

GIS Professional

issue 48 : October 2012

...joining the geography jigsaw



AGI GeoCommunity – sharing the power of place

Top tips for ensuring data security

Grape expectations for viticulture!

How do you define smart location?

Smarter analytics delivers the cash

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AGI shares the power of place

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Is your GIS data secure against cyber criminals?

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Grape Expectations – from data to information

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Location Data: gaining spatially enabled assets

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Smarter Analytics – delivering the cash!

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Making location smart

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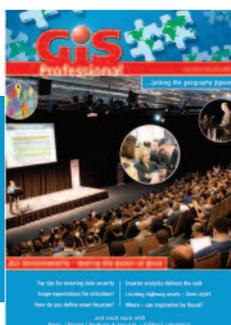
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Copy dates **Editorial:** 5 November

Advertising: 16 November

Front cover: The geocommunity converged on Nottingham to share the power of place at this year's AGI conference. With plenty of presentations and networking events to report, the *GiSPro* team rose to the challenge! See page 10 for the keynote and plenary highlights.



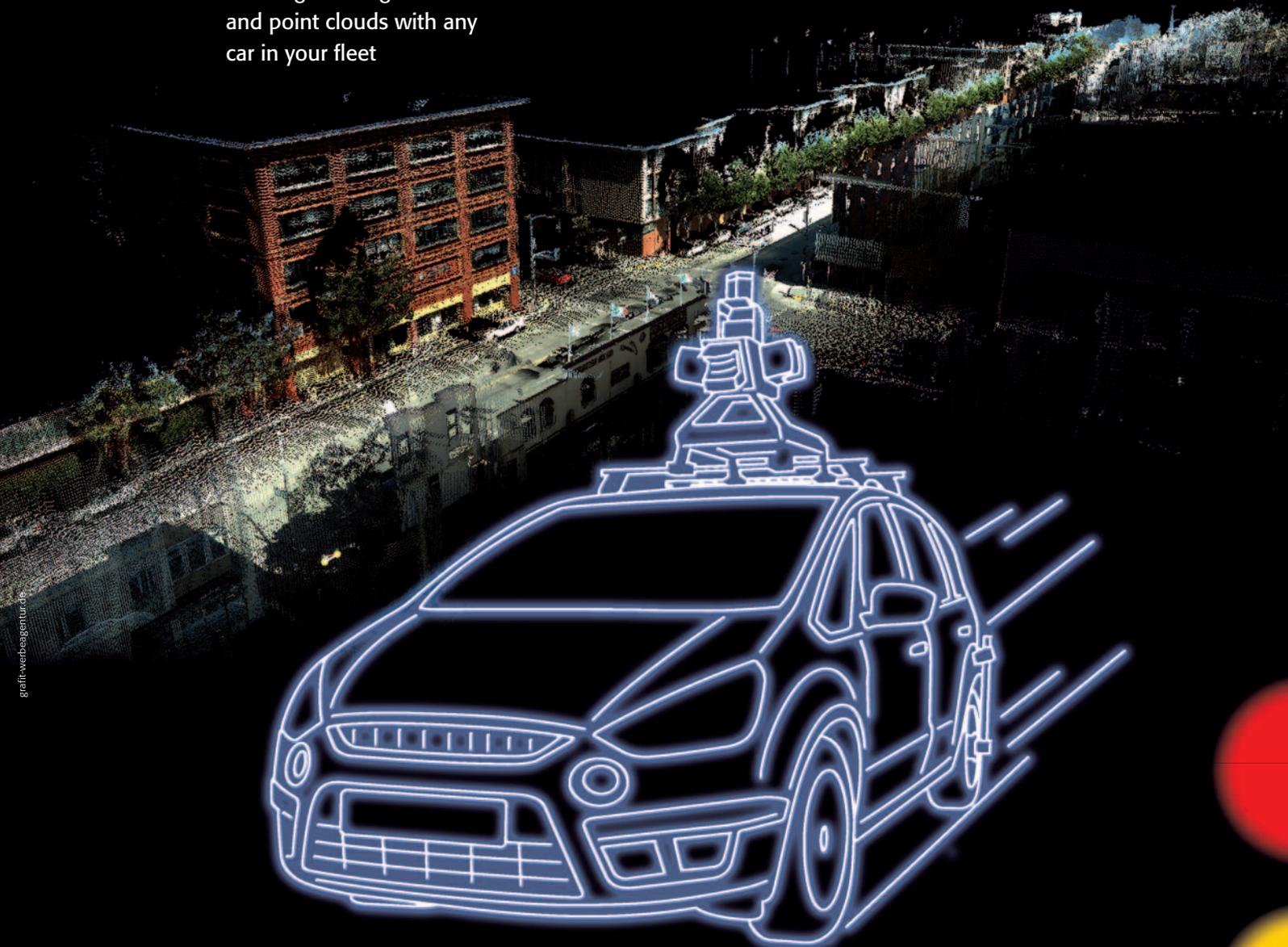
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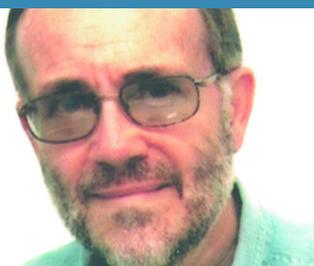
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welcome
to the October issue of *GIS Professional* . . .

From scratching on a rock to smart location!

AS ALWAYS, maps are at the centre of what GIS professionals do. But since the launch of the iPhone 5 they have rather moved centre stage. Apple's mapping technology has been found wanting, producing images such as those for a highway more akin to the aftermath of a particularly bad earthquake. The fault in this case is not tectonic but almost certainly with an algorithm, those clever little mathematical functions that can often produce incredibly erudite results or fool's gold as in Apple's case.

When he's not lambasting true believers, Richard Dawkins has argued that map-making may have been one of the earliest skills we developed as we emerged from the trees and banded together on the plains of Africa. To hunt successfully the scouting parties needed to explain to their fellows where the best beasts could be found and what better way than to draw a plan on the ground or scratch it on rock? Back then, just like Apple, some would certainly have got their mapping wrong. But little by little it improves until today we have the most advanced mapping ever seen, much of it the product of little more than 30 years of digital evolution.

We have come a long way since the plains of Africa, as Rob Walker's report on the recent wide-ranging Smart Location workshop (page 28) shows. Smart Location is the harnessing of geographic information to other information to create actionable intelligence. Wikipedia defines this as "the capacity to organise and understand complex phenomena through the use of geographic relationships". The workshop ranged from "building application-ready models of smaller spaces" (Steve Smyth) to the "smart city" (Daniele Magliocchetti), a concept that will require six other smart things to happen first.

Linked to the emerging concepts of the "internet of things" and the "internet of places" geographic information will underpin it all. GI may not be special, as some pundits claim, but it sure is going to make a lot of digital dreams come true.

This issue also highlights the challenges posed by cyber criminals (who may have cost us over \$100 billion last year alone). David Gibson offers ten tips to help protect your GIS data. Meanwhile, information management and application by everyone in the enterprise is at the core of Tony Boobier's article on how business analytics, underpinned by geographic information, are becoming essential for successful organisations.

We live in an age when we seem able to measure just about anything (there is even a book titled "How to measure anything"). Dr David Green demonstrates this well in a second article on GIS in the vineyard. He shows how by creating digital terrain models, measuring soil samples, comparing how varieties of grape thrive or otherwise, factoring in micro climates, agroclimatological and wetness indices can all contribute to better grapes and therefore better wine. I'll raise a glass to this technology!

Finally, GIS Professional is sorry to learn that AGI Director Chris Holcroft is moving on. Chris has been a stalwart supporter of ours since we launched eight years ago when he was with Cadcorp. When he joined the AGI we got to know Chris even better. Never aloof as the leader, his calm, affable and unflappable presence at conferences and events was an inspiration to all. We wish him well in his new position leading the Royal Meteorological Society and continuing (we hope) to spread the word of how GI can be applied to just about anything including the weather.

Stephen Booth, Editor

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GI may not be special, as some pundits claim, but it sure is going to make a lot of digital dreams come true.

”

LandScope secure Orbit reseller status



LandScope Engineering has been appointed an Orbit authorised reseller and training centre. ORBIT AIM3 software has been developed to view, inspect, extract and measure from and overlay content within the autoMAP mobile mapping model. This is a GIS-based software package developed for the extraction and GI management of asset data from photographic panorama data, recently enhanced to manage point cloud data embedded within the dataset. The introduction of a LiDAR aided solution, based on the Topcon IP-S2 system and format, has increased the capability and productivity rates. 'Having developed a leading mobile mapping service – based on LiDAR and photogrammetry – LandScope is working closely with Orbit GT in developing software solutions, which will enable customers to fully leverage the immense benefits of these new mapping technologies,' says LandScope Engineering's Sarah Jones. Orbit AIM3 is available as a single user licence or it can be set-up as client/server. Software maintenance, system installation and training packages are available through LandScope Engineering (www.land-scope.com / www.auto-map.co.uk).

Ordnance Survey goes international

Ordnance Survey GB has launched an international service to help other countries discover the potential of geographic information. Ordnance Survey International will provide advice and services, including data collection and maintenance, product development and geospatial data management.

The new organisation will be headed by **Steven Ramage**, former executive director at the Open Geospatial Consortium (OGC): 'Over many years I have watched Ordnance Survey invest in areas, such as open standards, closed and open source software, open data, linked data, geospatial database and data management

systems, as well as working collaboratively with partners and the wider industry. With Ordnance Survey International there is a huge opportunity for us to share this expertise and know-how with the global community, and be the 'go to' international mapping agency for advice and assistance on geospatial policy, strategy and technology topics.'

Supporting Ramage in developing new overseas opportunities will be **Carsten Roensdorf**, an international GI expert who will be located in the Middle East providing Ordnance Survey with a local presence. More about Ordnance Survey International can be read in our AGI GeoCommunity report on page 10 and Eurofile on page 20.

Cloud strategy should tackle data location

The European Cloud Computing Strategy should encourage the use of in-country data centres and promote greater transparency over data location if it is to achieve its aim of protecting cloud users' data, urges Claranet, a managed services provider.

During the lead up to the first draft of the strategy being released by the European Commission on 28 September, **Michel Robert**, UK managing director of Claranet, argued that it is important the strategy emphasises trust and transparency for customers.

'Data protection laws vary around the world, and even across European countries,' says Robert. 'Businesses have the right to know

where their sensitive and confidential information is being stored, and subsequently what protection and legislation this data is subject to. We expect and hope that the European Commission promote the benefits of, and encourage service providers to use in-country data centres for the territories in which they operate, and to make it transparent to their customers where their data is being stored.'

The draft details plans to address the regulatory framework of cloud computing and set pan-EU standards for data protection and retention, consumer protection and interoperability. With the draft just released [time of writing], Claranet reports on its website: "Industry was generally receptive of the announcements, although some have expressed a desire to see the EC not over-legislate or enforce standards in the wrong areas". More information can be found at: www.claranet.co.uk/about/news.

GeoPlace announce agenda

GeoPlace has announced the agenda for their *Everything Happens Somewhere* conference being held in London on 25 October. The conference aims to support local government address and street information specialists, together with street naming and numbering officials. All working in those professions are invited free of charge. Six sessions, repeated throughout the afternoon, will offer valuable information to delegates on topics including: how to promote address and street data within a local authority; local authority use of AddressBase; and reasons and benefits of linking VOA and PAF data to the AddressBase products.

The conference will also see the presentation of the Exemplar Awards, which recognise the vital role address and street information professionals play in local service delivery. GeoPlace has secured the backing of the Society of IT Management (Socitm), UK Location, the Local



Successful launch for SPOT 6

The SPOT 6 satellite was successfully launched on 9 September with Astrium Services posting the first images only three days after. These first images present varied landscapes, highlighting the satellite's potential for applications like urban and natural resource mapping or agricultural and environmental monitoring. The wide imaging swath (60km), like the other SPOT satellites, makes SPOT 6 an ideal tool for covering vast territories while its 1.5m resolution – against 2.5m on SPOT 5 – enables it to distinguish smaller features. In January 2014, SPOT 7 will bring more new services including daily revisits.

Image: SPOT 6 Satellite Image - Bora Bora, French Polynesia © 2012 Astrium Services.

*There is more news of companies and organisations on our website at www.pvpubs.com
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Government Association (LGA) and Ordnance Survey, as award supporters. For more information, visit www.geoplace.co.uk.

Boundary reviews go digital

The Local Government Boundary Commission for England (LGBCE) has partnered with Informed Solutions to launch its local area consultation portal. Based on the InformedCONSULT platform, the cloud-based portal transforms how the commission engages with the public on electoral boundary reviews, delivering interactive street-level mapping and allowing users to review and comment on changes in their local areas.

Alan Cogbill, chief executive of the LGBCE, explains: 'The portal makes it easier for local residents to look at our proposals at a level of detail that suits them and it will help them make the most effective case to the Commission if they want to challenge or support recommendations. It significantly increases the reach of the Commission's consultation process in a cost effective way'. To view the consultation portal, visit: <https://consultation.lgbce.org.uk>.

Strategic resource for planners

A new initiative led by MapMechanics and Barbour ABI, an

expert in gathering, processing and presenting information on UK planning applications and construction contracts, will allow business planners, strategists and analysts to view the location of future building developments on detailed maps of the surrounding area.

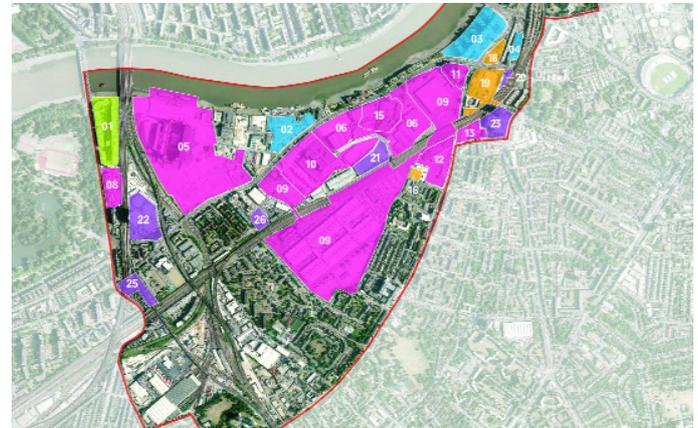
Unlike datasets showing existing developments, Barbour ABI data shows developments that are planned or under construction, enabling users to plan strategies based on complementary or competitive developments close to locations they might be targeting. MapMechanics has taken this raw data, geocoded it and grouped it by time and date to make it easy for users to show planned developments on a suitable map, selecting whatever future time frame they need. The dataset is available through MapMechanics' website, www.allmapdata.com.

