describe their entries with the delegates asked to judge an overall winner based on the presentations.

Your reporter was one of the judges for these awards – and it was very interesting to see the more innovative applications entered this year.

Both the Green and Financial Awards were won by the London Borough of Harrow for its waste project. Who said being green cost money? The project saves money with more efficient collection rounds and reduction in landfill while increasing customer satisfaction and creating less CO₂ in the process.

//

... the study has finally given everyone some well researched quantifiable benefits, which should be promoted whenever possible.

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NLPG exemplar awards

Savings are estimated at £3.1 million over a decade.

Harrow also won the Technology Award for a unique pilot application using bar codes on outgoing mail that enabled any items returned (via the Royal Mail) to be scanned and instantly allocated to a follow-up service to improve the quality of the LLPG. This can be used for any mailing from the council and effectively 'piggy backs' on the existing postal system at virtually zero cost to the borough.

The Citizens Award went to West Oxfordshire District Council, which used the LLPG to communicate and facilitate the roll-out of a new waste scheme. Mailings to citizens were specifically targeted and led to much increased use of the council website (and hence reduction in cost) for preferences and complaints. At the same time the results provided feedback on the quality of the LLPG and were used as an exemplar to demonstrate its value to many applications.

Cambridgeshire Fire and Rescue Service won the Integration Award for their 'Golden Thread' – a real co-operation between this emergency service and all of the District LLPGs within its area. Address related queries have reduced by 80%; maintenance of the gazetteer has reduced by 103 man days per year and 85% of queries are now corrected or processed within four days. They are now offering the service to other areas.

The Street Naming and Numbering Award this year was won by Plymouth City Council which took advantage of the 70th anniversary of the Battle of Britain to name streets in developments on an ex RAF Coastal Command flying boat base and a hospital site that received a direct hit on its maternity ward. Aircraftman Shaw (better known as Lawrence of Arabia) served at RAF Mountbatten during the nineteen thirties and Catalina flying boats flew from there to guard the western approaches. The Christian names of several nurses killed in the maternity ward now live on – with the permission of their families.

And the overall winner of the 2010 Exemplar was: **Sarah Turner**, Business Solutions Manager, West Oxfordshire District Council. Congratulations to her and to everyone else involved in a really uplifting event when a lot of people were awaiting the day's other announcement with dread – the Comprehensive Spending Review.

The afternoon divided into three parallel streams, "Efficiency Savings" sponsored by Aligned Assets, "Citizen Focus", sponsored by Experian QAS and "Working Together" sponsored by GGP Systems. All three streams had three excellent speakers who really focused on the stream themes and discussed issues

Cllr Shaffaq Mohammed from Sheffield City Council presents the Technology Award to Luke Sudden, LLPG Officer, from London Borough of Harrow.



Left: the team from West Oxfordshire District Council behind the awards: Back row: Nina Hickman, Julia Hilborne, Ben Ebeling, Jane Ebeling, Guy Taylor. Front row: Sarah Turner (Business Solutions Manager) and Becky Butler (LLPG custodian and GIS Manager).



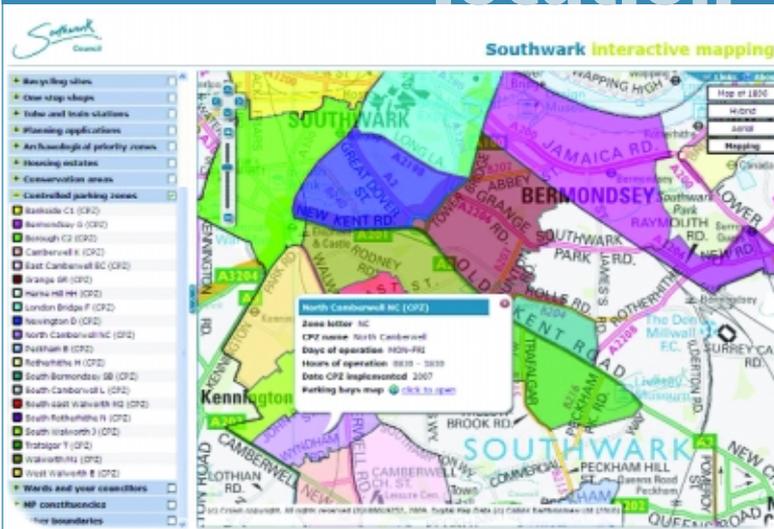
that really matter to local authorities and other organisations within local government. Twenty-two exhibitors were also in attendance with a really well designed exhibition where lunch and refreshments were served to maximise contact time. Amongst the exhibitors was the Office of National Statistics – they are of course currently merging the NLPG and the Postcode Address File from Royal Mail for next year's census. So the question is – what do Trout Catfish and Roach have to do with the census? Answers next time – but if you can't wait then go to the ONS website and have a look!

