



Presentation Summaries

1Spatial

The 1 Habit Of Highly Effective ArcGIS Application Developers

Tight or decreasing budgets? Driven to do more with less? Needing to be more productive with spatial technologies and information? Expected to be faster, cheaper, better? 1Spatial will show you, with little humour and stern faces, how a bunch of map services published by your ArcGIS for Server and other external map services can be published as fully-operational, functionally-rich web-GIS in a matter of minutes without having to programme, and without having to even know what “API” and “SDK” mean. We’ll show ArcGIS users the 1 Habit to perfect for being highly effective at production applications for the ArcGIS Platform.

Aligned Assets

Address Management Over Land And Sea – Taking The LLPG Global

In the session held by Aligned Assets, their presenter will discuss the obstacles and challenges they have faced in undertaking their latest project: Address Management in Ghana. This session is well suited for those who work with address data directly who are interested in both how we’ve used our experience of Address Management within the UK to set up formal address management in Ghana and the lessons learnt there that will enrich our UK based address management work.

Our presentation will be covering areas familiar to a UK Address Management audience, such as Street Signs and naming conventions, optimising address collection or both the public services and commercial benefit, and building address data from a range of data sources, but with a uniquely Ghanaian twist. We will also be covering the challenges presented by the need to address complex, disorganised dwellings and how our new knowledge will be feeding back into our UK operations.

Since 1997 Aligned Assets are recognised to be the Address Management Experts within the public sector, they have been providing software solutions to local authorities to maintain their land and property Gazetteers since this time and were first to provide an AddressBase management system in 2011.

Using LiDAR Data To Create 3D Building Footprints

The increased availability of LiDAR data, combined with the development of powerful LiDAR processing software, have provided the means for GIS professionals to create 3D datasets that were virtually unheard of a few years ago.

These software tools significantly improve the usability of the data through the elimination of erroneous points and the automatic reclassification of the point cloud to reflect the actual characteristics of the mapped surface. In this presentation we will explore how the LiDAR processing tools in Global Mapper are used to create a 3D building footprint layer.

Among the procedures employed in this workflow are classification tools that are designed to automatically detect and reclassify ground points, buildings, and vegetation in unclassified data. In this presentation, we will also demonstrate some of the advanced tools that have been recently introduced to automatically extract and delineate vector features, including buildings, from classified LiDAR points.

British Geological Survey

Bringing Geological Open Data To Life With Innovative Visualisation Techniques.

Everyday consumer technology and innovative web services are combining to enable providers of geospatial data, like the British Geological Survey (BGS), to deliver user-centric, relevant and current data wherever and whenever users need it.

We live in a world of increasing amounts of open data. Some of this data is made available to download in industry standard formats. Some is made available as interoperable, standard-based web services. Both offerings require a level of technical expertise to gain benefit from the data being delivered.

In order to demonstrate the usefulness of data being made available and to democratize access to the data for those without access to technical expertise, there is an increasing demand to make the data accessible via a range of engaging and easy-to-use interfaces. BGS OpenGeoscience (www.bgs.ac.uk/opengeoscience) offers free online access to a portfolio of BGS data for research, education and business use.

Available resources include digital geological mapping for the whole of Great Britain, over one million scanned borehole records, images from its extensive collection of photographs and 3D geological models.

Such resources are made freely available via web services following various open standards and formats. These services have been brought to life via a range of innovative visualisation tools that reach out to a wide spectrum of potential users for geological data from school children to academics to business users.

The iGeology mobile app for iOS and Android enables over 280,000 people to carry the UK geology at street-level scale in their back pocket. Our iGeology 3D augmented reality mobile app superimposes geology maps on to the phone's camera view and allows users to fly around the landscape, exploring the geology in three dimensions. GroundHog enables you to visualise 3D models of the rocks underground, creating virtual sections of the subsurface. New audiences are being engaged by making geological maps available within the world of Minecraft. Oculus rift, the virtual reality headset, is providing immersive visualisation possibilities. Come along and discover how open data can be brought to life by using innovative visualisation tools and techniques.

We Are Stuck With Technology When What We Really Want Is Just Stuff That Works.