CONTRACTS & PROJECTS

Bluesky gain Oblique photos

Through a partnership with Blom UK, Bluesky is now able to offer BlomOBLIQUE aerial images of hundreds of European cities with more coming online every month. The photographs, taken at an angle of approximately 45 degrees,

Photography maps London regeneration project



Aerial photography from Bluesky has been used to create an interactive map illustrating a regeneration project focusing on London's South Bank. The project aims to transform the Nine Elms district from a semi-derelict, light industrial zone into a modern residential and business district. The online map (www.nineelmslondon.com/map) provides detail for each element of the project using aerial imagery as a backdrop to highlight the position of the district within central London. 'The aerial photography supplied by Bluesky is an integral part of the map,' says Helen Fisher, Nine Elms programme director. 'It provides geographical context for each element of the project and clearly illustrates the way these 26 development sites fit together and sit within the context of central London'.

allow for sides of building to be seen and easier interpretation of the environment by non-specialist users. Applications of the oblique images include planning assessments, risk analysis, emergency

response assistance, security planning and asset management.

3D models support BIM Three dimensional models created from high-resolution aerial photography



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news & people

are supporting the use of building information modelling (BIM) on regeneration and construction projects across London. Created by Bluesky and supplied to David Miller Architects, the 3D models accurately place the projects in their real world multi-dimension context. This provides a base for the integration of other project critical data and allows the architects to manage the project and communicate with stakeholders.

'For initial conception and feasibility stage proposals, where a full scale survey of the site is neither practicable nor cost effective, but 3D information is desired, being able to obtain this level of information from Bluesky is the perfect solution,' says **David McMahon**, senior architect at David Miller Architects.

The 3D data is integrated into the company's 3D BIM software to help determine the extents and

possible constraints of the site.

Malmö opts for BlomSTREET

Blom has captured over 300,000 BlomSTREET single street view images for the City of Malmö, Sweden. 'The City Planning and Road Department currently use the imagery in their operations but we envisage that all departments will soon benefit from this versatile product,' says **Allan Almqvist**, city engineer for the City of Malmö.

Almqvist adds: 'Blom has provided the tools to integrate BlomSTREET into our general mapping portal, Malmö City Atlas. This means that all of our geographical data is visible within the same system, combining with our existing maps, orthophotos, oblique images and now street views. This vastly reduces training costs and makes it extremely easy for any of our employees to use the data'.



New post for Chris Holcroft

The Association for Geographic Information (AGI) has announced the resignation of Chris Holcroft as chief executive and director of the association. Following his successful application, Chris has accepted the role of chief executive for the Royal Meteorological Society. During his six years as chief executive of AGI, Chris has, in partnership with the AGI team and council, ensured that the organisation has strengthened its reputation as the leading professional organisation for the GI industry and a respected voice within government and beyond. He will remain with the AGI until the middle of October. Then Peter Capell, described as 'a well experienced figure in the AGI' by Chris, will join the AGI as director and CEO for an interim period. Don't miss Chris' "sign off" to you in his last AGI column for *GiSPro* on page 32.

BRIEFS

con terra GmbH, a specialist in products for building spatial data infrastructures, has announced that Esri CIS, distributor of Esri software products in Russia and the Commonwealth of Independent States (CIS), is now an sdi.suite reseller.

London Mapping Festival is hosting a charity dinner and auction to raise funds for disaster mapping charity, MapAction. The black tie dinner will take place at the East Wintergarden at Canary Wharf, London, 10 January 2013. More information: www.londonmappingfestival.org/charitydinner.

Cadcorp has formed a partnership with Belgrade-based geomatics specialist, MapSoft Ltd. MapSoft will promote the Cadcorp Spatial Information System software as a complement to its data capture product, which is deployed in Serbia, the Republic of Srpska, Macedonia, and Montenegro.

PEOPLE

Envitia grows defence team **Andrew Cullington** has joined Envitia as geospatial intelligence consultant and will be responsible for providing expertise to customers on spatial data infrastructures, SOA (service oriented architectures),

web services and specialist GIS technologies. He joins from General Dynamics UK where he was head of modelling and simulation.

Also, **Mark Richardson** has been appointed as business development manager, responsible for the development of the defence solutions and geospatial research business. Richardson has over ten years experience working in the Ministry of Defence (MOD) as an operational analyst and a policy officer. He also led the acquisition of geospatial intelligence software and supporting systems to frontline forces in Afghanistan. Most recently, he was a political adviser to the commander and British deputy commander for the NATO operation over Libya.

Manager for German branch Avineon Europe, a provider of information technology, geospatial and engineering support services, has appointed **Hans Dietrich** as business development manager for Germany, Austria, and Switzerland following its recent branch opening in Düsseldorf, Germany. Dietrich will establish the branch in Germany to better support customers in central Europe. He has over twenty years of experience in sales, consulting, and project management roles in the geospatial industry.



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WHY ARE LOCAL OFFICIALS in Queensland, Australia talking about the state's "second capital" Townsville, not being on weather maps? Why is a motorcycle and car dealer in Muncie, Indiana getting space in the local paper to explain how satnavs are unaware of a six-year old street name change? Why are people still driving their cars into railroad crossings and lakes following automated driving directions? All of these situations are outgrowths of the increasing ubiquity of maps.

Are map users stuck between phases? Two sets of transitions are taking place at roughly the same time:

- 1) **The technology is changing; and**
- 2) **The people using the technology are becoming more familiar with that technology.**

The user transition, I suggest, is broken into three phases. First, map and service users have to be

the revenue stream after the initial purchase. It took about the same amount of time for them to implement reasonably "easy" ways for users to help update the maps via crowdsourcing.

A visit to the home pages of two major commercial map data players (Nokia Maps and TomTom) reveal it takes some digging to learn how to submit suggested updates. Google, which hosts its own databases for many parts of the world includes a tiny "Report a Problem" link on its maps. These choices suggest to me that user input on maps has not been a priority for any of these companies. (OpenStreetMap is 100% crowdsourced, so that's quite a different animal.)

**People are Lazy
(and need a reason to engage)**

The principle of least effort applies to taking action in all areas of human endeavour, including updating maps. In short, most people don't bother.

Capturing map user frustration for good

Frustration by users of satnavs and mobile mapping devices could be inhibiting take up. Could marketers be at the route of the problem, questions **Adena Schutzberg?**

aware of the new offerings. Maybe a businessman rented a car and used NeverLost¹ for the first time and later installed a satnav in the family car. Second, users have to become familiar enough with the maps, services and devices to note their shortcomings and become frustrated. Unhappy users might yell at the satnav or toss it out the window. Third, and most importantly, users might take action to make the situation better.

If I had to take a guess at where the world's maps users are, on average, within these phases, I'd put it squarely between the second and third. Users are definitely frustrated, as evidenced by the amount of real and electronic ink needed to document stories like those above. However, those users are only slowly choosing to act responsibly on that frustration.

My prediction is that we'll be stuck in this in-between place for some time. Why?

**Marketers are good at marketing products
(but not the rest of the relationship)**

Makers of satnav devices and mapping apps have done their jobs well. From what I can see, satnavs (personal, in-car or on a mobile device) are pretty much required technology worldwide. However, it took years for satnav and app makers to nail down how to provide map updates to users and continue

But, some clever players are enticing action: Waze, foursquare and other mapping services use deals, games and prizes to get users to actively submit or passively collect data for their databases. (As I submit this article rumours swirl about Facebook acquiring Waze.)

Data + Context = Information = Action? Is there any good news about where we are along this path? There is. To paraphrase James Burke, the science historian, the difference between data and information is that the latter is in context. Further, he argues, data in context, aka information, causes action. That action may be simply to learn more about the data or service. It might be, if the principle of least effort is overcome, to report a correction to a data provider or teach a new driver not to trust the GPS at all times. Part of our job, as GIS professionals, is to help guide that action to its highest and best use. In short, stories like those above, that happen every day, are our teachable moments.

1) NeverLost is an online trip planning website from car rental corporation, Hertz. It allows customers to pre-plan trips for both business and leisure; information can be downloaded to the Hertz NeverLost navigation system. www.neverlost.com

“

... the home pages of two major commercial map data players. . . reveal it takes some digging to learn how to submit suggested updates.

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AGI GeoCommunity report



More delegates were welcomed to the conference this year, with plenty of choice between workshops, presentations and the exhibition hall.

"PROMOTING GI FOR THE BENEFIT OF THE NATION". Having now attended every GeoCommunity since the conference "rebirth" six years ago, I note that it is something of a tradition to hear about the AGI's mission from **Chris Holcroft** in the conference welcome. And why not? As many speakers emphasised over the course of the event in September, there are plenty of opportunities to build GI's reputation out

A towering challenge The conference was delivered for the second time at the East Midlands Conference Centre at Nottingham University, where delegates could visit the exhibition, "hands-on" training sessions as well as the main conference. Robin, Neil and I were in place at the pre-conference ice-breaker – regular goers will be familiar with Alan's quiz, so I feel justified in boasting that our table had the pleasure of winning one round! We were entertained by The Nottingham Jazz Quartet, as a challenge was issued to each table to build the highest tower out of spaghetti sticks and marshmallows. Let's just say that much of the ensuing "engineering work" would not have looked out of place at the Tate Modern.

The next day, the main conference began with no less than 11 different streams, from emerging technologies to social geography, to BIM and the cloud. So successfully did the AGI team deliver on its promise of a 'strong and exciting' programme, that the *GiSPro* team has decided to focus on the plenary and keynote presentations this issue and report in more detail on the conference streams in December.

Sharing the power of place A successful conference and a sad goodbye – **Hayley Tear, Neil Waghorn** and **Robin Waters** report on this year's AGI GeoCommunity. With a plethora of streams to cover, the *GiSPro* team concentrate on plenary and keynote sessions this issue with more detailed session highlights to follow.

there but everything must begin with us – sharing the power of place with the wider world. A mission well worth being reminded about, but especially worthwhile this year as it is the last time delegates will hear it from Chris as he has now moved on to his new role as chief executive of the Royal Meteorological Society. He leaves on a high as we understand that delegate numbers were up and sponsorship support was higher than in 2011. Don't miss Chris' "sign-off" to you in his AGI Column on page 32.

The life blood of cities Our first plenary was delivered by **Tim Stonor**, managing director of strategic consulting firm Space Syntax Ltd, and was entitled "Measure, map, model, make". He urged people to especially focus on making use of GI. Stonor works in the analysis of human behaviour in buildings and urban areas, exploring how "social, economic and environmental value is created by the movement, interaction and transaction of people in space". What is a city for, he asked? To create congestion? Surely not, but 'arguably, congestion is the largest human result

AGI GEOCOMMUNITY DAY ONE – HIGHLIGHTS by Robin Waters

"SLUMS ARE JUST UNPLANNED CITIES"

Tim Stonor gave a brilliant presentation, including subtitles in Chinese – a first for AGI. Was it caused by the presence of China Telecom or serendipity? Cities are attractive for "transactions" – for social, economic and cultural reasons. However, there is a tension between 'managed' and 'organic' growth. But Tim explained a graph theory that can handle this, predicting between 60-80% of all likely movement using a very simple model. This has huge implications for the planning of retail areas; for the prediction (and therefore reduction) of crime; and – almost by corollary – the relative value of property. Tim also pointed out that it is not only data that is in silos – but the professions themselves. Planners, transport engineers, sociologists etc do not work well enough together. Examples of what works – Paris v Jeddah. The mayor of the latter has now asked for a 'humble' city – and left exactly what that means to the experts! Tim also pointed out that a single well-presented image of a future scenario can easily "sell" a project to everyone concerned.

Next, a barnstorming performance by an actor on the world stage. Vanessa Lawrence claims that 'reliable geographic information' was embedded in Nick Clegg's address to the Rio +20 summit this summer. She also said that China has a five-year plan for geospatial with several Geospatial Business Parks and a predicted £18bn annual turnover!! Plus, an interesting comment on the use of 'debris lines' for the tracing of the flood limits in Queensland – it would be interesting to see how close these were to the flood prediction maps. Lawrence is also now co-chair of the UN GGIM initiative and suggested we all look at a 'Future Trends' paper from them. Quote: GI is analytical super-food and 'government assured spatial data' should be trusted as much as 'water from the tap'. This may not be a good analogy for some parts of the world!! Ordnance Survey International (OSI) was mentioned with the first office in the British embassy in Dubai – and OS will involve industry in this initiative. Apparently, they received a lot of representations about OSI within a couple of weeks.



There was plenty of time for delegates to network (above) during the AGI GeoCommunity conference.

other than air pollution'. He looked at the phenomenon of the slum and congestion – 'two great problems of humanity' – and argued that we should focus on slums as much as on our rich cities. 'When cities work well, they bring people together' – look at the social, economic and cultural transaction in London, he continued, 'we live in cities for these moments not to sit in traffic'.

Stonor then apologised for the grim feel of our first morning session! But, he insisted, we can do so much better. He proceeded to explain the power of space in affecting people's movement – the layout of a building or indeed a city affects human behaviour and "movement is the life blood of cities". It is the same for slums and cities – often planners over complicate things, e.g. different zones for specific buildings, and this leads to less spatially successful towns with disconnected communities that criminals such as burglars can exploit.

He concluded with a project example – Trafalgar Square, back when the square used to be separated from the National Gallery by the wall. Londoners tended to walk around the outer area of the square and government wanted to get more crowds at its heart. Research was needed to justify changing this historically sensitive environment but, says Stonor, it worked – simply adding a stairway changed human behaviour and it's now a meeting place for crowds of people.

Power of reputation Our next speaker was **Vanessa Lawrence**, director general and chief executive of Ordnance Survey, who sought to give a global perspective on the power of place from her own considerable experience of visiting conferences and meetings abroad. 'We are relatively small here in the UK but what we do have is the power of our reputation'.

She gave a speech at the United Nations' RIO+20 Summit and found many politicians knew about spatial information and understood its importance. She added that in **Nick Clegg's** speech he, as with all politicians, had five minutes and followed **Hilary Clinton**, but chose to mention geospatial information.

According to Lawrence, China sees a growing geospatial industry as an important aspect of a leading country while, following the floods in Queensland, GI has an increased profile in Australia. She also argued that we should be proud that MapAction is based in Britain and can deploy in 24-hours to an emergency, showing the importance of mapping support as they go. She also

mentioned the United Nations GGIM initiative set up to tackle what is seen as a "significant gap" in the management of geospatial information globally.