Post(office)script For those who didn't make it to Sheffield this time, you are too late to view the city from the big wheel – it is moving to Hyde Park, London, in time for Christmas. However you will still be able to play "hunt the post office" using whatever help you can get. Local residents, shopkeepers, and well-known search engines were unable to direct me to the current location of Sheffield Post Office. When I eventually found it the counter staff advised me that this is a well-known issue – they relocated several years ago from an imposing Victorian building on a main square to an ex Co-op shop a couple of blocks away with a tiny and badly signed entrance. Now just remind me why we need up-to-date gazetteers?

But my friends assure me that the real benefit of living in Sheffield is the immediate hinterland – only ten minutes to the Peak District. The jury is still out on having a multilingual local MP as deputy prime minister!

“
... well-known search engines were unable to direct me to the current location of Sheffield Post Office... remind me why we need up-to-date gazetteers?
 ”

the potential of location



Above: An example of interactive mapping from Southwark.

THE EXPLOSION OF mapping technology online has brought the potential of location to the forefront of public consciousness. With the marriage of the web, GPS and mobile 3G phones, consumers now expect to have access to live, location-sensitive information wherever they are.

Need to find the nearest leisure centre? What

public within the next six months. Based on these figures, GIS could feasibly be at the vanguard of the web-based services that councils make available to their citizens in the coming years.

But it isn't just advances in technology that are driving this change. Of equal, and perhaps greater importance, is a wider shift in attitudes around data ownership, both by governments and by society at large.

Data for all Such is the level of empowerment that both organisations and individuals receive from geographic and location-based data, that providing access to it is becoming a regulatory requirement in the public sector.

For example, the EU Inspire directive, which came into force in May 2007 with an expectation of full implementation by 2019, aims to create a European Union spatial data infrastructure, which is based upon data and metadata concerning 34 spatial data themes. The scheme will enable public sector organisations to share environmental spatial information, which will, in turn, help to facilitate public access to this data across Europe. Implementation of Inspire in the UK has been

Mapping the future – where will GIS lead local authorities?

With GIS technology developing rapidly, and high bandwidth internet access the norm, conditions are perfect for location-based data to spearhead the web services that local authorities offer their citizens. **Steve Deaville**, Head of public sector strategy at Pitney Bowes Business Insight (PBBi), looks at what we can expect to see from geospatial database systems in the coming years.

about a review of all the restaurants in a three mile radius? Where's a pub with Sky Sports? Mobile GIS, though the term isn't commonly used by consumers, is now an everyday part of life.

However, while the public sector has often pioneered developments in this area, many authorities have been slow to match the uptake of mapping in the consumer world. For councils, mapping data has long been the preserve of back office specialists, with access limited to internal departments such as housing, highways, utilities and emergency services.

New directions Yet the results of a recent survey commissioned by PBBi suggest that local authorities could be on the verge of a mapping-based revolution. The study, "Understanding the Future of GIS Usage in the UK Public Sector", was undertaken in June 2010 by K2 Advisory and surveyed 100 GIS practitioners working for local authority organisations in the UK.

Within the past six months, 44 percent of local authorities have been involved with projects to provide public access to mapping data that was previously only available internally. Even more promising, 73% of local authorities reported that they expect to provide location-based services to the

identified as a key task of Ordnance Survey, the UK's national mapping agency.

This "democratisation of data", and the changes in infrastructure needed to realise it, has huge implications not just on the way local authorities can use and share information, but on the lives of citizens themselves.

Engaging users According to the K2 study, local authorities increasingly recognise this. Nearly half (49%) of the authorities questioned saw the potential of interactive mapping services to enable "a way of demonstrating government commitment to provide improved services to, and engagement with, citizens."

This also fits in well with the Government's vision of the "Big Society", where individuals and communities are empowered to take greater responsibility for their local services and environment, and helped to help themselves. Making local authority information available online in a visual, self-service mapping format not only addresses this concept, but also has the potential to alleviate the considerable burden placed on the frontline staff tasked with answering queries from the public.