The title of the presentation is a quotation by Douglas Adams¹, best known as the author of [The Hitchhiker's Guide to the Galaxy](#). Adams was a lover of technological innovation, and a passionate advocate for its incorporation into everyday life.

This presentation discusses how a particular set of technologies - geospatial technologies - can be used to improve a visitors experience to an organisation's website. It argues that the easier it is to find information, the more likely the visitor will choose online self-service as the communication channel of choice. It describes why this is important for both the organisation and the customer or citizen. It argues that most website visitors have neither the interest nor the need to interact directly with geospatial technologies. They simply want answers to questions that matter to them.

In a live demonstration we show how smart searching can be used to personalise the content presented to a website visitor, and how it relegates the technical complexities of information processing to the background. Far from being 'stuck with technology' the website visitor gets 'stuff that works'.

¹ *The Salmon of Doubt, 2002*

DBx Geomatics

Delivering Highly Interactive Statistics Using HTML5 With CartoVista

Developing cross-browser statistics is a challenge that requires good design and a sound understanding of browser and mobile application capabilities. The HTML5 Canvas and Javascript open a new world of possibilities for creating interactive map statistics. However if you wish to interact with a large number of features, your map rendering has to be designed with care! The CartoVista 5 engine has been developed with advanced canvas rendering techniques, for both vector and raster data. With the proliferation of smartphones and tablets, HTML5 is an opportunity to deliver the richness of an immersive mapping experience that can be similar to what we are used to on the desktop.

Dimenteq

Let's Plan Together! Participatory Urban Planning With Harava

"Smart city" is an increasingly common theme in today's urban planning but for an ordinary citizen the chance of getting their voice heard could be troublesome. How does one know about the current urban projects and even if they know, how to comment on the plans?

While land use and urban planners and landscape architects are experts in their own field, could citizens still provide them with valuable information? "Citizen is an expert on their living environment" as commented by one of the Harava users in Finland, the Municipality of Siilinjärvi – or Hedgehog Lake as it translates literally.

Harava is a map-based survey tool for participatory planning that has already been used by more than 70 cities and municipalities, consulting companies, and regional councils in Finland since the beginning of 2013 when the first surveys went online. The idea of engaging citizens in the planning process is not new of course. However, the purpose of Harava is to promote participatory planning through map and collect citizens' ideas and feedback to support the planning process.

The reporting functionalities of the tool allow smooth analysis of the results and the map-based surveys often yield also data that otherwise would not be available for the land use and urban planners. In this session we will take a look at planning together with citizens by using Harava. The projects completed so far have ranged from reindeer husbandry to urban planning and we focus on the topic with three recent surveys:

- 1) planning a better living environment in a populous riverside,
- 2) developing year-round tourism facilities in remote locations,
- 3) planning the new tram lines in an old industrial city.

Earth-i

Natural Resource Management And Remote Sensing

Not Provided

Environmental Science To Services Partnership

Introduction to DataSpring – Connected Data for a Connected Environment

The Environmental Science to Services Partnership (ESSP) is a partnership of six leading UK public sector environmental science organisations sharing a common goal of delivering benefit and economic growth from their capabilities.

To achieve this the ESSP is currently developing DataSpring - a single sign-on, one-stop shop of environmental datasets that we'll make easy to find, easy to understand, easy to use and easy to integrate. Environmental problems do not respect scientific disciplinary boundaries, DataSpring will provide a unified source of data from the partners to enable the integration of multi-disciplinary data into new or existing systems and platforms. Having produced a proof of concept prototype managing access to samples of environmental datasets from across ESSP, we are preparing to explore the huge potential this brings in reducing barriers to innovation and stimulating economic growth.

Esri UK

How To Access, Publish And Carry Out Analysis With Open Data In The ArcGIS Platform.

There are now huge volumes of geospatial Open Data available globally. Open Data is important for maintaining transparency, fostering innovation, and ensuring data integrity. But just being "open" often isn't enough—open data also needs to be useful data. Open Data is most useful when it is discoverable, accessible, explorable, and collaborative.

In this presentation we will show you the tools available in the ArcGIS Online Platform to publish and share Open Data and examples of sources of open data available to consume, visualise and to use as part of an analysis task or workflow. We will also provide examples of analysis and visualisation using Open Data.