Finally, Lawrence didn't miss the interest in the launch of Ordnance Survey International – she described it as government to government work that will still involve the industry – there have been over 1000 approaches from industry, says Lawrence, since the recent announcement. She asked for patience since OSI is still new – but assured delegates that the industry will be involved. More on OSI can be read in Robin Waters' Eurofile column on page 20.

Did planners muck up British cities in the 60s?

After these presentations, questions followed – one delegate wondered what analysis, if any, has been done on pre- and post-Olympic impact on London. Vanessa Lawrence answered that it was still a bit too early for proper analysis but felt sure that benefits will become apparent. While Tim Stonor argued that there is a huge potential for urban renovation but that 'we're in transformation right now, years before full emergence'.

Another delegate didn't hold back – 'did planners in the 60s muck up British cities?' Tim replied that there was a well intended drive to renew infrastructure but that it was a car-centric approach. Mistakes were made because we focused too much on movement and not enough on transaction but, he argued, we are 'unpicking mistakes and re-stitching now'.

After a full day of conference, evening fell on the AGI GeoCommunity party – this year with a theme of crowns and tiaras! There was plenty of opportunity to relax and network with a gladiator joust, casino tables and karaoke. The next day, it was distinctly quieter in the breakfast room and I saw a number of delegates hastily slurping at coffee before we all sat down for the morning's presentations. I will leave you with Neil Waghorn's report on day two's plenary/keynote sessions but needless to say the speakers expertly dealt with their post-party audience!

Day two: revisiting the Olympics In the warm afterglow of an exceptionally successful Olympic and Paralympic Games, several keynote presentations on the geospatial aspect of the Games were well received. **Andrew Watson**, deputy director of information, Metropolitan Police, gave us an overview of MetMap, the geospatial portal designed to bring

And what better way to break the ice before the conference proper than a challenge to build the highest tower from spaghetti sticks and marshmallows! Sadly, the GiSPro team (middle) decided it might be best to leave structural planning to the experts (far left).



... look at the social, economic and cultural transaction in London, he continued, 'we live in cities for these moments not to sit in traffic'.



AGI GeoCommunity report

together all possible geospatial information for the Metropolitan Police and emergency services.

One unusual nugget of information to come out of the presentation was that the MetMap had to include two basemaps: one for units on the ground and a separate one for police helicopters. The helicopters got a second mention later due to a slightly unorthodox way of getting some aerial imagery of areas. Rather than going through long application processes to fly imagery planes across London, as the Ordnance Survey has to do, the police helicopters were utilised on a 'well since your flying over the area anyway. . . do you mind leaning out and taking a few pictures?' kind of way.

Continuing the Olympic theme, a joint presentation from **Carl Turner**, Olympic Delivery Authority (ODA), **Shaun Bennett**, London Organising Committee of the Olympic and Paralympic Games (LOCOG), and **Richard Hartley**, Transport for London (TfL), started with a feel good video of moments from the Games which, judging from tweets afterwards, made a few audience eyes teary.

We were given an interesting overview of all the geospatial aspects of the Games, from mapping to traffic monitoring. There were definitely times when residents of London and the South East were sceptical that the transport plans would work. It's probably fair to say that some residents were dreading the Olympics and the carnage that it would surely bring, (although there is

nothing like comments from **Mitt Romney** to boost faith that everything would be alright on the day). The presentation went some way to explaining how the teams managed to pull off this impressive feat.

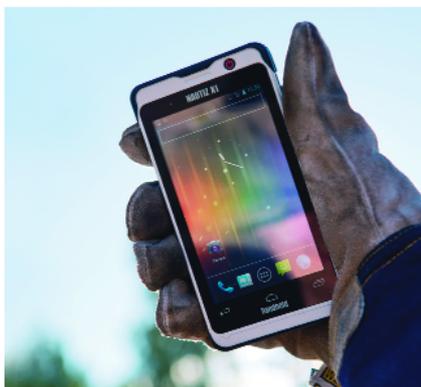
Audience members were impressed at the lengths that the organisations had gone to ensure smooth running, including specialised satnavs for the buses and official vehicles which were updated with real-time traffic feeds to allow effective alternate route planning.

Simplifying GIS **Charles Kennelly**, Esri UK, talked about the need to simplify GIS to allow greater accessibility. A key example to illustrate this point was the contrast between professional music software and an exceptionally simple version for a smartphone with a few options instead of hundreds. The app was initially criticised by the music industry media before they slowly accepted that it acted as a first step into the industry. Charles argued that this resistance in the music industry is the same within the GIS community, with inertia and pre-existing expectations preventing the simplification of software. Just because GIS software can offer the user 300 options and layers in an exceptionally complicated layout, it doesn't have to – 80% of users only use 20% of the functionality.

• **AGI GeoCommunity'13 will take place on 16-18 September 2013 at the East Midlands Conference Centre.**

“ . . . police helicopters were utilised on a 'well since your flying over the area anyway. . . do you mind leaning out and taking a few pictures?' kind of way. ”

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case study Promark in Mali



Above: Reference station during the survey of the Zégoua Sikasso road (95km) in Mali as well as (left) survey work in Chad.

THE EXTRAORDINARY Inner Niger River Delta, also known as the Macina, is a 1.8 million hectare oasis of lakes and floodplains in the heart of landlocked Mali in West Africa. The Atlantic Ocean is 800 miles to the south but the Sahara desert is much closer to the north. The Macina has great potential for irrigated agriculture in the middle of the notoriously dry Sahel region. CIRA,

quickly as possible to meet a very short eight-month contractual time for the complete study. Initially, it was thought that the use of aerial photography combined with LIDAR would be the best method, but setting this up would have taken too long, according to a CIRA spokesperson. Instead they chose to employ differential GNSS, using base and rovers working in real-time

Macina in Mali: surveying an inland delta

West African consulting engineers, CIRA, has completed a survey of 25,000 hectares of the Inner Niger River Delta equipped with ProMark GNSS technology.

a major West African consulting engineering firm, has completed the survey of an additional 25,000 hectares of the delta for hydro-agriculture development. The work was carried out on behalf of the Office du Niger, a quasi-governmental Mali company that manages more than 100,000 hectares of irrigated delta land.

Expectations – and deadline – met For two months during the last dry season, two CIRA survey teams completed the entire 25,000 hectare survey. Each team was equipped with three ProMark 500s - a base station and two rovers connected via UHF and collecting four points per hectare in x,y and z to produce a digital terrain model. This enabled the production of rough pre-study plans with detailed pre-project CAD drawings for drainage, irrigation canals and related infrastructure.

The land survey study had to be completed as

kinematic mode. CIRA's experience suggested they would achieve reliable results and in a much shorter time than the alternative ground based possibility of using optical total stations. CIRA elected to use Ashtech ProMark 500 GNSS receivers for the project. Experience had shown that these were easy to set up and use, light in weight, offered long battery life in the bush, and field-to-office data transfer would be straightforward. Their expectations were met, and the job was completed within two months and on time.

• **Created in 1991, CIRA is an engineering and applied research consulting firm working in transportation, hydraulics, civil engineering and the environment. Based in Bamako, Mali, the firm works in more than 15 African countries, primarily in West Africa, Central Africa and East Africa.**



The ProMark GNSS Range

The ProMark 100 is best used for L1 post-processed surveys; ProMark 200 allows the use of multi-frequency real-time kinematic techniques. To use multiple constellations or to work in harsh environment, the Spectra Precision ProMark handheld receiver as a controller and the ProMark 800 smart antenna powered with Ashtech Z-Blade technology is also a solution.

The ProMark accuracy, advanced multi-path mitigation and ruggedness enable better productivity and profitability. With the new ProMark 800 in addition to ProMark 100 and 200 receivers, Spectra Precision offers a complete range of GNSS products to meet each land surveyor's individual needs, style and budget.

Left: Set up and configuration of a rover for the survey of 13 000 ha of Plains Kogoni in Mali.

data security



It is more important than ever to ensure the security of sensitive data – already massive amounts of geocoded data are growing at a rate of approx. one exabyte per day.

THE 2011 IDC DIGITAL UNIVERSE study¹ forecast that in 2011 alone 1.8 zettabytes (or 1.8 trillion gigabytes) of data would be created. Over the next decade, the number of servers managing the world's data centres will grow tenfold and the world's data will grow by a factor of 50.

The geospatial community has previously had a quite narrow definition of what it considered to be geographic data. But rapidly advancing technologies such as GPS, smartphones, sensor networks, cloud computing, etc., have transformed the collection,

Prevent a data catastrophe Over 23 million records containing personally identifiable information were leaked in 2011 alone (*source: privacyrights.org*). It is more important than ever for organisations to ensure the security of sensitive data. Keeping up with data growth and preventing a data catastrophe may seem insurmountable with existing IT resources – imagine how it will be in a few years without any additional skilled staff.

Users can search through Google maps for traditional spatial/map information as well as almost any type of digital information (e.g., Wikipedia entries, Flickr photos, YouTube videos, Facebook/Twitter postings, etc.) as long as it is geotagged. In contrast to the traditional top-down 'authorised' processes of government data production, many commercial enterprises or private individuals are now producing geographic data of all types using bottom-up, crowdsourced and/or volunteering processes.

Geocoded data are growing at a rate of approximately one exabyte per day. We now have the capability to track everything in real time. It is not therefore surprising that this has gone to the top of government and industry agendas. It also has another, more sinister, aspect — hackers have been attracted to geographic data like everyone else but sometimes with malevolent motives.

Ten tips to ensure the security of your GIS data

Governments everywhere are stepping up their war against cyber criminals. Norton's annual cybercrime report claims that in the last year cybercrime has cost over \$110 billion internationally and has major implications for all businesses. **David Gibson**, VP of Marketing at Varonis, offers top tips to prevent a data catastrophe.

storage, dissemination, analysis and visualisation of geographic information. There is now much more of it!

The IDC study says that "While 75% of the information in the digital universe is generated by individuals, enterprises have some liability for 80% of information in the digital universe at some point in its digital life," and, "Only about half the information that should be protected is protected".

Adequate data security requires that an organisation needs to be able to answer basic questions about data. For any dataset: "who has access to it, who is accessing it, who should have access to it, who owns it, when was the last time access was reviewed, which data is critical, and where is critical data overexposed?"

For any individual within the organisation you should be able to answer similar questions: "what data do they have access to and what data have they accessed over the last 30 days?" Each unanswered question represents an opportunity to improve your security.

It is an uncomfortable fact that the complexity of managing data is growing faster than the resources available within the majority of organisations. The world is also running out of skilled IT personnel to deal with this tsunami of data. So, how can the average organisation prevent a data catastrophe?

GIS datasets are often of great value to national security and great damage can result if it falls into the wrong hands. These datasets describe details of critical infrastructures of any region and may include up-to-date high-resolution aerial photography normally used in areas such as public safety, emergency management, assessments of environmental impact, health data analysis, and economic development. Some of this information has to be protected to the highest degree against hackers and malicious insiders. These datasets also assist in law enforcement, emergency preparedness, civilian disaster planning and incident management. If this information were to be maliciously altered or deleted it could lead to chaos in the case of natural or man-made disasters – from floods and earthquakes to plane crashes or motorway pile-ups.

Steps to protect your data Now, with recent advances in the automation of data governance, here are ten simple steps to prevent data from being misused or stolen:

1) Data Access Audit

The first step towards getting your data under control and averting disaster is to properly audit all data access activity. Then you can easily determine who is doing



Keeping up with data growth. . . may seem insurmountable with existing IT resources – imagine how it will be in a few years without any additional skilled staff.



what with your data and find out “who deleted my files”, “what data is someone using”, or “which data is stale”. Auditing also provides the data needed to determine who owns a dataset so that they can be involved in deciding who should have access.

2) Inventory Permissions and Group Memberships

All too often people gain access to more and more data over time, but that access is rarely, if ever, revoked – even as changing roles obviate the original needs. A full inventory of permissions for data stores and folders will take time, especially if done manually. This can now be automated. By combining permissions data with group memberships, you will see who has permission to access each file or folder. This forms the foundation for cleaning up permissions.

3) Prioritise vulnerable data

While all data needs to be protected, not all data is created equal. There may be confidential corporate information; customer or partner data; perhaps credit card numbers; perhaps national insurance numbers. Some data is sensitive and needs extra protection. By analysing data to identify sensitive content and combining that data with other relevant metadata you will be able to locate files and folders where sensitive data is overexposed. A good tool will enable you to prioritise data that is most vulnerable which can then be protected immediately.

4) Remove global access groups and revoke broad access rights

Many organisations will have access controls that have been in place for years and often data is open to global access groups like “Everyone”. Even if this exposed data isn’t sensitive or confidential, excessively broad access controls invite trouble. Removing global access groups helps ensure that only the right people see any particular dataset. Aligning data to the right users becomes much easier. However, it will be unwise to remove these groups without a plan for restoring access to those who have a real need. The right technologies will enable you to test changes to see and evaluate any impact on business processes before committing them to a production environment.

5) Identify Data Owners

Now is the time to identify owners of individual datasets and decide who is qualified to make access decisions. The appropriate owner (or custodian) will often be one of the active users of that data, or their immediate supervisor. Automation can reduce the time taken to identify data owners, by analysing access activity over time. Ideally, only data owners should decide who is allowed access to their data – IT departments should only act as facilitators. Data owners are also often qualified to review stale data that can be archived.

6) Perform Entitlement Reviews

Regular entitlement reviews provide an effective way to make sure that data access permissions are always up to

date. As organisations change and new datasets are created, access permissions must be regularly updated and aligned with current business needs. Data owners should be involved and time-consuming manual parts of the entitlement review process can be automated. Data owners can be prompted to conduct reviews at pre-defined intervals, and provided with recommendations about which users look like they no longer require access to their data.

7) Align Security Groups with Data

Where access to data is controlled by security groups, it is critical that the groups themselves are properly aligned with the datasets they’re meant to protect. But roles change, groups are created for special circumstances but not reviewed, and it is very easy get into a mess. Re-aligning of groups and datasets can now be automated very easily.

8) Audit Permissions and Group Membership Changes

Cleaning up permissions and group memberships is critical, but keeping everything in order is impossible without an audit trail of changes over time. Only by tracking all permissions and group membership changes can you be sure that only the right people continue to have access to your datasets. Enforcing access controls is simply impossible without a record of all the daily changes. If inappropriate access or group membership is granted, an audit trail of who made the change and when can help ensure that it doesn’t happen again.

9) Lock down, delete or archive stale data

Stale data may clog up vast amounts of storage space; make it harder to manage; require additional expenditure on hardware and increase the risk of it being misused. Automated processes can analyse access activity and identify any data that is not being used. Once the data owner confirms that the data is indeed stale and no longer needed, it may be archived or deleted.