... many authorities have been slow to match the uptake of mapping in the consumer world.



Interactive mapping technology can provide the public with quick answers to “Where’s my nearest. . . ?” type of questions. For example, Waltham Forest offers map-based information on everything from marriage venues to allotments to the latest roadworks.

As well as streamlining users’ online experiences, these services can encourage better interaction between the council and public. For example, while looking for bin collection days on Harrow’s website, you may also happen upon information detailing members of your local safe neighbourhood team at the Met Police.

And these examples could be the start of something far bigger. As GIS data is increasingly standardised and shared between organisations and local authorities, the potential for previously unthought-of services, created from the marriage of seemingly disparate information, is tantalising.

Share and share alike Local authorities frequently work, and share information, with multiple subcontractors. Utility companies, refuse management firms and housing associations are all closely involved in the day-to-day operations of local authorities.

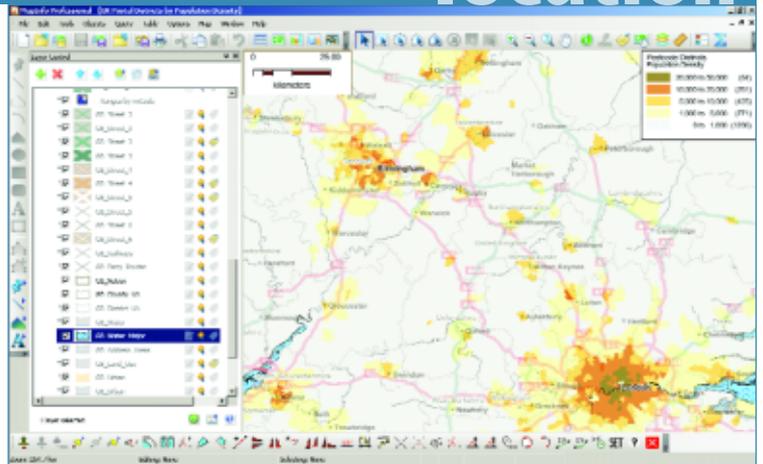
One of the key benefits of improved GIS services will be more accurate sharing of data between councils and subcontractors. Better geospatial information can simplify relationship management and help coordinate activities, such as roadworks, that are carried out by multiple firms.

The results of the K2 study bear this out. Seven out of ten local authorities reported that increased access to geospatial data speeds up decision-making when working with other organisations and/or subcontractors. Seven out of ten local authorities also found that increased use of GIS helps with forward planning as well.

On the move? For many council workers, accessing GIS data on the move could be extremely useful. Only 29% of councils currently provide mobile GIS services or applications. Nevertheless, mobile access to geospatial data has been made available in some areas, including housing services, highway inspection, vehicle tracking, woodland management, waste and cleansing, and rights of way management.

However, most local authorities are still not providing mobile access to GIS data to the public – for instance, 81% of councils do not provide citizens with applications that make use of the user’s real-time location. Although this is likely to increase over time, this rise will be tied to smartphone ownership in the general population. According to a 2009 Nielsen survey, only 12.6% of the UK population own a smartphone. The relatively small user demand, combined with the costs associated with application development, may temper the growth in usage of this aspect of GIS in local authorities.

Scope and integration When asked which service



Above: UK Postcodes by Population Density.

areas have seen the greatest increase in the application and use of geospatial data to enable better decision-making, the results were varied. Transport, traffic and highways management were reported as seeing the greatest increase, followed by flood management and emergency planning. Infrastructure and waste management were also cited.

However, the study also found that the integration of location-based data into core applications such as CRM and Enterprise Resource Planning (ERP) systems is key for around half of the authorities questioned. The 47% that have done so say it enables improved data sharing, creating a single source of information that simplifies tasks and speeds up decision-making. One GIS professional said: “GIS has enabled our CRM team to answer 90% of enquires without reference to back office staff”.

A long road ahead? The development of GIS in local authorities faces some challenges. 26% of survey participants said that integrating GIS into core business applications was not a priority. And 43% did not know why this integration was not happening. These figures suggest a general lack of education surrounding the benefits of GIS, which needs to be addressed by CIOs and IT directors in local authorities.

And although the signs are positive, the pressure to cut costs in the UK public sector could constrain the growth of GIS services in some councils. Because of this, the integration of cheaper and more practical cloud-delivered geospatial data is a likely to play key role in the development of GIS services.