Europa Technologies

Above And Beyond – A Brief Guide To Drones, Aerial And Satellite Imagery

Rapid advances in technology have resulted in an explosion of sourcing options for imagery. This talk presents a beginner's guide to the subject based on a first hand learning experience. Topics covered include the challenges of drone/UAV surveying, the consumption of big data imagery and capabilities of a new generation of satellites, including the European Commission's Copernicus Programme.

European Space Imaging

Discover The World With WorldView-3

European Space Imaging (EUSI) based in Germany in partnership with Space Imaging Middle East (SIME) from Dubai, are leading suppliers of very high-resolution satellite imagery covering Europe, Middle East, North & East Africa and Central Asia.

Through its partnership with DigitalGlobe, EUSI is the leading European provider of commercial very high-resolution imagery products and services. EUSI is the only European satellite data provider that operates its own dedicated very high-resolution satellite ground station for direct satellite tasking and local data downlink in combination with the use of real time weather information.

This presentation will show you the capabilities of Worldview-3, the industry's first multi-payload, super-spectral, high-resolution commercial satellite. Operating at an expected altitude of 617 km, WorldView-3 provides 31 cm panchromatic resolution, 1.24 m multispectral resolution, 3.7 m short-wave infrared resolution, and 30 m CAVIS resolution. WorldView-3 has an average revisit time of less than 1 day and is capable of collecting up to 680,000 km² per day, further enhancing the DigitalGlobe collection capacity for more rapid and reliable collection.

Gavurin

Exciting Data: Magnetic Data Stories

How do we use technology to draw stories from data?

In this session, using examples, we'll show how technology can begin to draw textural intelligence from data. This serves as a crucial set of opening sentences to stimulate conversation.

GeoPlace

Managing Geospatial Reference Data For A Digital Tomorrow

The ways in which we can create, manage, share and use geospatial data are multiplying. New technologies such as cloud, mobile, smart technology and the internet of things are moving from buzzword to the boardroom. In this session delivered by GeoPlace – the centre of excellence for address and street data – we will discuss the ways in which these changes reframe the conversation for those concerned with maximising the value of geospatial data.

Historically driven by the need for efficient business processes and effective decision-making, data is increasingly being recognised as essential for creating lasting connections with customers. The more we understand about our customers' needs the more we can find opportunities to create and exchange value. Technology is providing greater availability and choice - but value is only created

when data is of high quality and well-managed. This masterclass will discuss the role of geospatial data management in service design, detailing three levels to consider and the pros and cons of each.

Getmapping

An Insight Into Getmapping's Online GIS Platform

Beginning its life in 2009 as a lightweight web-based GIS tool for displaying aerial photography and mapping data, Getmapping's Online GIS has grown and developed into a scalable and modular platform that is now used by a wide variety of industries; both public sector and commercial.

As the number of users grew and the software developed, a core set of rules were self-imposed to make sure that the founding principles that made the software successful remained;

Content. The software should make as much up-to-date data available to the user as possible.

This increases the likelihood of the user being able to make the correct business decision based on the information they see. Datasets such as height models and street-level imagery are key to this.

Accessible. The software should remain easily accessible and usable by anyone, GIS professional or not. This includes using a simple interface with all the key tools to hand. It also means being built using efficient, lightweight code so that it works around the world on the majority of hardware and slow internet connections.

Affordable. In order for it to be accessible, it must also be affordable. We scale our pricing to fit the tightest of budgets to ensure that companies with no direct GIS budget are still able to take advantage of this mapping platform.

This presentation shows the range of industries the Online GIS has now been successfully used in, giving examples of experiences and future ideas.

HERE Europe

Exploring The Role Of The Map In Bringing Mobility And Location Intelligence Into Enterprise Planning.

In this presentation HERE will explore how the map and location based content is influencing the way Enterprise and Government are planning the technology solutions of the future.

We will look at the strategic themes that are driving the 'smart' cities of the future and how location content is driving infrastructure planning and operations through 3D modelling, data visualisation and traffic management.

We will also look at the location enablers for enterprise and urban mobilisation, exploring how today's high-definition map and real-time content, available through platform, is powering mobility solutions in connected-car, urban transit and consumer experience.