10) Clean up stale groups and access control lists

Unnecessary complexity slows performance and makes mistakes more likely. Many groups are empty, unused or redundant. Some groups are nested to several levels which may even contain circular references. Access control lists often contain references to previously deleted users and groups. These legacy groups and misconfigured access control objects should be identified and remediated to improve both performance and security.

Constant vigilance and automation must be the watchwords given the myriad number of threats which are now part of the IT security landscape. However, following the top ten tips above will make your organisation a safer place to do business and a less obvious target for hackers or malevolent insiders bent on stealing your secrets.

References:

1) IDC Digital Universe study <http://www.emc.com/collateral/analyst-reports/idc-extracting-value-from-chaos-ar.pdf>



Stale data may clog up vast amounts of storage space... require additional expenditure on hardware and increases the risk of it being misused.



About the Author



David Gibson has been in the IT industry for over fifteen years with experience in data governance, network management & security and system administration. As VP of Strategy at Varonis Systems he oversees product marketing and, as a former technical consultant, has helped companies design and implement enterprise network architectures, VPN solutions, enterprise security solutions, and enterprise management systems. He is a Certified Information Systems Security Professional (CISSP). www.varonis.com



The vineyard of Camel Valley (above) and (left) Chilford Hall.

THE AVAILABILITY OF LOW-COST microprocessor technology and GIS software have made the acquisition and processing of spatial data more affordable and practical for the small-scale vineyard.

agroclimatological indices (e.g. Sum of Active Temperature, Growing Degree Days) from the closest weather stations to recommend vine varieties for different sites. Discrete measurements,

Grape Expectations: 'Terroir' explained – collecting, characterising and analysing spatio-temporal data in a small vineyard

Continuing on from his first article in our June issue in which he explained how GIS guided by satellite navigation is helping vineyard owners, **David R. Green** with **Mariusz Szymanowski** of University of Wroclaw, now explains how the processing of spatial data in to information can provide new insight into where different grape varieties will grow most successfully.

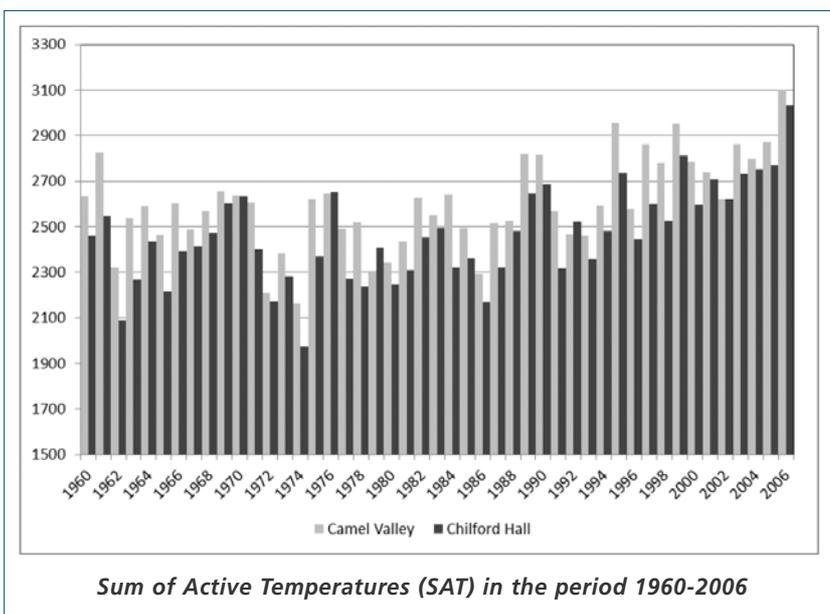
Publicly accessible meteorological and climatological data can be processed relatively easily and combined with data collected in the vineyard. Climate analysis is enhanced using basic

such as soil samples (pH and moisture), and continuous 'surfaces' such as terrain models (DTMs) with their derivative slope, aspect, and curvature surfaces can then provide Topographic Position & Wetness Indices (TPI & TWI), as well as measures of potential irradiation. Further analyses of attributes can then classify different types of Terroir using aspatial cluster analysis, and indicator Kriging with sample points.

Cambis v Cornwall As an example, calculations based on gridded data acquired from the UK Climate Projections programme (UKCIP09) were made for two vineyard sites – Chilford Hall in Cambridgeshire, and Camel Valley in Cornwall.

Temperature statistics for the growing season (April-October)

Table 1 shows the mean temperature for the growing season in both vineyards, which limits the choice of vine varieties (see Amerine & Winkler 1944). Comparison with the grape varieties grown at Chilford Hall and Camel Valley shows them to be suited to cooler climates.



The Latitude-Temperature Index (LTI)

The Latitude Temperature Index (LTI) is often used to determine areas suitable for viticulture and to compare regions located at different latitudes. It is based on the latitude and mean temperature of the warmest month (T_{WM}) and is a proxy indicator of the amount of solar energy that areas are likely to receive during the growing season. For the study sites, the mean temperature for July, usually the warmest month, has been used for the calculation of the LTI (Table 2):

$$LTI = T_{WM} * (60 - \text{latitude})$$

Four climatic zones can be distinguished for grape cultivation. The two study vineyards fall into zone A with an LTI of less than 190.

Sum of Active Temperatures (SAT)

SAT is calculated as:

$$SAT = \sum_{1.04}^{31.10} \frac{T_{max} + T_{min}}{2} \text{ for } \frac{T_{max} + T_{min}}{2} \geq 10^{\circ}\text{C}$$

and is the sum of mean daily temperatures equal to or higher than 10°C for the period 1st Apr – 31st Oct. SAT is considered to be one of the most important thermal parameters in agroclimatology in general, as well as in viticulture. It should be equal to or higher than 2500°C for a vineyard. Each grape variety has its own minimum average SAT value required during the growing season. Chilford Hall falls into the early ripening category and the Camel Valley into the moderately early ripening category (Table 3).

Vineyard	Average	Max	Min
Chilford Hall	13.1	15.1	11.8
Camel Valley	13.4	15.1	12.2

Table 1. Mean temperature of vegetation season in the period 1960-2006

Vineyard	Average	Max	Min
Chilford Hall	130.3	162.4	130.3
Camel Valley	155.3	184.7	138.3

Table 2 Latitude-Temperature Index (LTI) in the period 1960-2006

Vineyard	Average	Max	Min
Chilford Hall	2464.1	3033.1	1974.8
Camel Valley	2602.6	3101.7	2165.2

Table 3. Sum of Active Temperatures (SAT) in the period 1960-2006

Vineyard	Average	Max	Min
Chilford Hall	784.7	1143.1	534.8
Camel Valley	797.3	1111.7	530.3

Table 4. Growing Degree Days (GDD) in the period 1960-2006

Growing Degree-Days (GDD)

GDD is defined by:

$$GDD = \sum_{1.04}^{31.10} \frac{T_{max} + T_{min}}{2} - 10^{\circ}\text{C}$$

is the summation of daily temperatures in the growing season (using a 10°C base) to predict the vine's ability to produce a high quality crop in the northern hemisphere. Suitability models measure

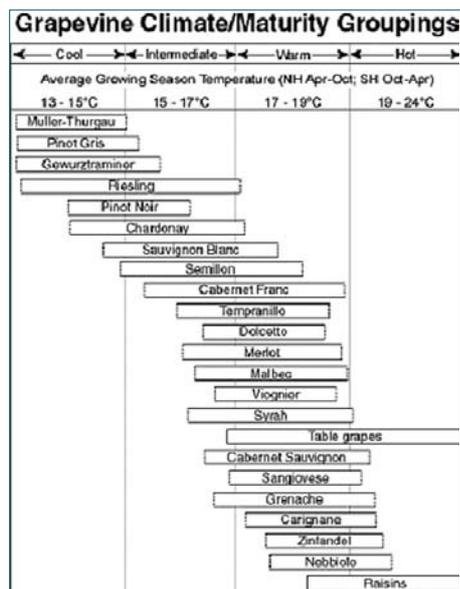
Varieties	SAT
very early ripening	2000-2200
early ripening	2200-2500
moderately early ripening	2500-2700
late ripening	2700-2900
very late ripening	>2900

Left: Average Sum of Active Temperatures (SAT) [°C] and ripening ability of groups of varieties (Szymanowski et al., 2007).

Group	LTI	Varieties
A	< 190	Bacchus, Chardonnay, Pinot Blanc, Pinot Gris, Perle, Riesling and others
B	190-270	Pinot Noir and Riesling
C	270-380	Cabernet Sauvignon, Cabernet Franc, Malbec, Merlot, Sauvignon Blanc and Semillon
D	>380	Carignan, Cinsaut, Grenache, Shiraz, Zinfandel

Above: Suggested groups of Vitis vinifera varieties according to Latitude-Temperature Index (LTI) and ripening ability in different climates (adapted from Gustafsson and Martensson, 2005).

Right: Mean temperature of vegetation season (April-October) (Jones, 2006). Length of rectangle indicates the estimated span of ripening for that varietal.



viticulture: data to information

Region	GDD [°F] [°C]	Suggested varieties	Type	Similar region to:
I	≤2500 ≤1371	Early ripening varieties to achieve high quality	Very Cool	the coolest European districts such as Champagne in France and the Rhine in Germany
II	2501-3000 1372-1648	Early and mid-season table wine varieties	Cool	Bordeaux in France
III	3001-3500 1649-1927	High yield of standard to good quality wines	Warm	the Rhone in France or Tuscany in Italy
IV	3501-4000 1928-2204	High yield, but wine quality is only acceptable	Hot	the San Joaquin Valley
V	≥4000 ≥2204	High production of late season wine and table varieties for bulk production	Very Hot	only table grapes are usually grown commercially in this region

Above: Grape growing regions based on Growing Degree Days (Amerine and Winkler, 1944).

heat unit accumulation to ensure sufficient vine ripening. On this basis viticultural areas are divided into five regions based on the GDD value. Using this classification, both vineyards would be classified into the very cool grape growing regions. Notably, whilst cool climate growing regions like the German Rhine area have a GDD equal to 944 considered the lowest cumulative degree-day acceptable for commercial wine grapes, both UK vineyards fall well below this value and yet successfully produce high quality crops (Table 4).

Cluster Analysis Another example shows the use of Terrain and Surface Model derivatives combined with field soil measurements such as pH and moisture to account for local microclimatic conditions observed in the vineyard. The derivatives include:

- Aspect
- Curvature
- Altitude above channel network
- Topographic position index (TPI)
- Topographic Wetness Index (TWI)

Derivative	Cluster 1 - n=72 (AVG)	Cluster 2 - n=16 (AVG)	Cluster 3 - n=7 (AVG)
pH	8.8	9	9
Soil moisture	6.4	7.2	5.5
Altitude above channel (c)	1.3	0.6	0.7
Curvature (b)	0.1	0	-0.1
DTM	67.8	65.5	66.7
Duration of radiation DSM (g)	2586.9	1693.2	874.5
Duration of radiation DTM (g)	2907.6	2896.3	2894.3
Global radiation DSM (f)	799175.1	620081.8	281606.1
Global radiation DTM (f)	828112.4	822776	829406.3
TPI (d)	0.1	0	0
TWI (e)	6.9	7	6.9
Slope (h)	3.1	3.7	3.5

Table 5: Averages of the variables – those highlighted in bold relate to the above list of derivatives listed a-h (corresponding letters shown in brackets).

- Sums of potential global solar irradiation in the vegetation period (Apr-Oct) [Wh²m⁻¹]
- Duration of incoming potential direct solar radiation [h]
- Slope

Heights and derivative values were assigned to soil moisture data collected in the summer of 2011 for the two study sites. A K-function cluster analysis was performed to divide the entire dataset into three groups of points. Averages of the variables are shown in Table 5.

Indicator Kriging was used to determine the probability of occurrence of each cluster type in each part of the vineyard. A local raster function was used to determine sub-regions of vineyard.

For Chilford Hall, the results of these analyses reveal that the vineyards are too small and not subject to considerable variation or significant differences in conditions; and that most diversifying factors are deemed to be of radiation origin e.g. differences of incoming solar energy and duration of insolation caused by the lines of trees planted around the vineyard.

Conclusions These case studies demonstrate that multiple sources of spatial information can provide new insight into where different grape varieties will grow successfully. However, a single piece of information is not sufficient and the location and success of a vineyard is clearly dependent upon many factors. Whether or not we have explained 'terroir' we will leave the reader to judge!

[Editor: Perhaps c'est magnifique, mais ce n'est pas la vintage.]

References:

- Amerine M.A., Winkler A.J., 1944. *Composition and quality of musts and wines of Californian grapes*, *Hilgardia* 15, 493-675.
- Gustafsson J.G., Martensson A., 2005. *Potential for extending Scandinavian wine cultivation*, *Acta Agricul. Scand., Sec. B., Soil and Plant Science* 55, 82-97.
- Jones G., 2006. *Climate change and wine*:

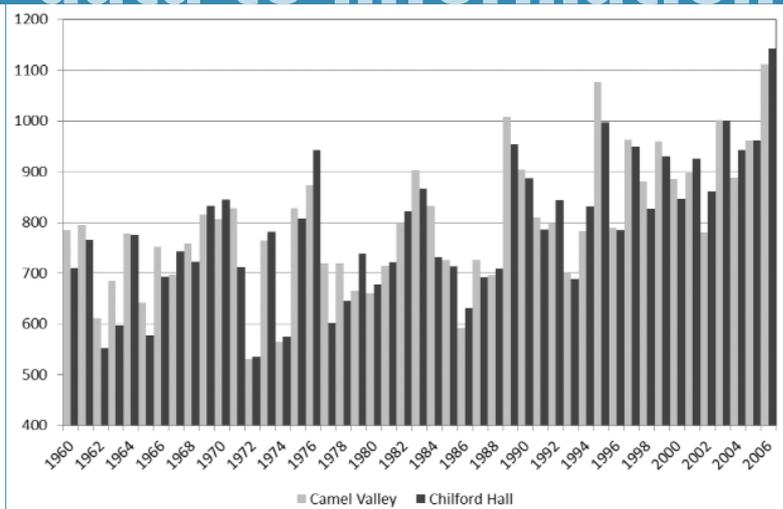
Observations, impacts and future implications, *Wine Industry Journal*, vol. 21, no 4, 21-26

- Szymanowski M., Kryza M., Smaza M., 2007, *A GIS approach to spatialize selected climatological parameters for wine-growing in Lower Silesia, Poland* [in:] Strelcová, K., Škvarenina, J. & Bla enec, M. (eds.): "BIOCLIMATOLOGY AND NATURAL HAZARDS" International Scientific Conference, Polana nad Detvou, Slovakia, September 17 - 20, 2007, ISBN 978-80-2

About the authors:

David R. Green of University of Aberdeen, Scotland, UK has been working with Chilford Hall Vineyard, Cambridgeshire and the Camel Valley Vineyard, in Cornwall to explore the potential role of Precision Viticulture in UK vineyards.