Councils are often accused of being slow to adopt new technologies, but “Understanding the Future of GIS Usage in the UK Public Sector” shows that many of these organisations understand how geospatial data can simplify relationship management with the many parties they liaise with, and offer useful services to the public. The challenge for them now is to fully integrate it with their core services and processes. For most local authorities, integrating geospatial mapping technology is an important way of realising new efficiencies and increasing citizen satisfaction through easier and better sharing of location-based information.



Seven out of ten local authorities reported that increased access to geospatial data speeds up decision-making. . .





Chris Holcroft is Director and CEO of the AGI.

AS YOU READ THIS THE AGI year in terms of events and general activities will be over. We can look back in reflection and see many great achievements made in what has been a year of challenge, a year where the state of the national economy has affected most of us. What follows is not exhaustive, rather a quick glimpse at some great steps forward by the Association.

A significant change early in the year was to move to a new platform for the AGI website. The old site had become middle-aged, increasingly bloated with content and more inelegantly structured as its life-cycle progressed. Furthermore, it was expensive to run pro-rata to more modern solutions. After considering its options AGI opted for the Squarespace platform from a small but innovative company based in New York. Easy to develop, sophisticated in capability and offering good extensibility, the new look AGI website went live in early Q2 of 2010 and has since proved very popular.

Vibrant and topical events The events programme continued its theme of vibrant conferences in

In fact 98% of delegates thought the event provided value for money and 90% said it either matched or exceeded their expectations. We were highly appreciative to get a high level of sponsor support, quality speakers and enthusiastic delegates. Numbers attending were down from the heady heights of 625 in 2009, but still remained comparable with earlier years and came in at just under 500 delegates. For the first time AGI ran a GeoWeb "unconference" the day before the main conference started. Over 70 delegates attended this exciting new free-form event format dubbed "AGI W3G". AGI plans to offer a similar event next year when AGI GeoCommunity'11 moves to a new home in Nottingham. Stratford has served AGI very well and we look to our four years there fondly, but we also knew that to stay "sharp" we needed to move.

Backing UK Geo AGI has also provided sponsorship and support to a range of fellow geo organisations and events including, for example, GISRUK, OSGeo UK, IMARest, WhereCamp EU and

2010: the AGI year in perspective A significant year when the Association's influence, comments and events have gained widespread recognition. Many have worked tirelessly for AGI but another year of challenge looms, reports Director and CEO **Chris Holcroft**.

Northern Ireland, Wales and Scotland, as well as a busy series of evening networking gatherings held by the AGI Northern Group. Co-operation with the British Cartographic Society led to a "Better Mapping II" seminar in London and AGI also facilitated meetings and events for the ShareHolder Executive and the UK Location Programme. AGI additionally ran the first national conference on Location Economics in Q4 of 2010 to explore and express the ROI of using GI and GIS, and how it has a critical role in achieving "more with less". See page 10 for a report on this event.

AGI groups, for example, the Suppliers SIG, the Marine & Coastal Zone SIG, the Environment SIG and the Utilities SIG, continued to run annual events of topical interest and it was reassuring to see delegates still getting out to attend them, despite the economic downturn. Significantly too, IST/36, the AGI British Standards committee for Geographic Information, worked with AGI staff to put on an ISO/TC211 Plenary Event in Southampton, which saw around 130 international GI standards experts attend. Hearty thanks go to Ordnance Survey for throwing open their facilities for this symposium.

September's AGI GeoCommunity'10 was the fourth and final AGI Annual conference to be held in Stratford-upon-Avon and proved a great success.

UK GeoForum. In terms of formalizing joint working AGI has signed memoranda of understanding (MoU) with IMARest and the British Cartographic Society and is in discussions with others.

We were also extremely pleased and privileged to have Jack Dangermond deliver the AGI Annual Lecture at University College London, when he visited the UK in the summer. Jack spoke fondly of the AGI and recalled its founding years in the late 1980s and early 1990s.

In late November AGI again held its Annual Awards at the Royal College of Physicians in London and celebrated a bumper year of innovation in a broad range of sectors. A couple of new awards were introduced. One for achievement in the charitable sector and another for "best business case".

Inspired foresight AGI worked with a large group of notable experts to create a Foresight Study, published earlier in the year. Alongside a fascinating summary report of the state of the geospatial world in 2015, over 30 expert papers were published alongside it and can be found at: www.agi.org.uk/foresight.