KOREC

It's All About The Data, Not The Drone

There is no doubt that UAS technology is a disruptive innovation with the potential to shake up the geospatial industry in the same way that GNSS and robotic total stations have done in the past; a theory supported by the launch of the first Commercial UAV show in London last year and the abundance of conference papers and press articles available for research. There is good reason for this; put simply, UAS can collect large amounts of data in a short time and at a low cost. However, as the market matures, the signs are emerging that geospatial professionals are looking beyond the hardware and instead, starting to consider the enormous potential of the collected imagery.

The technology is now in place to turn UAS imagery into processed, analysed information – a benefit that can drive greater efficiency and assist us in providing our clients with intelligent information rather than just maps to look at.

We'll look at projects such as burial ground management and crop management.

Burial ground management: Atlantic Geomatics in the UK are currently working on a project which involves a burial ground management system which will link 1.5 million graves on burial registers to a clear, accurate and up-to-date map.

“Our aim is to maximise the orthorectified imagery generated for this project to create an intelligent map suitably for querying...how many burials were there between 2005 and 2010?...show me where Mr Smith is buried...show me graves by age of death. You can't do that just by looking at an aerial image. Our solution is not to provide maps, but answers,” explains Tim Viney (Managing Director of Atlantic Geomatics).

Identifying problematic crop areas: Signpost Surveys, using their UAS and NIR camera, collect multispectral data across a variety of crops. By analysing the spectral reflectance values of the NIR, Red and Green bands, Signpost Surveys can identify problematic areas, or management zones within a crop, far earlier than if just a visual assessment was made establishing which are underperforming, and establish why. These management zones are then used to apply fertilizer, herbicides or pesticides with far more precision than ever before allowing farmers to concentrate on affected areas and reduce inputs whilst increasing outputs.

As the UAS market increases in sophistication, so do the opportunities for geospatial professionals. The tools are now in place for us to analyse, extract and model data to provide information that is specific to a client's needs and applications. For those willing to go deeper into the workflows of both new and existing application areas, and for those willing to turn these exciting technologies into practical solutions and really make the data work for them, the potential is enormous.

MGISS

It's OK To Have Your Head In The Clouds, As Long As Your Feet Are On The Ground: A Look At Cost Effective Mapping Tools For Any Application

Unmanned Aerial Vehicles are the technology everyone is buzzing about – and they are already in the skies around you today. Potentially it is a significantly cost-effective way of capturing high-resolution, content-rich, Georeferenced data and costs as little as £100 per hour to fly, process and produce accurate 3D data for GIS, CAD/BIM and reporting workflows. There are however considerations, aside from the regulatory and safety issues, relating to this costeffectiveness, particularly if we follow this “rubbish in – rubbish out” model for field data capture. Beyond all the excitement, all the gadget-hunger, lies a cost-benefit analysis that should be considered to determine whether deploying a UAV instead of feet on the ground, or even to augment manual field-based data capture, is worthwhile. The aim of this presentation is to offer guidance when planning projects involving land-use mapping, asset inspection, terrain modelling and surveying, to understand at what point, and within which parameters, it would be appropriate to consider using either a UAV service provider, or employing/procuring a UAV-based solution and workflow. Also considered are some of the tools and techniques available to provide reliable and cost-effective groundtruthing, and a look at some of the workflows being launched by MGISS and its industry partners.

OCAD 12 ThematicMapper: Generation Of Thematic Maps With Wizards Based On Cartographic Principles

Thematic maps are used in many sciences for the visualization of different spatially distributed phenomena related to a specific area of interest. They are used to illustrate a particular theme, to emphasize a specific topic in an area or to portray spatial variations and interrelationships of geographical distributions. As a consequence, the number of people, experts or laypersons, who design thematic maps, is getting larger. This increases the necessity for correct thematic maps, something which is not always the case, especially for users who do not have a professional cartographic background. In order to create a proper thematic map, a user should follow a specific procedure, which although it may be simple, it can also be challenging if somebody has to follow the widely accepted cartographic rules in the production of the maps.