Mariusz Szymanowski is a GIS specialist with an interest in spatial analysis, geostatistics, and climate in the Institute of Geography and Regional Development at the University of Wroclaw in Poland. In the autumn of 2011, he was a visiting professor in the Department of Geography and Environment at the University of Aberdeen working with David R. Green on applied GIS research.



Class	GDD	Suitability
1	> 1389	Most suitable
2	1165-1389	Good suitability
3	945-1164	Fair suitability
4	< 945	Questionable suitability

Above Top: Growing Degree Days (GDD) in the period 1960-2006.
Above Bottom: Growing Degree-Days' suitability classes for cool climate growing regions (after Szymanowski et al., 2007)

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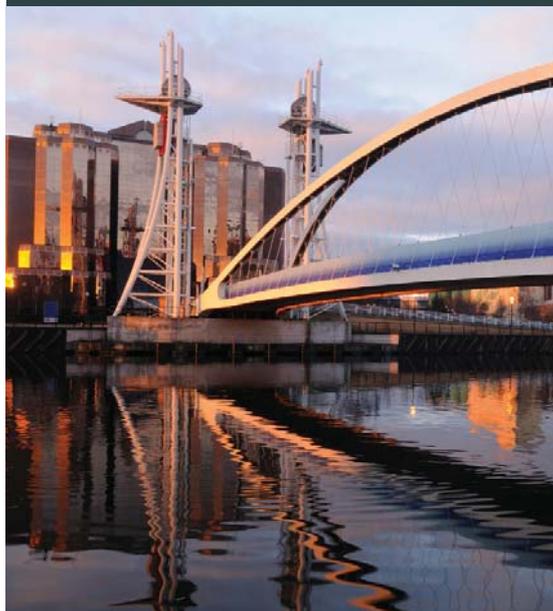
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Ordnance Survey (Great Britain) has recently announced the launch of their new Ordnance Survey International service. We will refer to this as OSI – not to be confused with OSi which is the preferred initialisation of Ordnance Survey Ireland. Those of us with memories going back several years will remember the previous incarnation of OSI, which was wound up in the early noughties, primarily because its UK civil service cost base could not compete either with commercial operations or with other countries' cross-subsidised mapping organisations. The competition was then for various projects funded by the World Bank, the EU and other international development funding agencies – not least the UK's own Department for International Development (DfID).

This time round OSI will:

'... harness the vast range of skills and expertise within Ordnance Survey to primarily

they are separate. Government agencies from France, The Netherlands and the Nordic countries have very active international departments whereas Germany and Italy are conspicuous by their apparent lack of interest. And it was **Dave Lovell**, secretary general of EuroGeographics, who introduced us to the three EEEs:

- Exporting
- European
- Expertise

A brief tour of the relevant websites looking for 'international' activities shows that in most cases 'international' referred to European initiatives such as INSPIRE and to the organisations' memberships of, and contributions to, wider groupings such as the UN, the International Cartographic Association and the Global Spatial Data Infrastructure Association.

EEE – by gum? With the launch of Ordnance Survey International, our Eurofile columnist considers other European mapping agencies' approach to Exporting European Expertise. While some are active, others are conspicuous by their apparent lack of interest.

support other national mapping agencies and their countries.'

There is no mention of where the funding might come from but, in her presentation at the AGI conference in Nottingham this month, **Vanessa Lawrence**, chief executive of OSGB, made much of her recent study for the Australian government and her new position as co-chair of the UN Committee of Experts on Global Geospatial Information Management. She suggested that OSI would be dealing primarily with their peer group of national mapping agencies and we understand that consultancy will likely be self-financing from customers' fees. Perhaps there is a clue in the location of the first overseas OSI office in Dubai. OSI will be led by **Steven Ramage**, previously director of marketing and communications at the Open Geospatial Consortium.

Exporting of expertise In the meantime, Eurofile has taken a quick look at how other European mapping agencies approach the international market. Of course, there are few exact equivalents of Ordnance Survey in terms of either their official remit or their funding status but EuroGeographics has a membership of all of the national mapping agencies and the majority of the cadastral agencies where

IGN France International is a 'subsidiary' of what has recently become the Institut National de l'Information Géographique et Forestière and does not feature prominently on the main IGN website. It had a turnover of €19m in 2008 (last year shown) and has certainly appeared regularly in bids for work in the Balkans, Africa and Latin America. Judging by some recent experience they may have become rather uncompetitive in the bidding for World Bank or EU funded work.

The Dutch and Scandinavians have been in the forefront of international development for decades and this has been reflected in government support for Kadaster in the Netherlands and for Lantmäteriet (through Swedesurvey) in Sweden. They have the great advantage (over IGN and OSGB for example) of being responsible for their own cadastres at a time when 'land administration' is seen as being much more than just a combination of surveying, mapping, remote sensing and GIS. Both Kadaster and Swedesurvey emphasise the development side of international work and Lantmäteriet, for example, have launched a mentor programme for 25 employees to provide a new generation of skilled project managers and experts for overseas assignments. The competencies being covered include all aspects of land administration and capacity building.

“
... OSI would be dealing primarily with their peer group of national mapping agencies and... consultancy will likely be self-financing from customers' fees...
 ”

Exporting of expertise can be very difficult. The experts have to be ready to work in very different and often challenging environments – in many senses of the word – and need to have relevant experience from their ‘home’ organisation. They will need to be covered for their absence but kept ‘in the loop’ of the latest developments – especially if they are working with the latest technology. The dates at which they will be required – if the average development contract is anything to go by – will be very uncertain. Typically contracts will take many months from initial bid to final signing at which point everything has to happen yesterday! And if the contracts are genuinely competitive then there is the risk of not getting them at all, as well as the pressure to keep day rates down. This is difficult if normal home country overheads have to be covered as well as a profit generated – and if profit is not the motive then subsidies must be considered – with financial and political consequences.

Future success Which brings us back to where we started! How will OSI succeed in 2012 when it was closed as uneconomic in 2001? We wish it well and we know it is starting with some excellent leaders. It will be interesting to repeat this exercise in five years

time to see where the national mapping and cadastre agencies are placed – as compared to some very successful private sector companies from all of the countries mentioned above – and more.

Vince Cable, Business Secretary, hopes that OSI:

‘supports the wider government drive to promote the expertise of the UK overseas. I look forward to seeing their knowledge being put to good use around the world and furthering the reputation of British business abroad.’

We endorse this statement and also hope that Ordnance Survey International will draw on experts from the private sector as well as from within its own ranks – doing so would multiply the efforts of its sales force by widening the pool of travel-ready experts and, almost certainly, keeping the overheads down!

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

“
... if the contracts are genuinely competitive then there is the risk of not getting them at all, as well as the pressure to keep day rates down.
 ”

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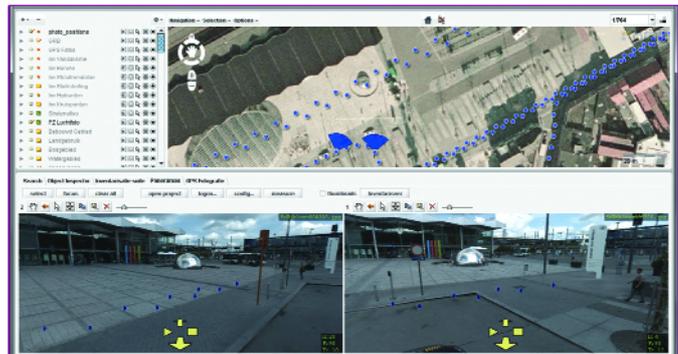


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case study assets located



A comprehensive survey was carried out to acquire accurate location and attribute data of Reading's assets and provide a new spatially-enabled dataset.

READING HIGHWAYS MANAGES 436km of roads and footways which includes thousands of assets regularly visited by multiple highway inspectors and operatives throughout their lifetime. All relevant information about each asset is stored and controlled in an enterprise Facilities Management (FM) database. The current database includes non-standard address entries which cannot provide a recognisable spatial reference.

accurate information that is critical to the success of every asset management system. The company's surveys are completed utilising the latest survey technology, including Leica Zeno 10 handheld GNSS/GIS, Leica SmartNet DGNS network correction service and Leica Zeno Office software.

The system captures rich asset detail at the point of survey, making sure all data can be captured in a single

Location data: gaining spatially enabled assets

Commissioned by Reading Borough Council to provide accurate location data of its highway assets, UKPipeline relied on Leica's Zeno and SmartNet technology to carry out the survey.

Ensuring data integrity UKPipeline were contracted by Reading Borough Council to carry out a comprehensive survey providing accurate location and attribute data for all of the street lighting, illuminated equipment and gullies within the borough.

The UKPipeline survey system provides a cost effective option for the collection of data-rich information in the urban environment, providing

visit. The integrated two megapixel camera on the Zeno 10 was invaluable for internal quality processes and assessments and enabled office staff to understand and see exactly what assets those in the field saw, making it easier to work together and ensuring the right data was captured at the time. This meant post processing and revisits were eliminated, minimising costs and delivering datasets without delay.

The Council's survey information was to be incorporated into an improved FM database to facilitate their planned move to a location based management system. To assure data integrity, it was decided at an early stage that, rather than checking and modifying existing data, a complete new dataset would be collected. Every asset was to be surveyed systematically, road by road, and the existing database used to compare the results.

Compatibility, mobility and support The council utilise Ordnance Survey mapping within their enterprise GIS and the survey required a relative accuracy of $\pm 0.5m$. Due to the nature of the data and the required accuracy, it was identified at an early stage that a physical survey would prove more cost effective than vehicle-mounted remote scanning. This enabled all of the attribute data to be recorded in a single visit by a single surveyor.

FACT FILE

Challenge: To carry out a comprehensive survey of the street lighting, illuminated equipment and gullies for Reading Borough Council.

Objectives: Acquire details of over 36,000 highway assets and accurately geocode the existing highway inventory plus develop a project specific data entry form and simplified workflow.

Project Period: April - October 2012

Deliverable: Data presented in GIS, Esri Shapefile and Mapinfo formats with assets captured to a detailed specification combined with accurate Eastings and Northings.

Key Tasks:

- Geocoding of existing highway inventory.
- Development of unique work flows and data entry forms.
- Survey of over 36,000 individual highway assets.
- Comprehensive quality auditing.

Hardware and Software:

Leica's Zeno 10 3.5G handheld GNSS/GIS; SmartNet DGNS $\pm 0.5m$ positional correction service; and Zeno Office software.

For such a large area survey, with high volumes of data and work in all weathers, the choice of the right survey equipment was essential. UKPipeline selected the Zeno 10 3.5G handheld and field software due to its compatibility with the existing Esri based GIS, its excellent mobility and screen performance, as well as the reliable technical support that is essential when adopting new equipment into a business or project. Leica's SmartNet DGNSS network correction service was used to meet the field data collection accuracy requirements requested by the client. It was chosen as it provides reliable real-time corrections via the internet as well as efficient and secure access to data for post processing if required.

A single spatial database was designed and Leica Zeno Office software was used to create and manage a database containing all mandatory attribute fields requested by the client as well as other information such as survey notes and site photographs. Data consistency was recognised as essential and dedicated workflows were identified for each asset type; unique survey entry forms were created which included mandatory field entries and drop-down lists to improve data quality and speed of collection. Surveys commenced in April and, over a six-week period, the entire borough was surveyed by a specialist team of surveyors.

Results On completion of data collection for each day, the Zeno Office 'EasyIn' workflow was used to update the database and a new project using 'EasyOut' completed. This ensured that each survey team member had access to the latest data to avoid duplication and also, for data security, allowed daily backup to the main office and UKPipeline's cloud service provider.

On completion of the field work, a comprehensive quality audit was applied to measure the overall accuracy of the data. This involved data screening on multiple levels; as well as sample benchmarking against the existing FM database and, where necessary, review against Google Earth Street View. By creating a KML overlay, Google Earth Street View proved an effective tool in screening the data from a third point of reference where discrepancies could be very quickly inspected and analysed.

To corroborate the results five areas were selected at random for re-survey. From a representative sample of approximately 5% of the overall survey data an error rate of approximately 2% was found. Less than three months after contract award, the client received a comprehensive spatially-enabled dataset, which exceeded their requirements in terms of both quality, cost and duration.

- Established in 2001, UKPipeline supply engineering, survey, GIS and management services to asset owners, operators and contractors.



Leica's SmartNet DGNSS network correction service was used to meet the field data collection accuracy requirements requested by the client.



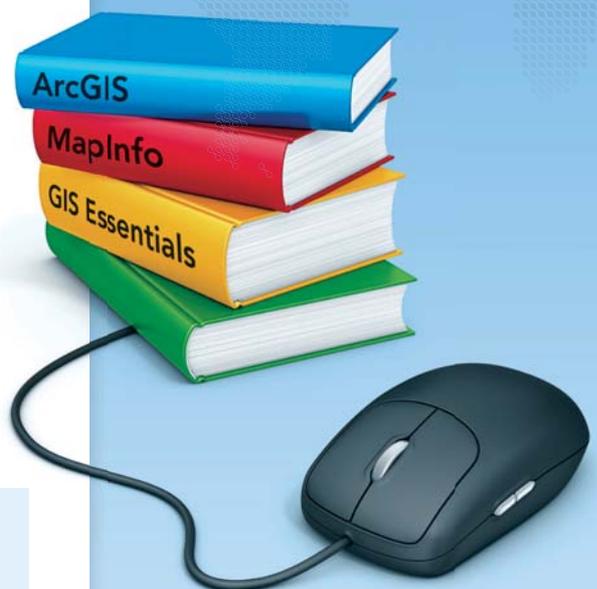
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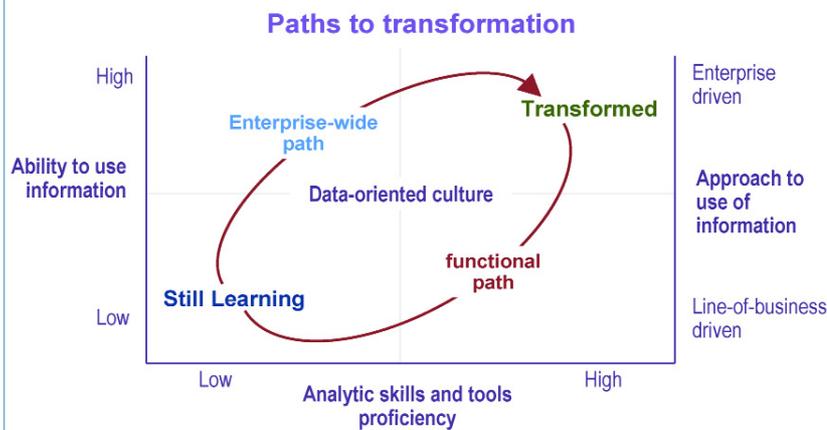
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smarter analytics

Organizations take either a data-centric enterprise path or an analytics-centric functional path to move towards being Transformed



Source: After The New Intelligent Enterprise a joint MIT Sloan Management Review and IBM Institute of Business Value analytics research partnership. Copyright © Massachusetts Institute of Technology 2011

enable them to create sustainable competitive advantage: information management; analytics skills and tools; and a data oriented culture.