AGI's work with Government has continued unabated, not only with INSPIRE and the Location Programme, but in providing a number of



... the first national conference on Location Economics... to explore and express the ROI of using GI and GIS...



consultation responses and, for example, the facilitation of meetings in relation to the Public Sector Mapping Agreement, which will go live in April 2011.

Chartered Geographer and CPD activity is very important to AGI and members can apply to the AGI at nominal cost to have their CPD activity recorded and certified each year.

The AGI Council Elections in 2010 offered eVoting for the first time ever. This seemed to stir great interest amongst AGI members who voted in higher numbers in the first two days of the election than the whole duration of previously run ballots.

After this busy year AGI can still look to the future in a viable position and with strong relevance to the UK geospatial scene. Its progress and achievements are very much down to its members who volunteer and contribute time and effort to taking the AGI forward. This year's Chairman **Andy Coote** has worked tirelessly on behalf of the Association as have the AGI's other officer holders and team of employees. Next year will inevitably be another year of challenge and one where the AGI, with a significant exposure to the public sector, will face difficulties in maintaining revenues from membership and events. Nonetheless we have plans to take the AGI through future lean years and

maintain a high level of service and activity for its members. I would appeal to all members, individual and corporate, to continue to support the AGI if they can and for non-members to join and take advantage of the unrivalled opportunities to network and acquire knowledge that AGI membership offers. Finally, may I offer a big thank you to all who have supported and contributed to the AGI in the first 21 years of its operation.



...progress and achievements are very much down to... members who volunteer and contribute time and effort to taking the AGI forward.



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 or by calling: +44 (0)20 7036 0430

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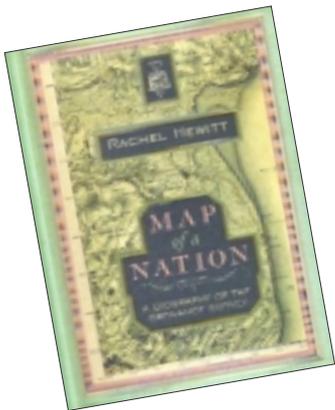
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Map of a Nation A biography of the Ordnance Survey

By Rachel Hewitt
Published by Granta, h/back £25,
ISBN978 1 84708 098 1

This highly readable and informative account of the early years of the Ordnance Survey deals mainly with the events that triggered its foundation in the mid 18th century and the early surveys in Britain and Ireland. Amongst many things you will learn of the lack of clarity over exactly when the OS came into being (1791, 1801, 1810 or even, for pedants, 1855) the influence of the French Revolution, the early political battles and the state of mapping then and in the preceding years. Unusually, the book is the author's doctoral thesis and could have done

a readable account of the events that led to the foundation of the Ordnance Survey together with the mapping agency's formative years

with some editing and reduction of the bibliographical notes, cited works and credits. It cannot be necessary for this to account for over 25% of the printed pages.

That criticism out of the way, readers will find the early chapters especially rewarding if like me your history is a bit shaky on the events surrounding the '45 Rebellion (the last battle on British soil). The pivotal but fatal role of Lord Lovatt in supporting the Pretender Charles Edward Stuart is especially well drawn. Hewitt also focuses on the many characters who played key roles in the emerging mapping agency, drawing widely on her sources to give them virisimilitude. Watson, Roy, Watson, Mudge, Dalby, Colby, Ramsden even the landscape artist and expert hachurist Sandby (recently celebrated with an exhibition at the Royal Academy) are all given fair study. The narrative gives an interesting account of how these characters had contact with and were influenced by contemporary society figures like the painter Joshua Reynolds, the novelist Matthew Arnold, the Poet Wordsworth, the mathematician and inventor Charles Babbage

(revered for his mechanical computer) and the controversial Astronomer Royal, Nevil Maskelyne,

The author captures well the trials and challenges those early surveyors had to surmount in creating the primary triangulation, especially in linking Ireland to the mainland but also in Colby's ill-fated venture with the French to measure a meridian arc as far as the Shetlands, which he had hoped to build on Roy's work with Cassini two decades earlier.

A striking aspect of the history of the OS is that it has too often in the past been distracted from its primary task. With much of England and Scotland still to complete resources were switched to Ireland, which Colby enthusiastically embraced. Meanwhile, the mainland was enjoying a burgeoning economy with factories, new estates and railways changing the landscape forever; and left unrecorded for decades. Yet another distraction occurred in 1864 when it was decided to map Palestine and Sinai (1870). Useful work for both sides in the 1914-18 war but again there was still plenty to do at home.