In this project, in order to standardize this procedure, it is important to record the cartographic principles necessary to be taken into account and to analyze the different types of data and the possible methods which can be used for the theme's visualization on the thematic map. Based on this analysis, an application is developed to direct a user through a guided procedure in form of Wizards to create thematic maps following the cartographic rules, without worrying about the complexity of the whole procedure.

Rolta

Enabling Smart Development With Geo-Spatial Data

Cities and Governments around the world realize the need to invest in better infrastructure to realize Economic Development objectives.

Geo-Spatial data is becoming integral to enabling Smart Development around the world. Using examples from global cities like Dubai, this paper highlights how Geo-Spatial data has left the mapping room and is becoming part of next generation Urban Infrastructure and City development business processes like No Objection Permits, Traffic Impact Studies, Emergency management and development of Asset Investment Strategies around the world based on projects executed by Rolta in the last few years.

The experience extends beyond business process enabling towards Data driven decision making and examines how geo-spatial data creation and management will need to evolve to support smarter development in our communities and cities.

RouteWare

Help! – How Do I Make Savings On School Transport?

In today's drive for efficiency local authorities and transport providers have to seek savings in all areas of operation. School transport usually has a significant cost associated with it and can provide savings. For many local authorities school transport routes have not changed for years and so it is likely that the most efficient routes are not being used.

This presentation is based on a case study from Dumfries Council who faced a considerable challenge when they were asked to find ways to significantly reduce school transport costs yet retain a safe and sustainable service to a large rural area serving 20,000 pupils and 119 schools. By using GIS and software from RouteWare and Higher Mapping Solutions, the results were a significant budget savings of £470,000 per annum. The GIS optimisation resulted in a reduction in vehicle routes (329 to 257) and a corresponding reduction in vehicle capacity size to service these routes which has reduced the carbon footprint associated with service provision.

RAVA – (Route and Vehicle Allocation) is a tool for determining how many school buses are needed to get students to their registered school. It uses the technology from RouteWare's FleetEngine system and applies an implementation of the Vehicle Routing Problem with Time Windows (VRPTW) technique.

RAVA can connect to popular education management systems such as Capita ONE and SEEMIS or from CSV files, RAVA can help review historic routes with the current requirements of the school transport department.

SkylineGlobe UK

3D Visualisation Of Geospatial Datasets

SkylineGlobe's suite of applications allows you to build and disseminate 3D landscapes and then view, query and analyse in a highly realistic 3D environment. The 3D model is created from the fusion of geospatial data including imagery (aerial, satellite), terrain data, GIS data, as file or OGC Web Service, point clouds and BIM data.

Applications:

- Urban Planning - 3D City models
- Renewable Energy - project planning
- Public Safety – command and control – planning and simulation
- Geoportals – store and serve all geospatial data types
- Utilities – 3D visualisation of above ground or underground networks

Features:

- Scalable from small areas to national datasets
 - Desktop application or Web browser interface
 - Mobile apps for iOS and Android
 - Indoor and underground
 - Highly efficient streaming server technology to support large enterprise deployments
 - Highly extensible API for custom application development
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Spatineo

Proving And Increasing The Value Of Spatial Web Services

Implementations of new INSPIRE Web Services and opening of spatial data have increased the use of spatial data both in organisations' internal core processes and as a part of e-services and mobile applications.

However, high availability of the services is the key to realising the value of spatial web services. Internal cost and time savings are realised by automating and streamlining processes whereas knowing the external user base and usage is the way to prove the external value of services provided. This presentation is based on the experiences gathered while talking to hundreds public organisation who are providing spatial data in Europe. The presentation will summarize key issues in generating value with spatial web services while saving costs and working time.

Target audience: People responsible for GIS department, spatial web services or utilisation of spatial data

The Map Of The Future Is Not Just A Map – It's A Smart M.App

Too much data, too much change and too little money seems to be becoming commonplace within the world of geospatial. Doing more of the same to meet these challenges is not feasible and therefore we need to reconsider how we address them. Perhaps one of the best examples of this is the use of imagery. With a tsunami of new sensors coming on line, combined with the need to remotely monitor reducing costs, the time has never been better to re-evaluate the optimum approach. This talk will outline the key issues of big data, access, analytics and information provision and offer insight into the way technology has adapted to meet these issues.