Information management Companies with strong information foundations are able to tackle business objectives critical to the future of their entire enterprise. With a robust data foundation it is possible to capture, combine and use information from many sources, and disseminate it so that individuals everywhere in the organisation, and at every level, have access to it.

Information management involves expertise in a variety of techniques for managing data and developing a common architecture for integration, portability and storage. In a world where the quantity of data continues to rise, standards for data quality must be established with rigorous

Delivering the Cash!

In 'Show us the Money' in the previous issue, the author explained why 'business analytics' is becoming essential for a successful organisation. In this article, **Tony Boobier** continues with a look at how this can happen and why geographic information data and tools should play a central role.

ORGANISATIONS OF ALL SIZES and in many industries are realising the benefits of analytics. And increasingly those with businesses depending on location (of resources and/or assets and/or customers) recognise the importance of geographic information in providing insight into:

- what has happened;
- why it is happening; and
- what needs to be done in the future.

Research undertaken at the Massachusetts Institute of Technology¹ found that organisations which have embedded analytics into their business model have mastered three analytic competencies that

consistency across all business units and functions to ensure a 'single version of the truth'. In the GIS field there are a number of initiatives – such as the Open Geospatial Consortium (OGC) – that are bringing more standardisation, which will help to improve data quality.

Analytic skills and tools Organisations that have deployed new skills and tools for analytics can answer much harder questions than their competitors. Which customers, for example, are most likely to opt into high-margin services? How will specific shortages within the supply chain impact future delivery capabilities? Advanced skills

and techniques increasingly make it possible to embed analytical insights into the business so that actions take place seamlessly and automatically.

Competency in analytical skills and tools, essential for answering key business questions, is now becoming mission critical to businesses. Analytics experts, including location experts, will progressively find themselves moving out of the back room to take higher profile roles within the organisation.

Data-oriented culture The key principle is that business decisions at every level are based on

The two paths to transformation have contrasting strengths and weakness

Enterprise wide path	Functional path
<ul style="list-style-type: none"> ▪ Information management [★★★★] <ul style="list-style-type: none"> - Collaborative efforts are underway to integrate enterprise data - Moving towards enterprise-level information governance ▪ Analytic skills and tools [★] <ul style="list-style-type: none"> - Primarily uses scorecards, maps and dashboards to make insights readily accessible and available - Lacking predictive skills ▪ Data-oriented culture [★★★★] <ul style="list-style-type: none"> - Uses analytics to guide future strategies and day-to-day operations - Leaders open to new ideas 	<ul style="list-style-type: none"> ▪ Information management [★] <ul style="list-style-type: none"> - Lines of business make independent decisions about analytics strategy, investments and standards - Data integration is less of a priority ▪ Analytic skills and tools [★★★★] <ul style="list-style-type: none"> - Location insights supported by strong skills and tools within business units - Scenarios and prototypes used to analyze impacts of decisions ▪ Data-oriented culture [★★] <ul style="list-style-type: none"> - Uses analytics to improve operational and financial metrics - Struggles to find executive support
<p>Level of competency: ★★★★★ Strong ★★ Moderate ★ Weak</p>	

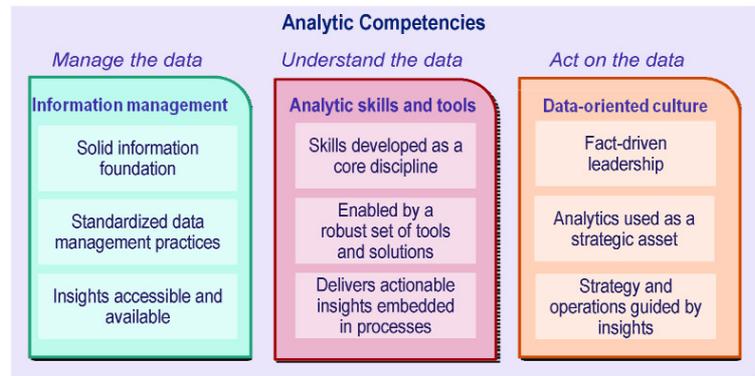
Source: After The New Intelligent Enterprise a joint MIT Sloan Management Review and IBM Institute of Business Value analytics research partnership. Copyright © Massachusetts Institute of Technology 2011

Right: The two routes of adopting analytics. With the enterprise-wide approach, the analytic tooling chosen tends to be simpler but there is a greater willingness to share information. While with the functional approach, analytics are used to meet the needs of a specific business issue, often choosing specific tools.

Organisations can grow competitive advantage through mastery of analytic competencies

analysis of data and that this is used to drive actionable output. This does not mean that analytics replaces experience and business judgment, but rather that analytics support the decision-making process. Businesses are recognising that analytics is a key enabler for the successful delivery of strategy.

Organisations with this culture are also likely to excel at innovation and strategies that differentiate them from their peers. They typically have a top-down mandate, with appropriate and engaged high level sponsorship, but stakeholders at all levels within the business engage comfortably in the analytics agenda without duress.



Source: After The New Intelligent Enterprise a joint MIT Sloan Management Review and IBM Institute of Business Value analytics research partnership. Copyright © Massachusetts Institute of Technology 2011.

Two Routes to Adoption Organisations that fully embrace analytics tend to adopt either an enterprise-wide or specialist/functional route to implementation.

In an enterprise-wide approach, the analytic tooling chosen tends to be simpler in nature but there is a greater willingness to share information across the wider organisation. They also prioritise timeliness and relevance over accuracy and resist the need to perfect all data in favour of prioritising that data which adds greatest value.

In a specialist/functional approach, analytics are used to meet the needs of a specific business issues often choosing specific tools. Enterprises following this approach often find that internal organisational barriers are more difficult to overcome, as compared to technological issues, especially as sponsorship is usually at a departmental level.

The route to transforming an organisation comprises three straightforward building blocks:

- An honest viewpoint of analytical sophistication.
- The development of a set of analytical capabilities, embedding data management, tooling and cultural adoption.
- The creation of a clear roadmap, which aligns improvement in analytics capability to the business priorities of the organisation.

GIS experts need to be “inside the tent” New analytical tools for making decisions are bringing about new opportunities. With the inevitable digitisation of world commerce, organisations have an extraordinary opportunity to differentiate themselves through analytics and ‘location’ is a key contributory factor.

There is an emerging gap between those organisations which use analytics and those which do not. And for many organisations, location analytics remains a key issue. GIS experts and practitioners need to ensure that they are inside the analytics “tent” helping to drive the agenda rather than being outside the tent observing from a distance!

References:

- 1) Massachusetts Institute of Technology / IBM ‘Analytics: the Widening Divide’ 2011.



About the Author

Tony Boobier, BEng CEng FICE FCILA FCIM, is IBM Business Analytics’ Executive for Insurance in EMEA. He has over 30 years operational experience in manufacturing, public sector, financial services and technology sectors.



This does not mean that analytics replaces experience and business judgment, but rather that analytics support the decision-making process.



Gain the Analytics Advantage

Analytics software can help your organisation to use analytics to increase awareness, focus and alignment for better business outcomes. For example, empower people in all roles to explore and interact with information; optimise all types of decisions using insights based on analytics; and react quickly and allocate resources and people to make better decisions.

Studies show that the more your organisation embraces analytics, the greater your chances of outperforming your peers. IBM calls this having a high “Analytics Quotient”(AQ). It’s a measure of how ready your organisation is to implement analytics – and reap the benefits.

Source: www.ibm.com/software/analytics/rtelan/analytics/

US conferences report



Andrew Coote has over 30 years experience in developing and using information systems, specialising in management of location-enabled applications. He formed ConsultingWhere in 2008. The organisation specialises in providing business strategy advice and business case development support to organisations worldwide.

FEW CAN FAIL TO NOTICE that our business is being changed by more technological advances than you can shake a stick at. Keeping up to date with all this change is a bit of a challenge – you can read the blogs, flick through the tweets, read research papers on the web but they seldom deliver the same eureka moments that a good conference can provide.

This summer I've been over in the US and what follows are some random observations from a couple of conferences and a very worthwhile workshop.

Is Where conference a bit lost? In March I went to San Francisco for the annual get-together of the neogeographers from silicon valley, which has now been renamed from Where 2.0 to simply Where. Overall, the conference was something of a disappointment compared to previous years, less really new technology and ideas. However, there was still some good stuff.

This year the warm-up Ignite "enlighten us but make it quick" session had less really wacky and more

Mike reverses his name as there is already a more famous Mike Schneider.

The bravest presentation of the day was **Sebastian Delmont** of Street Easy with this presentation 'To Google or not to Google – a cost-benefit analysis of "rolling your own" maps'. On the back of Google's announcement that it is going to charge for map access, Street Easy considered switching from using Google for their New York real-estate rental and sales website. They had calculated that the possible Google charges could be \$850k. Sebastian made a pretty fair and balanced assessment of the factors and costs to take into account in making the decision – see <http://whereconf.com/where2012/public/schedule/detail/24493> for the full story.

On the second day, possibly the most amusing and thought-provoking session of the whole conference was on Gaming Reality and the role of location in its future development, presented by **Will Wright**, the creator of SimCity. He is the proud recipient of a Gamer God award for his work in the industry – I wonder if recipients also get inducted into a heaven of fame? Will's presentation can be

Where can new inspiration be found? Keeping up to date with change is a challenge but you can't beat a good conference for that "eureka" moment argues **Andy Coote**, Director of ConsultingWhere, as he reports back from a number of conferences in the US.

"I've got an idea is anyone prepared to back me" type presenters. The one which caught my eye was MondoWindow (<http://blog.mondowindow.com/>). How many times have you looked out of an aeroplane window and thought – where exactly are we and what's that weird shape down there? It's obvious if you think about it – the most popular In Flight Entertainment (IFE) is apparently the moving map, but they are universally rubbish, the cartography is dire and the algorithm for choosing the place names to display must have been written by a five-year old! Yes, you've guessed it – MondoWindow will provide in-flight geotainment turning, to quote from their website, "that five-second "where/when" query into an entertaining experience that provides deeper insights about the earth and the passenger's own journey".

Don't expect to find it available on your next Easyjet out of Luton as it relies on the rollout of WiFi networks and Internet connectivity to acquire real-time location in-flight. Consumer-grade GPS chips in smartphones won't cut it either – geotainment applications must acquire real-time flight location data via an onboard server or the Internet.

On the first day proper I added to my lexicon the term "SoLoMoCo". Put simply by presenter **Schneider Mike** – "the mobile device allows for the collision of social, location, and commerce data in the most epic way". He walked through the e-commerce 3.0 story (see last year's *GiSPro* report) and the role of location-enabled smartphones to connect retailers to consumers. BTW –

viewed at <http://whereconf.com/where2012/public/schedule/detail/24424>.

The Socio-economic Benefits Workshop In June, I visited Boulder in Colorado. Boulder is a stunningly beautiful location in the Rocky mountains and the workshop was hosted at the National Centre for Atmospheric Research (NCAR). The purpose of this workshop, organised by the American Institute of Electrical and Electronics Engineers (IEEE), and sponsored by NASA and GeoConnections Canada amongst others, was to share experience of Defining, Measuring and Communicating the Socio-economic Benefits of Geospatial Information.

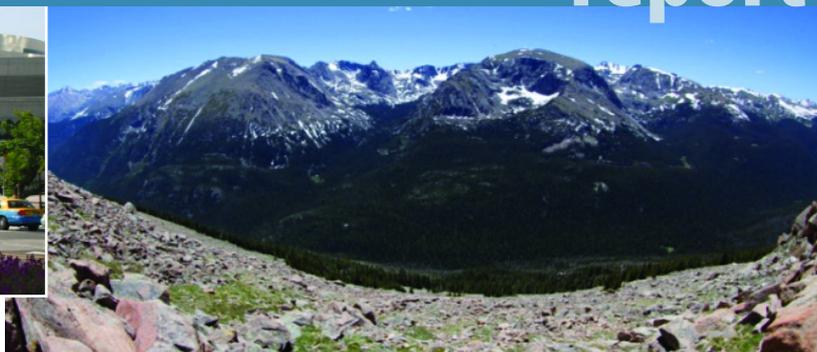
I have long argued that, as an industry, making the business case for geospatial is something we haven't paid enough attention towards, so it was great to be in the company of like-minded people. The audience was almost exclusively North American with only a handful of Europeans and one South African. The standard of presentations was excellent, covering a wide range of applications and some of the really big, gritty problems of economic value assessment.

In my experience, justifying investment of several million dollars in Spatial Data Infrastructures (SDI) is a challenge. So, imagine what faces NASA in justifying the costs of the next Landsat earth observation satellite, where the programme cost is measured in \$ billions and the politicians you have to convince think that Google builds and operate satellites. Furthermore, to quote **Neils Bohr** "Prediction is very difficult, especially about



How many times have you looked out of an aeroplane window and thought – where exactly are we and what's that weird shape down there?





the future" and many of the applications of satellite data are "serendipitous" i.e. they aren't anticipated when the satellites are launched.

Some great examples of the value of earth observation data were presented by various US federal agencies, for applications as diverse as monitoring militia activity in conflicts in Africa, predicting drought to allow early triggering of aid and ground water analysis to predict agricultural production levels.

The real power of a good business case was no more clearly illustrated than by **Rich Bernknopf**, now at the University of New Mexico, who spent many years working for USGS and is an economist by training. He undertook some work recently for the Canadian government where he was able to show that new, larger scale geological mapping improved interpretation of mineralisation potential. The costs of the new mapping compared to the improved exploration efficiency amounted to an 8:1 benefit/cost ratio. This figure was used as a major plank in the justification of significant new investment in geological mapping by Natural Resources Canada, backed by strong support from the mining industry.