For surveyors who have long complained of the OS's lack of clear

and loud warnings over the dangers of scaling up digital mapping, the problem is not new. Upon completion of the six-inch survey of Ireland many landowners enlarged the maps for their estates, highlighting errors. One wonders if any builder relied on them for site plans.

The author has written a workmanlike study of the early years of the OS although perhaps does not draw enough critical conclusions. There is also little on the so-called "Interior Survey" – the secondary and tertiary triangulation and detailed mapping. This must have required enormous resources. Hardnosed surveyors and technofans may also want to skip the odd paragraph or two of poetry (the author is clearly a lover of Wordsworth whose works mentioned the progress of the OS and its surveyors Mudge and Colby). Her description of early instruments and their use seem sound enough but she is on shakier ground when it comes to the modern age with mention of mapping by "laser-driven theodolites".

I commend this book for your Christmas list but we await a similar lively account of the OS's emergence into the Edwardian era and beyond.



bluesky

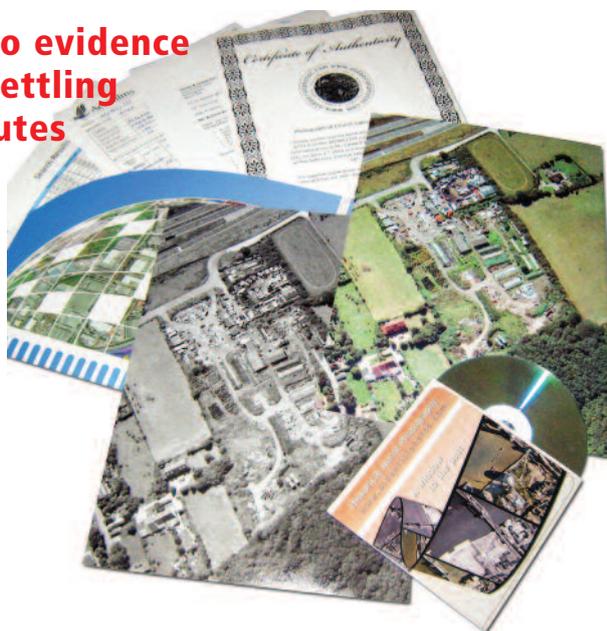
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Photo evidence for settling disputes



Bluesky has launched a new way to obtain evidence for use in boundary and other land-based disputes or studies. Priced at £175, the OldAerialPhotos photo-pack contains two digital image files; one archive aerial photograph of a location in the past and a corresponding image from the most recent aerial survey. The photo-pack also contains A4 printed versions of the aerial photos, a certificate of authenticity, a copy of the archive search details and, where available, the supporting flight report from the archive scan.

A game changer

Sized at 24 × 20 × 10cm and a weight of 5kg, Faro's Focus3D laser scanner has been hailed as a game changer. The scanner is four times lighter and five times smaller than its predecessor and comes with an intuitive touch-screen control panel similar to an iPhone. The scanner is entirely self-contained, (no external batteries or laptops) and data is compatible with most common software applications.



sensors and a 3 mega-pixel camera. The device can be supplied by UK distributors, Ormston Technology or Positioning Resources.

Mobile mapping to cms

The new MobileMapper 100 GNSS handheld for mobile mapping and data collection can deliver 1cm accuracies and comes in a lightweight 620g unit. The GIS handheld from Ashtech integrates an open operating system, built-in communications and with optional Glonass and 45 channels, it can receive more satellites. New features include: built-in GSM to allow mobile connection to web-based correction services, an electronic compass, g-

Streetmapping for GIS

A new mobile laser mapping system with an integrated panoramic camera has been launched by 3D Laser Mapping and IGI mbH. StreetMapper GIS can be mounted on any type of vehicle and collects street level asset information for use in GIS or other desktop software. The system has a single vehicle-mounted laser, enabling mapping to a range of 300m and a capacity of 300,000 measurements

per second. The integrated digital camera can capture street level images along the survey route, recording features that can be tagged directly to the GIS database. 3D Laser Mapping has also developed a suite of data management software specifically for the StreetMapper GIS.