The GeoInformation Group

Big, Open, Mobile – What Is The Future For Spatial Data ?

We are all creating, accessing and consuming more and more increasingly complex data from a wider range of sources. What lessons can we learn from the increasing availability of spatial data and its use in applications ?

thinkWhere

Sunset Of The Paper Map

Providing data to customers as a static PDF or paper map is becoming very out of date. As GIS trends move on, techniques and technologies for serving data to customers in an interactive and accessible way becomes more important. In this talk we look at how changing customer expectations, open data and financial constraints are creating the need for technologies that provide data to customers in new ways.

Topcon

Use Of UAS For Congested Area Inspection And Mapping Applications

UAS systems are fast becoming a important tool for surveying and mapping; when considering which system to use there are some key factors that must be taken into account. This talk will highlight some of the key applications where professional UAS systems are used and how the applications are a key determination in the type of system used. This will be followed by case studies to highlight the key advantages of the different systems.

Urban Graphics

Maps In Urban Planning

There are a multitude of uses for maps in urban planning and regeneration and we in the UK are experiencing this peak. There is enormous demand to build houses, upgrade infrastructure and revitalise our town centres.

Each of these initiatives requires maps to tell the story change and expedite the delivery of projects. However maps in their original state are not very useful to the target audience. These maps require visual enhancement and a design process to communicate the main messages. This presentation will talk through our typical process of enhancing and beautifying maps in urban planning:

- The vital role of maps in Urban Planning by influencing the regeneration of major projects
- Communicate the physical story of change by making maps more legible
- How maps gain the interest of investors, developers and stakeholders
- Promoting places effectively in a crowded market place
- Turning your vision into reality

Case Study: Interactive maps

Although this talk is specific for Urban Planning, the production, process and design of maps can be applied generically.

Virtalis

GeoVisionary Software For Three-Dimensional Visualisation And Interpretation Of Large Datasets.

BGS possesses a wealth of spatially-related digital data such as high resolution terrain models, national aerial photography and satellite imagery, geological maps and 3D models. BGS, as a national Geological Survey is under constant fiscal pressure from government and stakeholders to produce mapping output with fewer resources. To this end GeoVisionary visualisation software has been developed allowing for the visualisation and interpretation of large spatial datasets prior to fieldwork.

GeoVisionary is a fully immersive three dimensional stereo visualisation system developed by BGS and Virtalis Ltd. Aerial photography is draped over elevation data from the NEXTMap Britain dataset for the landmass of Great Britain, this can then be quickly and efficiently viewed from any angle in 3D perspective, including viewing the subsurface. Geological models, cross sections and borehole information can be hung under the terrain surface while raster data, such as topographical and geological maps and remotely sensed imagery can be draped over the top. GIS functionality allows layers to be turned on and off, queried and displayed with varying levels of transparency further facilitating data integration.

Mapping teams now have the opportunity to virtually visit their field area before field work commences. They are able to integrate, interpret and interact with all existing data and develop geological ideas as a team in the office, allowing fieldwork to be targeted to answer issues that arise. Tools developed within GeoVisionary allow a dynamic link to ArcGIS allowing the dynamic visualisation of line-work, both in GeoVisionary and in ArcGIS, as it is digitised in either system. GeoVisionary is capable of loading and rapidly displaying geographic and geological datasets of any size and detail, including point clouds, voxels and CAD models for any location.

This presentation will introduce the Virtual Field Reconnaissance project out of which the GeoVisionary system was borne. It will examine the drivers for a virtual field reconnaissance system, the user requirements and will conclude with a live demonstration of how the BGS benefits from 3D visualisation of national scale datasets.

XYZ Maps

Creating An Interactive Web Site Map Using MAPublisher

MAPublisher has been used for 20 years to import GIS data into Adobe Illustrator to create maps for publication. What is less well known is that you can use the latest features to easily convert your data into a fully interactive HTML5 map that is fully cross-platform, and with no need to know anything about HTML other than some basic formatting such as bold or italic text. We will use some XYZ Maps data to build a tube map of inner London that can be zoomed and panned with user control over what data to show, a search function and call outs for timetables, station info, etc.