Another great example came from **Mary Ann Stewart**. She has studied the value of local government GIS to mitigate the worst effects of the Iowa floods in 2008. Strategy benefits identified included:

- **Rapid information flows**
=> faster economic activity recovery
- **Better communication between agencies**
=> citizens assisted better and faster
- **Improved road closure information to the public**
=> citizens time saved and safety increased
- **Maps and data used as communication tool**
=> improved decisions
- **Maps provide time lapse record of the stages of the flood**
=> used for hazard mitigation planning for the next flood
- **Better resource allocation during response**
=> time savings for recovery agency staff
- **Modelling flood progression**
=> decision to drain the water basin naturally rather than bring in costly pumps

The value of saving in agency staff time was significant, as were the benefits to citizens, but the biggest savings came from correctly predicting where to concentrate the effort of sandbagging of public buildings. They saved three buildings, including the police headquarters from inundation, and the insurance savings were estimated for this single event as \$167m. You can buy the biggest, shiny new geospatial system, plus the people to make it fly for

a lot less than that. One of Mary Ann's key observations was that the size of the value proposition sometimes made it difficult for politicians to take seriously.

The workshop included a series of breakout sessions where an agenda for improving international collaboration was discussed. A community of practice has been created on LinkedIn and if anyone is interested in becoming part of that group and seeing the information that's starting to be exchanged, then drop me an email with your LinkedIn or email address. The proceedings of the workshop are published on the IEEE Explorer website at <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6292266>

Cloud is Esri's main game My final trip this summer was to the Esri User Conference in San Diego in July. I'm sure this is the biggest get-together of geofolk on the planet with 14,000 delegates this year. Interestingly, the emergence of Google does not seem to have badly dented Esri's financial position, **Jack Dangermond** reporting revenues up for 2011.

The core message from Esri is that cloud GIS is now the only game in town. Another major initiative is the community map project, designed to create world maps of various scales and covering various themes – 60 cm resolution imagery for Europe will be free as part of ArcGIS online from early next year. There is also lots of support for Lidar integration and announcement of ArcGIS for Microsoft office. Discussion of big data processing took a bow, with formation of a special interest group on the subject. How Esri evolve ArcGIS server to work with NoSQL databases such as Hadoop, used in Google for efficient grid processing of big data¹, will be an interesting story over the next few months.

However, with 26 parallel streams, it's impossible to give an idea of the diversity of content that gets covered at an Esri user Conference. Fortunately, most of the presentations are published in one form or another; the Facebook page <http://www.facebook.com/esriuc> is a good starting point.

• *Postscript:* I was sent a great article by a friend of mine who lives in Croatia recently. It questioned the blind pursuit of growth by western economies with a single statistic – \$12:\$135. This is the average hourly rate for workers in China and the US respectively.

Reference:

1. See <http://strata.oreilly.com/2011/01/what-is-hadoop.html> for a primer.

Above: Our reporter describes the Socio-economic benefits workshop as inspiring, rather like the Rockies!

Above left: The San Diego convention centre, venue for Esri's user conference, is just vast – over half a mile from end to end.



... the insurance savings were estimated for this single event as \$167m. You can buy the biggest, shiny new geospatial system, plus the people to make it fly for a lot less than that.



conference report



Rob Walker is an independent consultant in geographic information, currently working mainly on European projects. He specialises in Standards, and is chairman of the European Standards Committee, CEN/TC 287.

THE TERM "LOCATION INFORMATION" is now widely used for geographic information to indicate its wider applicability. Location Information is now being used in new ways to add intelligence to other information and to incorporate other technologies and applications – especially with the general move from a data-driven to a service-driven approach. The term "smart location" has been coined to encompass this wider view.

Internet of Things So what do we mean by "Smart Location"? At a recent workshop on the topic organised by the European Standards Committee for GI, CEN/TC 287, **John Herring** of Oracle defined it as a combination of the Internet of Things and Location Intelligence. Location intelligence is defined (in Wikipedia) as the capacity to organise and understand complex phenomena through the use of geographic relationships inherent in all information. The Internet of Things is the set of uniquely identifiable objects (things) and their virtual representations in an internet-like structure.

Thus, the topic of Smart Location encompasses things that know their real world location, have internet

find and use internet services. The current internet is inadequate to natively support spatio-temporal data, and we must go beyond today's paradigm through a more user-friendly exploratory approach. He proposed an "internet of places" and showed how, to achieve this vision, it is necessary to develop a new generation of internet services that are capable of ensuring transparent and universal collection, organisation and exploitation of distributed and heterogeneous spatio-temporal information.

Tomas Reznik of the European Commission Joint Research Centre Digital Earth and Reference Data Unit outlined the EU Location Framework (EULF). The objective is to create a cross-sectoral interoperability framework for the exchange and sharing of location data and services, compatible with the European Interoperability Framework (EIF) and the Digital Agenda for Europe, based on INSPIRE.

Steve Smyth of Mobile GIS Ltd in Ireland, and Chair of the OGC Open Locations Services sub-Working Group, talked about building application-ready models of smaller spaces. There are important differences

Making Location Smart **Rob Walker**, Chair of the European Standards Committee for GI, reports on a recent committee workshop that sought to define "Smart Location" and offer views on the issues faced when moving from considerations of static geographic information to dynamic location.

representations and can participate in geographic data and location intelligence processing. It belongs to the set of web applications and services that include or use geographic information to solve problems, including:

- Location Based Services (LBS), mobile or on-line
- Smart City, Facility/Land Management, Smart Grid (power networks)
- Augmented Reality
- On location-aware mobile device (GPS, cell location etc)

between model-building in larger and smaller spaces. Larger spaces are all exteriors, with no interiors and are approximately two-dimensional. Smaller spaces are inherently three-dimensional, with both interiors and exteriors. The exteriors are understandable as a whole, while the interiors are sequences of chambers. Breaking the world into "sites" may be a path to enabling rapid and economical 3D model creation for personal navigation, augmented reality, directories, simulation and analysis applications in smaller spaces.

The smart city **Daniele Magliocchetti** of Fondazione Graphitech described the Smart-Islands project. This is developing smart web services for the Mediterranean islands. A city is defined as "smart" when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic development and a high quality of life, with a wise management of natural resources, through participatory governance. Typically they are identified and ranked along six axes:

- **Smart economy**
- **Smart mobility**
- **Smart environment**
- **Smart people**
- **Smart living**
- **Smart governance**

The workshop, held in Trento, Italy in March at the offices of Fondazione Graphitech, was one of a regular series organised by CEN/TC 287. As well as producing standards to enshrine current best practice the committee is looking into developing technologies to ensure that relevant and practical standards can be put in place at the earliest opportunity. To that end, they work closely with a number of EU-funded pan-European projects and hold regular workshops to discuss developments. This workshop brought together a number of experts from different fields, not just GI specialists, from Europe and beyond.

Or Internet of Places? Under the title of "Bringing location to the world", **Giuseppe Conti** of Fondazione Graphitech described a virtual structure of tasks to



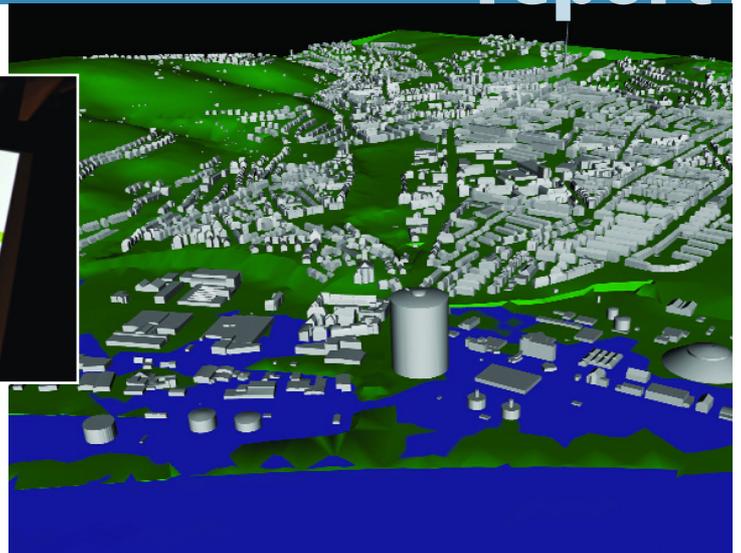
The current internet is inadequate to natively support spatio-temporal data, and we must go beyond today's paradigm. . .





Above: Displays simulated energy consumption onto a physical 3D model. The simulation was based on a digital CityGML 3D model. The same model was used to create the physical 3D model using ZPrinter 3D printer.

© European Institute for Energy Research, 3D-Druck Teller, HFT Stuttgart



Smart Islands is not about technology or data supply, but is business-oriented and has seven modules:

- **Smart yachting**
- **Smart aerodromes**
- **Smart leisure**
- **Smart real-estate and smart retailing**
- **Smart statistics for planning**
- **Smart forest fire fighting**
- **Smart 3D weather**

It is potentially remunerative as it brings previous EU projects to market.

CityGML and smart environment Volker Coors of Hochschule für Technik, Stuttgart, described 3D modelling of cities using CityGML. Complex models can be built up from simple elements using different levels of detail. This has application in mobile navigation, flooding, noise pollution, public participation, heating energy demand.

Kathi Scheidt of umweltbundesamt GmbH Austria took the smart concept into the environmental field. The current split into spatial and thematic dimensions is becoming problematic. There is a need to merge these worlds to get a "smart" environment. Complex features cover only half the need. The problem is that nature is too organic. Scientific opinion changes over time and mistakes are made in identifying things. The observational model for many types of information covers identification (what it is), measurement (how big it is) and location (where it is – in some cases the result of an observation). Mobile devices will provide information based on a user's location, allow users opportunity to provide data and information and track individuals in their natural surroundings. A "smart" environment will integrate with the internet of things and add intelligence to these environmental objects.

Federico Prandi of Fondazione Graphitech described the EU-funded BRISEIDE project. This is a spatio-temporal framework to support environmental analysis and emergency management, combining services of a different nature. It can be considered as a series of best practices in geo-standards implementation. The issues that arose included:

- several standards and implementations were difficult to make fully compliant
- how to export the BRISEIDE model to the pan-European dimension
- how to make available, and reuse, the processed data
- the gap between standard technologies and users' skills
- how to move to a real federated architecture
- how to develop vertical applications on top of the BRISEIDE framework

Roberto Lucchi of ESRI described decision tools for energy, assessing suitability of buildings for solar energy generation, using 3D models.

Antii Jakobsson of EuroGeographics described the European Location Framework (not to be confused with the EU Location Framework described earlier). This provides pan-European topographic data at a range of resolutions and levels of detail, from national (up to 1:50,000 scale) through Regional, to global (beyond 1:500,000 scale), from the national mapping and cadastral agencies in Europe.

Piergiorgio Cipriano of Sinergis, Italy discussed standards-based temporal metadata. This is particularly important in environmental observations. The temporal dimension requires additional considerations of time resolution (or granularity) and temporal extent of the event and will require modification of existing standards.

Rimvydas Lauzikas of Vilnius University in Lithuania discussed historical geography and smart location. He demonstrated the problems of identifying objects in a historical perspective with changes in extent, location and name including linguistics issues.

The workshop provided a wide ranging review of issues to be faced when moving from considerations of (static) geographic information into (dynamic) smart location, as well as providing cross-fertilisation of ideas between projects and applications. It will help in formulating the requirements for future standardisation.

- *Further workshops are planned, with the next in Edinburgh in September, in conjunction with AGI.*

These two images were provided by Volker Coors, who described the 3D modelling of cities using CityGML. The above image shows a 100-year flooding of the river Neckar in Stuttgart.



The problem is that nature is too organic. Scientific opinion changes over time and mistakes are made in identifying things.





**Geodesign:
Case Studies in Regional and
Urban Planning**

By Shannon McElvaney
(Esri Press, ISBN: 978-1-58948-316-3 First Edition 2012, 143 Pages Colour Paperback).

DUBBED AS A foundational text, Geodesign introduces the concept of “designing with geography instead of around it”. In other words designing and managing our urban and regional landscapes by integrating science, social and aesthetic aspects using geospatial technology.

The foreword by Jack Dangermond leaves the reader in no doubt that Geodesign combines the origins and ongoing business of Esri: that of addressing man’s relationship with the environment and the application of software to achieve a better future with a more balanced approach to environmental conservation by being able to design around nature.

Chapter 1, “Game-Changing Design” addresses the historical antecedents and the work of previous visionaries who thought man’s development of landscape and cities had to be more harmonious with the environment and its resources. At this 21st century turning point, one where pollution, global warming, loss of biodiversity and the massive consumption of resources are great concerns, the author introduces the software tools and the benefits of

A well illustrated “primer” text that is not particularly demanding for the interested reader and which clearly identifies what Geodesign is.

cross-disciplinary collaboration that can make Geodesign real. A series of Geodesign traits are listed in this chapter with accompanying descriptions. For example: “Geodesign is design in geographic space”, “Geodesign facilitates science-based design”, “Geodesign provides a framework for exploring issues and resolving conflict” and so on. In short, Chapter 1 lays the stall out.

Chapters 2 to 9 are a collective of mainly US-based case studies. Geodesign in action. These articulate the use of GIS and its integration with other software tools to facilitate Geodesign and help deliver its advantages. Examples include Cape Cod’s use of Geodesign to “protect the greater whole” with a community based planning approach for the region’s 14 main settlements. Management of the Yellowstone region, the sustainable development of Singapore, the development of the massive Sabah, Al-Salem University City in Kuwait, developing new green space in Los Angeles and a regional growth vision for 2050 in East Central Florida are some of the others.

The final chapter looks to the future of Geodesign and the views of experts such as MIT’s Michael Flaxman, Steve Ervin of Harvard and others. Indeed Flaxman states “I cannot imagine redesigning the world’s cities to mitigate and adapt to climate change without geodesign tools”. He even goes further to claim Geodesign is an “evolution of GIS”. What the reader is left with is a bright view of a better geodesigned tomorrow.

The book is very pleasing to the eye and touch and is well illustrated. It is what it says it is – a primer – and not particularly demanding for the interested reader. This approach is no doubt deliberate because the text is playing an evangelical role in

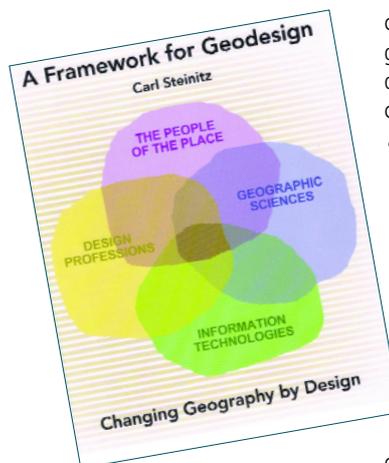
promoting the value of geospatial tools for tackling better consideration of the environment in urban and regional planning. The Geodesign case studies are high level in description and whilst subjects like return on investment, reduction in emissions, impact on key performance indicators and many others are mentioned, the reader should not expect this foundational text to get into the nuts and bolts of these matters.