Monitoring risk daily

A new high-resolution satellite imaging service aims to provide the oil, gas, energy and mining sector with early visibility of potential risk associated with operations. Launched by Infoterra, the AssetMonitor "Daily Response" risk management service uses satellite data such as Spot, Formosat 2 and TerraSAR-X satellites to provide imagery with a daily revisit capability, providing organisations with a clear timeline of potential drilling spills or pipeline leakage.

Centralising address data

Symphony iExchange, local land and property gazetteer connectivity software, is now available as a stand-alone module from Aligned Assets. Used in local government to centralise address data and give access to it across all departments, users can export changes in their LLPG to other systems, where the data can be imported. Also released is a subscription version of Aligned's street naming and numbering module. To find out more, visit www.aligned-assets.co.uk.

Combined CRM

A new customer relationship management (CRM) software offers better management of contact and address data by front line staff in the public sector. The software, from Aligned Assets and Optevia, a Microsoft Dynamics CRM reseller and integrator, manages contacts and related information but sources its address data from organisation's Land and Property Gazetteer. The software is based on Dynamics CRM acting as the master system for contacts and Symphony Gazetteer forming the master system for address data.

Managing NLPG data

Cadcorp has announced an application to assist its users in the management of National Land and Property Gazetteer data. The NLPG Data Loader application takes gazetteer data and builds a database with a structure to match the NLPG model. By holding address information in a structured database, it is easier to present information on people, properties and places in any GIS that can read the database directly.

BRIEFS

GGP Systems is introducing a new payment plan, called FlexiPay, for all new purchases, allowing customers to spread the cost of their software over a three or five-year period.

Postcode Anywhere has announced a new service for planning faster routes for commercial fleets, using real-world data collected by customers using TomTom devices. The service combines smart optimisation algorithms and vehicle height, weight and width data with speed profiles. For more, visit www.postcodeanywhere.co.uk.

GeoXploit version 2.0, MapMechanics' package of software and data for mapping and geographical analysis, offers up-to-date mapping with more detailed features; greater precision in identifying locations on maps; improved performance; and more detailed demographic data.

Avenza Systems has announced the release of PDF Maps (free from the Apple store): a geospatial PDF reader for Apple iOS devices including the iPhone, iPad, and iPod Touch.

Trimble has introduced new software for information extraction tailored for three mobile mapping workflows – Trident Analyst 2010 for spatial imaging; roadway signs; and GIS. The software addresses projects from network-level GIS inventories to high-accuracy CAD projects, providing users with increased capability and productivity.

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

2011

GIS in Mining & Exploration 2011

18-19 January, Grand Hotel Stockholm, Sweden.

More information: <http://gisinmining.com/Event.aspx?id=383902>

Defence Geospatial Intelligence (DGI) 2011

24-27 January, QEII Centre, London, UK.

More information: www.wbresearch.com/dgieurope/home.aspx

GEO-11: World of Geomatics and GIS Innovations

6-7 April, Holiday Inn, Elstree, UK.

More information: Email, sharon@pvpubs.demon.co.uk or www.pvpubs.com/events.php

GI4DM – GeoInformation for Disaster Management

3-8 May, Antalya, Turkey.

More information: www.gi4dm2011.org/

31st European Association of Remote Sensing Laboratories

(EARSel) Symposium 2011: Remote Sensing and Geoinformation

not only for Scientific Co-operation

30 May-2 June, Czech Technical University, Prague, Czech Republic.

More information:

www.earsel.org/symposia/2011-symposium-Prague/

The British Cartographic Society Annual Symposium:

The Power of the Image

8-10 June, Shrigley Hall, Nr. Macclesfield, Cheshire UK.

More information:

www.cartography.org.uk

25th International Cartographic Conference and the 15th General Assembly of the International Cartographic Association

3-8 July, Paris, France.

More information: www.icc2011.fr

11th International Conference on GeoComputation

20th – 22nd July, University College London, UK.

More information:

<http://standard.cege.ucl.ac.uk/workshops/Geocomputation/index.html>



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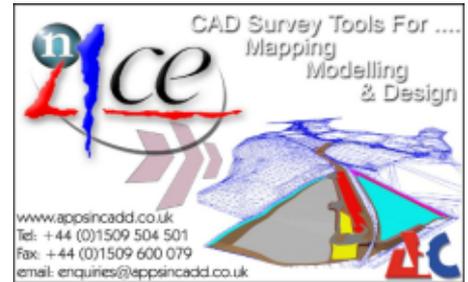


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