In conclusion, Geodesign delivers the reader with a well presented and

accessible text. It clearly identifies what Geodesign is in an easily digestible form, illustrates how it has been used in a range of areas and identifies the experts and their opinions on the subject. So wide reaching is this as a subject matter I could see it being a welcome bookshelf addition for many practitioners involved in planning, GIS, environmental management and architecture.

Reviewed by Chris Holcroft

A particularly welcome book that is lavishly illustrated and strongly recommended for all GIS professionals.



**A Framework for Geodesign:
Changing Geography by
Design**

By Carl Steinitz
Esri Press, Redlands CA, 2012,
£49.94.

Carl Steinitz pioneered the use of geographic information technology during the late 1960s. He worked with Howard Fisher, Alan Schmidt and a number of graduate students at the Harvard Laboratory for Computer Graphics and Spatial Analysis including a young landscape architect

called Jack Dangermond, The series of grey tone SYMAP outputs generated during the Delmarva project that was carried out by the group from the City and Regional Planning and the Landscape Architecture departments has been reproduced countless times during the last forty years.

Since that time Steinitz has been very active in the landscape architecture and design field but most of his publications have appeared either in specialist landscape architecture journals or in the reports of collaborative projects undertaken with various groups of graduate students. For this reason this new book is particularly welcome as it presents an overview of his work which sets out in some detail his ideas on geodesign which he regards as ‘a team endeavour with many participants from various design professions and geographical sciences, linked by technology from several locations for rapid communication and feedback, and reliant on transparent communication with the people of the place.’ (see figure right)

After a short introduction Steinitz outlines a framework for geodesign in

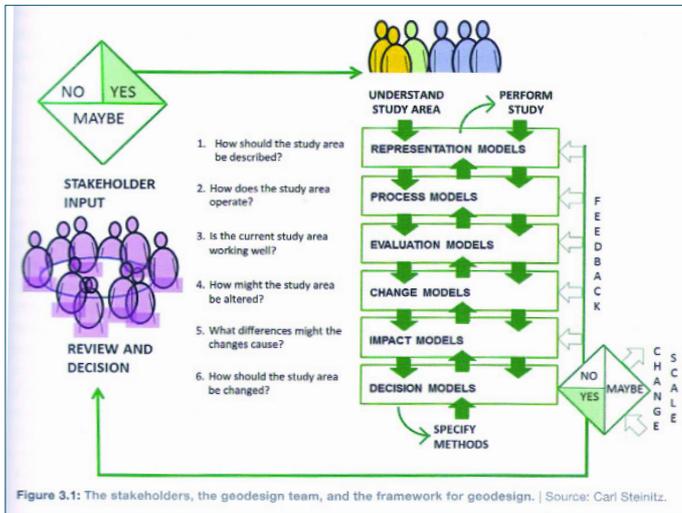


Figure 3.1: The stakeholders, the geodesign team, and the framework for geodesign. | Source: Carl Steinitz.

Above: An example diagram from *A Framework for Geodesign* in which Steinitz lays out the importance of communication and feedback.

Section Two of the book, which revolves around three sets of questions. The answers to the first set of 'why' questions define the scope and objectives of a particular project. Those relating to the second set of 'how' questions define the methods that will be needed to carry out the project, while the responses to the final set of 'what, where, and when' questions form part of its realisation and implementation. This reflects his opinion that 'Geodesign cannot have a singular methodology as long as its approaches, principles, and methods are applied to projects that range across size, scale, culture, content and time... Thus we need a framework for geodesign as a verb, for the asking of questions, for choosing among many methods, and for seeking the best answers.'

The third section contains nine case studies in three different groups that illustrate the use of this framework in situations that reflect different levels of uncertainty. The anticipatory, participatory and sequential case studies presented in the first of these groups assume that the geodesign team is confident in their ability to develop a design for the future state of the study area. The second group of case studies deal with situations where the geodesign team is not certain of the crucial

initial decisions and must assess the major requirement variables before developing the rest of the design. The third group explores situations where the team understands the rules that guide the processes of change but is obliged to test the variability of the main requirements to come up with the most beneficial solution. In the process this last group of case studies examines rule based, and agent based approaches such as cellular automata.

The final section of the book looks to the future of geodesign with respect to research, education and practice. The chapter on research poses some challenging questions about spatial complexity, design methodology, and visualisation and communication. The chapter on education highlights the importance of training 'conductors' who are capable of managing the collaborative teams that are needed for effective geodesign rather than 'soloists' who try to operate on their own account.

Steinitz's book is published by Esri Press who must be congratulated on producing this well designed and lavishly illustrated volume. I have no hesitations in recommending it strongly for all GIS professionals.

Reviewed by Ian Masser

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Chris Holcroft is Director and CEO of the AGI.

AGI GEOCOMMUNITY '12 is now behind us and it finished with very topical plenary presentations on the importance of geographical information in the successful delivery of London 2012. *GIS Professional* will be providing post-event coverage of the rich range of content delivered (see page 10).

At this, my last conference as AGI Director, it was wonderful to see that the number of delegates was up and that sponsorship support was higher than back in 2011. More importantly, from the perspective of delivering a pertinent format, was the openly-given positive feedback from delegates and the clear enjoyment that was on display throughout the duration of the event. That made it all extremely worthwhile.

Now AGI GeoCommunity offers us a golden thread through to the AGI Awards Day on 27 November. All three "best" conference papers from

GeoWeb enthusiasts, are all cases in point. Many social events and growing regional groups have emphasised a new area of informal networking and fun that brings those interested in "geo" together. To quote **Jeremy Morley**, who chaired the conference in 2011 and 2012, 'we have shown that there are few words geo cannot be put in front of, except, of course, geography'.

It would be easy to list further achievements and to then be accused of self-congratulation. The fact is that the AGI has had to carry on latterly in the face of very serious economic challenges – challenges that face us all. Rebuilding our financial reserves in better times has allowed us to take a few knocks when times are tough. Fundamentally however, the AGI can only continue in the longer term with adequate support from its members. Yes, AGI needs to be relevant to justify your support, but at the same time all of us have a role to play if we think the AGI is worth having. Letting the "member next

An exit marked by success As another GeoCommunity conference finishes on a high, **Chris Holcroft** signs off as AGI director in this, his last AGI column for *GISPro*, by reflecting over the last six years and offering a hearty thank-you to the geocommunity as he moves to his new role with the Royal Meteorological Society.

2012 will be invited to be represented at this event, which will be held at the Ordnance Survey's event facilities at the newly-built Explorer House. See the AGI website for more details of this very special event.

A continuing mission As my time at the AGI draws to a close, I'm pleased to say that it remains "business as usual" for the AGI office staff and that **Peter Capell**, a well experienced figure in the AGI, will be taking the helm as interim director. Well connected with the AGI staff, members and the geocommunity, Peter will ensure that the AGI mission continues smoothly and effectively.

During nearly six years of serving the AGI, I've seen many changes. I think it is fair to say that engagement with government has been successful and that the AGI has not only provided valuable advice and input to decision-makers, but has also taken its place at the table in the right areas. Over this time, we have seen the emergence of a location strategy, location programme, marine bill, public sector mapping agreement, data strategy board, GeoPlace and more.

On top of this, AGI has pioneered and made a success of the GeoCommunity conference formula – one that has never failed to reach out to 400 delegates or more each year. In doing so, and in partnership with other events and activities, AGI has engaged new members and new communities. AGI W3G, the "unconference" for new market entrants and the

door" take the strain is not going to work. That said, I do now take stock and think to myself, 'I am leaving the AGI with substantially more financial reserves than when I started and a membership income that has remained steady – that's got to be worth something'.

Signing off Spending these years with the AGI has depended on the help of more people than I can easily mention here. Suffice to say I'm extremely grateful to everyone who has contributed to the AGI and helped me along the way. You know who you are and you know you have my hearty thanks. I would also like to thank all of you in the wider community who have supported and have been members of the AGI. I hope you will stay with the Association.

So with my eyes to my new role as chief executive of the Royal Meteorological Society, I will sign off from this AGI column with what I believe is a pragmatic and apt quote attributed to **Eleanor Roosevelt**: "As for accomplishments, I just did what I had to do as things came along."



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

“
...the AGI has not only provided valuable advice and input to decision-makers, but has also taken its place at the table in the right areas.”

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Smartphone for field professionals



The Nautiz X1 smartphone from Handheld Group is designed for field-workers in industries like forestry, utilities, construction and security, and aims to deliver the reliability and sturdiness of an ultra-rugged computer. It is waterproof, dust-proof and shock-resistant with an IP67 protection rating and meets MIL-STD-810G military standards for enduring humidity, vibration, drops and extreme temperatures. Available in January 2013, the smartphone weighs 180 grams, measures 125x65x15 mm and features a four-inch sunlight-readable and damage-resistant touch-screen. The full-featured Nautiz X1 runs on a one GHz dual-core processor and 512Mb of RAM, and comes with 2Gb of onboard storage.

Councils share with Blackbox

Symphony Blackbox is designed to allow local authorities to easily share their central address databases with other council departments, reducing costs and increasing efficiency. The software from Aligned Assets can be used by any council, irrespective of which other software systems they have installed. Each council in Great Britain maintains its Local Land and Property Gazetteer (England and Wales) or Corporate Address Gazetteer (Scotland). Symphony Blackbox works by allowing changes in these single databases to be automatically exported to other systems, thereby removing both duplication of work and the errors that result from it.

Coal Authority launch interactive map viewer

The Coal Authority has made more of its coal mining information available in parallel with the launch of an interactive map viewer on its website at www.coal.decc.gov.uk. The viewer enables users to zoom into a particular geographical location to identify whether any coal mining features exist in that area of the country. The viewer has been developed to provide members of the public and other stakeholders with an easily accessible web tool to provide access to the information held by the authority on mining in the coalfield areas of Britain.



Zeno GIS range enhanced

The Leica Zeno GG03 is an upgradable, compact and lightweight GNSS smart antenna for accurate positioning. The device is upgradable to centimetre accuracy and connects to all Zeno GIS handhelds and tablet devices including the latest model, Zeno 5. Together with the Zeno Field applications, the GG03 aims to help GIS users operate efficiently with access to high-quality data. It provides all-day battery life and an IP67 environmental rating. The modular smart antenna gives users options to match their working requirements: an upgrade path from an L1 only DGPS smart antenna (40cm accuracy in DGNSS) and upgrade later to a high-accuracy L1/L2 GNSS smart antenna (cm in RTK or post-processed); DGNSS, real-time or post-processed GIS workflows, integrated into Esri ArcGIS; and support for third party software applications via Zeno Connect.

GstarCAD from the App Store

South Survey has announced that the mobile CAD software, GstarCAD MC free edition, can now be downloaded from App Store. The software, developed by GstarCAD, can be applied on iPad, iPhone and android platforms, allowing users to check, edit, share and save drawings on a mobile device. This app is particularly useful in places where it is inconvenient to use a computer, such as a construction site, in a meeting room or outdoors.

In this edition, users can read DWG files by GstarCAD MC directly, without any conversion. A professional edition, GstarCAD MC PRO, has also been released, allowing users to not only open DWG files but also save the modification, annotation and drawing of the file.

Data validation in the cloud

Dotted Eyes has launched a data validation service on its cloud platform, MISO, in partnership with 1Spatial. Data Validator aims to make data quality accessible to users without any cost of ownership or on-going fees. It leverages 1Spatial's cloud-based rules engine for data validation within the cloud environment, allowing users to not only get data prepared, styled and optimised on MISO but validated to save from discovering data problems once a project is underway.

BRIEFS

Europa Technologies has announced support for further Ordnance Survey map data products within its viaEuropa hosted map service. MasterMap Topography Layer is available with full coverage of Great Britain plus the use of OS AddressBase has been extended two-fold. The product is available as an overlay with full coverage of Great Britain and, secondly, OS AddressBase has been employed to provide a comprehensive premise-level search capability, with predictive results as the user types. The service now also includes support for OS Points of Interest (POI) data.

Blue Marble Geographics has released v14 of the Global Mapper software developer toolkit. This release features read/write support for ArcSDE, personal and file geodatabases, Oracle Spatial, Post GIS, MySQL Spatial plus WFS (web feature services) and WMTS (web map tile services) for consuming online data-sources.

The XYZ Digital Map Company's postcode maps of the UK are now available as a Postcode Atlas for iPad from the Apple App Store (iTunes) at £49.99. The entire set of postcode area, postcode district and postcode sector maps have been compressed into a single package. On the iPad, the map is seamless and you can zoom in to see full sector level detail or right out to see just the areas for the UK.

| 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 or e-mail: hayley@pvpubs.demon.co.uk.

2012

Leica Geosystems MyWorld Roadshow 2012
October, multiple dates and venues.
 More information:
<http://myworldroadshow.co.uk/>

Everything Happens Somewhere 2012
25 October, Friends House, London, NW1 2BJ, UK.
 More information:
www.geoplace.co.uk/geoplace/link.htm?nwid=263

Trimble Dimensions 2012
5-7 November, Mirage and the Treasure Island Hotels, Las Vegas, USA.
 More information: www.trimbledimensions.com

SPAR Europe 2012
12-14 November, World Forum, The Hague, The Netherlands.
 More information: www.sparpointgroup.com/Europe/

AGI Awards Ceremony
27 November, Ordnance Survey, Adanac Drive, Southampton SO16 0AS.
 More information: www.agi.org.uk

European LiDAR Mapping Forum
4-5 December, Salzburg, Austria.
 More information: www.lidarmap.org/ELMF/

2013

International LiDAR Mapping Forum
11-13 February 2013, Denver, Colorado, USA.
 More information: www.lidarmap.org/ILMF.aspx

SPAR International 2013
15-18 April 2013, Colorado Springs, Colorado, USA.
 More information:
www.sparpointgroup.com/international/

GeoComputation 2013
23-25 May 2013, Wuhan University, China.
 More information:
www.lmars.whu.edu.cn/geocomputation2013/index.html

26th International Cartographic Conference (ICC 2013)
25-30 August 2013, Dresden, Germany.
 More information: www.icc2013.org



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